Exhibit A1



ENVIRONMENTAL CONSULTATION & REMEDIATION

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SITE MAP

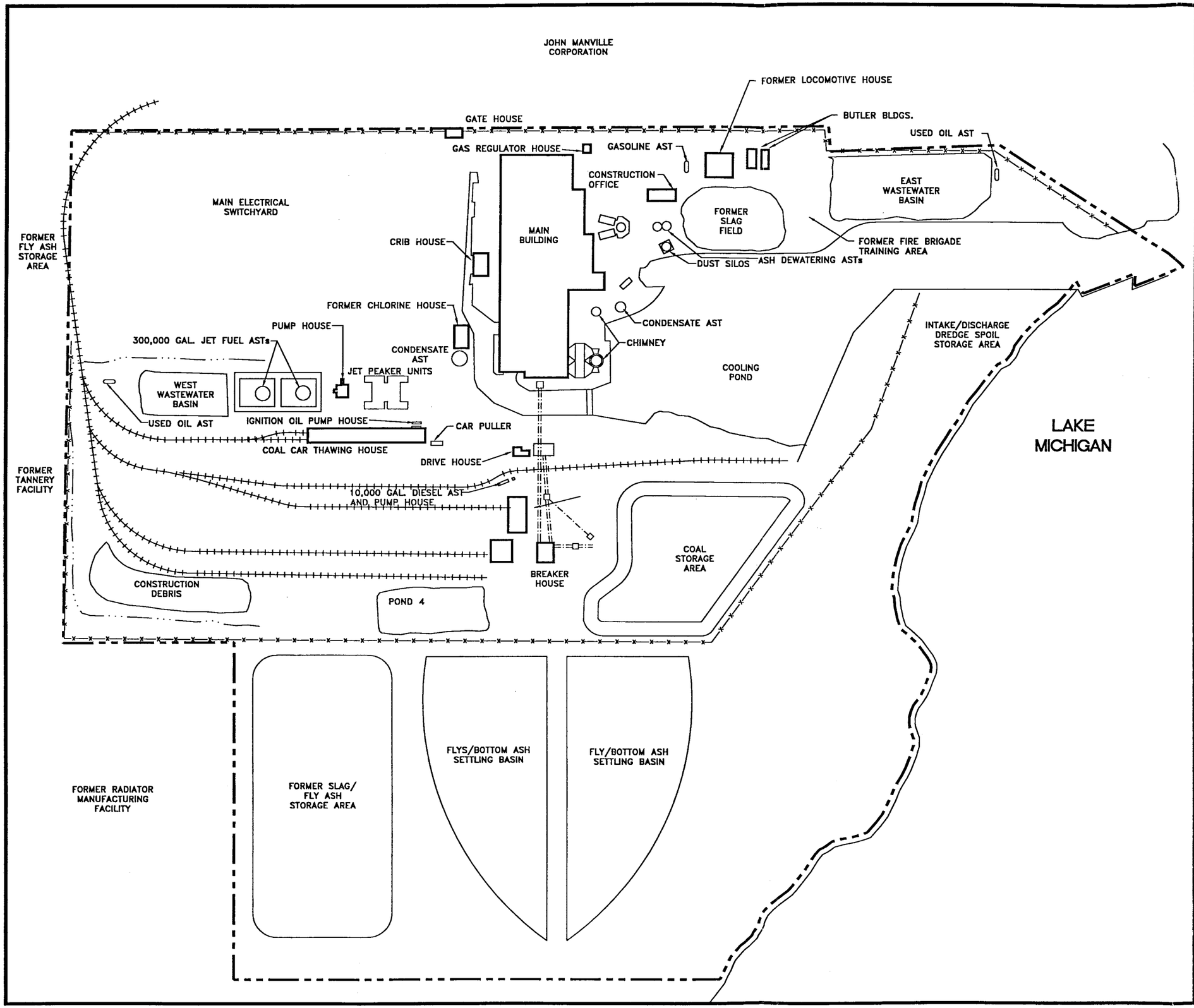
WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 500' | Date: January 23, 2015

KPRG Project No. 12313.2 | FIGURE 1

MWGS13-15_50439

W:\c-p&p projects\midwest generation\ash pond issues\elut & gmz\waukegan station elut.dwg(site map)



LEGEND:

- PROPERTY BOUNDARY
- RAILROAD LINE
- FENCE
- CONVEYOR LINE
- DRAINAGE DITCH

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: WAUKEGANSP1

WAUKEGAN GENERATING STATION
10 GREENLAND AVENUE
WAUKEGAN, ILLINOIS

COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-610

SITE PLAN

N

NOT TO SCALE

FIGURE 2

ENSR

MWG13-15_45814

Exhibit A2

COMMONWEALTH EDISON COMPANY

PHASE II ENVIRONMENTAL SITE ASSESSMENT

Waukegan Generating Station
10 Greenwood Avenue
Waukegan, Illinois

ENSR
Consulting * Engineering * Remediation

November 1998
File Number 1801-023-610

MWG13-15_45779

PHASE II ENVIRONMENTAL SITE ASSESSMENT

Waukegan Generating Station
10 Greenwood Avenue
Waukegan, Illinois

November 16, 1998

Prepared for:

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MWG13-15_45780

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EXECUTIVE SUMMARY

This report presents the results of the Phase II Environmental Site Assessment (Phase II ESA) conducted by ENSR Corporation (ENSR) in October 1998 at the Commonwealth Edison Company (ComEd) Waukegan Generating Station, located at 10 Greenwood Avenue in Waukegan, Illinois. Phase II ESA activities consisted of advancement of soil borings, installation of monitoring wells, and collection of surface and subsurface soil, sediment, and groundwater samples. The purpose of the Phase II ESA was to investigate the potential presence of contamination in the areas of environmental concern identified in the Phase I Environmental Site Assessment (Phase I ESA).

Based on the results of the Phase I ESA, 20 potential areas of concern were identified for further investigation. These areas of concern are identified in **Section 2.0**. Each of these areas of concern were investigated during the Phase II ESA activities. Twenty-two soil borings were advanced and 5 monitoring wells were installed. Soil samples were collected from the borings and groundwater samples were collected from the monitoring wells. In addition, 13 surface soil samples and 6 sediment samples were collected at the facility.

These samples were submitted for analysis of benzene, toluene, ethyl benzene, and total xylenes (BTEX) using EPA Method 8260; polynuclear aromatic hydrocarbons (PNAs) using EPA Method 8310; polychlorinated biphenyls (PCBs) using EPA Method 8081; Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) using EPA Method series 6000 and 7000; and pH using EPA Method 9045.

In addition, the surface soil samples and sediment samples were also submitted for analysis of total petroleum hydrocarbons (TPH) using EPA Method 8015. Water quality field parameters, consisting of pH, specific conductivity, and temperature, were also recorded from the groundwater samples collected.

PNA constituents were detected above the Illinois Environmental Protection Agency (IEPA) cleanup objectives primarily in the surface soil samples collected at the facility. These surface soil samples were collected directly from a "stained" location in the identified potential areas of concern. Therefore, it was determined that the impact from these PNA constituents is relatively localized. However, benzo(a)pyrene and dibenzo(a,h)anthracene were detected in soil samples collected from borings at approximately 4 feet below grade.

Arsenic was detected above the IEPA cleanup objective of 3 milligrams per kilogram (mg/kg) in samples collected throughout the facility. However, the majority of concentrations of arsenic are within the range of arsenic detected by the EPA during a state wide soil survey in 1992. Arsenic was detected at concentrations greater than the background range at the western wastewater collection pond, coal runoff pond, the ash settling ponds, transformers on the east side of the southern Crib House, and north of the coal pile. Analytical results from the groundwater samples collected from monitoring wells previously installed to delineate concentrations of arsenic, indicated that arsenic is present in the area adjacent to the former

Tannery property at concentrations above the IEPA cleanup objective of 0.2 milligrams per liter (mg/l). The Tannery property is being investigated by ComEd in cooperation with the IEPA under the Site Remediation Program.

In addition, lead was detected above the IEPA cleanup objective of 400 mg/kg in the samples collected from the western wastewater collection pond and transformers on the east side of the southern Crib House. PCBs were detected above the IEPA cleanup objective of 1 mg/kg in samples collected from the western portion of the facility adjacent to a former tannery. The PCBs were only detected in the first 4 feet of soil.

It should be noted that TPH was detected throughout the site. Although a cleanup objective has not been established by the IEPA, TPH was detected at elevated concentrations (greater than 1,000 mg/kg) and would indicate impact by petroleum hydrocarbon compounds.

Based on the relatively low volatility of the constituents of concern detected above the IEPA cleanup objectives, the soil inhalation exposure pathway is not a likely contaminant exposure pathway. In addition, due to the fact that the City of Waukegan receives its potable water from Lake Michigan and the groundwater beneath the facility is not being used as a potable source of water, the groundwater ingestion is not a potential contaminant exposure pathway. However, the soil ingestion pathway is a potential exposure pathway during construction activities. Therefore, this pathway would need to allow for protection/prevention for the construction worker scenario.

Based on the current land use (industrial) and site conditions (analytical results and soil types), it is judged that the potential for human exposure to the constituents of concern from this facility is low. It should be noted that there is no requirement under Illinois environmental law to further investigate or remediate this property.

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1.0 INTRODUCTION

1.1 General

ENSR Corporation (ENSR) was retained by Commonwealth Edison Company (ComEd) to conduct Phase II Environmental Site Assessment (Phase II ESA) activities on a "limited" portion of the 234 acre Waukegan Generating Station, located at 10 Greenwood Avenue in Waukegan, Illinois (**Figure 1**, **Site Location Map**).

The scope of the Phase II ESA activities were based on the preliminary results of the Phase I Environmental Site Assessment (Phase I ESA), with concurrence between ENSR and ComEd. Phase II ESA activities were conducted from October 26 to October 30, 1998, and included advancement of soil borings, installation of monitoring wells, and collection of surface and subsurface soil, sediment, and groundwater samples. **Figure 2** illustrates the layout of the facility.

1.2 Objectives and Scope

The purpose of the Phase II ESA was to investigate the potential presence of contamination in the areas of environmental concern identified in the Phase I ESA. The Phase II ESA adequately assessed the surface and/or subsurface conditions in the locations where sampling was conducted. The Phase II ESA is a tool for developing a conceptual site model to identify the presence and nature of potential contamination, describe potential contaminant migration pathways, and define potential exposure pathways in sampled areas. Based upon this and the information gathered during the Phase II ESA, and using the Illinois Environmental Protection Agency (IEPA) Tiered Approach to Cleanup Objectives (TACO) as guidance, it can be determined whether remediation is warranted in the locations sampled. The Phase II ESA alone is not an exhaustive investigation which can be used to determine the extent of contamination, nor the cost of any suggested remediation.

The objective of the Phase II ESA was to develop a conceptual site model to identify the presence and nature of potential contamination, describe potential contaminant migration pathways, and define potential exposure pathways. To meet this objective, ENSR implemented a "phased" assessment designed to provide increasing levels of information based upon obtained data. Recognizing that existing information for the facility and potential contamination was limited, the principal tasks completed during the Phase II ESA included the following:

- Soil boring advancement and soil sample collection;
- Monitoring well installation and groundwater sample collection;
- Collection of surface soil and sediment samples;
- Laboratory analysis of samples; and,
- Evaluation of analytical results and comparison to the IEPA Tier 1 Industrial/Commercial Soil Cleanup Objectives and IEPA Tier 1 Groundwater Cleanup Objectives.

The investigation consisted of the advancement of 22 soil borings and the installation of 5 monitoring wells at the potential areas of concern identified during the Phase I ESA. Soil samples were collected from the borings and groundwater samples were collected from the monitoring wells. These samples were submitted for analysis of benzene, toluene, ethyl benzene, and total xylenes (BTEX) using EPA Method 8260, polynuclear aromatic hydrocarbons (PNAs) using EPA Method 8310, polychlorinated biphenyls (PCBs) using EPA Method 8081, Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) using EPA Method series 6000 and 7000, and pH by EPA Method 9045. Water quality field parameters, consisting of pH, specific conductivity, and temperature, were also recorded from the groundwater samples collected.

In addition, 13 surface soil samples were collected from the identified potential areas of concern and 6 sediment samples were collected from selected ash/coal settling ponds or drainage ditches located at the facility. These samples were submitted for analysis of the previously referenced constituents as well as total petroleum hydrocarbons (TPH) using EPA Method 8015.

1.3 Report Organization

Section 1 introduces the principal subjects covered in this report, describes the purpose and scope of the Phase II ESA, and presents limitations of the Phase II ESA. **Section 2** provides information regarding the identified potential areas of concern and the methodologies used during the investigation. **Section 3** presents the results of the Phase II ESA. **Section 4** presents the data assessment of the Phase II ESA. **Tables** summarizing the analytical results and **Figures** illustrating the facility location and layout, as well as sampling locations, have been included under the appropriate headings.

Appendix A contains laboratory analytical reports. **Appendix B** contains boring logs and monitoring well construction diagrams. **Appendix C** contains monitoring well gauging and survey data.

1.4 Limitations

This report, including all attachments thereto, describes the results of ENSR's Phase II ESA conducted at the Waukegan Generating Station, which took place between October 26 and October 30, 1998. Many of the facts and conditions pertaining to this Phase II ESA are subject to change over time; accordingly, the evaluations and conclusions must be viewed within this context.

ENSR has performed this Phase II ESA in a professional manner using that degree of skill and care exercised for similar projects under similar conditions by reputable and competent environmental consultants. ENSR shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time this Phase II ESA was performed.

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This report and all field data, notes, and laboratory test data (hereinafter collectively "Information") were prepared by ENSR solely for the benefit of ENSR's Client, ComEd. ENSR's Client may release this Information to third parties, who may use and rely upon the Information at their own discretion. However, any use of or reliance upon this Information by a party other than parties identified shall be solely at the risk of such third party and without legal recourse against ENSR, or its subsidiaries and affiliates, or their respective employees, officers or directors, regardless of whether the action in which recovery of damages is sought is based upon contract, tort (including the sole, concurrent or other negligence and strict liability of ENSR), statute or otherwise. This Information shall not be used or relied upon by a party which does not agree to be bound by the above statement.

2.0 INVESTIGATION METHODS

Prior to initiation of field investigations, a site reconnaissance was performed during the Phase I ESA to define the study area. Field investigation activities were subsequently conducted to obtain site specific information and data pertaining to site geology and hydrogeology, groundwater quality, soil properties, and potential contaminant source(s).

The sampling locations were recommended based on the preliminary Phase I ESA findings. A sampling location summary listing is presented in **Table 1**. A summary of the identified potential areas of concern is presented below.

1. **Construction Debris Area.** An area located at the southwestern corner of the facility is used for storing construction debris. Two soil borings (B-1 and B-16) were advanced. In addition, one monitoring well (MW-11) installed during a previous site investigation of the adjacent Tannery property was discovered close to B-1.

2. **Adjacent Properties.** Properties which were located adjacent to the facility have the potential to have impacted the facility. A tannery was located to the west (upgradient) of the facility. Three soil borings (B-13 through B-15) were advanced. In addition, one monitoring well (MW-12) installed during a previous site investigation of the adjacent Tannery property was discovered close to B-15.

3. **Railroad.** A railroad line is located at the western end of the facility. Railroad lines are also located throughout the facility as part of the facility's coal handling system. One soil boring (B-12) was advanced and one monitoring well (MW-3) was installed in the northwest corner of the facility. One surface soil sample (S-1) was collected to the northwest of the construction debris area, and one surface soil sample (S-6) was collected to the south of the former Coal Car Thawing House, which is located to the south of the peaking unit building.

4. **Ash Storage Area.** The ash storage area is located one the southern end of the facility. This area is used to store ash prior to having it transported off-site. One soil boring (B-22) was advanced.

5. **Ash Settling Ponds.** There are 2 ponds at the facility which are used to collect ash wastewater. The ponds are located at the southeastern corner of the facility. One sediment sample (X-5) was collected from the western pond, and one sediment sample (X-6) was collected from the eastern pond.

6. **Coal Handling Area.** Coal is received at the facility via railroad. The coal is unloaded onto conveyors and is transported to the coal pile at the southeastern end of the facility. One soil boring (B-20) was advanced to the north of the coal pile.

7. **Coal Runoff Pond.** There is one pond at the facility which is used for runoff water from the coal pile. The pond is located to the west of the coal pile. One sediment sample (X-4) was collected and one soil boring (B-17) was collected to the west of the pond.

8. **Coal Handling Tractor Buildings.** These buildings house and maintain the coal handling tractors, and are used for the storage of various oils and lubricants. These buildings are located at the northwest end of the coal pile. One surface soil sample (S-13) was collected to the west of the Coal Handling Tractor Maintenance Building, and one surface soil sample (S-14) was collected to the east of the Coal Handling Tractor Maintenance Building.

9. **Peaking Units.** There is one peaking unit building located to the southwest of the main building. These peaking units use jet fuel to generate power. Two surface soil samples (S-4 and S-5) were collected. One soil boring (B-3) was advanced and one monitoring well (MW-2) was installed to the south of the peaking unit building.

10. **Jet Fuel Aboveground Storage Tank.** Two 300,000 gallon aboveground storage tanks (ASTs) are located to the west of the peaking unit building. These ASTs are used for the storage of jet fuel which is pumped via underground piping to the facility's peaking units. One surface soil sample (S-2) was collected adjacent to the fuel regulator building, and one surface soil sample (S-3) was collected to the south of the Pump House.

11. **Wastewater Collection Ponds.** There are 2 ponds at the facility which are used for wastewater collection. One pond is located to the west of the jet fuel ASTs and one pond is located at the northeastern corner of the facility. One sediment sample (X-1) was collected from the western pond. In addition, a drainage ditch is located adjacent to this pond. One sediment sample (X-2) was collected from this ditch. One sediment sample (X-3) was collected from the northeastern pond.

12. **Transformers.** Transformers with oil staining were observed throughout the facility. Soil samples were collected in 3 locations with the most significant staining. The first location contains the transformers on the east side of the southern Crib House, located on the west side of the main building. One surface soil sample (S-11) was collected. The second location contains the transformers to the northeast of the jet fuel ASTs. One soil boring (B-19) was advanced. The third location contains the transformers to the north of the peaking unit building. One soil boring (B-4) was advanced.

13. **Used Oil ASTs.** There are two 7,500 gallon ASTs at the facility which are used for the storage of used oil. One AST is located to the west of the western wastewater collection pond. One soil boring (B-2) was advanced. The second AST is located to the east of the northeastern wastewater collection pond. One surface soil sample (S-9) was collected.

14. **Fire Brigade Area.** A fire brigade area is located to the west of the northeastern wastewater collection pond. This area was used as an area for fire safety training. Two

soil borings (B-6 and B-7) were advanced.

15. **Materials Storage Buildings.** There are two materials storage buildings located at the facility. The storage buildings are located to the west of the fire brigade area. The concern at this storage building was drum storage at the building. One soil boring (B-8) was advanced between the two buildings.

16. **Gasoline/Diesel ASTs.** One 500 gallon gasoline AST and one 500 gallon diesel fuel AST are located to the west of the two materials storage buildings. One soil boring (B-9) was advanced. One 10,000 gallon diesel AST is located to the north of the Coal Handling Tractor Building. One soil boring (B-18) was advanced and one monitoring well (MW-5) was installed adjacent to this AST. In addition, one surface soil sample (S-15) was collected.

17. **Chimneys/Precipitators.** The chimney units are located to the east of the main building. Surface staining from the precipitator equipment was observed. One surface soil sample (S-8) was collected.

18. **Former Underground Storage Tank.** One former underground storage tank (UST) was located at the north end of the facility adjacent to the western gate house. Two soil borings (B-10 and B-11) were advanced.

19. **Former Ignition Oil Pump House.** The former ignition oil pump house was located to the southeast of the peaking unit building. Two ASTs containing ignition oil were previously located adjacent to this building. One surface soil sample (S-7) was collected.

20. **Lakeshore.** Lake Michigan is located at the eastern end of the facility. Cooling water is drawn from and returned to Lake Michigan, and the inferred groundwater flow direction is towards Lake Michigan. Soil and groundwater samples should be collected from facility downgradient locations. One soil boring (B-21) was advanced and one monitoring well (MW-6) was installed to the south of the intake/discharge flume in the northeast end of the facility. One soil boring (B-23) was advanced and one monitoring well (MW-7) was installed to the north of the intake/discharge flume in the northeast end of the facility.

It should be noted that due to heavy concentrations of buried utility lines or other underground obstructions, one planned soil boring (B-5) was not advanced. Surface soil samples were not collected at these locations due to the areas being covered with concrete/asphalt. In addition, monitoring wells, which were installed at the facility during a previous investigation, were discovered in the vicinity of proposed monitoring wells MW-1 and MW-4, and therefore not installed. However, groundwater samples were taken from these two existing monitoring wells.

2.1 Sampling Methods

All soil (surface and subsurface), sediment, and groundwater samples collected were submitted for analysis of BTEX and PNA constituents using EPA Methods 8260 and 8310, respectively,

PCBs using EPA Method 8081, RCRA metals using EPA Method series 6000 and 7000, and pH by EPA Method 9045. In addition, surface soil and sediment samples were submitted for TPH using EPA Method 8015. A sample summary listing is presented in **Table 1**.

The sample glassware used to contain the samples retained for laboratory analysis were provided pre-cleaned from National Environmental Laboratories, Inc. (NET) of Bartlett, Illinois. Each sample was labeled with the project number, project location, client, sample number, sample depth, date, time, and requested analysis. The soil samples were stored on ice in the field in a cooler and shipped via courier under chain-of-custody to NET. Standard chain-of-custody procedures were maintained from the time of sample collection until delivery to the analytical laboratory.

2.1.1 Sediment Sampling

Six sediment samples (X-1 through X-6) were collected at the facility. The sediment sample locations are illustrated on **Figure 3**. Sediment samples were collected using a stainless steel hand shovel. All sampling equipment was decontaminated between each sediment sample location using the procedure outlined in **Section 2.3**.

2.1.2 Surface Soil Sampling

Thirteen surface soil samples (S-1 through S-9, S-11, and S-13 through S-15) were collected at the facility. The surface soil sample locations are illustrated on **Figure 4**. Surface soil samples were collected using a stainless steel hand shovel. All sampling equipment was decontaminated between each sediment sample location using the procedure outlined in **Section 2.3**.

2.1.3 Soil Borings and Subsurface Soil Sampling

Twenty-two soil borings (B-1 through B-4, and B-6 through B-23) were advanced at the facility. The soil borings locations are illustrated on **Figure 5**. It should be noted that due to heavy concentrations of buried utility lines or other underground obstructions, one planned soil boring (B-5) was not advanced. The soil borings were advanced by Fox Drilling, Inc. (Fox) of Itasca, Illinois, utilizing Geoprobe direct-push drilling techniques. The soil borings were advanced to a maximum depth of 8 feet below grade. All soil borings were backfilled with soil cuttings, and completed at surface grade with the appropriate material (i.e., concrete, asphalt). All sampling equipment was decontaminated between each soil boring location using the procedure outlined in **Section 2.3**.

Soil samples were collected by advancing by a hydraulically-driven stainless steel pre-probe. Soil samples were collected using a 2.0-inch diameter acetate lined soil sampler. Soil samples were continuously collected from the surface to the bottom of the soil borings. The soil samples were visually inspected and field classified using the general guidelines of the Unified Soil Classification System (USCS) and the American Society for Testing and Materials (ASTM) Test Method ASTM D2488 for soil classification.

Each soil sample was field screened for the presence of VOCs using a photoionization detector (PID) and standard headspace screening methods. The PID readings indicate relative levels of VOCs in the vapor headspace, but do not represent actual concentrations which may exist in the soil. The PID has a detection range of 1.0 part per million volume (ppmv) to 2,500 ppmv. The soil sample which exhibited the highest PID reading, or if no PID readings were detected, from directly above the field-interpreted groundwater level, was retained from each boring for laboratory analysis.

2.1.4 Monitoring Wells and Groundwater Sampling

Five monitoring wells (MW-2, MW-3, and MW-5 through MW-7) were installed at the facility. The monitoring well locations are illustrated on **Figure 5**. It should be noted that monitoring wells MW-1 and MW-4 were not installed due to the discovery of monitoring wells MW-11 and MW-12, which were installed at the facility during a previous investigation. The monitoring wells were installed by Fox utilizing hollow-stem augers and rotary drilling techniques. The monitoring wells were installed to a maximum depth of 15 feet below grade. Fluids generated during monitoring well installation and groundwater sampling were discharged to the ground surface in proximity to each sampling location. All sampling equipment was decontaminated between each soil boring location using the procedure outlined in **Section 2.3**.

The monitoring wells were installed through the working space within hollow stem augers. The monitoring wells were constructed of 2-inch diameter Schedule 40 PVC 0.010-inch slotted continuous wrap well screen and solid riser. A filter pack consisting of clean silica sand was placed surrounding the well screen to filter out fine soil particles from the formation adjacent to the screen. The filter pack extends from the bottom of the soil boring to approximately 1-foot above the top of the well screen. A bentonite pellet seal was placed on top of the sand pack and hydrated with distilled water to prevent surface water infiltration. The annular space above the bentonite seal was filled with a neat bentonite and cement grout to approximately 6-inches below grade. The monitoring wells were completed at grade and an 8-inch diameter steel protective road box was placed over each monitoring well and set in concrete at grade. The monitoring wells were capped with expandable well caps and equipped with locks to prevent unauthorized access. A monitoring well construction diagram is included in **Appendix A**.

After the installation of the monitoring wells, approximately three to five well volumes of groundwater was removed from each monitoring well, or until the groundwater was relatively free from sediment, using a peristaltic pump. One groundwater sample was collected from each monitoring well and submitted for laboratory analysis. In addition, water quality field parameters consisting of pH, specific conductivity, and temperature were measured and recorded during sample collection.

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2.2 Monitoring Well Gauging and Survey

Each monitoring well was gauged using an electronic interface probe in order to determine the presence or absence of liquid-phase hydrocarbons (LPHCs) and depth to groundwater. In addition, each monitoring well's top of casing and ground surface location was surveyed relative to an arbitrary benchmark assigned an elevation of 100 feet.

2.3 Equipment Decontamination

The drill rig and associated tooling, and sampling equipment were decontaminated prior to mobilization and before leaving the site. To minimize the potential for cross-contamination, drilling and sampling equipment were decontaminated between each use. Decontamination of drilling equipment consisted of steam cleaning. Sampling equipment, including split spoons and stainless steel sampling equipment, were decontaminated before each use by washing with a solution of Alconox (phosphate based detergent) and potable water, and rinsing with distilled water. Decontamination fluids generated during equipment decontamination were discharged to the ground surface in proximity to each sampling location.

3.0 INVESTIGATION FINDINGS

The findings of the subsurface investigation, soil and groundwater sampling, monitoring well gauging, survey, and chemical analysis, are presented below. Analytical results are summarized in **Table 2** through **Table 5**. The analytical reports and chain-of-custody forms are included in **Appendix B**.

Analytical results were compared against the cleanup objectives as presented in 35 Illinois Administrative Code (IAC) Section 742.Appendix B: Table B-Tier 1 Soil Remediation Objectives for Commercial/Industrial Properties, and 35 IAC Section 742.Appendix B: Table E-Tier 1 Groundwater Remediation Objectives for the Direct Ingestion of Groundwater Portion of the Groundwater Ingestion Route.

Soil analytical results for the RCRA metals are shown as totals. Therefore, the soil component of the groundwater ingestion exposure route has not been considered. In addition, the groundwater beneath the site is classified as Class II, therefore the Class II baseline was used.

3.1 Sediment

BTEX. The analytical results indicated that BTEX constituents were not detected above the laboratory method detection limits.

TPH. The analytical results indicated that TPH as diesel was detected at concentrations of 630 milligrams per kilogram (mg/kg) in sample X-2 and 17,800 mg/kg in sample X-1, and TPH as oil was detected at concentrations ranging from 223 mg/kg in sample X-6 to 10,900 mg/kg in sample X-4. However, cleanup objectives for TPH have not been established by the IEPA. TPH as gasoline was not detected above the laboratory method detection limits.

PNAs. The analytical results indicated that PNA constituents were detected in the sediment samples collected. However, these concentrations were not above the IEPA cleanup objectives.

PCBs. The analytical results indicated that PCBs were detected at a concentration of 0.17 mg/kg in sample X-1. However, this concentration was not above the IEPA cleanup objective of 1.0 mg/kg.

Metals. The analytical results indicated that arsenic and lead were detected at concentrations above the IEPA cleanup objectives of 3 mg/kg and 400 mg/kg, respectively. Arsenic was detected at concentrations ranging from 9.7 mg/kg in sample X-3 to 69 mg/kg in sample X-1. However, only two of the concentrations of arsenic are within the range of arsenic (0.35 mg/kg to 24 mg/kg) detected by the EPA during a state wide soil survey in 1992. Arsenic was detected at concentrations greater than 24 mg/kg in samples X-1 and X-4 through X-6. Lead was detected at a concentration of 415 mg/kg in sample X-1.

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pH. pH values ranged from 7.38 in sample X-4 to 8.92 in sample X-5.

Analytical results are summarized in **Table 2**, and sampling locations are illustrated on **Figure 3**. The analytical report and chain-of-custody forms are included in **Appendix B**.

3.2 Surface Soil

BTEX. The analytical results indicated that BTEX constituents were detected in the surface soil samples collected. However, these concentrations were not above the IEPA cleanup objectives.

TPH. The analytical results indicated that TPH as gasoline was detected at a concentration of 472 mg/kg in sample S-5, and TPH as diesel was detected at concentrations ranging from 1,290 mg/kg in sample S-7 to 94,000 mg/kg in sample S-2. TPH as oil was detected at concentrations ranging from 390 mg/kg in sample S-1 to 283,000 mg/kg in sample S-8. However, cleanup objectives for TPH have not been established by the IEPA.

PNAs. The analytical results indicated that benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene were detected in sample S-1 at concentrations above the IEPA cleanup objectives. It should be noted that samples S-8 and S-13 through S-15 had elevated detection limits due to matrix interference. These elevated detection limits are above the cleanup objectives for benzo(a)anthracene, benzo(a)pyrene, and dibenzo(a,h)anthracene, and consequently, there is a possibility that the concentrations are actually above the cleanup objectives. Refer to **Table 3** for PNA results.

PCBs. The analytical results indicated that PCBs were detected at concentrations ranging from 0.063 mg/kg in sample S-1 to 0.79 mg/kg in sample S-11. However, these concentrations were not above the IEPA cleanup objective of 1.0 mg/kg.

Metals. The analytical results indicated that arsenic and lead were detected at concentrations above the IEPA cleanup objectives of 3 mg/kg and 400 mg/kg, respectively. Arsenic was detected at concentrations ranging from 3.7 mg/kg in sample S-4 to 29 mg/kg in sample S-11. However, the majority of concentrations of arsenic are within the range of arsenic (0.35 mg/kg to 24 mg/kg) detected by the EPA during a state wide soil survey in 1992. Arsenic was detected at a concentration of 29 mg/kg in sample S-11. Lead was detected at a concentration of 1,340 mg/kg in sample S-11.

pH. pH values ranged from 6.20 in sample S-8 to 8.72 in sample S-3.

Analytical results are summarized in **Table 3**, and sampling locations are illustrated on **Figure 4**. The analytical report and chain-of-custody forms are included in **Appendix B**.

3.3 Subsurface Soil

Native soil encountered beneath the fill material consisted primarily of a brown to gray fine to medium sand to the maximum depth of the borings at 8 feet below grade. Soil boring logs are included in **Appendix A**.

The PID readings obtained from the soil samples collected ranged from 1.4 ppmv in B-13 and B-14 (0 to 4 feet below grade) to 123 ppmv in B-18 (0 to 4 feet below grade). The PID field screening results are recorded on the boring logs in **Appendix A**.

BTEX. The analytical results indicated that BTEX constituents were detected in the subsurface soil samples collected. However, these concentrations were not above the IEPA cleanup objectives.

PNAs. The analytical results indicated that benzo(a)pyrene and dibenzo(a,h)anthracene were detected in B-9 and B-11 at concentrations above the IEPA cleanup objectives. It should be noted that B-16 had an elevated detection limit due to matrix interference. These elevated detection limits are above the cleanup objectives for benzo(a)anthracene and benzo(a)pyrene, and consequently, there is a possibility that the concentrations are actually above the cleanup objectives. Refer to **Table 4** for PNA results.

PCBs. The analytical results indicated that PCBs were detected at a concentration of 1.02 mg/kg in B-15, which is above the IEPA cleanup objective of 1.0 mg/kg.

Metals. The analytical results indicated that arsenic was detected at concentrations above the IEPA cleanup objectives of 3 mg/kg. Arsenic was detected at concentrations ranging from 3.3 mg/kg in B-6 and B-16 to 25 mg/kg in B-20. However, the majority of concentrations of arsenic are within the range of arsenic (0.35 mg/kg to 24 mg/kg) detected by the EPA during a state wide soil survey in 1992. Arsenic was detected at a concentration of 25 mg/kg in B-20.

pH. pH values ranged from 7.01 in B-12 to 9.34 in B-21.

Analytical results are summarized in **Table 4**, and soil boring locations are illustrated on **Figure 5**. The analytical report and chain-of-custody forms are included in **Appendix B**.

3.4 Groundwater

The groundwater elevations ranged from 1.30 feet in MW-3 to 7.48 feet in MW-6. LPHC was not detected in any of the monitoring wells. Based on the gauging data, the apparent groundwater flow direction beneath the facility has been calculated to be to the east in the direction of Lake Michigan (**Figure 6**, **Groundwater Elevation Map**). Monitoring well gauging data is included in **Appendix C**.

Water quality field parameters consisting of pH, specific conductivity, and temperature were measured. The recorded measurements are summarized in **Table 5**.

BTEX. The analytical results indicated that BTEX constituents were detected in the groundwater samples collected. However, these concentrations were not above the IEPA cleanup objectives.

PNAs. The analytical results indicated that PNA constituents were detected in the groundwater samples collected. However, these concentrations were not above the IEPA cleanup objectives.

PCBs. The analytical results indicated that PCBs were not detected above the laboratory method detection limit.

Metals. The analytical results indicated that arsenic was detected at concentrations above the IEPA cleanup objectives of 0.2 milligrams per liter (mg/l). Arsenic was detected at a concentration of 1.1 mg/l in MW-11.

Analytical results are summarized in **Table 5**, and monitoring well locations are illustrated on **Figure 5**. The analytical report and chain-of-custody forms are included in **Appendix B**.

4.0 DATA ASSESSMENT

4.1 Extent of Contamination

Based on the results of the subsurface investigation conducted, the following determinations and assessments were made regarding the extent of contamination at the facility. The following conclusions are subject to the Limitations presented in **Section 1.4**. In addition, although arsenic was detected above the IEPA cleanup objective, the majority of concentrations of arsenic are within the range of arsenic detected by the EPA during a state wide soil survey in 1992. However, it should be noted that soil analytical results for the RCRA metals are shown as totals. Therefore, the soil component of the groundwater ingestion exposure route has not been considered.

4.1.1 Sediment

Arsenic and lead were the constituents of concern detected at concentrations above the IEPA cleanup objective of 3 mg/kg and 400 mg/kg, respectively. In addition, arsenic was detected above the IEPA cleanup objective, at a maximum concentration of 69 mg/kg in all six sediment samples collected.

Lead was detected above the IEPA cleanup objectives, at a maximum concentration of 415 mg/kg in the following locations:

- **Wastewater Collection Ponds.** Western wastewater collection pond (X-1).

4.1.2 Surface Soil

Arsenic, lead, and PNA constituents listed as benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene, were the constituents of concern detected at concentrations above the IEPA cleanup objectives.

PNA constituents were detected above the IEPA cleanup objectives in the following locations:

- **Railroad.** Railroad line northwest of the construction debris area (S-1).

It should be noted that due to matrix interference in samples S-8 and S-13 through S-15, benzo(a)anthracene, benzo(a)pyrene, and dibenzo(a,h)anthracene had elevated detection limits. Consequently, there is a possibility that the concentrations are actually above the cleanup objectives. These samples were collected from the chimneys/precipitators (S-8), Coal Handling Tractor Maintenance Building (S-13 and S-14), and diesel AST located north of the Coal Handling Tractor Maintenance Building (S-15).

Arsenic was detected above the IEPA cleanup objective, at a maximum concentration of 29 mg/kg in the following locations:

- **Railroad.** Railroad line northwest of the construction debris area (S-1).
- **Jet Fuel ASTs.** Jet fuel ASTs located west of the peaking units (S-2).
- **Peaking Units.** Peaking units located southwest of the main building (S-4 and S-5).
- **Former Ignition Oil Pump House.** The former ignition oil pump house located southeast of the peaking units (S-7).
- **Chimneys/Precipitators.** Chimney units located east of the main building (S-8).
- **Used Oil ASTs.** The AST located east of the northeastern wastewater collection pond (S-9).
- **Transformers.** The transformers on the east side of the southern Crib House (S-11). It should be noted that lead was also detected above the IEPA cleanup objective of 400 mg/kg in this area (S-11) at a maximum concentration of 1,340 mg/kg.
- **Coal Handling Tractor Buildings.** The Coal Handling Tractor Maintenance Building (S-13 and S-14).
- **Diesel AST.** The diesel AST located north of the Coal Handling Tractor Maintenance Building (S-15).

4.1.3 Subsurface Soil

Arsenic, PCBs, and PNA constituents listed as benzo(a)pyrene and dibenzo(a,h)anthracene, were the constituents of concern detected at concentrations above the IEPA cleanup objectives.

PNA constituents were detected above the IEPA cleanup objectives in the following locations:

- **Gasoline/Diesel ASTs.** The gasoline and diesel AST located west of the two materials storage buildings on the north side of the facility (B-9).
- **Former UST.** A former UST located at the western gate house (B-11).

It should be noted that due to matrix interference in B-16, benzo(a)anthracene and benzo(a)pyrene had elevated detection limits. Consequently, there is a possibility that the concentrations are actually above the cleanup objectives. This sample was collected from the construction debris area at the southwestern corner of the facility (B-16).

Arsenic was detected above the IEPA cleanup objective, at a maximum concentration of 25 mg/kg in the following locations:

- **Construction Debris Area.** A construction debris area at the southwestern corner of the facility (B-1 and B-16).
- **Used Oil ASTs.** The AST west of the western wastewater collection pond (B-2).
- **Peaking Units.** Peaking units located southwest of the main building (B-3).

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- **Transformers.** The transformers to the north of the peaking unit building (B-4) and transformers to the northeast of the jet fuel ASTs (B-19).
- **Fire Brigade Area.** A fire brigade area located west of the northeastern wastewater collection pond (B-6 and B-7).
- **Materials Storage Buildings.** The storage buildings located to the west of the fire brigade area (B-8).
- **Gasoline/Diesel ASTs.** The gasoline and diesel AST located west of the two materials storage buildings on the north side of the facility (B-9) and the diesel AST located north of the Coal Handling Tractor Building (B-18).
- **Former UST.** A former UST located at the western gate house (B-10 and B-11).
- **Railroad.** Railroad line in northwest corner of the facility (B-12).
- **Adjacent Properties.** A former tannery located west of the facility (B-12 through B-15)
- **Coal Runoff Pond.** The coal runoff pond located west of the coal pile (B-17).
- **Coal Handling Area.** North of the coal pile (B-20).
- **Ash Storage Area.** Ash storage area located at the southern end of the facility (B-22).
- **Lakeshore.** North of the intake/discharge flume at the northeast end of the facility (B-23).

PCBs were detected above the IEPA cleanup objective in the following locations:

- **Adjacent Properties.** A former tannery located west of the facility (B-15).

4.1.4 Groundwater

Arsenic was the only constituent of concern detected at concentrations above the IEPA cleanup objectives.

Arsenic was detected above the IEPA cleanup objective, at a maximum concentration of 1.1 mg/l in the following locations:

- **Construction Debris Area.** A construction debris area at the southwestern corner of the facility (MW-11). This area is adjacent to the former Tannery property owned by ComEd.

4.2 Potential Contaminant Exposure Pathways

Based on the above-referenced assessment, potential exposure pathways by which humans may be exposed to the constituents of concern have been identified at the facility. Potential sources, fate and transport mechanisms, and exposure media were considered in determining these potential exposure pathways. An identified potential exposure pathway does not imply that exposure is occurring, only that the potential exists for exposure.

4.2.1 Soil Ingestion

The soil ingestion pathway includes the first three feet within ground surface. Therefore, based on the analytical results, soil ingestion is a potential contaminant exposure pathway. Soil ingestion occurs when soil containing elevated concentrations of the constituents of concern are ingested into the body. The facility is an industrial site and direct contact and ultimately ingestion of the impacted soil is not likely to occur. However, construction activities would increase the possibility of exposure. Therefore, this pathway would need to allow for protection/prevention for the construction worker scenario.

4.2.2 Soil Inhalation

The soil inhalation pathway includes the first ten feet within ground surface. Therefore, based on the analytical results, soil inhalation is a potential contaminant exposure pathway. Soil inhalation occurs when elevated concentrations of the constituents of concern are inhaled into the body. However, the highly volatile constituents (i.e., BTEX, TPH as gasoline), were not detected at concentrations above the IEPA cleanup objectives. The constituents that were detected at concentrations above the IEPA cleanup objectives (i.e., metals, semi-volatiles, PCBs), are not considered highly volatile. Based on the relatively low volatility of the constituents of concern detected above the IEPA cleanup objectives, the soil inhalation exposure pathway is not a likely contaminant exposure pathway.

4.2.3 Groundwater Ingestion

The groundwater ingestion pathway includes groundwater being used as a potable source of water. Therefore, due to the fact that the City of Waukegan receives its potable water from Lake Michigan and the groundwater beneath the facility is not being used as a potable source of water, the groundwater ingestion is not a potential contaminant exposure pathway.

Based on the current land use (industrial) and site conditions (analytical results and soil types), it is judged that the potential for human exposure to the constituents of concern from this facility is low. However, personnel working at the facility could be susceptible to exposure due to accidental soil ingestion or soil inhalation due to activities such as construction. Such exposure may result from contact with contaminated subsurface or surface materials previously located beneath a protective barrier (i.e., concrete cap, building).

There is no requirement under Illinois environmental law to further investigate or remediate this property.

TABLES

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Waukegan Generating Station
10 Greenwood Avenue
Waukegan, Illinois

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Table 1

Sampling Locations and Analyses Summary

Commonwealth Edison Company
Waukegan Generating Station
10 Greenwood Avenue
Waukegan, Illinois

	Sampling Locations[1]	Sampling Parameters	Sampling Depth (in feet)	Date Collected
Sediment Sample Identification				
X-1	Wastewater Collection Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/29/98
X-2	Wastewater Collection Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/29/98
X-3	Wastewater Collection Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/29/98
X-4	Coal Runoff Pond	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/29/98
X-5	Ash Settling Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/29/98
X-6	Ash Settling Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/29/98
Surface Soil Sample Identification				
S-1	Railroad	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/26/98
S-2	Jet Fuel ASTs	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/27/98
S-3	Jet Fuel ASTs	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/27/98
S-4	Peaking Units	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/27/98
S-5	Peaking Units	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/27/98
S-6	Railroad	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/29/98
S-7	Former Ignition Oil Pump House	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/27/98
S-8	Chimneys/Precipitators	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/28/98
S-9	Used Oil ASTs	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/28/98
S-11	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/29/98
S-13	Coal Handling Tractor Buildings	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/28/98
S-14	Coal Handling Tractor Buildings	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/28/98
S-15	Diesel AST	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/28/98
Monitoring Well Sample Identification				
MW-11	Construction Debris Area	BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/29/98
MW-2 (B-3)	Peaking Units	BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/29/98
MW-3 (B-12)	Railroad	BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/29/98
MW-12	Adjacent Properties	BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/29/98
MW-5 (B-18)	Diesel AST	BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/29/98
MW-6 (B-21)	Lakeshore	BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/29/98
MW-7 (B-23)	Lakeshore	BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/29/98

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Table 1

Sampling Locations and Analyses Summary

Commonwealth Edison Company
Waukegan Generating Station
10 Greenwood Avenue
Waukegan, Illinois

	Sampling Locations	Sampling Parameters	Sampling Depth (in feet)	Date Collected
Boring Identification				
B-1	Construction Debris Area	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/29/98
B-2	Used Oil ASTs	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/26/98
B-3	Peaking Units	BTEX, PNAs, PCBs, RCRA metals, pH	1-3	10/27/98
B-4	Transformers	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/26/98
B-6	Fire Brigade Area	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/29/98
B-7	Fire Brigade Area	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/29/98
B-8	Materials Storage Buildings	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/29/98
B-9	Gasoline/Diesel AST	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/29/98
B-10	Former UST	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/29/98
B-11	Former UST	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/29/98
B-12	Railroad	BTEX, PNAs, PCBs, RCRA metals, pH	1-3	10/28/98
B-13	Adjacent Properties	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/26/98
B-14	Adjacent Properties	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/26/98
B-15	Adjacent Properties	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/29/98
B-16	Construction Debris Area	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/26/98
B-17	Coal Runoff Pond	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/29/98
B-18	Diesel AST	BTEX, PNAs, PCBs, RCRA metals, pH	1-3	10/27/98
B-19	Transformers	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/26/98
B-20	Coal Handling Area	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/26/98
B-21	Lakeshore	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/26/98
B-22	Ash Storage Area	BTEX, PNAs, PCBs, RCRA metals, pH	0-2	10/26/98
B-23	Lakeshore	BTEX, PNAs, PCBs, RCRA metals, pH	1-3	10/27/98

Notes:

BTEX was analyzed using EPA Method 8260.

PNAs were analyzed using EPA Method 8310

PCBs were analyzed using EPA Method 8081.

RCRA metals were analyzed using EPA Method series 6000 and 7000.

pH was measured using EPA Method 9045.

(1) Sampling locations are referenced in the Phase II Environmental Site Assessment Report in **Section 2.0**.

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Table 2
Sediment Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Waukegan Generating Station
10 Greenwood Avenue
Waukegan, Illinois

Sample I.D. / Lab I.D. / Sample Date	X-1 500676 10/29/98	X-2 500677 10/29/98	X-3 500679 10/29/98	X-4 500675 10/29/98	X-5 500680 10/29/98	X-6 500681 10/29/98	IEPA Soil Cleanup Objectives
Parameters							
BTEX							
Benzene	< 0.02	< 0.009	< 0.01	< 0.01	< 0.009	< 0.01	**0.17**
Toluene	< 0.02	< 0.009	< 0.01	< 0.01	< 0.009	< 0.01	**29**
Ethyl Benzene	< 0.02	< 0.009	< 0.01	< 0.01	< 0.009	< 0.01	**19**
Total Xylenes	< 0.02	< 0.009	< 0.01	< 0.01	< 0.009	< 0.01	**150**
TPH							
Gasoline	< 170	< 89	< 130	< 140	< 94	< 100	**NA[1]**
Diesel	17,800	630	< 130	< 140	< 94	< 100	**NA**
Oil	< 170	< 89	9,390	10,900	< 94	223	**NA**
PNAs							
Acenaphthene	< 0.069	< 0.036	< 0.12	< 0.3	< 0.038	< 0.042	**2,800**
Acenaphthylene	< 0.069	< 0.036	< 0.051	< 0.3	< 0.038	< 0.042	**NA**
Anthracene	< 0.27	< 0.072	< 0.10	< 0.6	< 0.075	< 0.084	**59,000**
Benzo(a)anthracene	< 0.17	< 0.036	< 0.74	< 2.0	< 0.043	< 0.10	**8**
Benzo(a)pyrene	< 0.066	< 0.014	< 0.13	< 0.49	< 0.0087	< 0.0096	**0.8**
Benzo(b)fluoranthene	< 0.093	< 0.0064	0.092	< 0.57	< 0.0068	< 0.0075	**8**
Benzo(g,h,i)perylene	< 0.14	< 0.072	< 0.10	< 0.6	< 0.075	< 0.084	**NA**
Benzo(k)fluoranthene	< 0.13	0.0081	< 0.20	< 0.70	< 0.032	< 0.0071	**78**
Chrysene	< 0.55	< 0.05	0.17	< 0.4	< 0.06	< 0.06	**780**
Dibenzo(a,h)anthracene	< 0.02	< 0.01	< 0.031	< 0.1	< 0.01	< 0.01	**0.8**
Fluoranthene	< 1.3	< 0.036	0.33	< 0.3	< 0.038	< 0.042	**21,000**
Fluorene	< 0.59	< 0.036	< 0.79	< 0.57	< 0.038	< 0.042	**2,800**
Indeno(1,2,3-c,d)pyrene	0.031	< 0.015	0.061	< 0.1	< 0.016	< 0.018	**8**
Naphthalene	< 0.087	0.15	< 0.064	< 0.3	< 0.047	< 0.052	**420**
Phenanthrene	< 0.14	< 0.072	0.23	< 0.6	< 0.075	< 0.084	**NA**
Pyrene	< 1.9	< 0.036	0.28	0.32	< 0.038	< 0.042	**21,000**
RCRA Metals[2]							
Arsenic	**69**	**16**	**9.7**	**35**	**28**	**33**	**3**
Barium	190	160	765	892	3,770	3,970	**14,000**
Cadmium	< 3.1	1.7	2.2	< 2.5	2.1	2.9	**200**
Chromium	19	38	31	15	42	52	**420**
Lead	**415**	30	71	26	55	71	**400**
Mercury	0.25	< 0.072	0.92	0.15	0.77	0.73	**61**
Selenium	< 0.87	< 0.45	0.71	0.76	2.6	2.5	**1,000**
Silver	< 6.9	< 3.6	< 5.1	< 5.4	4.5	< 4.2	**1,000**
Total PCBs	0.17	< 0.072	< 0.10	< 0.11	< 0.075	< 0.084	**1**
pH	7.99	7.78	7.99	7.38	8.92	8.89	**NA**

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table B: Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties

[1] NA indicates not applicable, cleanup objectives have not been established for these parameters.
[2] Results are shown as totals, therefore the soil component of the groundwater ingestion exposure route has not been considered

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Table 3
Surface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Waukegan Generating Station
10 Greenwood Avenue
Waukegan, Illinois

Sample I.D. / Lab I.D. / Sample Date	S-1 499921 10/26/98	S-2 500402 10/27/98	S-3 500401 10/27/98	S-4 500399 10/27/98	S-5 500400 10/27/98	S-6 500678 10/29/98	IEPA Soil Cleanup Objectives
Parameters							
BTEX							
Benzene	< 0.006	0.02	< 0.006	< 0.005	< 0.006	< 0.005	**0.17**
Toluene	< 0.006	0.36	< 0.006	< 0.005	< 0.006	< 0.005	**29**
Ethyl Benzene	< 0.006	0.61	< 0.006	< 0.005	< 0.006	< 0.005	**19**
Total Xylenes	< 0.006	3.6	< 0.006	< 0.005	< 0.006	< 0.005	**150**
TPH							
Gasoline	< 56	< 904	< 59	< 518	472	< 52	**NA[1]**
Diesel	< 56	94,000	< 59	< 518	< 55	5,790	**NA**
Oil	390	< 904	< 59	14,900	4,710	< 52	**NA**
PNAs							
Acenaphthene	< 1.8	< 2.9	< 0.023	< 0.94	< 0.2	< 2.1	**2,800**
Acenaphthylene	< 1.8	< 2.9	< 0.023	< 0.94	< 0.2	< 2.1	**NA**
Anthracene	< 3.6	< 85	< 0.093	< 1.8	< 0.61	< 4.2	**59,000**
Benzo(a)anthracene	**13**	< 5.8	< 0.10	< 1.1	< 0.81	< 1.4	**8**
Benzo(a)pyrene	**9.7**	< 0.66	0.03	< 0.22	< 0.14	< 0.48	**0.8**
Benzo(b)fluoranthene	**15**	< 0.52	0.018	< 0.49	0.078	< 0.38	**8**
Benzo(g,h,i)perylene	9.8	< 5.8	< 0.047	< 1.8	< 0.4	< 4.2	**NA**
Benzo(k)fluoranthene	8.2	< 0.49	0.023	< 0.16	< 0.31	< 0.36	**78**
Chrysene	17	< 4	0.041	< 1	< 0.2	< 3	**780**
Dibenzo(a,h)anthracene	**1.1**	< 0.8	0.0083	< 0.3	< 0.06	< 0.6	**0.8**
Fluoranthene	34	< 52	0.1	< 0.94	< 0.75	< 2.1	**21,000**
Fluorene	< 3.5	< 16	0.033	< 0.94	< 0.2	< 2.1	**2,800**
Indeno(1,2,3-c,d)pyrene	7.6	< 1.3	0.021	< 0.40	< 0.08	< 0.90	**8**
Naphthalene	4	65	0.042	< 1.2	< 0.2	< 2.6	**420**
Phenanthrene	13	< 8.9	0.11	< 1.8	1.2	< 4.2	**NA**
Pyrene	34	< 42	0.056	< 0.94	0.41	< 7.0	**21,000**
RCRA Metals[2]							
Arsenic	**5.2**	**6.5**	1.6	**3.7**	**5.3**	2.8	**3**
Barium	236	150	9.5	124	42	41	**14,000**
Cadmium	2.5	6	< 0.59	6.2	13	< 0.52	**200**
Chromium	51	29	7.6	104	13	4.5	**420**
Lead	29	130	11	48	33	8.5	**400**
Mercury	< 0.045	0.16	< 0.047	< 0.041	< 0.044	< 0.042	**61**
Selenium	< 0.28	0.51	< 0.29	< 0.26	< 0.28	0.31	**1,000**
Silver	< 2.2	< 3.6	< 2.3	< 2.1	< 2.2	2.2	**1,000**
Total PCBs	0.063	0.24	0.073	< 0.41	0.341	< 0.2	**1**
pH	8.35	6.93	8.72	7.10	7.76	6.60	**NA**

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Table 3
Surface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Waukegan Generating Station
10 Greenwood Avenue
Waukegan, Illinois

Sample I.D. / Lab I.D. / Sample Date	S-7 500397 10/27/98	S-8 500409 10/28/98	S-9 500408 10/28/98	S-11 500674 10/29/98	S-13 500406 10/28/98	S-14 500405 10/28/98	S-15 500404 10/28/98	IEPA Soil Cleanup Objectives
Parameters								
BTEX								
Benzene	< 0.007	< 0.006	< 0.006	< 0.008	< 0.006	< 0.006	< 0.007	**0.17**
Toluene	< 0.007	< 0.006	< 0.006	< 0.008	< 0.006	< 0.006	< 0.007	**29**
Ethyl Benzene	< 0.007	< 0.006	< 0.006	< 0.008	< 0.006	< 0.006	< 0.007	**19**
Total Xylenes	< 0.007	< 0.006	< 0.006	< 0.008	< 0.006	< 0.006	< 0.007	**150**
TPH								
Gasoline	< 69	< 1,160	< 234	< 809	< 65	< 63	< 653	**NA**
Diesel	1,290	< 1,160	< 234	< 809	< 65	< 63	87,600	**NA**
Oil	< 69	283,000	12,500	65,000	11,200	2,240	< 653	**NA**
PNAs								
Acenaphthene	< 2.5	< 3.4	< 0.92	< 0.32	< 2.6	< 1.0	< 8.7	**2,800**
Acenaphthylene	< 2.5	< 3.4	< 0.92	< 0.32	< 2.6	< 1.0	< 25	**NA**
Anthracene	< 5.0	< 6.9	< 1.9	< 0.65	< 5.2	< 2.0	< 100	**59,000**
Benzo(a)anthracene	< 5.7	< 3.9	< 0.67	< 0.39	**< 8.1**	**< 9.6**	**< 21**	**8**
Benzo(a)pyrene	< 0.57	< 0.80	< 0.22	0.11	< 0.79	**< 1.1**	< 0.54	**0.8**
Benzo(b)fluoranthene	< 0.45	< 0.63	< 0.28	0.079	< 1.7	< 0.67	< 5.0	**8**
Benzo(g,h,i)perylene	< 5.0	< 6.9	< 1.9	< 0.65	< 5.2	< 2.0	< 4.7	**NA**
Benzo(k)fluoranthene	< 0.42	< 0.58	< 0.23	0.099	< 32	< 1.2	< 1.1	**78**
Chrysene	< 4	< 4	< 2	< 0.5	< 4	< 2	< 6.7	**780**
Dibenzo(a,h)anthracene	< 0.7	**< 1**	< 0.3	< 0.1	< 0.8	**< 0.92**	< 0.7	**0.8**
Fluoranthene	< 2.5	< 3.4	< 0.92	< 0.32	< 2.6	< 1.6	< 89	**21,000**
Fluorene	< 2.5	< 3.4	< 0.92	< 0.32	< 2.6	< 1.0	65	**2,800**
Indeno(1,2,3-c,d)pyrene	< 1.1	< 1.5	< 0.40	< 0.14	< 1.1	< 0.44	< 0.99	**8**
Naphthalene	15	< 4.4	< 1.2	< 0.40	< 3.2	< 1.2	< 34	**420**
Phenanthrene	7.3	< 6.9	< 1.9	0.66	< 5.2	< 2.0	< 72	**NA**
Pyrene	< 2.5	< 3.4	< 0.92	< 0.32	< 2.6	< 1.6	< 157	**21,000**
RCRA Metals								
Arsenic	**5.2**	**10**	**9.8**	**29**	**3.9**	**5.3**	**3.3**	**3**
Barium	207	139	152	1,230	377	605	470	**14,000**
Cadmium	2.6	6	11	18	< 1.3	< 1.2	1.4	**200**
Chromium	29	39	16	150	18	26	12	**420**
Lead	70	139	49	**1,340**	18	26	42	**400**
Mercury	0.072	0.11	0.41	0.15	< 0.052	0.087	0.056	**61**
Selenium	0.76	2.2	0.42	2.6	0.34	2.4	0.38	**1,000**
Silver	< 2.8	< 2.3	< 2.3	< 3.2	< 2.6	< 2.5	< 2.6	**1,000**
Total PCBs	0.207	< 0.46	< 0.047	0.79	< 0.052	< 0.050	< 0.3	**1**
pH	8.15	6.20	7.61	7.61	7.44	7.75	7.08	**NA**

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table B: Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties.

(1) NA indicates not applicable, cleanup objectives have not been established for these parameters.

(2) Results are shown as totals, therefore the soil component of the groundwater ingestion exposure route has not been considered.

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Table 4
Subsurface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Waukegan Generating Station
10 Greenwood Avenue
Waukegan, Illinois

Sample I.D.	B-1	B-2	B-3	B-4	B-6	B-7	B-8	
Lab I.D.	500671	499916	500398	499915	500669	500670	500668	IEPA Soil
Sample Date	10/29/98	10/26/98	10/27/98	10/26/98	10/29/98	10/29/98	10/29/98	Cleanup
Sample Depth (feet)	0-4	0-4	1-3	0-4	0-4	0-4	0-4	Objectives
Parameters								
BTEX								
Benzene	< 0.005	< 0.005	< 0.006	< 0.006	< 0.005	< 0.006	< 0.005	**0.17**
Toluene	< 0.005	< 0.005	< 0.006	< 0.006	< 0.005	< 0.006	< 0.005	**29**
Ethyl Benzene	< 0.005	< 0.005	< 0.006	< 0.006	< 0.005	< 0.006	< 0.005	**19**
Total Xylenes	< 0.005	< 0.005	< 0.006	< 0.006	0.015	< 0.006	< 0.005	**150**
PNAs								
Acenaphthene	< 0.021	< 0.022	< 0.23	< 0.024	< 0.06	< 0.09	< 0.54	**2,800**
Acenaphthylene	< 0.021	< 0.022	< 0.23	< 0.024	< 0.06	< 0.09	< 0.1	**NA[1]**
Anthracene	< 0.042	< 0.18	< 1.1	< 0.12	< 0.1	< 0.2	< 0.2	**59,000**
Benzo(a)anthracene	0.042	0.31	0.46	0.041	< 0.030	< 0.01	0.21	**8**
Benzo(a)pyrene	0.032	0.11	0.24	0.0092	< 0.01	< 0.02	0.31	**0.8**
Benzo(b)fluoranthene	0.017	0.062	0.22	0.012	< 0.01	< 0.02	0.65	**8**
Benzo(g,h,i)perylene	< 0.042	0.1	< 0.46	< 0.048	< 0.1	< 0.2	0.49	**NA**
Benzo(k)fluoranthene	< 0.027	< 0.13	0.15	< 0.0041	< 0.01	< 0.02	0.18	**78**
Chrysene	0.036	0.34	< 0.3	< 0.04	< 0.1	< 0.1	0.22	**780**
Dibenzo(a,h)anthracene	0.0074	0.038	< 0.07	< 0.007	< 0.02	< 0.03	0.038	**0.8**
Fluoranthene	0.03	< 0.70	< 1.4	< 0.074	< 3.4	< 0.09	0.98	**21,000**
Fluorene	< 0.021	< 0.077	< 0.46	< 0.045	< 0.06	< 0.09	0.21	**2,800**
Indeno(1,2,3-c,d)pyrene	< 0.0091	0.047	< 0.10	< 0.010	< 0.03	< 0.04	0.29	**8**
Naphthalene	0.033	0.34	1.4	0.26	< 0.08	< 0.1	0.16	**420**
Phenanthrene	0.061	0.92	1.5	0.16	< 0.1	< 0.2	0.36	**NA**
Pyrene	0.076	0.48	< 1.9	< 0.042	< 0.06	< 0.09	0.76	**21,000**
RCRA Metals[2]								
Arsenic	**6.7**	**3.6**	**4.2**	**4.4**	**3.3**	**6.4**	**6.3**	**3**
Barium	601	22	38	16	14	247	27	**14,000**
Cadmium	1	< 0.54	0.84	< 0.60	< 0.53	< 0.56	< 0.54	**200**
Chromium	232	8.3	14	31	5.7	7.6	8.5	**420**
Lead	40	14	21	13	10	16	35	**400**
Mercury	< 0.042	0.083	0.05	< 0.048	< 0.042	< 0.045	0.52	**61**
Selenium	< 0.26	< 0.27	< 0.29	< 0.30	< 0.26	< 0.28	< 0.27	**1,000**
Silver	< 2.1	< 2.2	< 2.3	< 2.4	< 2.1	< 2.2	< 2.2	**1,000**
Total PCBs	< 0.042	< 0.043	< 0.046	< 0.048	0.048	< 0.045	< 0.043	**1**
pH	9.16	8.80	7.41	7.50	9.33	9.06	8.68	**NA**

Table 4
Subsurface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Waukegan Generating Station
10 Greenwood Avenue
Waukegan, Illinois

Sample I.D.	B-9	B-10	B-11	B-12	B-13	B-14	B-15	
Lab I.D.	500667	500665	500666	500407	499917	499918	500672	IEPA Soil
Sample Date	10/29/98	10/29/98	10/29/98	10/28/98	10/26/98	10/26/98	10/29/98	Cleanup
Sample Depth (feet)	0-4	0-4	0-4	1-3	0-4	0-4	0-4	Objectives
Parameters								
BTEX								
Benzene	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	**0.17**
Toluene	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	**29**
Ethyl Benzene	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	**19**
Total Xylenes	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	< 0.006	**150**
PNAs								
Acenaphthene	< 1.4	< 0.022	< 5.4	< 0.024	< 0.1	< 0.022	< 0.023	**2,800**
Acenaphthylene	< 1.4	< 0.022	< 1.8	< 0.024	< 0.1	< 0.022	< 0.023	**NA**
Anthracene	< 2.8	< 0.044	< 3.6	< 0.047	< 0.3	< 0.044	< 0.071	**59,000**
Benzo(a)anthracene	4.6	0.051	6.1	< 0.017	0.18	< 0.031	< 0.063	**8**
Benzo(a)pyrene	**4.4**	0.033	**3.5**	0.013	0.14	< 0.0096	0.032	**0.8**
Benzo(b)fluoranthene	3.7	0.031	3.5	0.0098	0.068	0.0096	0.014	**8**
Benzo(g,h,i)perylene	3	< 0.044	4.8	< 0.047	< 0.3	< 0.044	< 0.046	**NA**
Benzo(k)fluoranthene	2.2	0.022	< 2.9	0.0059	< 0.032	< 0.0082	< 0.015	**78**
Chrysene	3.7	0.047	9.1	< 0.04	< 0.2	< 0.03	< 0.03	**780**
Dibenzo(a,h)anthracene	< 0.4	< 0.007	**0.95**	< 0.007	< 0.04	< 0.007	< 0.007	**0.8**
Fluoranthene	9	0.12	4.6	< 0.045	< 0.56	< 0.022	< 0.10	**21,000**
Fluorene	< 1.4	< 0.022	< 1.8	< 0.024	< 0.1	< 0.022	< 0.044	**2,800**
Indeno(1,2,3-c,d)pyrene	2.5	0.021	1.6	< 0.010	< 0.06	< 0.0095	< 0.0099	**8**
Naphthalene	< 1.7	0.041	< 2.2	0.11	< 0.2	< 0.028	0.11	**420**
Phenanthrene	5.2	0.086	23	0.073	0.67	< 0.044	0.14	**NA**
Pyrene	7.3	0.074	11	< 0.024	< 0.45	< 0.022	< 0.046	**21,000**
RCRA Metals								
Arsenic	**16**	**5.9**	**18**	**7.6**	**5.7**	**7.5**	**13**	**3**
Barium	290	42	59	509	76	322	493	**14,000**
Cadmium	1.3	0.57	1.9	1.4	1.3	0.7	0.86	**200**
Chromium	22	7.6	25	154	18	233	126	**420**
Lead	81	34	64	77	52	35	41	**400**
Mercury	0.27	0.053	0.074	< 0.047	0.11	0.058	0.055	**61**
Selenium	0.31	< 0.28	< 0.28	0.43	< 0.32	< 0.28	< 0.29	**1,000**
Silver	< 2.3	< 2.2	< 2.3	< 2.4	< 2.6	< 2.2	< 2.3	**1,000**
Total PCBs	0.057	< 0.044	< 0.045	< 0.047	< 0.052	< 0.044	**1.02**	**1**
pH	9.12	8.40	7.46	7.01	7.10	9.04	8.42	**NA**

Table 4
Subsurface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Waukegan Generating Station
10 Greenwood Avenue
Waukegan, Illinois

Sample I.D.	B-16	B-17	B-18	B-19	B-20	B-21	B-22	B-23	
Lab I.D.	499919	500673	500403	499914	499913	499912	499920	500396	IEPA Soil
Sample Date	10/26/98	10/29/98	10/27/98	10/26/98	10/26/98	10/26/98	10/26/98	10/27/98	Cleanup
Sample Depth (feet)	0-4	0-4	1-3	0-4	0-4	0-4	0-2	1-3	Objectives
Parameters									
BTEX									
Benzene	< 0.006	< 0.005	< 0.006	< 0.005	< 0.006	< 0.005	< 0.006	< 0.006	**0.17**
Toluene	< 0.006	< 0.005	< 0.006	< 0.005	< 0.006	< 0.005	< 0.006	< 0.006	**29**
Ethyl Benzene	< 0.006	< 0.005	< 0.006	< 0.005	< 0.006	< 0.005	< 0.006	< 0.006	**19**
Total Xylenes	< 0.006	< 0.005	< 0.006	< 0.005	< 0.006	< 0.005	< 0.006	< 0.006	**150**
PNAs									
Acenaphthene	< 2.0	< 0.021	< 0.1	< 0.022	< 0.024	< 0.021	< 0.058	0.028	**2,800**
Acenaphthylene	< 2.0	< 0.021	< 0.1	< 0.022	< 0.024	< 0.021	< 0.067	< 0.025	**NA**
Anthracene	< 4.0	< 0.043	< 0.27	< 0.043	< 0.048	< 0.042	< 0.22	0.11	**59,000**
Benzo(a)anthracene	**< 10**	< 0.067	< 0.77	0.067	< 0.66	0.043	< 0.32	0.18	**8**
Benzo(a)pyrene	**< 2.0**	0.015	0.28	0.035	< 0.038	0.035	< 0.054	0.2	**0.8**
Benzo(b)fluoranthene	< 1.9	0.019	0.24	0.03	< 0.017	0.038	< 0.032	0.11	**8**
Benzo(g,h,i)perylene	< 4.0	< 0.043	0.26	< 0.043	< 0.048	< 0.042	< 0.051	0.14	**NA**
Benzo(k)fluoranthene	< 2.1	< 0.032	< 0.42	< 0.024	< 0.064	0.022	< 0.018	0.087	**78**
Chrysene	< 3	< 0.03	0.36	0.056	0.078	0.034	< 0.076	0.15	**780**
Dibenzo(a,h)anthracene	< 0.6	< 0.006	< 0.064	< 0.0080	< 0.023	< 0.006	< 0.019	0.02	**0.8**
Fluoranthene	< 2.0	< 0.057	< 0.49	0.13	< 0.12	0.085	< 0.28	0.41	**21,000**
Fluorene	< 2.0	< 0.021	< 0.1	< 0.022	< 0.024	< 0.021	< 0.14	0.041	**2,800**
Indeno(1,2,3-c,d)pyrene	< 0.88	< 0.0092	0.081	0.022	< 0.010	0.024	< 0.046	0.1	**8**
Naphthalene	< 2.5	0.1	0.73	0.082	0.038	< 0.026	< 0.032	0.068	**420**
Phenanthrene	< 4.0	0.082	0.86	0.14	0.097	0.051	0.67	0.25	**NA**
Pyrene	< 2.0	< 0.034	0.56	0.078	0.07	0.071	< 0.49	0.39	**21,000**
RCRA Metals									
Arsenic	**3.3**	**5**	**6.9**	**6.8**	**25**	**2.5**	**14**	**4.9**	**3**
Barium	401	267	739	238	192	7.6	1,050	17	**14,000**
Cadmium	< 0.63	0.75	1.5	0.93	3.1	< 0.53	1.7	0.62	**200**
Chromium	14	128	9.8	50	59	5.4	64	15	**420**
Lead	23	27	24	43	48	7.6	33	18	**400**
Mercury	0.6	< 0.043	0.093	0.22	0.053	< 0.042	0.085	0.099	**61**
Selenium	< 0.31	< 0.27	< 0.28	< 0.27	0.7	< 0.26	0.92	< 0.31	**1,000**
Silver	< 2.5	< 2.1	< 2.3	< 2.2	< 2.4	< 2.1	< 2.6	< 2.5	**1,000**
Total PCBs	0.86	< 0.043	< 0.046	< 0.043	< 0.048	0.072	< 0.051	< 0.049	**1**
pH	7.97	8.50	7.24	7.95	8.03	9.34	8.02	8.66	**NA**

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table B: Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties.

(1) NA indicates not applicable, cleanup objectives have not been established for these parameters.
(2) Results are shown as totals, therefore the soil component of the groundwater ingestion exposure route has not been considered.

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Table 5
Groundwater Sampling
Groundwater Analytical Results in Milligrams per Liter (mg/l)
Commonwealth Edison Company - Waukegan Generating Station
10 Greenwood Avenue
Waukegan, Illinois

Sample I.D. / Lab I.D. / Sample Date	MW-11 500692 10/29/98	MW-2 (B-3) 500693 10/29/98	MW-3 (B-12) 500694 10/29/98	MW-12 500695 10/29/98	MW-5 (B-18) 500696 10/29/98	MW-6 (B-21) 500697 10/29/98	MW-7 (B-23) 500698 10/29/98	IEPA Groundwater (Class II) Cleanup Objectives
Parameters								
BTEX								
Benzene	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.0048	**0.025**
Toluene	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**2.5**
Ethyl Benzene	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**1.0**
Total Xylenes	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**10.0**
PNAs								
Acenaphthene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	**2.1**
Acenaphthylene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	**NA[1]**
Anthracene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	**10.5**
Benzo(a)anthracene	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	**0.00065**
Benzo(a)pyrene	< 0.00023	< 0.00023	< 0.00023	< 0.00023	< 0.00023	< 0.00023	< 0.00023	**0.002**
Benzo(b)fluoranthene	< 0.00018	< 0.00018	< 0.00018	< 0.00018	< 0.00018	< 0.00018	< 0.00018	**0.0009**
Benzo(g,h,i)perylene	< 0.00076	< 0.00076	< 0.00076	< 0.00076	< 0.00076	< 0.00076	< 0.00076	**NA**
Benzo(k)fluoranthene	< 0.00017	< 0.00017	< 0.00017	< 0.00017	< 0.00017	< 0.00017	< 0.00017	**0.00085**
Chrysene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	**0.0075**
Dibenzo(a,h)anthracene	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	**0.0015**
Fluoranthene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	**1.4**
Fluorene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	**1.4**
Indeno(1,2,3-c,d)pyrene	< 0.00043	< 0.00043	< 0.00043	< 0.00043	< 0.00043	< 0.00043	< 0.00043	**0.00215**
Naphthalene	0.00056	0.00058	0.0011	0.00062	0.0012	< 0.0005	< 0.0005	**0.039**
Phenanthrene	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	**NA**
Pyrene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	**1.05**
RCRA Metals								
Arsenic	**1.1**	0.0073	< 0.0050	< 0.0050	< 0.0050	0.01	0.0072	**0.2**
Barium	0.031	0.07	0.085	0.048	0.104	0.292	0.151	**2.0**
Cadmium	0.034	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	**0.05**
Chromium	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	**1.0**
Lead	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	**0.1**
Mercury	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	**0.01**
Selenium	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	**0.05**
Silver	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	**0.05**
Total PCBs	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	**0.0025**
pH	7.07	7.03	6.80	6.65	6.88	7.06	7.37	**NA**
Specific Conductivity (mol)	169.5	131.0	142.3	81.2	133.4	54.9	124.5	**NA**
Temperature (C)	14.1	16.0	14.8	15.5	16.1	16.6	15.1	**NA**

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table E: Tier 1 Groundwater Remediation Objectives for the Groundwater Component of the Groundwater Ingestion Route.

[1] NA indicates not applicable, cleanup objectives have not been established for these parameters.

r:chicago\project\h171\comed\fossil\waukegan\table(groundwater).xls

MWG13-15_45811

FIGURES

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Waukegan Generating Station
10 Greenwood Avenue
Waukegan, Illinois

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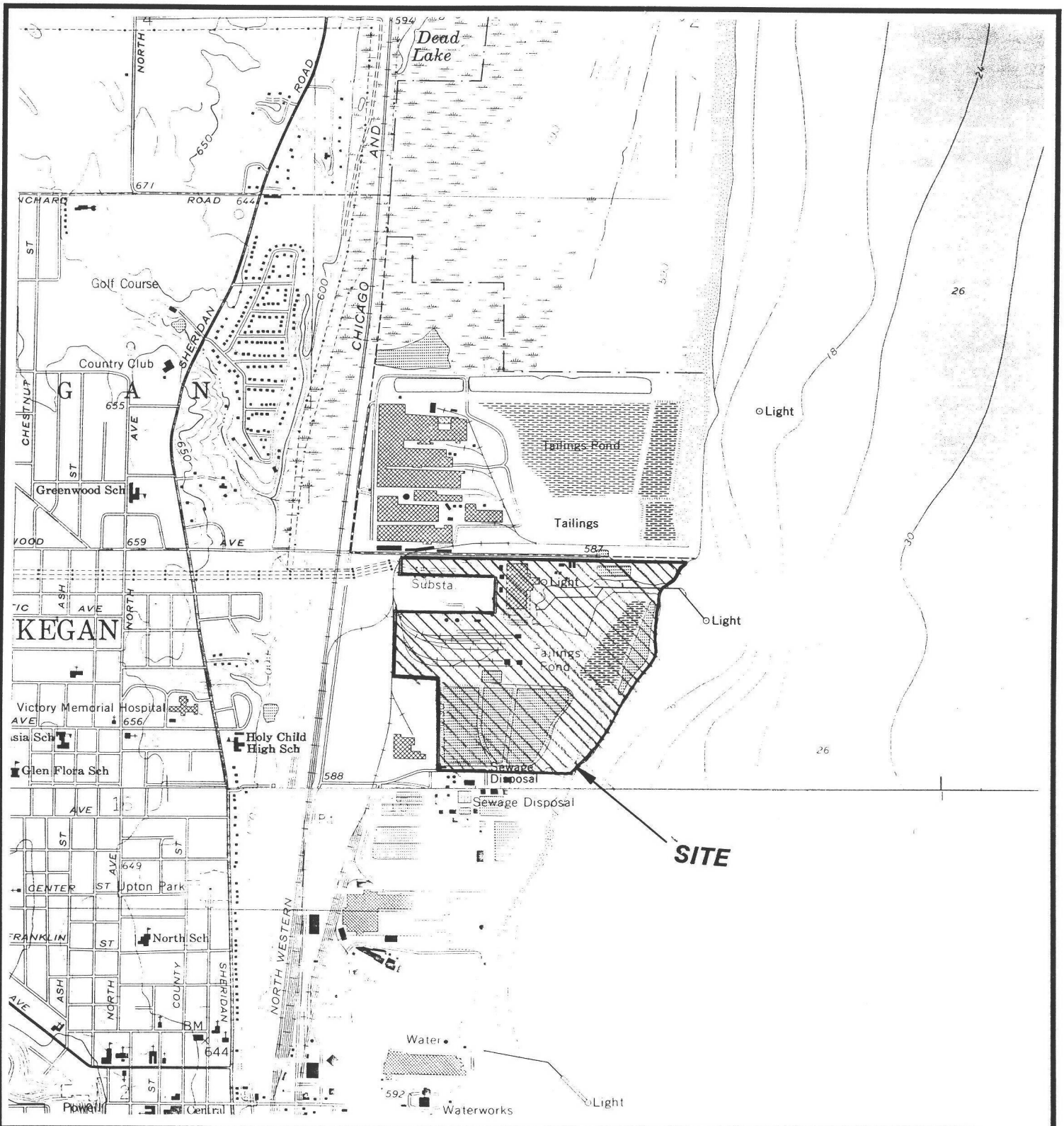


SCALE 1:24,000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

Contour interval 5 feet

Dwg No: WAUKEGANSL1

N

U.S.G.S.
ZION, IL. &
WAUKEGAN, IL

SITE LOCATION MAP

WAUKEGAN GENERATING STATION
10 GREENWOOD AVENUE
WAUKEGAN, ILLINOIS

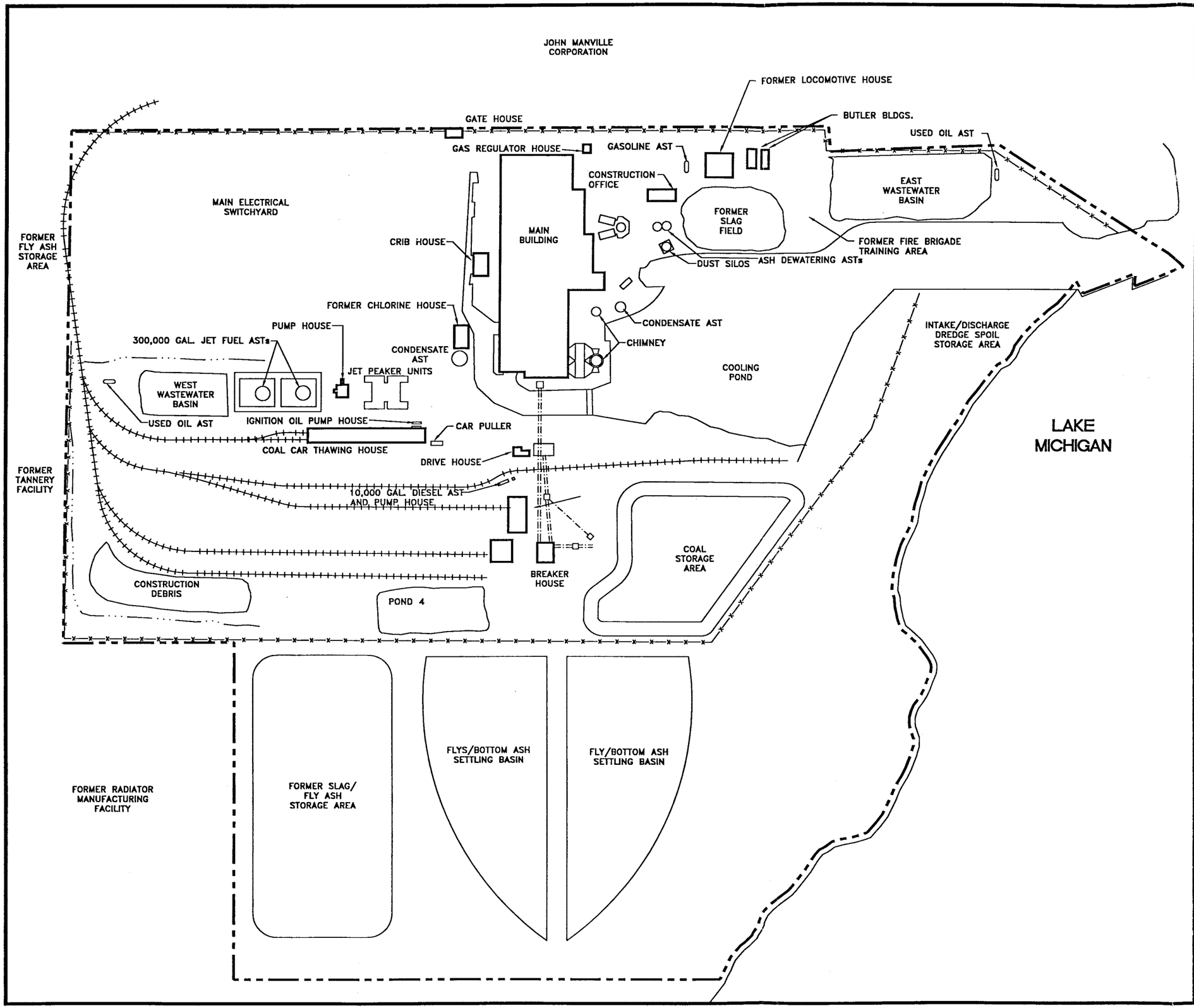
COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-610

FIGURE 1

ENSR

MWG13-15_45813



LEGEND:

- PROPERTY BOUNDARY
- RAILROAD LINE
- FENCE
- CONVEYOR LINE
- DRAINAGE DITCH

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: WAUKEGANSP1

WAUKEGAN GENERATING STATION
10 GREENLAND AVENUE
WAUKEGAN, ILLINOIS

COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-610

SITE PLAN

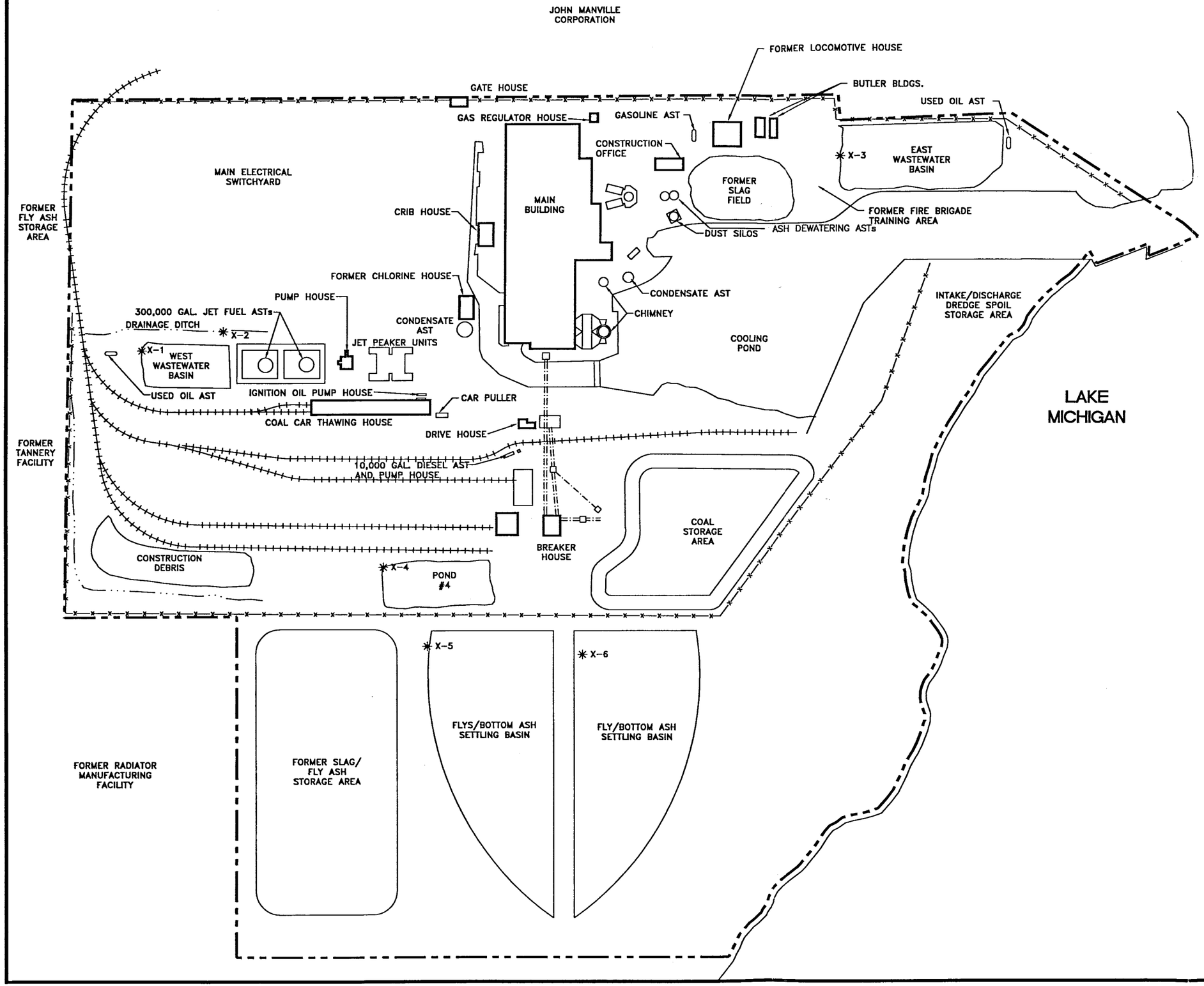
N

NOT TO SCALE

FIGURE 2

ENSR

MWG13-15_45814



LEGEND:

- PROPERTY BOUNDARY
- RAILROAD LINE
- FENCE
- CONVEYOR LINE
- X-1 SEDIMENT SAMPLE

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: WAUKEGANSS1

WAUKEGAN GENERATING STATION
10 GREENLAND AVENUE
WAUKEGAN, ILLINOIS

COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-610

SEDIMENT SAMPLING SITE PLAN

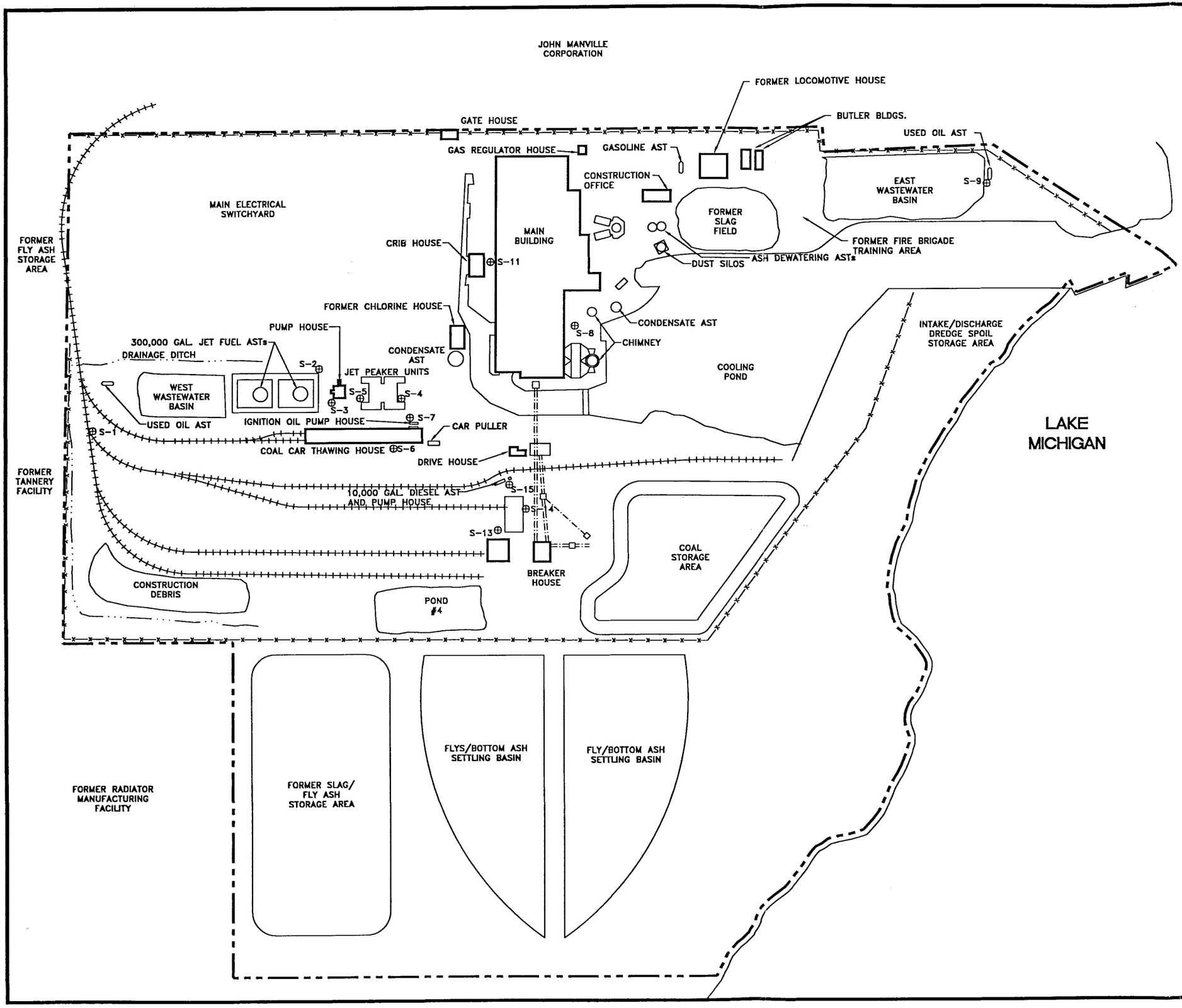
N

NOT TO SCALE

FIGURE 3

ENSR

MWG13-15_45815



LEGEND:

- PROPERTY BOUNDARY
- RAILROAD LINE
- FENCE
- CONVEYOR LINE
- ⊕ S-1 SURFACE SOIL SAMPLE

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: WAUKEGANSS2

WAUKEGAN GENERATING STATION
10 GREENLAND AVENUE
WAUKEGAN, ILLINOIS

COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-610

SURFACE SOIL SAMPLING SITE PLAN

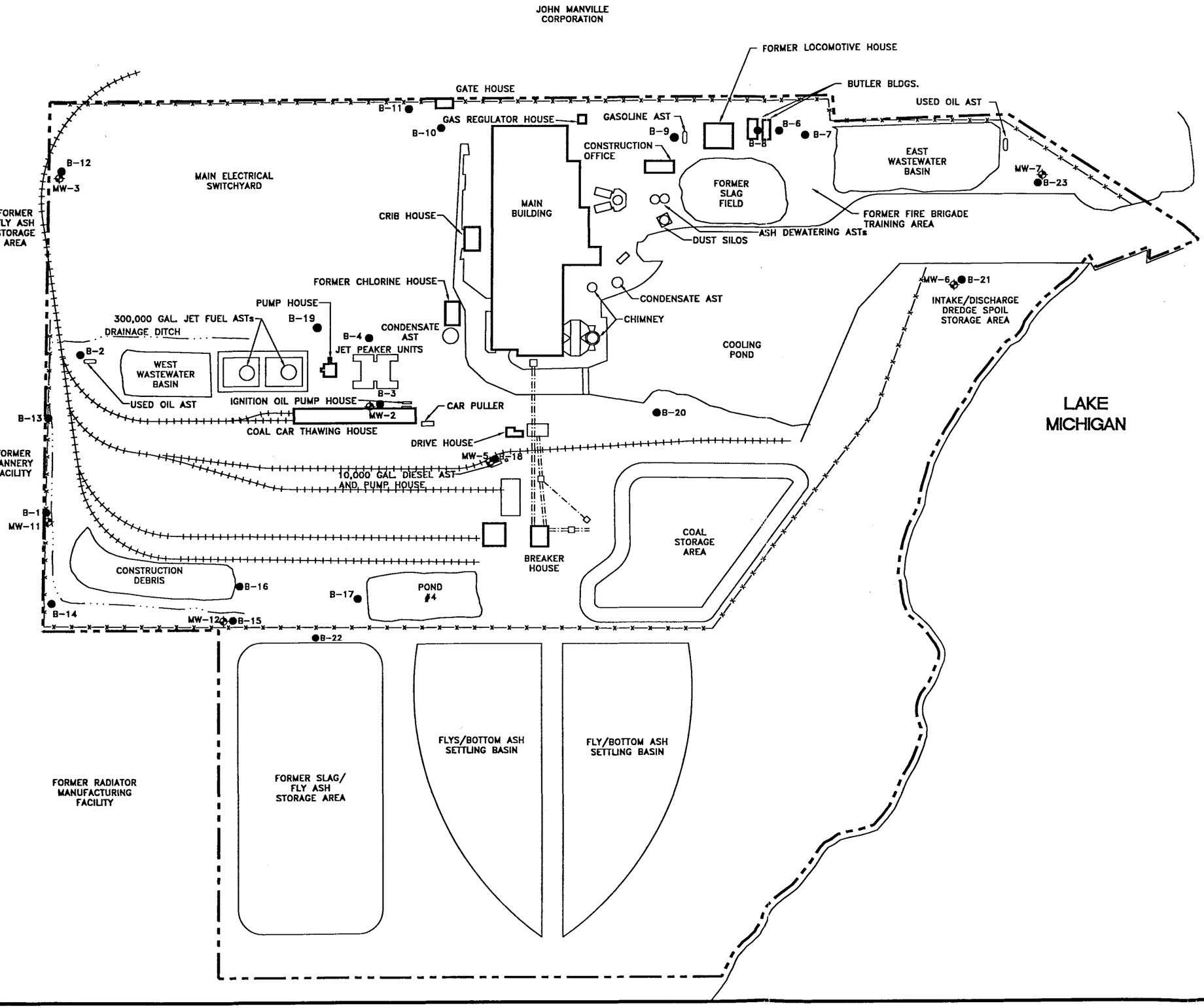
N

NOT TO SCALE

FIGURE 4

ENSR

MWG13-15_45816



LEGEND:

- PROPERTY BOUNDARY
- RAILROAD LINE
- FENCE
- CONVEYOR LINE
- MW-2 MONITORING WELL
- B-1 SOIL BORING

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: WAUKEGANSB1

WAUKEGAN GENERATING STATION
10 GREENLAND AVENUE
WAUKEGAN, ILLINOIS

COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-610

SOIL BORING/ MONITORING WELL SITE PLAN

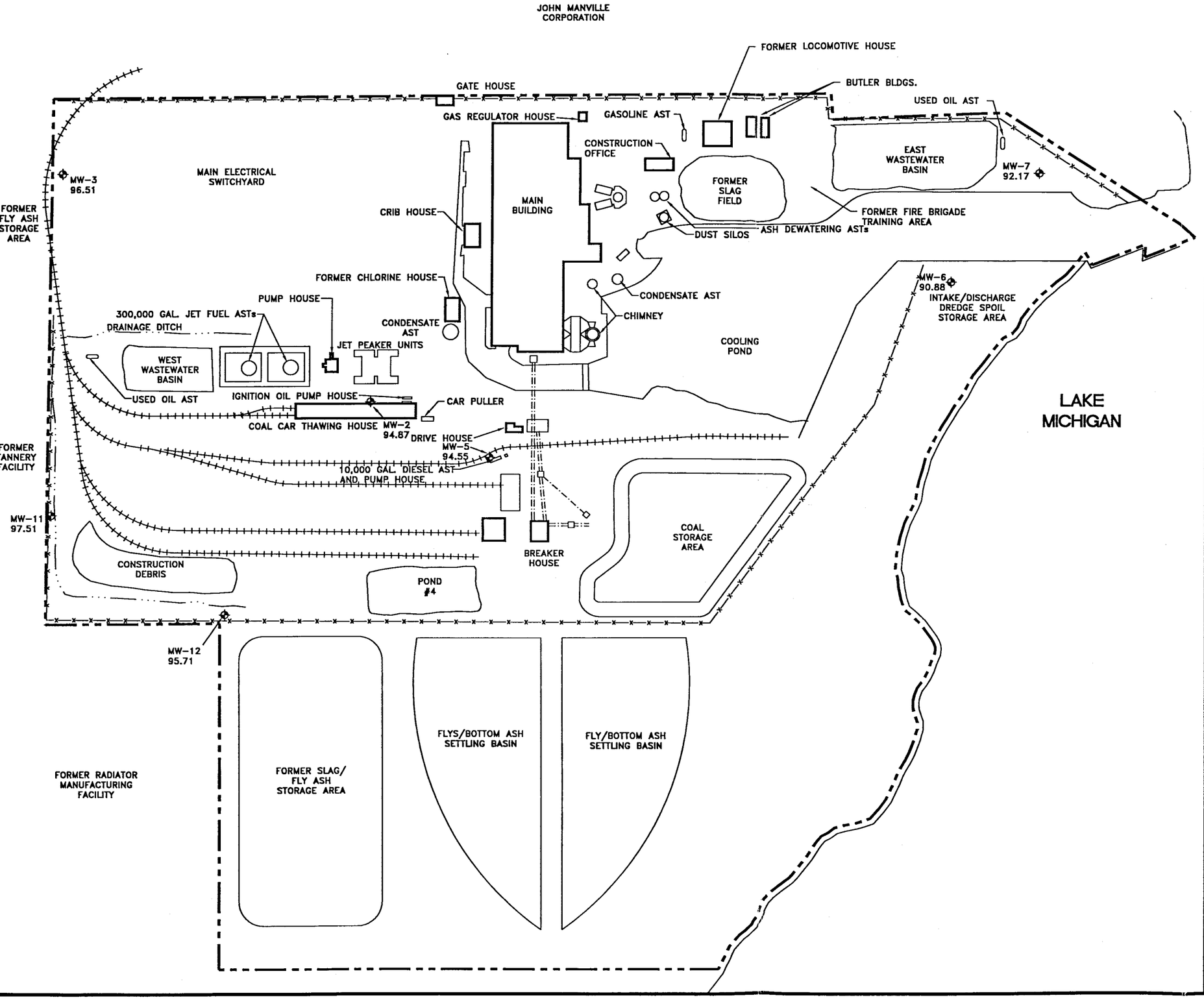
N

NOT TO SCALE

FIGURE 5

ENSR

MWG13-15_45817



LEGEND:

- PROPERTY BOUNDARY
- RAILROAD LINE
- FENCE
- CONVEYOR LINE
- MW-2 94.87 — MONITORING WELL WITH GROUND WATER ELEVATION IN FEET.

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: WAUKEGANGW1

WAUKEGAN GENERATING STATION
10 GREENLAND AVENUE
WAUKEGAN, ILLINOIS

COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-610

GROUNDWATER ELEVATION MAP

N

NOT TO SCALE

FIGURE 6

ENSR

MWG13-15_45818

A

APPENDIX A

Boring Logs and Monitoring Well Construction Diagrams

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Waukegan Generating Station
10 Greenwood Avenue
Waukegan, Illinois

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Log of Borehole B-1

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
1 2 3 / 1		2' Light brown, medium grain, sand 2' Coal	1	GP	100	< 1	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 5 6 / 2 7 8 9 10 / 3 11 12 13 / 4 14 15		End of Borehole					

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/29/98**

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Log of Borehole B-2

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth ft / m	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 ft / 0 m		Ground Surface					
0 – 1 – 2 – 3 ft / 1 m		Light brown sand with gravel	1	GP	80	11.5	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 – 5 – 6 ft / 2 m		End of Borehole					
7 – 8 – 9 – 10 ft / 3 m							
11 – 12 – 13 ft / 4 m							
14 – 15 ft							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/29/98**

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Log of Borehole B-3

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0 – 8		Dark brown-black, sand, saturated	1	GP	100	18.7	0 - 4 PNA/BETX/pH/PCBs/ RCRA Metals
			2	SS	100	15.6	
8		End of Borehole					

1 m = 3 ft; 2 m = 6 ft; 3 m = 9 ft; 4 m = 12 ft

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/27/98**

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Log of Borehole B-4

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 ft / 0 m		Ground Surface					
0 – 4 ft		1.5' Gravel 6" Clay and silt, wet with gravel 2' Orange black coal with sand	1	GP	100	4.2	0 - 4 PNA/BETX/pH/PCBs/ RCRA Metals
4 ft / 1 m		End of Borehole					

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/26/98**

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Log of Borehole B-6

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		.5' Gravel .5' Coal 3' Light brown sand, medium grained, wet	1	GP	100	9.5	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 / 1		End of Borehole					
8 / 2							
12 / 3							
15 / 4							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/29/98**

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Log of Borehole B-7

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
ft m		Ground Surface					
0 0							
1		1' Coal 2.5' Light brown, sand, medium grained, wet .5' Gray sand, medium grained, wet	1	GP	100	5.8	0 - 4 PNAs/BETX/pH/PCBs RCRA Metals
2							
3 1							
4		End of Borehole					
5							
6							
7 2							
8							
9							
10 3							
11							
12							
13 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/29/98**

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Log of Borehole B-8

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		Coal to 2'					
1		2' Light brown, sand, moist to wet, with fines	1	GP	100	9.7	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
2 / 1							
3							
4		End of Borehole					
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/29/98**

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Log of Borehole B-9

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
1 2 3 / 1		Coal to 3' 1' Light brown, sand, wet	1	GP	100	10.8	0 - 4 PNAS/BETX/PCBs RCRA Metals
4 5 6 / 2 7 8 9 10 / 3 11 12 13 / 4 14 15		End of Borehole					

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/29/98**

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Log of Borehole B-10

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth ft / m	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
1 2 3 / 1		Coal to 2' 6" Brown sandy clay 1' Light brown sand, fine to medium grained	1	GP	80	9.0	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 5 6 7 / 2		Light brown sand, fine grained, wet with 1" gravel seam at 7'	2	SS	75	9.6	
8 9 10 / 3		End of Borehole					
11 12 13 / 4 14 15							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/29/98**

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Log of Borehole B-11

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		6" Gravel 2.5' Coal slag with sand	1	GP	100	8.5	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 / 1		End of Borehole					
8 / 2							
12 / 3							
15 / 4							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/29/98**

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Log of Borehole B-12

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		Borehole not logged.	1	GP	100	12.3	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
8 / 2		End of Borehole					
15 / 4							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/28/98**

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Log of Borehole B-13

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0 - 3 ft / 0 - 1 m		Coal with fine gravel bottom 1.5' wet	1	GP	60	1.4	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
		End of Borehole					

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/26/98**

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Log of Borehole B-14

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
1 2 3 / 1		3' Wet coal Sand and gravel saturated	1	GP	100	1.4	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 5 6 / 2 7 8 9 10 / 3 11 12 13 / 4 14 15		End of Borehole					

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/26/98**

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Log of Borehole B-15

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
1		2' Coal 2' Light brown, medium grain, sand, wet	1	GP	100	< 1	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
2							
3 / 1							
4		End of Borehole					
5							
6							
7 / 2							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/29/98**

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Log of Borehole B-16

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth ft / m	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
1		Coal/Slag	1	GP	50	2.3	0 - 2 PNAs/BETX/pH/PCBs/ RCRA Metals
2		End of Borehole					
3 / 1							
4							
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/26/98**

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Log of Borehole B-17

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		1' Coal 1' Light brown-black, medium grain, sand 2' Coal	1	GP	100	5.4	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 / 1		End of Borehole					
8 / 2							
12 / 3							
15 / 4							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/29/98**

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Log of Borehole B-18

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		Brown-black sand, with odor					
1							0 - 4
2		saturated	1	GP	100	123	PNAs/BETX/pH/PCBs/ RCRA Metals
3 / 1							
4		End of Borehole					
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/27/98**

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Log of Borehole B-19

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
1		1' Loose sand and coal 1' Rusty orange caol consolidated Coal, moist to wet	1	GP	75	19.3	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 / 1		End of Borehole					
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/26/98**

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Log of Borehole B-20

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0 – 4 ft		Black coal consolidated .5' Sand and gravel seam at 2.5' Same with silt, wet at 3.5'	1	GP	100	19.4	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 – 6 ft		Black coal, consolidated, moist	2	GP	50	16.0	
6 ft / 2 m		End of Borehole					

7 ft / 2 m · 10 ft / 3 m · 13 ft / 4 m · 15 ft

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/26/98**

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Log of Borehole B-21

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth ft / m	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
1		Sand, medium grained, dry to moist, loose 1' Sand, medium grained, wet	1	GP	80	16.4	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
5		Light brown-gray, sand, medium grained, wet	2	GP	20	20.3	
6 / 2		End of Borehole					
10 / 3							
13 / 4							
15							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/26/98**

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Sheet: 1 of 1

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Log of Borehole B-22

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0 - 1		Coal and gray coal ash	1	GP	30	< 1	0 - 2 PNAs/BETX/pH/PCBs/ RCRA Metals
2 / 1		End of Borehole					
3							
4							
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/26/98**

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Westmont, IL 60559
630-887-1700

Sheet: 1 of 1

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Log of Borehole B-23

Project No:1801-023-610

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Waukegan Power Station

Geologist: BB

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
ft m		Ground Surface					
0 0							
1		Light brown sand, loose, with gravel	1	GP	100	12.4	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
2		2' Same, wet					
3 1							
4		End of Borehole					
5							
6 2							
7							
8							
9							
10 3							
11							
12							
13 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/27/98**

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Westmont, IL 60559
630-887-1700

Sheet: 1 of 1

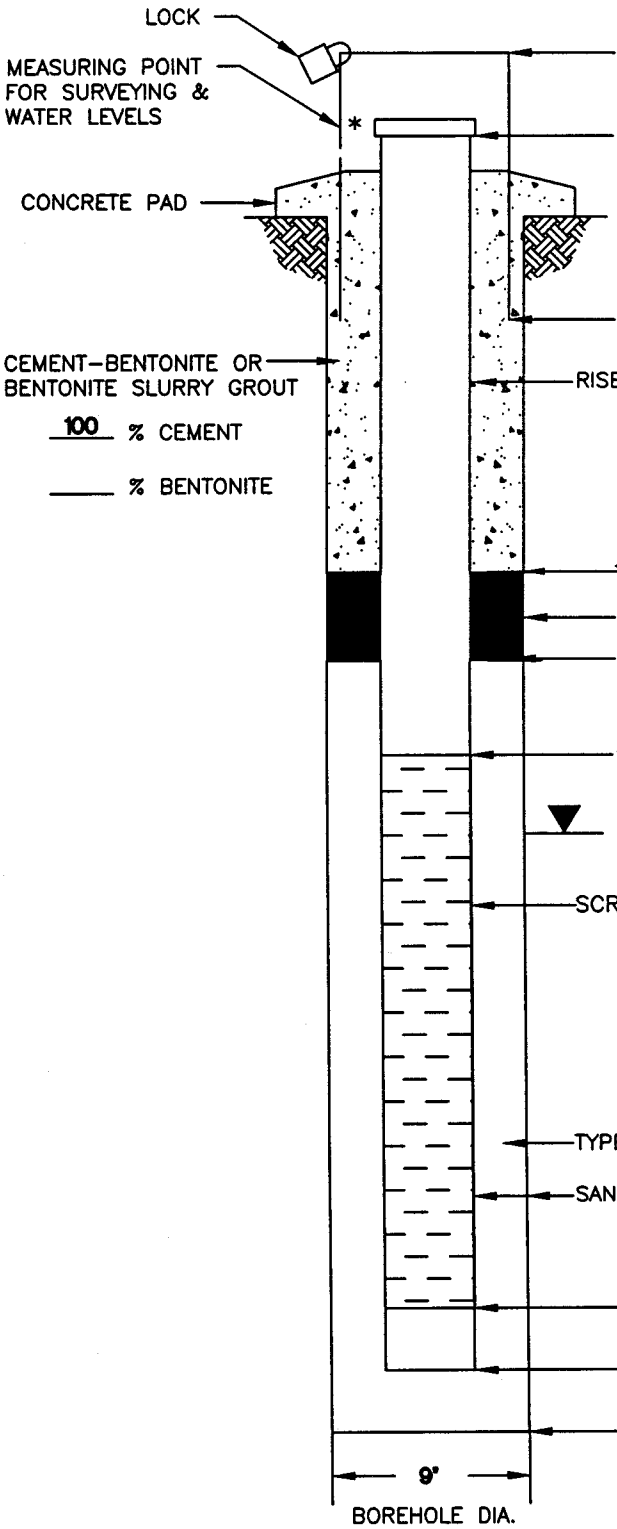
Project No: 1901-023-610 Client: Commonwealth Edison Site: Waukegan Power Station

WELL No: MW-2/B-3

Well Location: S. of Peakers and North of Coal Car Thawing Date Installed: 10/27/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: B. Buckley

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	96.98
TOP OF RISER PIPE	0.40	96.58
GROUND SURFACE (G.S.)	0.00	96.98
BOTTOM OF STEEL GUARD	0.67	96.31
RISER PIPE:		
LENGTH: 2.6		
INSIDE DIAMETER (ID): 2.07		
TYPE OF MATERIAL: PVC Sch. 40		
TOP OF BENTONITE SEAL	1.0	95.98
BENTONITE SEAL THICKNESS	2.0	94.98
TOP OF SAND	3.0	93.98
TOP OF SCREEN	3.0	93.98
STABILIZED WATER LEVEL	1.71 (2.11 FROM G.S.)	94.87
SCREEN:		
LENGTH: 5.0		
INSIDE DIAMETER (ID): 2.07"		
SLOT SIZE: 0.010		
TYPE OF MATERIAL: PVC Sch.40		
TYPE/SIZE OF SAND: Otz.#5		
SAND PACK THICKNESS: 3.0"		
BOTTOM OF SCREEN	7.83	89.15
BOTTOM OF TAILPIPE LENGTH: 2"	7.83	89.15
BOTTOM OF BOREHOLE	8.0	88.98

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/27/98
Date

ENSR™

MWG13-15_45843

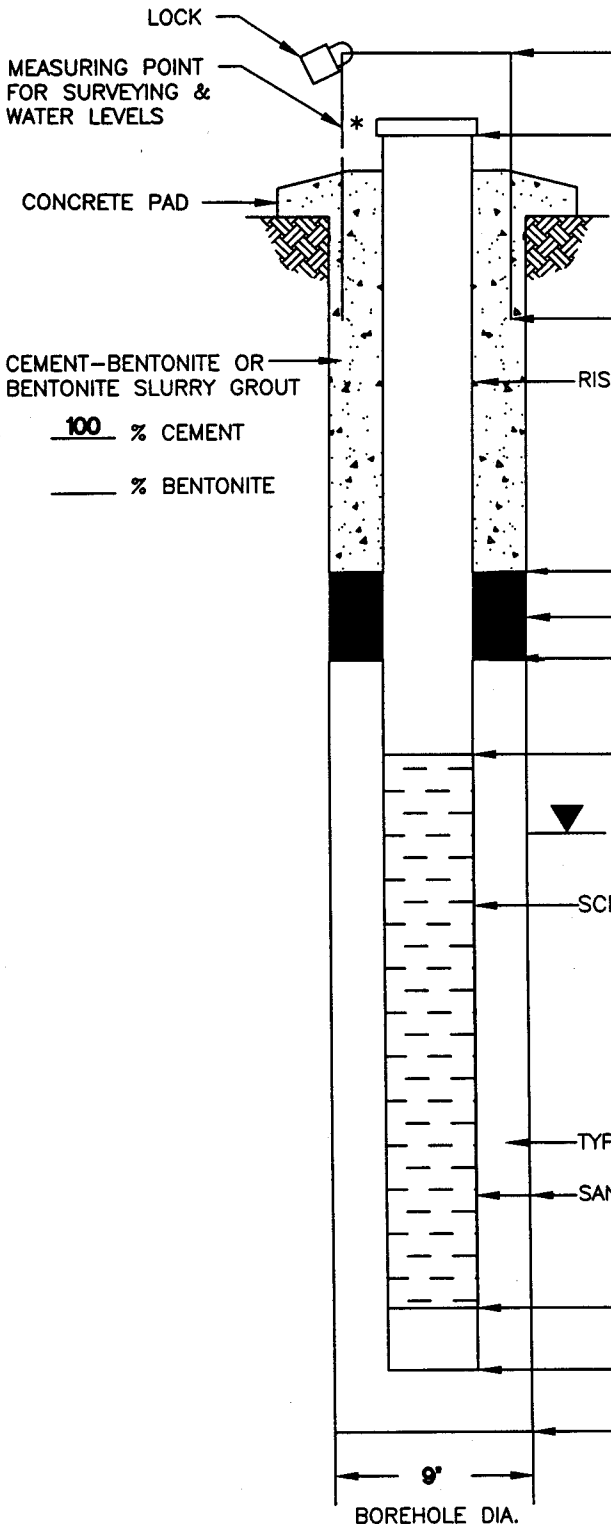
Project No: 1801-023-610 Client: Commonwealth Edison Site: Waukegan Power Station

WELL No: MW-3/B-12

Well Location: NW corner of property, under High Tension Wires Date Installed: 10/28/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: B. Buckley

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	98.19
TOP OF RISER PIPE	0.38	97.81
GROUND SURFACE (G.S.)	0.00	98.19
BOTTOM OF STEEL GUARD	0.67	97.52
RISER PIPE: LENGTH 2.62; INSIDE DIAMETER (ID) 2.07; TYPE OF MATERIAL PVC Sch. 40		
TOP OF BENTONITE SEAL	1.0	97.19
BENTONITE SEAL THICKNESS	2.0	96.19
TOP OF SAND	3.0	95.19
TOP OF SCREEN	3.0	95.19
STABILIZED WATER LEVEL	1.3 (1.68 FROM G.S.)	96.51
SCREEN: LENGTH 5.0; INSIDE DIAMETER (ID) 2.07"; SLOT SIZE 0.010; TYPE OF MATERIAL PVC Sch.40		
TYPE/SIZE OF SAND Otz.#5		
SAND PACK THICKNESS 3.0"		
BOTTOM OF SCREEN	7.83	90.36
BOTTOM OF TAILPIPE LENGTH 2"	7.83	90.36
BOTTOM OF BOREHOLE	8.0	90.19

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/28/98
Date

ENSR™

MWG13-15_45844

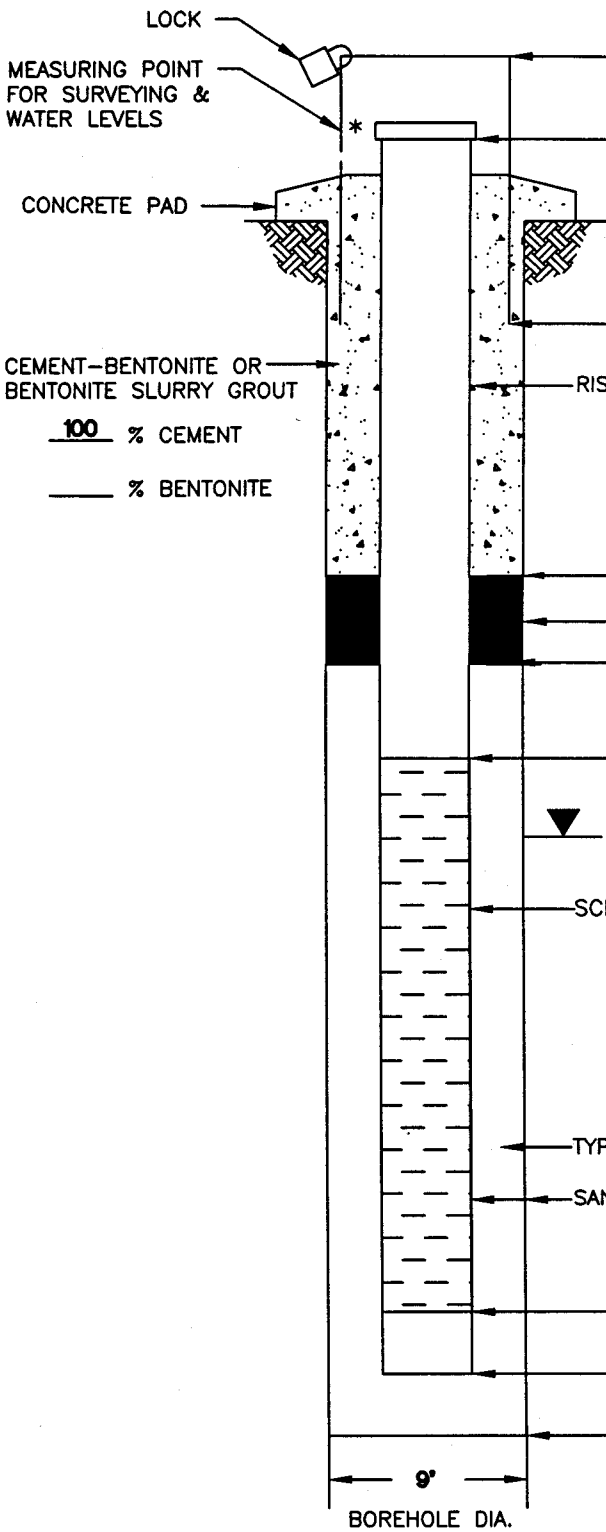
Project No: 1801-023-610 Client: Commonwealth Edison Site: Waukegan Power Station

WELL No: MW-5/B-18

Well Location: Near Coal Hopper Control Building, near AST Date Installed: 10/27/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: B. Buckley

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	98.56
TOP OF RISER PIPE	0.32	98.24
GROUND SURFACE (G.S.)	0.00	98.56
BOTTOM OF STEEL GUARD	0.67	97.89
RISER PIPE: LENGTH 2.68; INSIDE DIAMETER (ID) 2.07; TYPE OF MATERIAL PVC Sch. 40		
TOP OF BENTONITE SEAL	1.0	97.56
BENTONITE SEAL THICKNESS	2.0	96.56
TOP OF SAND	3.0	95.56
TOP OF SCREEN	3.0	95.56
STABILIZED WATER LEVEL	3.69 (4.01 FROM G.S.)	94.55
SCREEN: LENGTH 5.0; INSIDE DIAMETER (ID) 2.07"; SLOT SIZE 0.010; TYPE OF MATERIAL PVC Sch.40		
TYPE/SIZE OF SAND	Otz #5	
SAND PACK THICKNESS	3.0'	
BOTTOM OF SCREEN	7.83	90.73
BOTTOM OF TAILPIPE LENGTH 2"	7.83	90.73
BOTTOM OF BOREHOLE	8.0	90.56

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/27/98
Date

ENSR™

MWG13-15_45845

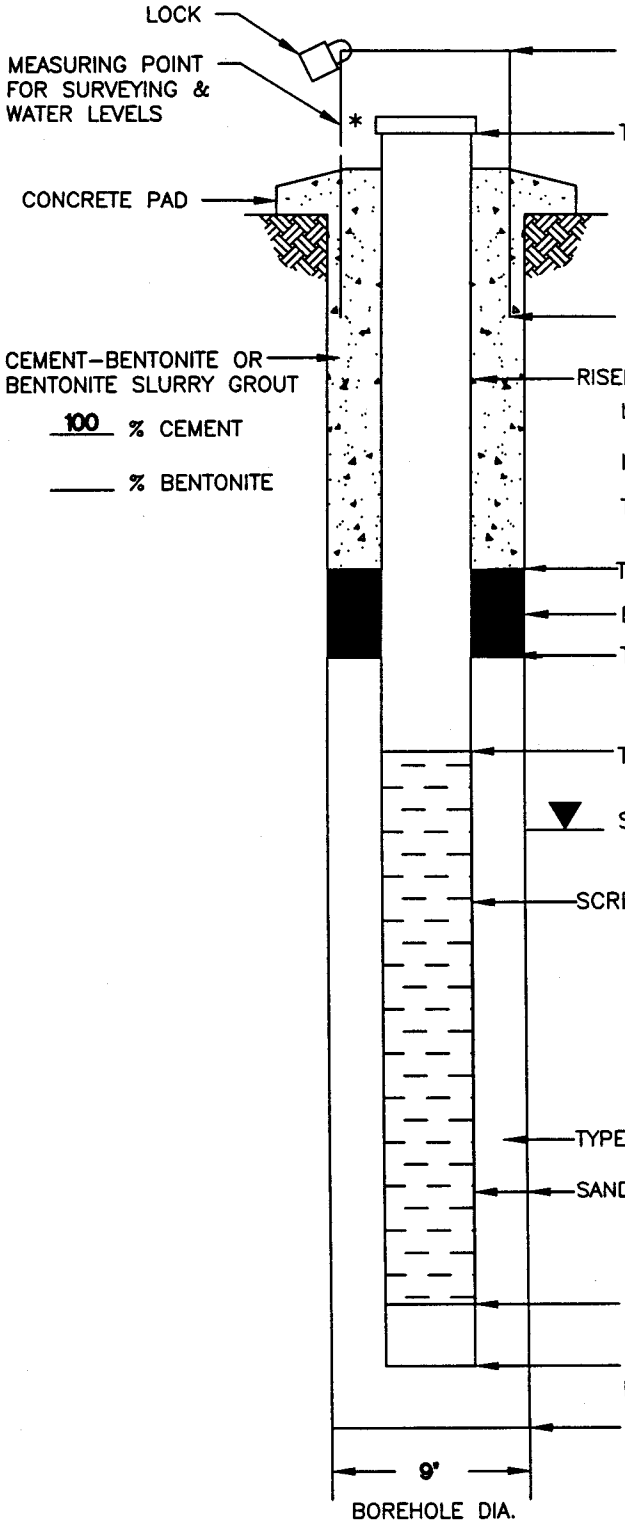
Project No: 1901-023-610 Client: Commonwealth Edison Site: Waukegan Power Station

WELL No: MW-6/B-21

Well Location: East of Cooling Pond near Beach Date Installed: 10/27/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: B. Buckley

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	98.65
TOP OF RISER PIPE	0.29	98.36
GROUND SURFACE (G.S.)	0.00	98.65
BOTTOM OF STEEL GUARD	0.67	97.98
RISER PIPE:		
LENGTH: 4.71		
INSIDE DIAMETER (ID): 2.07		
TYPE OF MATERIAL: PVC Sch. 40		
TOP OF BENTONITE SEAL	1.0	97.65
BENTONITE SEAL THICKNESS	3.0	96.15
TOP OF SAND	4.0	94.65
TOP OF SCREEN	5.0	93.65
STABILIZED WATER LEVEL	7.48 (7.69 FROM G.S.)	90.96
SCREEN:		
LENGTH: 4.0		
INSIDE DIAMETER (ID): 2.07"		
SLOT SIZE: 0.010		
TYPE OF MATERIAL: PVC Sch.40		
TYPE/SIZE OF SAND: Otz.#5		
SAND PACK THICKNESS: 3.0"		
BOTTOM OF SCREEN	9.83	88.82
BOTTOM OF TAILPIPE LENGTH: 2"	9.83	88.82
BOTTOM OF BOREHOLE	10	88.65

* Describe Measuring Point

NORTH SIDE

Approved: _____ Signature

10/27/98 Date

ENSR™

MWG13-15_45846

Project No: 1801-023-610 Client: Commonwealth Edison Site: Waukegan Power Station

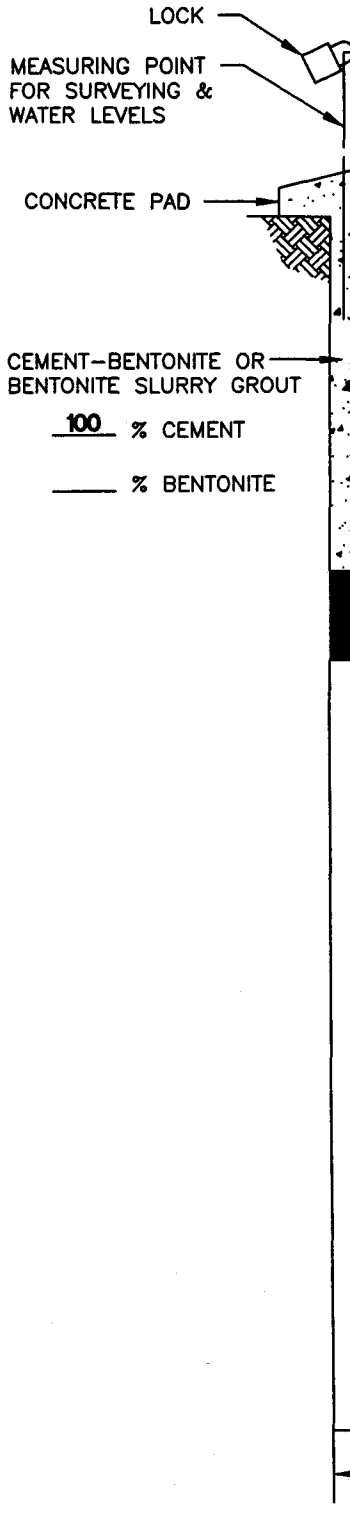
WELL No: MW-7/B-23

Well Location: East of Waste Oil in Fishing Area

Date Installed: 10/27/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: B. Buckley

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	96.66
TOP OF RISER PIPE	0.24	96.42
GROUND SURFACE (G.S.)	0.00	96.66
BOTTOM OF STEEL GUARD	0.67	95.99
RISER PIPE:		
LENGTH: 4.26		
INSIDE DIAMETER (ID): 2.07		
TYPE OF MATERIAL: PVC Sch. 40		
TOP OF BENTONITE SEAL	1.0	95.66
BENTONITE SEAL THICKNESS	3.5	93.91
TOP OF SAND	4.5	92.16
TOP OF SCREEN	5.0	91.66
STABILIZED WATER LEVEL	4.25 (4.49 FROM G.S.)	92.17
SCREEN:		
LENGTH: 5.0		
INSIDE DIAMETER (ID): 2.07"		
SLOT SIZE: 0.010		
TYPE OF MATERIAL: PVC Sch.40		
TYPE/SIZE OF SAND: Otz #5		
SAND PACK THICKNESS: 3.0"		
BOTTOM OF SCREEN	9.83	86.83
BOTTOM OF TAILPIPE LENGTH: 2"	9.83	86.83
BOTTOM OF BOREHOLE	10	86.66

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/27/98
Date

ENSR™

MWG13-15_45847

B

MWG13-15_45848

APPENDIX B

Analytical Reports

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Waukegan Generating Station
10 Greenwood Avenue
Waukegan, Illinois

MWG13-15_45849

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
Tel: (630) 289-3100
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Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.13879

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Waukegan; 1801-023-610

Sample Number	Sample Description	Date Taken	Date Received
499912	B21 (0-4)	10/26/1998	10/27/1998
499913	B20 (0-4)	10/26/1998	10/27/1998
499914	B19 (0-4)	10/26/1998	10/27/1998
499915	B4 (0-4)	10/26/1998	10/27/1998
499916	B2 (0-4)	10/26/1998	10/27/1998
499917	B13 (0-4)	10/26/1998	10/27/1998
499918	B14 (0-4)	10/26/1998	10/27/1998
499919	B16 (0-4)	10/26/1998	10/27/1998
499920	B22 (0-2)	10/26/1998	10/27/1998
499921	S1	10/26/1998	10/27/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
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Fax: (630) 289-5445

Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499912

NET Job No.: 98.13879

Sample Description: B21 (0-4)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 10:15
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.34	units	10/30/1998	0.10	nwg		188	SW 9045B
Solids, Total	95.0	%	11/02/1998	0.1	efw		2515	SM 2540
Arsenic, GFAA	2.5	mg/kg dw	11/06/1998	0.53	mhp	235	672	SW 7060
Barium, ICP	7.6	mg/kg dw	11/06/1998	1.1	jtt	1165	2188	SW 6010B
Cadmium, ICP	<0.53	mg/kg dw	11/06/1998	0.53	jtt	1165	2174	SW 6010B
Chromium, ICP	5.4	mg/kg dw	11/06/1998	2.1	jtt	1165	2159	SW 6010B
Lead, ICP	7.6	mg/kg dw	11/06/1998	4.2	jtt	1165	2397	SW 6010B
Mercury, CVAA	<0.042	mg/kg dw	11/02/1998	0.042	sep	665	769	SW 7471A
Selenium, GFAA	<0.26	mg/kg dw	11/07/1998	0.26	mhp	235	561	SW 7740
Silver, AA	<2.1	mg/kg dw	11/02/1998	2.1	sep	492	569	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	11/03/1998	0.005	jap		74	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	11/03/1998	0.005	jap		74	SW 8260A
Toluene	<0.005	mg/kg dw	11/03/1998	0.005	jap		74	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	11/03/1998	0.005	jap		74	SW 8260A
Dibromofluoromethane (Surr)	98.8	%	11/03/1998	81-129	jap		74	SW 8260A
Toluene-d8 (Surr)	85.0	%	11/03/1998	74-129	jap		74	SW 8260A
4-Bromofluoromethane (Surr)	85.4	%	11/03/1998	70-130	jap		74	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/06/1998		wna	770		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS								
Acenaphthene	<0.021	mg/kg dw	11/09/1998	0.021	keh	770	1833	SW 8310
Acenaphthylene	<0.021	mg/kg dw	11/09/1998	0.021	keh	770	1833	SW 8310
Anthracene	<0.042	mg/kg dw	11/09/1998	0.042	keh	770	1833	SW 8310
Benzo(a)anthracene	0.043	mg/kg dw	11/09/1998	0.0027	keh	770	1833	SW 8310
Benzo(b)fluoranthene	0.038	mg/kg dw	11/09/1998	0.0038	keh	770	1833	SW 8310

MWG13-15_45851

NATIONAL ENVIRONMENTAL TESTING, INC.

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(800) 807-2877

ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499912

NET Job No.: 98.13879

Sample Description: B21 (0-4)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 10:15
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.022	mg/kg dw	11/09/1998	0.0036	keh	770	1833	SW 8310
Benzo(a)pyrene	0.035	mg/kg dw	11/09/1998	0.0048	keh	770	1833	SW 8310
Benzo(ghi)perylene	<0.042	mg/kg dw	11/09/1998	0.042	keh	770	1833	SW 8310
Chrysene	0.034	mg/kg dw	11/09/1998	0.03	keh	770	1833	SW 8310
Dibenzo(a,h)anthracene	<0.006	mg/kg dw	11/09/1998	0.006	keh	770	1833	SW 8310
Fluoranthene	0.085	mg/kg dw	11/09/1998	0.021	keh	770	1833	SW 8310
Fluorene	<0.021	mg/kg dw	11/09/1998	0.021	keh	770	1833	SW 8310
Indeno(1,2,3-cd)pyrene	0.024	mg/kg dw	11/09/1998	0.0091	keh	770	1833	SW 8310
Naphthalene	<0.026	mg/kg dw	11/09/1998	0.026	keh	770	1833	SW 8310
Phenanthrene	0.051	mg/kg dw	11/09/1998	0.042	keh	770	1833	SW 8310
Pyrene	0.071	mg/kg dw	11/09/1998	0.021	keh	770	1833	SW 8310
Surr: p-Terphenyl	107.1	%	11/09/1998	43-125	keh	770	1833	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/02/1998	COMPLETE	wna	380		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.042	mg/kg dw	11/05/1998	0.042	tls	380	52	SW 8082
PCB-1221	<0.042	mg/kg dw	11/05/1998	0.042	tls	380	52	SW 8082
PCB-1232	<0.042	mg/kg dw	11/05/1998	0.042	tls	380	52	SW 8082
PCB-1242	<0.042	mg/kg dw	11/05/1998	0.042	tls	380	52	SW 8082
PCB-1248	0.072	mg/kg dw	11/06/1998	0.042	tls	380	53	SW 8082
PCB-1254	<0.042	mg/kg dw	11/05/1998	0.042	tls	380	52	SW 8082
PCB-1260	<0.042	mg/kg dw	11/05/1998	0.042	tls	380	52	SW 8082
Decachlorobiphenyl (Surr)	96.0	%	11/05/1998	NA	tls	380	52	SW 8082
2,4,5,6-TCMX (Surr)	86.0	%	11/05/1998	NA	tls	380	52	SW 8082

NATIONAL ENVIRONMENTAL TESTING, INC.

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(800) 807-2877

ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499913

NET Job No.: 98.13879

Sample Description: B20 (0-4)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 10:52
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.03		units	10/30/1998	0.10	nwg		188	SW 9045B
Solids, Total	83.2		%	11/02/1998	0.1	efw		2515	SM 2540
Arsenic, GFAA	25		mg/kg dw	11/06/1998	0.60	mhp	235	672	SW 7060
Barium, ICP	192		mg/kg dw	11/06/1998	1.2	jtt	1165	2188	SW 6010B
Cadmium, ICP	3.1		mg/kg dw	11/06/1998	0.60	jtt	1165	2174	SW 6010B
Chromium, ICP	59		mg/kg dw	11/06/1998	2.4	jtt	1165	2159	SW 6010B
Lead, ICP	48		mg/kg dw	11/06/1998	4.8	jtt	1165	2397	SW 6010B
Mercury, CVAA	0.053		mg/kg dw	11/02/1998	0.048	sep	665	769	SW 7471A
Selenium, GFAA	0.70		mg/kg dw	11/07/1998	0.30	mhp	235	561	SW 7740
Silver, AA	<2.4		mg/kg dw	11/02/1998	2.4	sep	492	569	SW 7760
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	11/03/1998	0.006	jap		75	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	11/03/1998	0.006	jap		75	SW 8260A
Toluene	<0.006		mg/kg dw	11/03/1998	0.006	jap		75	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	11/03/1998	0.006	jap		75	SW 8260A
Dibromofluoromethane (Surr)	98.4		%	11/03/1998	81-129	jap		75	SW 8260A
Toluene-d8 (Surr)	106.8		%	11/03/1998	74-129	jap		75	SW 8260A
4-Bromofluoromethane (Surr)	109.2		%	11/03/1998	70-130	jap		75	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/30/1998		btl	767		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.024		mg/kg dw	11/06/1998	0.024	keh	767	1830	SW 8310
Acenaphthylene	<0.024		mg/kg dw	11/06/1998	0.024	keh	767	1830	SW 8310
Anthracene	<0.048		mg/kg dw	11/06/1998	0.048	keh	767	1830	SW 8310
Benzo(a)anthracene	<0.66	MX	mg/kg dw	11/06/1998	0.0031	keh	767	1830	SW 8310
Benzo(b)fluoranthene	<0.017	MX	mg/kg dw	11/06/1998	0.0043	keh	767	1830	SW 8310

MX : Dilution required due to sample matrix; analyte is not detected.

MWG13-15_45853

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499913

NET Job No.: 98.13879

Sample Description: B20 (0-4)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 10:52
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.064	MX	mg/kg dw	11/06/1998	0.0041	keh	767	1830	SW 8310
Benzo(a)pyrene	<0.038	MX	mg/kg dw	11/06/1998	0.0055	keh	767	1830	SW 8310
Benzo(ghi)perylene	<0.048		mg/kg dw	11/06/1998	0.048	keh	767	1830	SW 8310
Chrysene	0.078		mg/kg dw	11/06/1998	0.04	keh	767	1830	SW 8310
Dibenzo(a,h)anthracene	<0.023	MX	mg/kg dw	11/06/1998	0.007	keh	767	1830	SW 8310
Fluoranthene	<0.12	MX	mg/kg dw	11/06/1998	0.024	keh	767	1830	SW 8310
Fluorene	<0.024		mg/kg dw	11/06/1998	0.024	keh	767	1830	SW 8310
Indeno(1,2,3-cd)pyrene	<0.010		mg/kg dw	11/06/1998	0.010	keh	767	1830	SW 8310
Naphthalene	0.038		mg/kg dw	11/06/1998	0.030	keh	767	1830	SW 8310
Phenanthrene	0.097		mg/kg dw	11/06/1998	0.048	keh	767	1830	SW 8310
Pyrene	0.070		mg/kg dw	11/06/1998	0.024	keh	767	1830	SW 8310
Surr: p-Terphenyl	Masked			11/06/1998	43-125	keh	767	1830	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/02/1998	COMPLETE	wna	380		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.048		mg/kg dw	11/04/1998	0.048	tls	380	57	SW 8082
PCB-1221	<0.048		mg/kg dw	11/04/1998	0.048	tls	380	57	SW 8082
PCB-1232	<0.048		mg/kg dw	11/04/1998	0.048	tls	380	57	SW 8082
PCB-1242	<0.048		mg/kg dw	11/04/1998	0.048	tls	380	57	SW 8082
PCB-1248	<0.048		mg/kg dw	11/04/1998	0.048	tls	380	57	SW 8082
PCB-1254	<0.048		mg/kg dw	11/04/1998	0.048	tls	380	57	SW 8082
PCB-1260	<0.048		mg/kg dw	11/04/1998	0.048	tls	380	57	SW 8082
Decachlorobiphenyl (Surr)	70.0		%	11/04/1998	NA	tls	380	57	SW 8082
2,4,5,6-TCMX (Surr)	75.0		%	11/04/1998	NA	tls	380	57	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

MWG13-15_45854

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499914

NET Job No.: 98.13879

Sample Description: B19 (0-4)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 11:12
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.95	units	10/30/1998	0.10	nwg		188	SW 9045B
Solids, Total	92.5	%	11/02/1998	0.1	efw		2515	SM 2540
Arsenic, GFAA	6.8	mg/kg dw	11/06/1998	0.54	mhp	235	672	SW 7060
Barium, ICP	238	mg/kg dw	11/06/1998	1.1	jtt	1165	2188	SW 6010B
Cadmium, ICP	0.93	mg/kg dw	11/06/1998	0.54	jtt	1165	2174	SW 6010B
Chromium, ICP	50	mg/kg dw	11/06/1998	2.2	jtt	1165	2159	SW 6010B
Lead, ICP	43	mg/kg dw	11/06/1998	4.3	jtt	1165	2397	SW 6010B
Mercury, CVAA	0.22	mg/kg dw	11/02/1998	0.043	sep	665	769	SW 7471A
Selenium, GFAA	<0.27	mg/kg dw	11/07/1998	0.27	mhp	235	561	SW 7740
Silver, AA	<2.2	mg/kg dw	11/02/1998	2.2	sep	492	569	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	11/02/1998	0.005	jap		73	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	11/02/1998	0.005	jap		73	SW 8260A
Toluene	<0.005	mg/kg dw	11/02/1998	0.005	jap		73	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	11/02/1998	0.005	jap		73	SW 8260A
Dibromofluoromethane (Surr)	95.8	%	11/02/1998	81-129	jap		73	SW 8260A
Toluene-d8 (Surr)	95.6	%	11/02/1998	74-129	jap		73	SW 8260A
4-Bromofluoromethane (Surr)	98.8	%	11/02/1998	70-130	jap		73	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/30/1998		btl	767		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS								
Acenaphthene	<0.022	mg/kg dw	11/06/1998	0.022	keh	767	1830	SW 8310
Acenaphthylene	<0.022	mg/kg dw	11/06/1998	0.022	keh	767	1830	SW 8310
Anthracene	<0.043	mg/kg dw	11/06/1998	0.043	keh	767	1830	SW 8310
Benzo(a)anthracene	0.067	mg/kg dw	11/06/1998	0.0028	keh	767	1830	SW 8310
Benzo(b)fluoranthene	0.030	mg/kg dw	11/06/1998	0.0039	keh	767	1830	SW 8310

MWG13-15_45855

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499914

NET Job No.: 98.13879

Sample Description: B19 (0-4)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 11:12
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.024	MX	mg/kg dw	11/06/1998	0.0037	keh	767	1830	SW 8310
Benzo(a)pyrene	0.035		mg/kg dw	11/06/1998	0.0050	keh	767	1830	SW 8310
Benzo(ghi)perylene	<0.043		mg/kg dw	11/06/1998	0.043	keh	767	1830	SW 8310
Chrysene	0.056		mg/kg dw	11/06/1998	0.03	keh	767	1830	SW 8310
Dibenzo(a,h)anthracene	<0.0080	MX	mg/kg dw	11/06/1998	0.006	keh	767	1830	SW 8310
Fluoranthene	0.13		mg/kg dw	11/06/1998	0.022	keh	767	1830	SW 8310
Fluorene	<0.022		mg/kg dw	11/06/1998	0.022	keh	767	1830	SW 8310
Indeno(1,2,3-cd)pyrene	0.022		mg/kg dw	11/06/1998	0.0093	keh	767	1830	SW 8310
Naphthalene	0.082		mg/kg dw	11/06/1998	0.027	keh	767	1830	SW 8310
Phenanthrene	0.14		mg/kg dw	11/06/1998	0.043	keh	767	1830	SW 8310
Pyrene	0.078		mg/kg dw	11/06/1998	0.022	keh	767	1830	SW 8310
Surr: p-Terphenyl	Masked			11/06/1998	43-125	keh	767	1830	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/02/1998	COMPLETE	wna	380		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.043		mg/kg dw	11/05/1998	0.043	tls	380	57	SW 8082
PCB-1221	<0.043		mg/kg dw	11/05/1998	0.043	tls	380	57	SW 8082
PCB-1232	<0.043		mg/kg dw	11/05/1998	0.043	tls	380	57	SW 8082
PCB-1242	<0.043		mg/kg dw	11/05/1998	0.043	tls	380	57	SW 8082
PCB-1248	<0.043		mg/kg dw	11/05/1998	0.043	tls	380	57	SW 8082
PCB-1254	<0.043		mg/kg dw	11/05/1998	0.043	tls	380	57	SW 8082
PCB-1260	<0.043		mg/kg dw	11/05/1998	0.043	tls	380	57	SW 8082
Decachlorobiphenyl (Surr)	75.0		%	11/05/1998	NA	tls	380	57	SW 8082
2,4,5,6-TCMX (Surr)	85.0		%	11/05/1998	NA	tls	380	57	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
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11/10/1998

Sample No. : 499915

NET Job No.: 98.13879

Sample Description: B4 (0-4)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 11:20
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.50		units	10/30/1998	0.10	nwg		189	SW 9045B
Solids, Total	83.8		%	11/02/1998	0.1	efw		2515	SM 2540
Arsenic, GFAA	4.4		mg/kg dw	11/06/1998	0.60	mhp	235	672	SW 7060
Barium, ICP	16		mg/kg dw	11/06/1998	1.2	jtt	1165	2188	SW 6010B
Cadmium, ICP	<0.60		mg/kg dw	11/06/1998	0.60	jtt	1165	2174	SW 6010B
Chromium, ICP	31		mg/kg dw	11/06/1998	2.4	jtt	1165	2159	SW 6010B
Lead, ICP	13		mg/kg dw	11/06/1998	4.8	jtt	1165	2397	SW 6010B
Mercury, CVAA	<0.048		mg/kg dw	11/02/1998	0.048	sep	665	769	SW 7471A
Selenium, GFAA	<0.30		mg/kg dw	11/07/1998	0.30	mhp	235	561	SW 7740
Silver, AA	<2.4		mg/kg dw	11/02/1998	2.4	sep	492	569	SW 7760
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	11/03/1998	0.006	jap		75	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	11/03/1998	0.006	jap		75	SW 8260A
Toluene	<0.006		mg/kg dw	11/03/1998	0.006	jap		75	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	11/03/1998	0.006	jap		75	SW 8260A
Dibromofluoromethane (Surr)	98.4		%	11/03/1998	81-129	jap		75	SW 8260A
Toluene-d8 (Surr)	101.6		%	11/03/1998	74-129	jap		75	SW 8260A
4-Bromofluoromethane (Surr)	105.2		%	11/03/1998	70-130	jap		75	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/03/1998		mmv	767		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.024		mg/kg dw	11/05/1998	0.024	keh	767	1830	SW 8310
Acenaphthylene	<0.024		mg/kg dw	11/05/1998	0.024	keh	767	1830	SW 8310
Anthracene	<0.12	MX	mg/kg dw	11/05/1998	0.048	keh	767	1830	SW 8310
Benzo(a)anthracene	0.041		mg/kg dw	11/05/1998	0.0031	keh	767	1830	SW 8310
Benzo(b)fluoranthene	0.012		mg/kg dw	11/05/1998	0.0043	keh	767	1830	SW 8310

MX : Dilution required due to sample matrix; analyte is not detected.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499915

NET Job No.: 98.13879

Sample Description: B4 (0-4)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 11:20
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.0041		mg/kg dw	11/05/1998	0.0041	keh	767	1830	SW 8310
Benzo(a)pyrene	0.0092		mg/kg dw	11/05/1998	0.0055	keh	767	1830	SW 8310
Benzo(ghi)perylene	<0.048		mg/kg dw	11/05/1998	0.048	keh	767	1830	SW 8310
Chrysene	<0.04		mg/kg dw	11/05/1998	0.04	keh	767	1830	SW 8310
Dibenzo(a,h)anthracene	<0.007		mg/kg dw	11/05/1998	0.007	keh	767	1830	SW 8310
Fluoranthene	<0.074	MX	mg/kg dw	11/05/1998	0.024	keh	767	1830	SW 8310
Fluorene	<0.045	MX	mg/kg dw	11/05/1998	0.024	keh	767	1830	SW 8310
Indeno(1,2,3-cd)pyrene	<0.010		mg/kg dw	11/05/1998	0.010	keh	767	1830	SW 8310
Naphthalene	0.26		mg/kg dw	11/05/1998	0.030	keh	767	1830	SW 8310
Phenanthrene	0.16		mg/kg dw	11/05/1998	0.048	keh	767	1830	SW 8310
Pyrene	<0.042	MX	mg/kg dw	11/05/1998	0.024	keh	767	1830	SW 8310
Surr: p-Terphenyl	Masked			11/05/1998	43-125	keh	767	1830	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/02/1998	COMPLETE	wna	380		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.048		mg/kg dw	11/05/1998	0.048	tls	380	57	SW 8082
PCB-1221	<0.048		mg/kg dw	11/05/1998	0.048	tls	380	57	SW 8082
PCB-1232	<0.048		mg/kg dw	11/05/1998	0.048	tls	380	57	SW 8082
PCB-1242	<0.048		mg/kg dw	11/05/1998	0.048	tls	380	57	SW 8082
PCB-1248	<0.048		mg/kg dw	11/05/1998	0.048	tls	380	57	SW 8082
PCB-1254	<0.048		mg/kg dw	11/05/1998	0.048	tls	380	57	SW 8082
PCB-1260	<0.048		mg/kg dw	11/05/1998	0.048	tls	380	57	SW 8082
Decachlorobiphenyl (Surr)	78.0		%	11/05/1998	NA	tls	380	57	SW 8082
2,4,5,6-TCMX (Surr	80.0		%	11/05/1998	NA	tls	380	57	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

MWG13-15_45858

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499916

NET Job No.: 98.13879

Sample Description: B2 (0-4)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 13:15
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.80		units	10/30/1998	0.10	nwg		188	SW 9045B
Solids, Total	92.4		%	11/02/1998	0.1	efw		2515	SM 2540
Arsenic, GFAA	3.6		mg/kg dw	11/06/1998	0.54	mhp	235	672	SW 7060
Barium, ICP	22		mg/kg dw	11/06/1998	1.1	jtt	1165	2188	SW 6010B
Cadmium, ICP	<0.54		mg/kg dw	11/06/1998	0.54	jtt	1165	2174	SW 6010B
Chromium, ICP	8.3		mg/kg dw	11/06/1998	2.2	jtt	1165	2159	SW 6010B
Lead, ICP	14		mg/kg dw	11/06/1998	4.3	jtt	1165	2397	SW 6010B
Mercury, CVAA	0.083		mg/kg dw	11/02/1998	0.043	sep	665	769	SW 7471A
Selenium, GFAA	<0.27		mg/kg dw	11/07/1998	0.27	mhp	235	561	SW 7740
Silver, AA	<2.2		mg/kg dw	11/02/1998	2.2	sep	492	569	SW 7760
UST VOLATILES NON-AQUEOUS									
Benzene	<0.005		mg/kg dw	11/03/1998	0.005	jap		75	SW 8260A
Ethylbenzene	<0.005		mg/kg dw	11/03/1998	0.005	jap		75	SW 8260A
Toluene	<0.005		mg/kg dw	11/03/1998	0.005	jap		75	SW 8260A
Xylenes, Total	<0.005		mg/kg dw	11/03/1998	0.005	jap		75	SW 8260A
Dibromofluoromethane (Surr)	93.8		%	11/03/1998	81-129	jap		75	SW 8260A
Toluene-d8 (Surr)	96.8		%	11/03/1998	74-129	jap		75	SW 8260A
4-Bromofluoromethane (Surr)	101.4		%	11/03/1998	70-130	jap		75	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/03/1998		mmv	767		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.022		mg/kg dw	11/05/1998	0.022	keh	767	1830	SW 8310
Acenaphthylene	<0.022		mg/kg dw	11/05/1998	0.022	keh	767	1830	SW 8310
Anthracene	<0.18	MX	mg/kg dw	11/05/1998	0.043	keh	767	1830	SW 8310
Benzo(a)anthracene	0.31		mg/kg dw	11/05/1998	0.0028	keh	767	1830	SW 8310
Benzo(b)fluoranthene	0.062		mg/kg dw	11/05/1998	0.0039	keh	767	1830	SW 8310

MX : Dilution required due to sample matrix; analyte is not detected.

MWG13-15_45859

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499916

NET Job No.: 98.13879

Sample Description: B2 (0-4)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 13:15
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.13	MX	mg/kg dw	11/05/1998	0.0037	keh	767	1830	SW 8310
Benzo(a)pyrene	0.11		mg/kg dw	11/05/1998	0.0050	keh	767	1830	SW 8310
Benzo(ghi)perylene	0.10		mg/kg dw	11/05/1998	0.043	keh	767	1830	SW 8310
Chrysene	0.34		mg/kg dw	11/05/1998	0.03	keh	767	1830	SW 8310
Dibenzo(a,h)anthracene	0.038		mg/kg dw	11/05/1998	0.006	keh	767	1830	SW 8310
Fluoranthene	<0.70	MX	mg/kg dw	11/05/1998	0.022	keh	767	1830	SW 8310
Fluorene	<0.077	MX	mg/kg dw	11/05/1998	0.022	keh	767	1830	SW 8310
Indeno(1,2,3-cd)pyrene	0.047		mg/kg dw	11/05/1998	0.0093	keh	767	1830	SW 8310
Naphthalene	0.34		mg/kg dw	11/05/1998	0.027	keh	767	1830	SW 8310
Phenanthrene	0.92		mg/kg dw	11/05/1998	0.043	keh	767	1830	SW 8310
Pyrene	0.48		mg/kg dw	11/05/1998	0.022	keh	767	1830	SW 8310
Surr: p-Terphenyl	Masked			11/05/1998	43-125	keh	767	1830	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/02/1998	COMPLETE	wna	380		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.043		mg/kg dw	11/05/1998	0.043	tls	380	57	SW 8082
PCB-1221	<0.043		mg/kg dw	11/05/1998	0.043	tls	380	57	SW 8082
PCB-1232	<0.043		mg/kg dw	11/05/1998	0.043	tls	380	57	SW 8082
PCB-1242	<0.043		mg/kg dw	11/05/1998	0.043	tls	380	57	SW 8082
PCB-1248	<0.043		mg/kg dw	11/05/1998	0.043	tls	380	57	SW 8082
PCB-1254	<0.043		mg/kg dw	11/05/1998	0.043	tls	380	57	SW 8082
PCB-1260	<0.043		mg/kg dw	11/05/1998	0.043	tls	380	57	SW 8082
Decachlorobiphenyl (Surr)	75.0		%	11/05/1998	NA	tls	380	57	SW 8082
2,4,5,6-TCMX (Surr)	88.0		%	11/05/1998	NA	tls	380	57	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

MWG13-15_45860

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499917

NET Job No.: 98.13879

Sample Description: B13 (0-4)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 13:40
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.10	units	10/30/1998	0.10	nwg		189	SW 9045B
Solids, Total	77.4	%	11/02/1998	0.1	efw		2515	SM 2540
Arsenic, GFAA	5.7	mg/kg dw	11/06/1998	0.65	mhp	235	672	SW 7060
Barium, ICP	76	mg/kg dw	11/06/1998	1.3	jtt	1165	2188	SW 6010B
Cadmium, ICP	1.3	mg/kg dw	11/06/1998	0.65	jtt	1165	2174	SW 6010B
Chromium, ICP	18	mg/kg dw	11/06/1998	2.6	jtt	1165	2159	SW 6010B
Lead, ICP	52	mg/kg dw	11/06/1998	5.2	jtt	1165	2397	SW 6010B
Mercury, CVAA	0.11	mg/kg dw	11/02/1998	0.052	sep	665	769	SW 7471A
Selenium, GFAA	<0.32	mg/kg dw	11/07/1998	0.32	mhp	235	561	SW 7740
Silver, AA	<2.6	mg/kg dw	11/03/1998	2.6	sep	493	570	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	11/03/1998	0.006	jap		75	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	11/03/1998	0.006	jap		75	SW 8260A
Toluene	<0.006	mg/kg dw	11/03/1998	0.006	jap		75	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	11/03/1998	0.006	jap		75	SW 8260A
Dibromofluoromethane (Surr)	90.8	%	11/03/1998	81-129	jap		75	SW 8260A
Toluene-d8 (Surr)	90.6	%	11/03/1998	74-129	jap		75	SW 8260A
4-Bromofluoromethane (Surr)	92.2	%	11/03/1998	70-130	jap		75	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	767		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.1	mg/kg dw	11/05/1998	0.026	keh	767	1830	SW 8310
Acenaphthylene	<0.1	mg/kg dw	11/05/1998	0.026	keh	767	1830	SW 8310
Anthracene	<0.3	mg/kg dw	11/05/1998	0.052	keh	767	1830	SW 8310
Benzo(a)anthracene	0.18	mg/kg dw	11/05/1998	0.0034	keh	767	1830	SW 8310
Benzo(b)fluoranthene	0.068	mg/kg dw	11/05/1998	0.0047	keh	767	1830	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_45861

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499917

NET Job No.: 98.13879

Sample Description: B13 (0-4)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 13:40
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.032	mg/kg dw	11/05/1998	0.0044	keh	767	1830	SW 8310
Benzo(a)pyrene	0.14	mg/kg dw	11/05/1998	0.0059	keh	767	1830	SW 8310
Benzo(ghi)perylene	<0.3	mg/kg dw	11/05/1998	0.052	keh	767	1830	SW 8310
Chrysene	<0.2	mg/kg dw	11/05/1998	0.04	keh	767	1830	SW 8310
Dibenzo(a,h)anthracene	<0.04	mg/kg dw	11/05/1998	0.008	keh	767	1830	SW 8310
Fluoranthene	<0.56	mg/kg dw	11/05/1998	0.026	keh	767	1830	SW 8310
Fluorene	<0.1	mg/kg dw	11/05/1998	0.026	keh	767	1830	SW 8310
Indeno(1,2,3-cd)pyrene	<0.06	mg/kg dw	11/05/1998	0.011	keh	767	1830	SW 8310
Naphthalene	<0.2	mg/kg dw	11/05/1998	0.032	keh	767	1830	SW 8310
Phenanthrene	0.67	mg/kg dw	11/05/1998	0.052	keh	767	1830	SW 8310
Pyrene	<0.45	mg/kg dw	11/05/1998	0.026	keh	767	1830	SW 8310
Surr: p-Terphenyl	Masked		11/05/1998	43-125	keh	767	1830	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/02/1998	COMPLETE	wna	380		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.052	mg/kg dw	11/05/1998	0.052	tls	380	57	SW 8082
PCB-1221	<0.052	mg/kg dw	11/05/1998	0.052	tls	380	57	SW 8082
PCB-1232	<0.052	mg/kg dw	11/05/1998	0.052	tls	380	57	SW 8082
PCB-1242	<0.052	mg/kg dw	11/05/1998	0.052	tls	380	57	SW 8082
PCB-1248	<0.052	mg/kg dw	11/05/1998	0.052	tls	380	57	SW 8082
PCB-1254	<0.052	mg/kg dw	11/05/1998	0.052	tls	380	57	SW 8082
PCB-1260	<0.052	mg/kg dw	11/05/1998	0.052	tls	380	57	SW 8082
Decachlorobiphenyl (Surr)	71.0	%	11/05/1998	NA	tls	380	57	SW 8082
2,4,5,6-TCMX (Surr)	77.0	%	11/05/1998	NA	tls	380	57	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499918

NET Job No.: 98.13879

Sample Description: B14 (0-4)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 14:25
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.04		units	10/30/1998	0.10	nwg		189	SW 9045B
Solids, Total	90.2		%	11/02/1998	0.1	efw		2515	SM 2540
Arsenic, GFAA	7.5		mg/kg dw	11/06/1998	0.55	mhp	235	672	SW 7060
Barium, ICP	322		mg/kg dw	11/06/1998	1.1	jtt	1165	2188	SW 6010B
Cadmium, ICP	0.70		mg/kg dw	11/06/1998	0.55	jtt	1165	2174	SW 6010B
Chromium, ICP	233		mg/kg dw	11/06/1998	2.2	jtt	1165	2159	SW 6010B
Lead, ICP	35		mg/kg dw	11/06/1998	4.4	jtt	1165	2397	SW 6010B
Mercury, CVAA	0.058		mg/kg dw	11/02/1998	0.044	sep	665	769	SW 7471A
Selenium, GFAA	<0.28		mg/kg dw	11/07/1998	0.28	mhp	235	561	SW 7740
Silver, AA	<2.2		mg/kg dw	11/03/1998	2.2	sep	493	570	SW 7760
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	11/03/1998	0.006	jap		75	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	11/03/1998	0.006	jap		75	SW 8260A
Toluene	<0.006		mg/kg dw	11/03/1998	0.006	jap		75	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	11/03/1998	0.006	jap		75	SW 8260A
Dibromofluoromethane (Surr)	91.2		%	11/03/1998	81-129	jap		75	SW 8260A
Toluene-d8 (Surr)	92.6		%	11/03/1998	74-129	jap		75	SW 8260A
4-Bromofluoromethane (Surr)	98.6		%	11/03/1998	70-130	jap		75	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/03/1998		mmv	767		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.022		mg/kg dw	11/05/1998	0.022	keh	767	1830	SW 8310
Acenaphthylene	<0.022		mg/kg dw	11/05/1998	0.022	keh	767	1830	SW 8310
Anthracene	<0.044		mg/kg dw	11/05/1998	0.044	keh	767	1830	SW 8310
Benzo(a)anthracene	<0.031	MX	mg/kg dw	11/05/1998	0.0029	keh	767	1830	SW 8310
Benzo(b)fluoranthene	0.0096		mg/kg dw	11/05/1998	0.0040	keh	767	1830	SW 8310

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499918

NET Job No.: 98.13879

Sample Description: B14 (0-4)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 14:25
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.0082	MX	mg/kg dw	11/05/1998	0.0038	keh	767	1830	SW 8310
Benzo(a)pyrene	<0.0096	MX	mg/kg dw	11/05/1998	0.0051	keh	767	1830	SW 8310
Benzo(ghi)perylene	<0.044		mg/kg dw	11/05/1998	0.044	keh	767	1830	SW 8310
Chrysene	<0.03		mg/kg dw	11/05/1998	0.03	keh	767	1830	SW 8310
Dibenzo(a,h)anthracene	<0.007		mg/kg dw	11/05/1998	0.007	keh	767	1830	SW 8310
Fluoranthene	<0.022		mg/kg dw	11/05/1998	0.022	keh	767	1830	SW 8310
Fluorene	<0.022		mg/kg dw	11/05/1998	0.022	keh	767	1830	SW 8310
Indeno(1,2,3-cd)pyrene	<0.0095		mg/kg dw	11/05/1998	0.0095	keh	767	1830	SW 8310
Naphthalene	<0.028		mg/kg dw	11/05/1998	0.028	keh	767	1830	SW 8310
Phenanthrene	<0.044		mg/kg dw	11/05/1998	0.044	keh	767	1830	SW 8310
Pyrene	<0.022		mg/kg dw	11/05/1998	0.022	keh	767	1830	SW 8310
Surr: p-Terphenyl	68.0		%	11/05/1998	43-125	keh	767	1830	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/02/1998	COMPLETE	wna	380		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.044		mg/kg dw	11/05/1998	0.044	tls	380	57	SW 8082
PCB-1221	<0.044		mg/kg dw	11/05/1998	0.044	tls	380	57	SW 8082
PCB-1232	<0.044		mg/kg dw	11/05/1998	0.044	tls	380	57	SW 8082
PCB-1242	<0.044		mg/kg dw	11/05/1998	0.044	tls	380	57	SW 8082
PCB-1248	<0.044		mg/kg dw	11/05/1998	0.044	tls	380	57	SW 8082
PCB-1254	<0.044		mg/kg dw	11/05/1998	0.044	tls	380	57	SW 8082
PCB-1260	<0.044		mg/kg dw	11/05/1998	0.044	tls	380	57	SW 8082
Decachlorobiphenyl (Surr)	85.0		%	11/05/1998	NA	tls	380	57	SW 8082
2,4,5,6-TCMX (Surr)	88.0		%	11/05/1998	NA	tls	380	57	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499919

NET Job No.: 98.13879

Sample Description: B16 (0-4)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 14:35
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.97	units	10/30/1998	0.10	nwg		189	SW 9045B
Solids, Total	79.8	%	11/02/1998	0.1	efw		2515	SM 2540
Arsenic, GFAA	3.3	mg/kg dw	11/06/1998	0.63	mhp	235	672	SW 7060
Barium, ICP	401	mg/kg dw	11/06/1998	1.3	jtt	1165	2188	SW 6010B
Cadmium, ICP	<0.63	mg/kg dw	11/06/1998	0.63	jtt	1165	2174	SW 6010B
Chromium, ICP	14	mg/kg dw	11/06/1998	2.5	jtt	1165	2159	SW 6010B
Lead, ICP	23	mg/kg dw	11/06/1998	5.0	jtt	1165	2397	SW 6010B
Mercury, CVAA	0.60	mg/kg dw	11/02/1998	0.050	sep	665	769	SW 7471A
Selenium, GFAA	<0.31	mg/kg dw	11/07/1998	0.31	mhp	235	561	SW 7740
Silver, AA	<2.5	mg/kg dw	11/03/1998	2.5	sep	493	570	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	11/03/1998	0.006	jap		74	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	11/03/1998	0.006	jap		74	SW 8260A
Toluene	<0.006	mg/kg dw	11/03/1998	0.006	jap		74	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	11/03/1998	0.006	jap		74	SW 8260A
Dibromofluoromethane (Surr)	87.2	%	11/03/1998	81-129	jap		74	SW 8260A
Toluene-d8 (Surr)	87.4	%	11/03/1998	74-129	jap		74	SW 8260A
4-Bromofluoromethane (Surr)	82.4	%	11/03/1998	70-130	jap		74	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	767		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.0	mg/kg dw	11/05/1998	0.025	keh	767	1830	SW 8310
Acenaphthylene	<2.0	mg/kg dw	11/05/1998	0.025	keh	767	1830	SW 8310
Anthracene	<4.0	mg/kg dw	11/05/1998	0.050	keh	767	1830	SW 8310
Benzo(a)anthracene	<10	mg/kg dw	11/05/1998	0.0033	keh	767	1830	SW 8310
Benzo(b)fluoranthene	<1.9	mg/kg dw	11/05/1998	0.0045	keh	767	1830	SW 8310

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499919

NET Job No.: 98.13879

Sample Description: B16 (0-4)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 14:35
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<2.1	mg/kg dw	11/05/1998	0.0043	keh	767	1830	SW 8310
Benzo(a)pyrene	<2.0	mg/kg dw	11/05/1998	0.0058	keh	767	1830	SW 8310
Benzo(ghi)perylene	<4.0	mg/kg dw	11/05/1998	0.050	keh	767	1830	SW 8310
Chrysene	<3	mg/kg dw	11/05/1998	0.04	keh	767	1830	SW 8310
Dibenzo(a,h)anthracene	<0.6	mg/kg dw	11/05/1998	0.008	keh	767	1830	SW 8310
Fluoranthene	<2.0	mg/kg dw	11/05/1998	0.025	keh	767	1830	SW 8310
Fluorene	<2.0	mg/kg dw	11/05/1998	0.025	keh	767	1830	SW 8310
Indeno(1,2,3-cd)pyrene	<0.88	mg/kg dw	11/05/1998	0.011	keh	767	1830	SW 8310
Naphthalene	<2.5	mg/kg dw	11/05/1998	0.031	keh	767	1830	SW 8310
Phenanthrene	<4.0	mg/kg dw	11/05/1998	0.050	keh	767	1830	SW 8310
Pyrene	<2.0	mg/kg dw	11/05/1998	0.025	keh	767	1830	SW 8310
Surr: p-Terphenyl	Diluted out		11/05/1998	43-125	keh	767	1830	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/02/1998	COMPLETE	wna	380		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.050	mg/kg dw	11/05/1998	0.050	tls	380	57	SW 8082
PCB-1221	<0.050	mg/kg dw	11/05/1998	0.050	tls	380	57	SW 8082
PCB-1232	<0.050	mg/kg dw	11/05/1998	0.050	tls	380	57	SW 8082
PCB-1242	<0.050	mg/kg dw	11/05/1998	0.050	tls	380	57	SW 8082
PCB-1248	<0.050	mg/kg dw	11/05/1998	0.050	tls	380	57	SW 8082
PCB-1254	0.86	mg/kg dw	11/06/1998	0.050	tls	380	56	SW 8082
PCB-1260	<0.050	mg/kg dw	11/05/1998	0.050	tls	380	57	SW 8082
Decachlorobiphenyl (Surr)	73.0	%	11/05/1998	NA	tls	380	57	SW 8082
2,4,5,6-TCMX (Surr	97.0	%	11/05/1998	NA	tls	380	57	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499920

NET Job No.: 98.13879

Sample Description: B22 (0-2)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 14:45
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.02		units	10/30/1998	0.10	nwg		189	SW 9045B
Solids, Total	78.0		%	11/02/1998	0.1	efw		2515	SM 2540
Arsenic, GFAA	14		mg/kg dw	11/06/1998	0.64	mhp	235	672	SW 7060
Barium, ICP	1,050		mg/kg dw	11/07/1998	1.3	jtt	1165	2188	SW 6010B
Cadmium, ICP	1.7		mg/kg dw	11/06/1998	0.64	jtt	1165	2174	SW 6010B
Chromium, ICP	64		mg/kg dw	11/06/1998	2.6	jtt	1165	2159	SW 6010B
Lead, ICP	33		mg/kg dw	11/06/1998	5.1	jtt	1165	2397	SW 6010B
Mercury, CVAA	0.085		mg/kg dw	11/02/1998	0.051	sep	665	769	SW 7471A
Selenium, GFAA	0.92		mg/kg dw	11/07/1998	0.32	mhp	235	561	SW 7740
Silver, AA	<2.6		mg/kg dw	11/03/1998	2.6	sep	493	570	SW 7760
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	11/03/1998	0.006	jap		74	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	11/03/1998	0.006	jap		74	SW 8260A
Toluene	<0.006		mg/kg dw	11/03/1998	0.006	jap		74	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	11/03/1998	0.006	jap		74	SW 8260A
Dibromofluoromethane (Surr)	91.8		%	11/03/1998	81-129	jap		74	SW 8260A
Toluene-d8 (Surr)	89.2		%	11/03/1998	74-129	jap		74	SW 8260A
4-Bromofluoromethane (Surr)	91.4		%	11/03/1998	70-130	jap		74	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/03/1998		mmv	767		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.058	MX	mg/kg dw	11/06/1998	0.026	keh	767	1830	SW 8310
Acenaphthylene	<0.067	MX	mg/kg dw	11/06/1998	0.026	keh	767	1830	SW 8310
Anthracene	<0.22	MX	mg/kg dw	11/06/1998	0.051	keh	767	1830	SW 8310
Benzo(a)anthracene	<0.32	MX	mg/kg dw	11/06/1998	0.0033	keh	767	1830	SW 8310
Benzo(b)fluoranthene	<0.032	MX	mg/kg dw	11/06/1998	0.0046	keh	767	1830	SW 8310

MX : Dilution required due to sample matrix; analyte is not detected.

MWG13-15_45867

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499920

NET Job No.: 98.13879

Sample Description: B22 (0-2)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 14:45
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.018	MX	mg/kg dw	11/06/1998	0.0044	keh	767	1830	SW 8310
Benzo(a)pyrene	<0.054	MX	mg/kg dw	11/06/1998	0.0059	keh	767	1830	SW 8310
Benzo(ghi)perylene	<0.051		mg/kg dw	11/06/1998	0.051	keh	767	1830	SW 8310
Chrysene	<0.076	MX	mg/kg dw	11/06/1998	0.04	keh	767	1830	SW 8310
Dibenzo(a,h)anthracene	<0.019	MX	mg/kg dw	11/06/1998	0.008	keh	767	1830	SW 8310
Fluoranthene	<0.28	MX	mg/kg dw	11/06/1998	0.026	keh	767	1830	SW 8310
Fluorene	<0.14	MX	mg/kg dw	11/06/1998	0.026	keh	767	1830	SW 8310
Indeno(1,2,3-cd)pyrene	<0.046	MX	mg/kg dw	11/06/1998	0.011	keh	767	1830	SW 8310
Naphthalene	<0.032		mg/kg dw	11/06/1998	0.032	keh	767	1830	SW 8310
Phenanthrene	0.67		mg/kg dw	11/06/1998	0.051	keh	767	1830	SW 8310
Pyrene	<0.49	MX	mg/kg dw	11/06/1998	0.026	keh	767	1830	SW 8310
Surr: p-Terphenyl	Masked			11/06/1998	43-125	keh	767	1830	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/02/1998	COMPLETE	wna	380		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.051		mg/kg dw	11/05/1998	0.051	tls	380	57	SW 8082
PCB-1221	<0.051		mg/kg dw	11/05/1998	0.051	tls	380	57	SW 8082
PCB-1232	<0.051		mg/kg dw	11/05/1998	0.051	tls	380	57	SW 8082
PCB-1242	<0.051		mg/kg dw	11/05/1998	0.051	tls	380	57	SW 8082
PCB-1248	<0.051		mg/kg dw	11/05/1998	0.051	tls	380	57	SW 8082
PCB-1254	<0.051		mg/kg dw	11/05/1998	0.051	tls	380	57	SW 8082
PCB-1260	<0.051		mg/kg dw	11/05/1998	0.051	tls	380	57	SW 8082
Decachlorobiphenyl (Surr)	73.0		%	11/05/1998	NA	tls	380	57	SW 8082
2,4,5,6-TCMX (Surr)	76.0		%	11/05/1998	NA	tls	380	57	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499921

NET Job No.: 98.13879

Sample Description: S1
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 13:25
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.35		units	10/30/1998	0.10	nwg		189	SW 9045B
Solids, Total	89.0		%	11/02/1998	0.1	efw		2515	SM 2540
Arsenic, GFAA	5.2		mg/kg dw	11/06/1998	0.56	mhp	235	672	SW 7060
Barium, ICP	236		mg/kg dw	11/07/1998	1.1	jtt	1165	2188	SW 6010B
Cadmium, ICP	2.5		mg/kg dw	11/06/1998	0.56	jtt	1165	2174	SW 6010B
Chromium, ICP	51		mg/kg dw	11/06/1998	2.2	jtt	1165	2159	SW 6010B
Lead, ICP	29		mg/kg dw	11/06/1998	4.5	jtt	1165	2397	SW 6010B
Mercury, CVAA	<0.045		mg/kg dw	11/02/1998	0.045	sep	665	769	SW 7471A
Selenium, GFAA	<0.28		mg/kg dw	11/07/1998	0.28	mhp	235	561	SW 7740
Silver, AA	<2.2		mg/kg dw	11/03/1998	2.2	sep	493	570	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			11/02/1998		wna	245		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<56		mg/kg dw	11/04/1998	56	out	245	491	SW 8015M
TPH as Diesel	<56		mg/kg dw	11/04/1998	56	out	245	491	SW 8015M
TPH as Oil	390	PT	mg/kg dw	11/04/1998	56	out	245	491	SW 8015M
N-octacosane (TPH surr)	85.0		%	11/04/1998		out	245	491	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	11/03/1998	0.006	jap		74	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	11/03/1998	0.006	jap		74	SW 8260A
Toluene	<0.006		mg/kg dw	11/03/1998	0.006	jap		74	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	11/03/1998	0.006	jap		74	SW 8260A
Dibromofluoromethane (Surr)	97.4		%	11/03/1998	81-129	jap		74	SW 8260A
Toluene-d8 (Surr)	79.8		%	11/03/1998	74-129	jap		74	SW 8260A
4-Bromofluoromethane (Surr)	80.4		%	11/03/1998	70-130	jap		74	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/03/1998		mmv	767		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range

MWG13-15_45869

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499921

NET Job No.: 98.13879

Sample Description: S1
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 13:25
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<1.8	mg/kg dw	11/06/1998	0.022	keh	767	1830	SW 8310
Acenaphthylene	<1.8	mg/kg dw	11/06/1998	0.022	keh	767	1830	SW 8310
Anthracene	<3.6	mg/kg dw	11/06/1998	0.045	keh	767	1830	SW 8310
Benzo(a)anthracene	13	mg/kg dw	11/06/1998	0.0029	keh	767	1830	SW 8310
Benzo(b)fluoranthene	15	mg/kg dw	11/06/1998	0.0040	keh	767	1830	SW 8310
Benzo(k)fluoranthene	8.2	mg/kg dw	11/06/1998	0.0038	keh	767	1830	SW 8310
Benzo(a)pyrene	9.7	mg/kg dw	11/06/1998	0.0052	keh	767	1830	SW 8310
Benzo(ghi)perylene	9.8	mg/kg dw	11/06/1998	0.045	keh	767	1830	SW 8310
Chrysene	17	mg/kg dw	11/06/1998	0.03	keh	767	1830	SW 8310
Dibenzo(a,h)anthracene	1.1	mg/kg dw	11/06/1998	0.007	keh	767	1830	SW 8310
Fluoranthene	34	mg/kg dw	11/06/1998	0.022	keh	767	1830	SW 8310
Fluorene	<3.5	mg/kg dw	11/06/1998	0.022	keh	767	1830	SW 8310
Indeno(1,2,3-cd)pyrene	7.6	mg/kg dw	11/06/1998	0.0097	keh	767	1830	SW 8310
Naphthalene	4.0	mg/kg dw	11/06/1998	0.028	keh	767	1830	SW 8310
Phenanthrene	13	mg/kg dw	11/06/1998	0.045	keh	767	1830	SW 8310
Pyrene	34	mg/kg dw	11/06/1998	0.022	keh	767	1830	SW 8310
Surr: p-Terphenyl	Diluted out		11/06/1998	43-125	keh	767	1830	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.045	mg/kg dw	11/06/1998	0.045	tls	381	53	SW 8082
PCB-1221	<0.045	mg/kg dw	11/06/1998	0.045	tls	381	53	SW 8082
PCB-1232	<0.045	mg/kg dw	11/06/1998	0.045	tls	381	53	SW 8082
PCB-1242	<0.045	mg/kg dw	11/06/1998	0.045	tls	381	53	SW 8082
PCB-1248	<0.045	mg/kg dw	11/06/1998	0.045	tls	381	53	SW 8082
PCB-1254	0.063	mg/kg dw	11/06/1998	0.045	tls	381	53	SW 8082

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_45870

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 499921

NET Job No.: 98.13879

Sample Description: S1
ComEd-Waukegan; 1801-023-610

Date Taken: 10/26/1998
Time Taken: 13:25
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 11:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	<0.045	mg/kg dw	11/06/1998	0.045	tls	381 53	SW 8082
Decachlorobiphenyl (Surr)	95.0	%	11/06/1998	NA	tls	381 53	SW 8082
2,4,5,6-TCMX (Surr)	82.0	%	11/06/1998	NA	tls	381 53	SW 8082

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.13879

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
pH, Non-Aqueous	188	7.00	7.00	100.0
pH, Non-Aqueous	189	7.00	7.00	100.0
Arsenic, GFAA	672	0.0250	0.0256	102.4
Barium, ICP	2188	2.00	1.99	99.5
Barium, ICP	2188	2.00	2.03	101.5
Cadmium, ICP	2174	1.00	1.07	107.0
Chromium, ICP	2159	2.00	2.17	108.5
Lead, ICP	2397	2.00	2.11	105.5
Selenium, GFAA	561	0.0500	0.0487	97.4
Silver, AA	569	0.50	0.489	97.8
Silver, AA	570	0.50	0.515	103.0
UST VOLATILES NON-AQUEOUS				
Benzene	73	50.0	51.5	103.0
Ethylbenzene	73	50.0	50.5	101.0
Toluene	73	50.0	50.8	101.6
Xylenes, Total	73	150	151	100.7
UST VOLATILES NON-AQUEOUS				
Benzene	74	50.0	54.3	108.6
Ethylbenzene	74	50.0	52.3	104.6
Toluene	74	50.0	52.5	105.0
Xylenes, Total	74	150	157	104.7
UST VOLATILES NON-AQUEOUS				
Benzene	75	50.0	51.7	103.4
Ethylbenzene	75	50.0	52.0	104.0
Toluene	75	50.0	51.8	103.6
Xylenes, Total	75	150	155	103.3
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1830	5000	4,782	95.6
Acenaphthylene	1830	5000	5,154	103.1
Anthracene	1830	5000	5,055	101.1
Benzo(a)anthracene	1830	5000	5,156	103.1
Benzo(b)fluoranthene	1830	5000	4,821	96.4
Benzo(k)fluoranthene	1830	5000	4,822	96.4
Benzo(a)pyrene	1830	5000	4,622	92.4

CCV - Continuing Calibration Verification

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.13879

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Benzo(ghi)perylene	1830	5000	4,827	96.5
Chrysene	1830	5000	5,042	100.8
Dibenzo(a,h)anthracene	1830	5000	4,938	98.8
Fluoranthene	1830	5000	4,984	99.7
Fluorene	1830	5000	4,948	99.0
Indeno(1,2,3-cd)pyrene	1830	5000	5,038	100.8
Naphthalene	1830	5000	4,671	93.4
Phenanthrene	1830	5000	5,022	100.4
Pyrene	1830	5000	4,891	97.8
Surr: p-Terphenyl	1830	5000	4,860	97.2
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1830	5000	4,878	97.6
Acenaphthylene	1830	5000	5,126	102.5
Anthracene	1830	5000	5,153	103.1
Benzo(a)anthracene	1830	5000	5,200	104.0
Benzo(b)fluoranthene	1830	5000	5,126	102.5
Benzo(k)fluoranthene	1830	5000	4,981	99.6
Benzo(a)pyrene	1830	5000	4,699	94.0
Benzo(ghi)perylene	1830	5000	5,022	100.4
Chrysene	1830	5000	5,255	105.1
Dibenzo(a,h)anthracene	1830	5000	5,020	100.4
Fluoranthene	1830	5000	5,150	103.0
Fluorene	1830	5000	5,008	100.2
Indeno(1,2,3-cd)pyrene	1830	5000	5,138	102.8
Naphthalene	1830	5000	4,827	96.5
Phenanthrene	1830	5000	5,123	102.5
Pyrene	1830	5000	5,017	100.3
Surr: p-Terphenyl	1830	5000	4,999	100.0
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1830	5000	4,851	97.0
Acenaphthylene	1830	5000	5,140	102.8
Anthracene	1830	5000	5,158	103.2
Benzo(a)anthracene	1830	5000	5,155	103.1
Benzo(b)fluoranthene	1830	5000	5,130	102.6

CCV - Continuing Calibration Verification

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.13879

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Benzo(k)fluoranthene	1830	5000	4,890	97.8
Benzo(a)pyrene	1830	5000	4,669	93.4
Benzo(ghi)perylene	1830	5000	5,105	102.1
Chrysene	1830	5000	5,137	102.7
Dibenzo(a,h)anthracene	1830	5000	5,065	101.3
Fluoranthene	1830	5000	5,143	102.9
Fluorene	1830	5000	5,047	100.9
Indeno(1,2,3-cd)pyrene	1830	5000	5,177	103.5
Naphthalene	1830	5000	4,747	94.9
Phenanthrene	1830	5000	5,148	103.0
Pyrene	1830	5000	5,124	102.5
Surr: p-Terphenyl	1830	5000	4,997	99.9
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1833	5000	4,772	95.4
Acenaphthylene	1833	5000	5,052	101.0
Anthracene	1833	5000	5,101	102.0
Benzo(a)anthracene	1833	5000	5,100	102.0
Benzo(b)fluoranthene	1833	5000	5,023	100.5
Benzo(k)fluoranthene	1833	5000	4,833	96.7
Benzo(a)pyrene	1833	5000	4,841	96.8
Benzo(ghi)perylene	1833	5000	5,077	101.5
Chrysene	1833	5000	5,078	101.6
Dibenzo(a,h)anthracene	1833	5000	4,997	99.9
Fluoranthene	1833	5000	5,044	100.9
Fluorene	1833	5000	4,953	99.1
Indeno(1,2,3-cd)pyrene	1833	5000	5,032	100.6
Naphthalene	1833	5000	4,652	93.0
Phenanthrene	1833	5000	5,042	100.8
Pyrene	1833	5000	4,907	98.1
Surr: p-Terphenyl	1833	5000	4,856	97.1
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1833	5000	4,848	97.0
Acenaphthylene	1833	5000	5,219	104.4
Anthracene	1833	5000	5,161	103.2

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/10/1998

NET Job Number: 98.13879

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Benzo(a)anthracene	1833	5000	5,266	105.3
Benzo(b)fluoranthene	1833	5000	4,961	99.2
Benzo(k)fluoranthene	1833	5000	4,980	99.6
Benzo(a)pyrene	1833	5000	4,874	97.5
Benzo(ghi)perylene	1833	5000	5,175	103.5
Chrysene	1833	5000	5,175	103.5
Dibenzo(a,h)anthracene	1833	5000	5,114	102.3
Fluoranthene	1833	5000	5,133	102.7
Fluorene	1833	5000	5,041	100.8
Indeno(1,2,3-cd)pyrene	1833	5000	5,070	101.4
Naphthalene	1833	5000	4,767	95.3
Phenanthrene	1833	5000	5,120	102.4
Pyrene	1833	5000	4,980	99.6
Surr: p-Terphenyl	1833	5000	4,976	99.5
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1833	5000	4,815	96.3
Acenaphthylene	1833	5000	5,143	102.9
Anthracene	1833	5000	5,176	103.5
Benzo(a)anthracene	1833	5000	5,204	104.1
Benzo(b)fluoranthene	1833	5000	5,071	101.4
Benzo(k)fluoranthene	1833	5000	4,923	98.5
Benzo(a)pyrene	1833	5000	4,957	99.1
Benzo(ghi)perylene	1833	5000	5,149	103.0
Chrysene	1833	5000	5,232	104.6
Dibenzo(a,h)anthracene	1833	5000	5,058	101.2
Fluoranthene	1833	5000	5,090	101.8
Fluorene	1833	5000	5,015	100.3
Indeno(1,2,3-cd)pyrene	1833	5000	5,098	102.0
Naphthalene	1833	5000	4,759	95.2
Phenanthrene	1833	5000	5,135	102.7
Pyrene	1833	5000	5,004	100.1
Surr: p-Terphenyl	1833	5000	5,030	100.6
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1833	5000	4,926	98.5

CCV - Continuing Calibration Verification

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.13879

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Acenaphthylene	1833	5000	5,116	102.3
Anthracene	1833	5000	5,182	103.6
Benzo(a)anthracene	1833	5000	5,207	104.1
Benzo(b)fluoranthene	1833	5000	4,911	98.2
Benzo(k)fluoranthene	1833	5000	4,858	97.2
Benzo(a)pyrene	1833	5000	4,927	98.5
Benzo(ghi)perylene	1833	5000	5,045	100.9
Chrysene	1833	5000	5,186	103.7
Dibenzo(a,h)anthracene	1833	5000	5,114	102.3
Fluoranthene	1833	5000	5,120	102.4
Fluorene	1833	5000	5,038	100.8
Indeno(1,2,3-cd)pyrene	1833	5000	5,132	102.6
Naphthalene	1833	5000	4,745	94.9
Phenanthrene	1833	5000	5,144	102.9
Pyrene	1833	5000	5,045	100.9
Surr: p-Terphenyl	1833	5000	4,911	98.2
PCB'S NON-AQUEOUS				
PCB-1016	53	500	434	86.8
PCB-1260	53	500	442	88.4
PCB'S NON-AQUEOUS				
PCB-1016	53	500	447	89.4
PCB-1260	53	500	460	92.0
PCB'S NON-AQUEOUS				
PCB-1016	53	500	447	89.4
PCB-1260	53	500	460	92.0
PCB'S NON-AQUEOUS				
PCB-1016	53	500	479	95.8
PCB-1260	53	500	484	96.8
PCB'S NON-AQUEOUS				
PCB-1016	53	500	475	95.0
PCB-1260	53	500	459	91.8
PCB'S NON-AQUEOUS				
PCB'S NON-AQUEOUS				
PCB'S NON-AQUEOUS				

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CONTINUING CALIBRATION VERIFICATION

ENSR
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11/10/1998

NET Job Number: 98.13879

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
PCB-1016	57	500	487	97.4
PCB-1260	57	500	440	88.0
PCB'S NON-AQUEOUS				
PCB-1016	57	500	543	108.6
PCB-1260	57	500	527	105.4

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.13879

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Arsenic, GFAA	235	672	<0.50	mg/Kg	0.50	SW 7060
Barium, ICP	1165	2188	<1.0	mg/Kg	1.0	SW 6010B
Cadmium, ICP	1165	2174	<0.50	mg/Kg	0.50	SW 6010B
Chromium, ICP	1165	2159	<2.0	mg/Kg	2.0	SW 6010B
Lead, ICP	1165	2397	<4.0	mg/Kg	4.0	SW 6010B
Selenium, GFAA	235	561	<0.25	mg/Kg	0.25	SW 7740
Silver, AA	492	569	<2.0	mg/Kg	2.0	SW 7760
Silver, AA	493	570	<2.0	mg/Kg	2.0	SW 7760
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		74	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		74	<0.005	mg/Kg	0.005	SW 8260A
Toluene		74	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		74	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		74	77.0	%	81-129	SW 8260A
Toluene-d8 (Surr)		74	81.2	%	74-129	SW 8260A
4-Bromofluoromethane (Surr)		74	87.4	%	70-130	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		75	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		75	<0.005	mg/Kg	0.005	SW 8260A
Toluene		75	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		75	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		75	90.6	%	81-129	SW 8260A
Toluene-d8 (Surr)		75	97.2	%	74-129	SW 8260A
4-Bromofluoromethane (Surr)		75	103.0	%	70-130	SW 8260A
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	767	1826	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	767	1826	<0.020	mg/Kg	0.020	SW 8310
Anthracene	767	1826	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	767	1826	<0.0026	mg/Kg	0.0026	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
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11/10/1998

NET Job Number: 98.13879

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Benzo(b)fluoranthene	767	1826	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	767	1826	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	767	1826	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	767	1826	<0.040	mg/Kg	0.040	SW 8310
Chrysene	767	1826	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	767	1826	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	767	1826	<0.020	mg/Kg	0.020	SW 8310
Fluorene	767	1826	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	767	1826	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	767	1826	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	767	1826	<0.040	mg/Kg	0.040	SW 8310
Pyrene	767	1826	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	767	1826	86.2	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	767	1830	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	767	1830	<0.020	mg/Kg	0.020	SW 8310
Anthracene	767	1830	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	767	1830	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	767	1830	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	767	1830	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	767	1830	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	767	1830	<0.040	mg/Kg	0.040	SW 8310
Chrysene	767	1830	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	767	1830	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	767	1830	<0.020	mg/Kg	0.020	SW 8310
Fluorene	767	1830	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	767	1830	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	767	1830	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	767	1830	<0.040	mg/Kg	0.040	SW 8310

Advisory Control Limits for Blanks:

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.13879

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Pyrene	767	1830	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	767	1830	90.3	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	770	1833	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	770	1833	<0.020	mg/Kg	0.020	SW 8310
Anthracene	770	1833	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	770	1833	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	770	1833	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	770	1833	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	770	1833	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	770	1833	<0.040	mg/Kg	0.040	SW 8310
Chrysene	770	1833	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	770	1833	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	770	1833	<0.020	mg/Kg	0.020	SW 8310
Fluorene	770	1833	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	770	1833	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	770	1833	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	770	1833	<0.040	mg/Kg	0.040	SW 8310
Pyrene	770	1833	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	770	1833	77.9	%	43-125	SW 8310
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	380	52	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	380	52	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	380	52	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	380	52	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	380	52	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	380	52	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	380	52	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	380	52	80.0	%	NA	SW 8082

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.13879

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
2,4,5,6-TCMX (Surr)	380	52	78.0	%	NA	SW 8082
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	381	53	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	381	53	84.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	381	53	67.0	%	NA	SW 8082

Advisory Control Limits for Blanks:

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.13879

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Arsenic, GFAA	235	672	0.0100	0.0091	91.0
Barium, ICP	1165	2188	5.00	5.18	103.6
Cadmium, ICP	1165	2174	2.50	2.48	99.2
Chromium, ICP	1165	2159	5.00	5.05	101.0
Lead, ICP	1165	2397	5.00	4.75	95.0
Selenium, GFAA	235	561	0.0100	0.0104	104.0
Silver, AA	492	569	0.10	0.084	84.0
Silver, AA	493	570	1.0	0.958	95.8
Silver, AA		570	0.10	0.095	95.0
TPH MODIFIED 8015					
TPH as Gas	245	486	250	225	90.0
TPH as Diesel	245	486	250	216	86.4
TPH as Oil	245	486	250	201	80.4
N-octacosane (TPH surr)	245	486	100	117	117.0
UST VOLATILES NON-AQUEOUS					
Benzene		73	20.0	21.2	106.0
Ethylbenzene		73	20.0	20.7	103.5
Toluene		73	20.0	19.9	99.5
Xylenes, Total		73	60.0	60.8	101.3
Dibromofluoromethane (Surr)		73	50.0	48.3	96.6
Toluene-d8 (Surr)		73	50.0	52.6	105.2
4-Bromofluoromethane (Surr)		73	50.0	53.4	106.8
UST VOLATILES NON-AQUEOUS					
Benzene		74	20.0	20.5	102.5
Ethylbenzene		74	20.0	20.6	103.0
Toluene		74	20.0	19.8	99.0
Xylenes, Total		74	60.0	61.0	101.7
Dibromofluoromethane (Surr)		74	50.0	45.7	91.4
Toluene-d8 (Surr)		74	50.0	45.9	91.8
4-Bromofluoromethane (Surr)		74	50.0	50.2	100.4
UST VOLATILES NON-AQUEOUS					

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LABORATORY CONTROL STANDARD

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11/10/1998

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Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Benzene		75	20.0	19.5	97.5
Ethylbenzene		75	20.0	20.1	100.5
Toluene		75	20.0	18.9	94.5
Xylenes, Total		75	60.0	58.7	97.8
Dibromofluoromethane (Surr)		75	50.0	45.5	91.0
Toluene-d8 (Surr)		75	50.0	49.3	98.6
4-Bromofluoromethane (Surr)		75	50.0	50.7	101.4
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	767	1828	0.033	0.027	81.8
Acenaphthylene	767	1828	0.033	0.028	84.8
Anthracene	767	1828	0.033	0.029	87.9
Benzo(a)anthracene	767	1828	0.033	0.027	81.8
Benzo(b)fluoranthene	767	1828	0.033	0.027	81.8
Benzo(k)fluoranthene	767	1828	0.033	0.028	84.8
Benzo(a)pyrene	767	1828	0.033	0.027	81.8
Benzo(ghi)perylene	767	1828	0.033	0.030	90.9
Chrysene	767	1828	0.033	0.029	87.9
Dibenzo(a,h)anthracene	767	1828	0.033	0.028	84.8
Fluoranthene	767	1828	0.033	0.029	87.9
Fluorene	767	1828	0.033	0.031	93.9
Indeno(1,2,3-cd)pyrene	767	1828	0.033	0.028	84.8
Naphthalene	767	1828	0.033	0.031	93.9
Phenanthrene	767	1828	0.033	0.029	87.9
Pyrene	767	1828	0.033	0.033	100.0
Surr: p-Terphenyl	767	1828	2000	1,613	80.7
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	767	1830	0.033	0.032	97.0
Acenaphthylene	767	1830	0.033	0.030	90.9
Anthracene	767	1830	0.033	0.030	90.9
Benzo(a)anthracene	767	1830	0.033	0.031	93.9
Benzo(b)fluoranthene	767	1830	0.033	0.033	100.0

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
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11/10/1998

NET Job Number: 98.13879

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Benzo(k)fluoranthene	767	1830	0.033	0.029	87.9
Benzo(a)pyrene	767	1830	0.033	0.027	81.8
Benzo(ghi)perylene	767	1830	0.033	0.029	87.9
Chrysene	767	1830	0.033	0.031	93.9
Dibenzo(a,h)anthracene	767	1830	0.033	0.029	87.9
Fluoranthene	767	1830	0.033	0.032	97.0
Fluorene	767	1830	0.033	0.029	87.9
Indeno(1,2,3-cd)pyrene	767	1830	0.033	0.030	90.9
Naphthalene	767	1830	0.033	0.023	69.7
Phenanthrene	767	1830	0.033	0.030	90.9
Pyrene	767	1830	0.033	0.031	93.9
Surr: p-Terphenyl	767	1830	2000	1,705	85.3
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	770	1833	0.033	0.030	90.9
Acenaphthylene	770	1833	0.033	0.030	90.9
Anthracene	770	1833	0.033	0.030	90.9
Benzo(a)anthracene	770	1833	0.033	0.030	90.9
Benzo(b)fluoranthene	770	1833	0.033	0.029	87.9
Benzo(k)fluoranthene	770	1833	0.033	0.029	87.9
Benzo(a)pyrene	770	1833	0.033	0.029	87.9
Benzo(ghi)perylene	770	1833	0.033	0.030	90.9
Chrysene	770	1833	0.033	0.029	87.9
Dibenzo(a,h)anthracene	770	1833	0.033	0.030	90.9
Fluoranthene	770	1833	0.033	0.030	90.9
Fluorene	770	1833	0.033	0.029	87.9
Indeno(1,2,3-cd)pyrene	770	1833	0.033	0.030	90.9
Naphthalene	770	1833	0.033	0.026	78.8
Phenanthrene	770	1833	0.033	0.030	90.9
Pyrene	770	1833	0.033	0.030	90.9
Surr: p-Terphenyl	770	1833	2000	1,662	83.1
PCB'S NON-AQUEOUS					

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.13879

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
PCB-1016	380	52	500	448	89.6
PCB-1260	380	52	500	452	90.4
Decachlorobiphenyl (Surr)	380	52	100	86	86.0
2,4,5,6-TCMX (Surr)	380	52	100	80	80.0
PCB'S NON-AQUEOUS					
PCB-1016	381	53	500	440	88.0
PCB-1260	381	53	500	454	90.8
Decachlorobiphenyl (Surr)	381	53	100	92	92.0
2,4,5,6-TCMX (Surr)	381	53	100	81	81.0

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QUALITY CONTROL REPORT

DUPLICATES

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.13879

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	RPD
pH, Non-Aqueous		188	7.55	7.46	units	1.2
pH, Non-Aqueous		189	7.50	7.48	units	0.3
Solids, Total		2515	66.8	69.9	%	4.5
Solids, Total		2515	95.0	95.2	%	0.2
Solids, Total		2515	89.0	89.7	%	0.8

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.

NET Midwest, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY: ENSR Corp.
ADDRESS: 740 Pasquinelli Dr. St. 124 Westmont, IL
PHONE: (630) 887 1700 FAX: 630 850 5307
PROJECT NAME/LOCATION: ComEd / Waukegan
PROJECT NUMBER: 1801.023-1610
PROJECT MANAGER: Weilinfeng / Karen Dolnicks

REPORT TO: K. Dolnicks
INVOICE TO: ENSR
P.O. NO.:
NET QUOTE NO.:

SAMPLED BY (PRINT NAME): B. Buckley
SIGNATURE: B Buckley
(PRINT NAME):
SIGNATURE:

DATE 1998	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: TPH 9045	PAHs 8310	BTEX 8260	PCBs 8081	TPH 8015	RCRA Metals (total)				COMMENTS
10/26	1015	B21 (0-4)	S	X							X	X	X	X	X	X				NoTPH - mistake
10/26	1052	B20 (0-4)	S	X							X	X	X	X		X				
10/26	1112	B19 (0-4)	S	X							X	X	X	X		X				
10/26	1120	B4 (0-4)	S	X							X	X	X	X		X				
10/26	1315	B2 (0-4)	S	X							X	X	X	X		X				
10/26	1325	S1	S	X							X	X	X	X	X	X				
10/26	1340	B13 (0-4)	S	X							X	X	X	X		X				
10/26	1425	B14 (0-4)	S	X							X	X	X	X		X				
10/26	1435	B16 (0-4)	S	X							X	X	X	X		X				
10/26	1445	B22 (0-2)	S	X							X	X	X	X		X				

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ____ No ____

Is this work being conducted for regulatory enforcement action? Yes ____ No ____

Which regulations apply: RCRA ____ NPDES Wastewater ____ UST ____ Drinking Water ____ Other ____ None ____

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) / NO FIELD FILTERED? YES / (NO)

COC SEALS PRESENT AND INTACT? (YES) / NO VOLATILES FREE OF HEADSPACE? (YES) / NO

TEMPERATURE UPON RECEIPT: 2.0°C Wet Ice Bottles supplied by NET? (YES) / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ____ I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ____ DATE ____

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
B. Buckley	10/26/98	1600			10/27/98	11:00	J. O'Dell

METHOD OF SHIPMENT: fedex

REMARKS:

PT 1 - ORIGINAL - WHITE PT 2 - NET PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

MWG13-15_45890

NATIONAL ENVIRONMENTAL TESTING, INC.

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Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.14078

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Waukegan; 1801-023-610

Sample Number	Sample Description	Date Taken	Date Received
500692	MW-1	10/29/1998	10/30/1998
500693	MW-2	10/29/1998	10/30/1998
500694	MW-3	10/29/1998	10/30/1998
500695	MW-4	10/29/1998	10/30/1998
500696	MW-5	10/29/1998	10/30/1998
500697	MW-6	10/29/1998	10/30/1998
500698	MW-7	10/29/1998	10/30/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500692

NET Job No.: 98.14078

Sample Description: MW-1
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 11:15
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH	7.07	units	10/30/1998	0.10	efw		1719	EPA 150.1
Arsenic, GFAA	1.1	mg/L	11/09/1998	0.0050	out	1358	1148	SW 7060
Barium, ICP	0.031	mg/L	11/05/1998	0.020	kdw	2201	3769	SW 6010B
Cadmium, ICP	0.034	mg/L	11/05/1998	0.010	kdw	2201	3737	SW 6010B
Chromium, ICP	<0.040	mg/L	11/05/1998	0.040	kdw	2201	3746	SW 6010B
Lead, GFAA	<0.0050	mg/L	11/05/1998	0.0050	out	1358	2174	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/05/1998	0.0002	sep	1187	1093	SW 7470A
Selenium, GFAA	<0.0050	mg/L	11/06/1998	0.0050	out	1358	859	SW 7740
Silver, AA	<0.040	mg/L	11/06/1998	0.040	sep	1016	995	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		11/05/1998		wna	371		SW 3510C
PCBs 8082 Aqueous								
PCB-1016	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1221	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1232	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1242	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1248	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1254	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1260	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
Surr: Tetrachloroxylene (TCX)	75.0	%	11/06/1998	22-154	tls	371	703	SW 8082
Surr: Decachlorobiphenyl (DCB)	73.0	%	11/06/1998	23-154	tls	371	703	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500692

NET Job No.: 98.14078

Sample Description: MW-1
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 11:15
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS								
Benzene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Ethyl Benzene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Toluene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Xylenes, Total	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Surr: Toluene-d8	104.8	%	11/07/1998	85-117	mjo		2642	SW 8260A
Surr: Bromofluorobenzene	103.0	%	11/07/1998	80-116	mjo		2642	SW 8260A
Surr: Dibromofluoromethane	99.0	%	11/07/1998	75-130	mjo		2642	SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted		11/04/1998		mmv	409		SW 3520C
PNA CMPDS - 8310 AQUEOUS								
Acenaphthene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Acenaphthylene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Anthracene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Benzo(a)anthracene	<0.00013	mg/L	11/07/1998	0.00013	keh	409	1207	SW 8310
Benzo(b)fluoranthene	<0.00018	mg/L	11/07/1998	0.00018	keh	409	1207	SW 8310
Benzo(k)fluoranthene	<0.00017	mg/L	11/07/1998	0.00017	keh	409	1207	SW 8310
Benzo(a)pyrene	<0.00023	mg/L	11/07/1998	0.00023	keh	409	1207	SW 8310
Benzo(ghi)perylene	<0.00076	mg/L	11/07/1998	0.00076	keh	409	1207	SW 8310
Chrysene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Dibenzo(a,h)anthracene	<0.00030	mg/L	11/07/1998	0.00030	keh	409	1207	SW 8310
Fluoranthene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Fluorene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043	mg/L	11/07/1998	0.00043	keh	409	1207	SW 8310
Naphthalene	0.00056	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Phenanthrene	<0.0010	mg/L	11/07/1998	0.0010	keh	409	1207	SW 8310
Pyrene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310

MWG13-15_45894

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500692

NET Job No.: 98.14078

Sample Description: MW-1
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 11:15
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Surr: p-Terphenyl	82.2	%	11/07/1998	43-125	keh	409 1207	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500693

NET Job No.: 98.14078

Sample Description: MW-2
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 13:00
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH	6.91	units	10/30/1998	0.10	efw		1719	EPA 150.1
Arsenic, GFAA	0.0073	mg/L	11/09/1998	0.0050	out	1358	1148	SW 7060
Barium, ICP	0.070	mg/L	11/05/1998	0.020	kdw	2201	3769	SW 6010B
Cadmium, ICP	<0.010	mg/L	11/05/1998	0.010	kdw	2201	3737	SW 6010B
Chromium, ICP	<0.040	mg/L	11/05/1998	0.040	kdw	2201	3746	SW 6010B
Lead, GFAA	<0.0050	mg/L	11/05/1998	0.0050	out	1358	2174	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/05/1998	0.0002	sep	1187	1093	SW 7470A
Selenium, GFAA	<0.0050	mg/L	11/06/1998	0.0050	out	1358	859	SW 7740
Silver, AA	<0.040	mg/L	11/06/1998	0.040	sep	1016	995	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		11/05/1998		wna	371		SW 3510C
PCBs 8082 Aqueous								
PCB-1016	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1221	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1232	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1242	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1248	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1254	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1260	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
Surr: Tetrachloroxylene (TCX)	79.0	%	11/06/1998	22-154	tls	371	703	SW 8082
Surr: Decachlorobiphenyl (DCB)	70.0	%	11/06/1998	23-154	tls	371	703	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500693

NET Job No.: 98.14078

Sample Description: MW-2
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 13:00
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS								
Benzene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Ethyl Benzene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Toluene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Xylenes, Total	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Surr: Toluene-d8	105.4	%	11/07/1998	85-117	mjo		2642	SW 8260A
Surr: Bromofluorobenzene	103.0	%	11/07/1998	80-116	mjo		2642	SW 8260A
Surr: Dibromofluoromethane	100.0	%	11/07/1998	75-130	mjo		2642	SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted		11/04/1998		mmv	409		SW 3520C
PNA CMPDS - 8310 AQUEOUS								
Acenaphthene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Acenaphthylene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Anthracene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Benzo(a)anthracene	<0.00013	mg/L	11/07/1998	0.00013	keh	409	1207	SW 8310
Benzo(b)fluoranthene	<0.00018	mg/L	11/07/1998	0.00018	keh	409	1207	SW 8310
Benzo(k)fluoranthene	<0.00017	mg/L	11/07/1998	0.00017	keh	409	1207	SW 8310
Benzo(a)pyrene	<0.00023	mg/L	11/07/1998	0.00023	keh	409	1207	SW 8310
Benzo(ghi)perylene	<0.00076	mg/L	11/07/1998	0.00076	keh	409	1207	SW 8310
Chrysene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Dibenzo(a,h)anthracene	<0.00030	mg/L	11/07/1998	0.00030	keh	409	1207	SW 8310
Fluoranthene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Fluorene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043	mg/L	11/07/1998	0.00043	keh	409	1207	SW 8310
Naphthalene	0.00058	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Phenanthrene	<0.0010	mg/L	11/07/1998	0.0010	keh	409	1207	SW 8310
Pyrene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310

MWG13-15_45897

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500693

NET Job No.: 98.14078

Sample Description: MW-2
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 13:00
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Surr: p-Terphenyl	91.1	%	11/07/1998	43-125	keh	409 1207	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500694

NET Job No.: 98.14078

Sample Description: MW-3
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 10:30
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH	6.74	units	10/30/1998	0.10	efw		1719	EPA 150.1
Arsenic, GFAA	<0.0050	mg/L	11/09/1998	0.0050	out	1358	1148	SW 7060
Barium, ICP	0.085	mg/L	11/05/1998	0.020	kdw	2201	3769	SW 6010B
Cadmium, ICP	<0.010	mg/L	11/05/1998	0.010	kdw	2201	3737	SW 6010B
Chromium, ICP	<0.040	mg/L	11/05/1998	0.040	kdw	2201	3746	SW 6010B
Lead, GFAA	<0.0050	mg/L	11/05/1998	0.0050	out	1358	2174	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/05/1998	0.0002	sep	1187	1093	SW 7470A
Selenium, GFAA	<0.0050	mg/L	11/06/1998	0.0050	out	1358	859	SW 7740
Silver, AA	<0.040	mg/L	11/06/1998	0.040	sep	1016	995	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		11/05/1998		wna	371		SW 3510C
PCBs 8082 Aqueous								
PCB-1016	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1221	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1232	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1242	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1248	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1254	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
PCB-1260	<0.0005	mg/L	11/06/1998	0.0005	tls	371	703	SW 8082
Surr: Tetrachloroxylene (TCX)	83.0	%	11/06/1998	22-154	tls	371	703	SW 8082
Surr: Decachlorobiphenyl (DCB)	76.0	%	11/06/1998	23-154	tls	371	703	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500694

NET Job No.: 98.14078

Sample Description: MW-3
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 10:30
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS								
Benzene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Ethyl Benzene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Toluene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Xylenes, Total	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Surr: Toluene-d8	111.6	%	11/07/1998	85-117	mjo		2642	SW 8260A
Surr: Bromofluorobenzene	102.0	%	11/07/1998	80-116	mjo		2642	SW 8260A
Surr: Dibromofluoromethane	99.6	%	11/07/1998	75-130	mjo		2642	SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted		11/04/1998		mmv	409		SW 3520C
PNA CMPDS - 8310 AQUEOUS								
Acenaphthene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Acenaphthylene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Anthracene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Benzo(a)anthracene	<0.00013	mg/L	11/07/1998	0.00013	keh	409	1207	SW 8310
Benzo(b)fluoranthene	<0.00018	mg/L	11/07/1998	0.00018	keh	409	1207	SW 8310
Benzo(k)fluoranthene	<0.00017	mg/L	11/07/1998	0.00017	keh	409	1207	SW 8310
Benzo(a)pyrene	<0.00023	mg/L	11/07/1998	0.00023	keh	409	1207	SW 8310
Benzo(ghi)perylene	<0.00076	mg/L	11/07/1998	0.00076	keh	409	1207	SW 8310
Chrysene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Dibenzo(a,h)anthracene	<0.00030	mg/L	11/07/1998	0.00030	keh	409	1207	SW 8310
Fluoranthene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Fluorene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043	mg/L	11/07/1998	0.00043	keh	409	1207	SW 8310
Naphthalene	0.0011	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Phenanthrene	<0.0010	mg/L	11/07/1998	0.0010	keh	409	1207	SW 8310
Pyrene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500694

NET Job No.: 98.14078

Sample Description: MW-3
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 10:30
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Surr: p-Terphenyl	84.2	%	11/07/1998	43-125	keh	409 1207	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500695

NET Job No.: 98.14078

Sample Description: MW-4
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 14:00
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH	6.52	units	10/30/1998	0.10	efw		1719	EPA 150.1
Arsenic, GFAA	<0.0050	mg/L	11/09/1998	0.0050	out	1358	1148	SW 7060
Barium, ICP	0.048	mg/L	11/05/1998	0.020	kdw	2201	3769	SW 6010B
Cadmium, ICP	<0.010	mg/L	11/05/1998	0.010	kdw	2201	3737	SW 6010B
Chromium, ICP	<0.040	mg/L	11/05/1998	0.040	kdw	2201	3746	SW 6010B
Lead, GFAA	<0.0050	mg/L	11/05/1998	0.0050	out	1358	2174	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/05/1998	0.0002	sep	1187	1093	SW 7470A
Selenium, GFAA	<0.0050	mg/L	11/06/1998	0.0050	out	1358	859	SW 7740
Silver, AA	<0.040	mg/L	11/06/1998	0.040	sep	1016	995	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		11/05/1998		wna	371		SW 3510C
PCBs 8082 Aqueous								
PCB-1016	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1221	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1232	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1242	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1248	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1254	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1260	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
Surr: Tetrachloroxylene (TCX)	83.0	%	11/07/1998	22-154	tls	371	703	SW 8082
Surr: Decachlorobiphenyl (DCB)	81.0	%	11/07/1998	23-154	tls	371	703	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500695

NET Job No.: 98.14078

Sample Description: MW-4
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 14:00
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS								
Benzene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Ethyl Benzene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Toluene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Xylenes, Total	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Surr: Toluene-d8	111.4	%	11/07/1998	85-117	mjo		2642	SW 8260A
Surr: Bromofluorobenzene	102.0	%	11/07/1998	80-116	mjo		2642	SW 8260A
Surr: Dibromofluoromethane	99.2	%	11/07/1998	75-130	mjo		2642	SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted		11/04/1998		mmv	409		SW 3520C
PNA CMPDS - 8310 AQUEOUS								
Acenaphthene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Acenaphthylene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Anthracene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Benzo(a)anthracene	<0.00013	mg/L	11/07/1998	0.00013	keh	409	1207	SW 8310
Benzo(b)fluoranthene	<0.00018	mg/L	11/07/1998	0.00018	keh	409	1207	SW 8310
Benzo(k)fluoranthene	<0.00017	mg/L	11/07/1998	0.00017	keh	409	1207	SW 8310
Benzo(a)pyrene	<0.00023	mg/L	11/07/1998	0.00023	keh	409	1207	SW 8310
Benzo(ghi)perylene	<0.00076	mg/L	11/07/1998	0.00076	keh	409	1207	SW 8310
Chrysene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Dibenzo(a,h)anthracene	<0.00030	mg/L	11/07/1998	0.00030	keh	409	1207	SW 8310
Fluoranthene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Fluorene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043	mg/L	11/07/1998	0.00043	keh	409	1207	SW 8310
Naphthalene	0.00062	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Phenanthrene	<0.0010	mg/L	11/07/1998	0.0010	keh	409	1207	SW 8310
Pyrene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500695

NET Job No.: 98.14078

Sample Description: MW-4
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 14:00
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Surr: p-Terphenyl	92.2	%	11/07/1998	43-125	keh	409 1207	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500696

NET Job No.: 98.14078

Sample Description: MW-5
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 15:00
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH	6.85	units	10/30/1998	0.10	efw		1719	EPA 150.1
Arsenic, GFAA	<0.0050	mg/L	11/09/1998	0.0050	out	1358	1148	SW 7060
Barium, ICP	0.104	mg/L	11/05/1998	0.020	kdw	2201	3769	SW 6010B
Cadmium, ICP	<0.010	mg/L	11/05/1998	0.010	kdw	2201	3737	SW 6010B
Chromium, ICP	<0.040	mg/L	11/05/1998	0.040	kdw	2201	3746	SW 6010B
Lead, GFAA	<0.0050	mg/L	11/05/1998	0.0050	out	1358	2174	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/05/1998	0.0002	sep	1187	1093	SW 7470A
Selenium, GFAA	<0.0050	mg/L	11/06/1998	0.0050	out	1358	859	SW 7740
Silver, AA	<0.040	mg/L	11/06/1998	0.040	sep	1016	995	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		11/05/1998		wna	371		SW 3510C
PCBs 8082 Aqueous								
PCB-1016	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1221	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1232	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1242	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1248	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1254	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1260	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
Surr: Tetrachloroxylene (TCX)	80.0	%	11/07/1998	22-154	tls	371	703	SW 8082
Surr: Decachlorobiphenyl (DCB)	70.0	%	11/07/1998	23-154	tls	371	703	SW 8082

MWG13-15_45905

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500696

NET Job No.: 98.14078

Sample Description: MW-5
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 15:00
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS								
Benzene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Ethyl Benzene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Toluene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Xylenes, Total	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Surr: Toluene-d8	112.2	%	11/07/1998	85-117	mjo		2642	SW 8260A
Surr: Bromofluorobenzene	97.8	%	11/07/1998	80-116	mjo		2642	SW 8260A
Surr: Dibromofluoromethane	100.4	%	11/07/1998	75-130	mjo		2642	SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted		11/04/1998		mmv	409		SW 3520C
PNA CMPDS - 8310 AQUEOUS								
Acenaphthene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Acenaphthylene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Anthracene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Benzo(a)anthracene	<0.00013	mg/L	11/07/1998	0.00013	keh	409	1207	SW 8310
Benzo(b)fluoranthene	<0.00018	mg/L	11/07/1998	0.00018	keh	409	1207	SW 8310
Benzo(k)fluoranthene	<0.00017	mg/L	11/07/1998	0.00017	keh	409	1207	SW 8310
Benzo(a)pyrene	<0.00023	mg/L	11/07/1998	0.00023	keh	409	1207	SW 8310
Benzo(ghi)perylene	<0.00076	mg/L	11/07/1998	0.00076	keh	409	1207	SW 8310
Chrysene	<0.0005	mg/L	11/09/1998	0.0005	keh	409	1208	SW 8310
Dibenzo(a,h)anthracene	<0.00030	mg/L	11/07/1998	0.00030	keh	409	1207	SW 8310
Fluoranthene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Fluorene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043	mg/L	11/07/1998	0.00043	keh	409	1207	SW 8310
Naphthalene	0.0012	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Phenanthrene	<0.0010	mg/L	11/07/1998	0.0010	keh	409	1207	SW 8310
Pyrene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500696

NET Job No.: 98.14078

Sample Description: MW-5
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 15:00
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Surr: p-Terphenyl	78.7	%	11/07/1998	43-125	keh	409	1207	SW 8310

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500697

NET Job No.: 98.14078

Sample Description: MW-6
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 15:45
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH	7.06	units	10/30/1998	0.10	efw	1719	EPA 150.1
Arsenic, GFAA	0.010	mg/L	11/09/1998	0.0050	out	1358 1148	SW 7060
Barium, ICP	0.292	mg/L	11/05/1998	0.020	kdw	2201 3769	SW 6010B
Cadmium, ICP	<0.010	mg/L	11/05/1998	0.010	kdw	2201 3737	SW 6010B
Chromium, ICP	<0.040	mg/L	11/05/1998	0.040	kdw	2201 3746	SW 6010B
Lead, GFAA	<0.0050	mg/L	11/05/1998	0.0050	out	1358 2174	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/05/1998	0.0002	sep	1187 1093	SW 7470A
Selenium, GFAA	<0.0050	mg/L	11/06/1998	0.0050	out	1358 859	SW 7740
Silver, AA	<0.040	mg/L	11/06/1998	0.040	sep	1016 995	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		11/05/1998		wna	371	SW 3510C
PCBs 8082 Aqueous							
PCB-1016	<0.0005	mg/L	11/07/1998	0.0005	tls	371 703	SW 8082
PCB-1221	<0.0005	mg/L	11/07/1998	0.0005	tls	371 703	SW 8082
PCB-1232	<0.0005	mg/L	11/07/1998	0.0005	tls	371 703	SW 8082
PCB-1242	<0.0005	mg/L	11/07/1998	0.0005	tls	371 703	SW 8082
PCB-1248	<0.0005	mg/L	11/07/1998	0.0005	tls	371 703	SW 8082
PCB-1254	<0.0005	mg/L	11/07/1998	0.0005	tls	371 703	SW 8082
PCB-1260	<0.0005	mg/L	11/07/1998	0.0005	tls	371 703	SW 8082
Surr: Tetrachloroxylene (TCX)	87.0	%	11/07/1998	22-154	tls	371 703	SW 8082
Surr: Decachlorobiphenyl (DCB)	76.0	%	11/07/1998	23-154	tls	371 703	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500697

NET Job No.: 98.14078

Sample Description: MW-6
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 15:45
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS								
Benzene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Ethyl Benzene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Toluene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Xylenes, Total	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Surr: Toluene-d8	105.0	%	11/07/1998	85-117	mjo		2642	SW 8260A
Surr: Bromofluorobenzene	101.6	%	11/07/1998	80-116	mjo		2642	SW 8260A
Surr: Dibromofluoromethane	98.4	%	11/07/1998	75-130	mjo		2642	SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted		11/04/1998		mmv	409		SW 3520C
PNA CMPDS - 8310 AQUEOUS								
Acenaphthene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Acenaphthylene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Anthracene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Benzo(a)anthracene	<0.00013	mg/L	11/07/1998	0.00013	keh	409	1207	SW 8310
Benzo(b)fluoranthene	<0.00018	mg/L	11/07/1998	0.00018	keh	409	1207	SW 8310
Benzo(k)fluoranthene	<0.00017	mg/L	11/07/1998	0.00017	keh	409	1207	SW 8310
Benzo(a)pyrene	<0.00023	mg/L	11/07/1998	0.00023	keh	409	1207	SW 8310
Benzo(ghi)perylene	<0.00076	mg/L	11/07/1998	0.00076	keh	409	1207	SW 8310
Chrysene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Dibenzo(a,h)anthracene	<0.00030	mg/L	11/07/1998	0.00030	keh	409	1207	SW 8310
Fluoranthene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Fluorene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043	mg/L	11/07/1998	0.00043	keh	409	1207	SW 8310
Naphthalene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Phenanthrene	<0.0010	mg/L	11/07/1998	0.0010	keh	409	1207	SW 8310
Pyrene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500697

NET Job No.: 98.14078

Sample Description: MW-6
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 15:45
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Surr: p-Terphenyl	84.0	%	11/07/1998	43-125	keh	409 1207	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500698

NET Job No.: 98.14078

Sample Description: MW-7
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 09:30
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH	7.44	units	10/30/1998	0.10	efw		1719	EPA 150.1
Arsenic, GFAA	0.0072	mg/L	11/09/1998	0.0050	out	1358	1148	SW 7060
Barium, ICP	0.151	mg/L	11/06/1998	0.020	jtt	2205	3774	SW 6010B
Cadmium, ICP	<0.010	mg/L	11/06/1998	0.010	jtt	2205	3741	SW 6010B
Chromium, ICP	<0.040	mg/L	11/06/1998	0.040	jtt	2205	3752	SW 6010B
Lead, GFAA	<0.0050	mg/L	11/05/1998	0.0050	out	1358	2174	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/09/1998	0.0002	sep	1189	1095	SW 7470A
Selenium, GFAA	<0.0050	mg/L	11/06/1998	0.0050	out	1358	859	SW 7740
Silver, AA	<0.040	mg/L	11/06/1998	0.040	sep	1017	995	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		11/05/1998		wna	371		SW 3510C
PCBs 8082 Aqueous								
PCB-1016	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1221	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1232	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1242	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1248	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1254	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
PCB-1260	<0.0005	mg/L	11/07/1998	0.0005	tls	371	703	SW 8082
Surr: Tetrachloroxylene (TCX)	69.0	%	11/07/1998	22-154	tls	371	703	SW 8082
Surr: Decachlorobiphenyl (DCB)	67.0	%	11/07/1998	23-154	tls	371	703	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

Sample No. : 500698

NET Job No.: 98.14078

Sample Description: MW-7
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 09:30
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS								
Benzene	0.0048	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Ethyl Benzene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Toluene	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Xylenes, Total	<0.001	mg/L	11/07/1998	0.001	mjo		2642	SW 8260A
Surr: Toluene-d8	105.6	%	11/07/1998	85-117	mjo		2642	SW 8260A
Surr: Bromofluorobenzene	102.6	%	11/07/1998	80-116	mjo		2642	SW 8260A
Surr: Dibromofluoromethane	98.6	%	11/07/1998	75-130	mjo		2642	SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted		11/04/1998		mmv	409		SW 3520C
PNA CMPDS - 8310 AQUEOUS								
Acenaphthene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Acenaphthylene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Anthracene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Benzo(a)anthracene	<0.00013	mg/L	11/07/1998	0.00013	keh	409	1207	SW 8310
Benzo(b)fluoranthene	<0.00018	mg/L	11/07/1998	0.00018	keh	409	1207	SW 8310
Benzo(k)fluoranthene	<0.00017	mg/L	11/07/1998	0.00017	keh	409	1207	SW 8310
Benzo(a)pyrene	<0.00023	mg/L	11/07/1998	0.00023	keh	409	1207	SW 8310
Benzo(ghi)perylene	<0.00076	mg/L	11/07/1998	0.00076	keh	409	1207	SW 8310
Chrysene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Dibenzo(a,h)anthracene	<0.00030	mg/L	11/07/1998	0.00030	keh	409	1207	SW 8310
Fluoranthene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Fluorene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043	mg/L	11/07/1998	0.00043	keh	409	1207	SW 8310
Naphthalene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310
Phenanthrene	<0.0010	mg/L	11/07/1998	0.0010	keh	409	1207	SW 8310
Pyrene	<0.0005	mg/L	11/07/1998	0.0005	keh	409	1207	SW 8310

MWG13-15_45912

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
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11/10/1998

Sample No. : 500698

NET Job No.: 98.14078

Sample Description: MW-7
ComEd-Waukegan; 1801-023

Date Taken: 10/29/1998
Time Taken: 09:30
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Surr: p-Terphenyl	90.2	%	11/07/1998	43-125	keh	409 1207	SW 8310

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.14078

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
pH	1719	7.02	7.00	99.7
Arsenic, GFAA	1148	0.0500	0.0508	101.6
Arsenic, GFAA	1148	0.0500	0.0536	107.2
Barium, ICP	3769	2.00	1.98	99.0
Barium, ICP	3774	2.00	2.09	104.5
Cadmium, ICP	3737	1.00	0.969	96.9
Cadmium, ICP	3741	1.00	1.02	102.0
Chromium, ICP	3746	2.00	1.97	98.5
Chromium, ICP	3752	2.00	2.09	104.5
Lead, GFAA	2174	0.0250	0.0256	102.4
Lead, GFAA	2174	0.0250	0.0261	104.4
Mercury, CVAA	1093	0.0025	0.00259	103.6
Mercury, CVAA	1093	0.0025	0.00259	103.6
Mercury, CVAA	1095	0.0025	0.00237	94.8
Selenium, GFAA	859	0.0500	0.0513	102.6
Selenium, GFAA	859	0.0500	0.0530	106.0
Silver, AA	995	0.500	0.504	100.8
PCBs 8082 Aqueous				
PCB-1016	703	500.	485	97.0
PCB-1260	703	500	500	100.0
PCBs 8082 Aqueous				
PCB-1016	703	500.	479	95.8
PCB-1260	703	500	499	99.8
PCBs 8082 Aqueous				
PCB-1016	703	500.	494	98.8
PCB-1260	703	500	436	87.2
PCBs 8082 Aqueous				
PCB-1016	703	500.	505	101.0
PCB-1260	703	500	531	106.2
PCBs 8082 Aqueous				
PCB-1016	703	500.	505	101.0
PCB-1260	703	500	505	101.0
UST VOLATILES 8260 - AQUEOUS				
Benzene	2642	50.0	52.7	105.4

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.14078

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Ethyl Benzene	2642	50.0	49.7	99.4
Toluene	2642	50.0	52.4	104.8
Xylenes, Total	2642	150	160	106.7
PNA CMPDS - 8310 AQUEOUS				
Acenaphthene	1207	5000	4,792	95.8
Acenaphthylene	1207	5000	5,040	100.8
Anthracene	1207	5000	5,183	103.7
Benzo(a)anthracene	1207	5000	5,118	102.4
Benzo(b)fluoranthene	1207	5000	4,872	97.4
Benzo(k)fluoranthene	1207	5000	4,870	97.4
Benzo(a)pyrene	1207	5000	4,920	98.4
Benzo(ghi)perylene	1207	5000	5,057	101.1
Chrysene	1207	5000	5,092	101.8
Dibenzo(a,h)anthracene	1207	5000	4,995	99.9
Fluoranthene	1207	5000	5,169	103.4
Fluorene	1207	5000	5,000	100.0
Indeno(1,2,3-cd)pyrene	1207	5000	5,131	102.6
Naphthalene	1207	5000	4,753	95.1
Phenanthrene	1207	5000	5,074	101.5
Pyrene	1207	5000	5,056	101.1
Surr: p-Terphenyl	1207	5000	4,919	98.4
PNA CMPDS - 8310 AQUEOUS				
Acenaphthene	1207	5000	4,808	96.2
Acenaphthylene	1207	5000	5,094	101.9
Anthracene	1207	5000	5,118	102.4
Benzo(a)anthracene	1207	5000	5,155	103.1
Benzo(b)fluoranthene	1207	5000	4,881	97.6
Benzo(k)fluoranthene	1207	5000	5,079	101.6
Benzo(a)pyrene	1207	5000	4,873	97.5
Benzo(ghi)perylene	1207	5000	5,112	102.2
Chrysene	1207	5000	5,105	102.1
Dibenzo(a,h)anthracene	1207	5000	4,988	99.8
Fluoranthene	1207	5000	5,046	100.9
Fluorene	1207	5000	4,960	99.2

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.14078

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Indeno(1,2,3-cd)pyrene	1207	5000	5,068	101.4
Naphthalene	1207	5000	4,798	96.0
Phenanthrene	1207	5000	5,130	102.6
Pyrene	1207	5000	4,954	99.1
Surr: p-Terphenyl	1207	5000	4,949	99.0
PNA CMPDS - 8310 AQUEOUS				
Acenaphthene	1207	5000	4,856	97.1
Acenaphthylene	1207	5000	4,994	99.9
Anthracene	1207	5000	5,106	102.1
Benzo(a)anthracene	1207	5000	5,117	102.3
Benzo(b)fluoranthene	1207	5000	4,842	96.8
Benzo(k)fluoranthene	1207	5000	4,932	98.6
Benzo(a)pyrene	1207	5000	4,832	96.6
Benzo(ghi)perylene	1207	5000	5,104	102.1
Chrysene	1207	5000	5,096	101.9
Dibenzo(a,h)anthracene	1207	5000	4,966	99.3
Fluoranthene	1207	5000	5,044	100.9
Fluorene	1207	5000	4,953	99.1
Indeno(1,2,3-cd)pyrene	1207	5000	4,980	99.6
Naphthalene	1207	5000	4,701	94.0
Phenanthrene	1207	5000	5,055	101.1
Pyrene	1207	5000	4,914	98.3
Surr: p-Terphenyl	1207	5000	5,009	100.2
PNA CMPDS - 8310 AQUEOUS				
Chrysene	1208	5000	5,078	101.6
PNA CMPDS - 8310 AQUEOUS				
Chrysene	1208	5000	5,175	103.5

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.14078

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Arsenic, GFAA		1148	<0.0050	mg/L	0.0050	SW 7060
Arsenic, GFAA		1148	<0.0050	mg/L	0.0050	SW 7060
Barium, ICP	2201	3769	<0.020	mg/L	0.020	SW 6010B
Barium, ICP	2205	3774	<0.020	mg/L	0.020	SW 6010B
Cadmium, ICP	2201	3737	<0.010	mg/L	0.010	SW 6010B
Cadmium, ICP	2205	3741	<0.010	mg/L	0.010	SW 6010B
Chromium, ICP	2201	3746	<0.040	mg/L	0.040	SW 6010B
Chromium, ICP	2205	3752	<0.040	mg/L	0.040	SW 6010B
Lead, GFAA		2174	<0.0050	mg/L	0.0050	SW 7421
Lead, GFAA		2174	<0.0050	mg/L	0.0050	SW 7421
Mercury, CVAA	1187	1093	<0.0002	mg/L	0.0002	SW 7470A
Mercury, CVAA	1187	1093	<0.0002	mg/L	0.0002	SW 7470A
Mercury, CVAA	1189	1095	<0.0002	mg/L	0.0002	SW 7470A
Mercury, CVAA	1189	1095	<0.0002	mg/L	0.0002	SW 7470A
Selenium, GFAA		859	<0.005	mg/L	0.005	SW 7740
Selenium, GFAA		859	<0.005	mg/L	0.005	SW 7740
Silver, AA	1016	995	<0.040	mg/L	0.040	SW 7760
Silver, AA	1017	995	<0.040	mg/L	0.040	SW 7760
PCBs 8082 Aqueous						SW 8082
PCB-1016	371	703	<0.0005	mg/L	0.5	SW 8082
PCB-1221	371	703	<0.0005	mg/L	0.5	SW 8082
PCB-1232	371	703	<0.0005	mg/L	0.5	SW 8082
PCB-1242	371	703	<0.0005	mg/L	0.5	SW 8082
PCB-1248	371	703	<0.0005	mg/L	0.5	SW 8082
PCB-1254	371	703	<0.0005	mg/L	0.5	SW 8082
PCB-1260	371	703	<0.0005	mg/L	0.5	SW 8082
Surr: Tetrachloroxylene (TCX)	371	703	50.0	%	22-154	SW 8082
Surr: Decachlorobiphenyl (DCB)	371	703	53.0	%	23-154	SW 8082
UST VOLATILES 8260 - AQUEOUS						SW 8260A

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.14078

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Benzene		2642	<1.0	ug/L	1.0	SW 8260A
Ethyl Benzene		2642	<1.0	ug/L	1.0	SW 8260A
Toluene		2642	<1.0	ug/L	1.0	SW 8260A
Xylenes, Total		2642	<1.0	ug/L	1.0	SW 8260A
Surr: Dibromofluoromethane		2642	99.8	%	75-130	SW 8260A
Surr: Toluene-d8		2642	104.2	%	85-117	SW 8260A
Surr: Bromofluorobenzene		2642	102.2	%	80-116	SW 8260A
PNA CMPDS - 8310 AQUEOUS						SW 8310
Acenaphthene	409	1206	<0.0005	mg/L	0.0005	SW 8310
Acenaphthylene	409	1206	<0.0005	mg/L	0.0005	SW 8310
Anthracene	409	1206	<0.0005	mg/L	0.0005	SW 8310
Benzo(a)anthracene	409	1206	<0.00013	mg/L	0.00013	SW 8310
Benzo(b)fluoranthene	409	1206	<0.00018	mg/L	0.00018	SW 8310
Benzo(k)fluoranthene	409	1206	<0.00017	mg/L	0.00017	SW 8310
Benzo(a)pyrene	409	1206	<0.00023	mg/L	0.00023	SW 8310
Benzo(ghi)perylene	409	1206	<0.00076	mg/L	0.00076	SW 8310
Chrysene	409	1206	<0.0005	mg/L	0.0005	SW 8310
Dibenzo(a,h)anthracene	409	1206	<0.00030	mg/L	0.00030	SW 8310
Fluoranthene	409	1206	<0.0005	mg/L	0.0005	SW 8310
Fluorene	409	1206	<0.0005	mg/L	0.0005	SW 8310
Indeno(1,2,3-cd)pyrene	409	1206	<0.00043	mg/L	0.00043	SW 8310
Naphthalene	409	1206	<0.0005	mg/L	0.0005	SW 8310
Phenanthrene	409	1206	<0.0010	mg/L	0.0010	SW 8310
Pyrene	409	1206	<0.0005	mg/L	0.0005	SW 8310
Surr: p-Terphenyl	409	1206	92.3	%	43-125	SW 8310
PNA CMPDS - 8310 AQUEOUS						SW 8310
Acenaphthene	409	1207	<0.0005	mg/L	0.0005	SW 8310
Acenaphthylene	409	1207	<0.0005	mg/L	0.0005	SW 8310
Anthracene	409	1207	<0.0005	mg/L	0.0005	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.14078

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Benzo(a)anthracene	409	1207	<0.00013	mg/L	0.00013	SW 8310
Benzo(b)fluoranthene	409	1207	<0.00018	mg/L	0.00018	SW 8310
Benzo(k)fluoranthene	409	1207	<0.00017	mg/L	0.00017	SW 8310
Benzo(a)pyrene	409	1207	<0.00023	mg/L	0.00023	SW 8310
Benzo(ghi)perylene	409	1207	<0.00076	mg/L	0.00076	SW 8310
Chrysene	409	1207	<0.0005	mg/L	0.0005	SW 8310
Dibenzo(a,h)anthracene	409	1207	<0.00030	mg/L	0.00030	SW 8310
Fluoranthene	409	1207	<0.0005	mg/L	0.0005	SW 8310
Fluorene	409	1207	<0.0005	mg/L	0.0005	SW 8310
Indeno(1,2,3-cd)pyrene	409	1207	<0.00043	mg/L	0.00043	SW 8310
Naphthalene	409	1207	<0.0005	mg/L	0.0005	SW 8310
Phenanthrene	409	1207	<0.0010	mg/L	0.0010	SW 8310
Pyrene	409	1207	<0.0005	mg/L	0.0005	SW 8310
Surr: p-Terphenyl	409	1207	90.8	%	43-125	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.14078

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Arsenic, GFAA		1148	0.0500	0.0544	108.8
Barium, ICP	2201	3769	5.00	5.44	108.8
Barium, ICP	2205	3774	0.200	0.198	99.0
Cadmium, ICP	2201	3737	2.50	2.57	102.8
Cadmium, ICP	2205	3741	0.100	0.094	94.0
Chromium, ICP	2201	3746	5.00	5.53	110.6
Chromium, ICP	2205	3752	0.20	0.198	99.0
Lead, GFAA		2174	0.0200	0.0214	107.0
Mercury, CVAA	1187	1093	0.0025	0.00253	101.2
Mercury, CVAA	1187	1093	0.0025	0.00253	101.2
Mercury, CVAA		1093	0.0020	0.00203	101.5
Mercury, CVAA	1189	1095	0.0025	0.00260	104.0
Mercury, CVAA	1189	1095	0.0025	0.00260	104.0
Mercury, CVAA		1095	0.0020	0.00214	107.0
Selenium, GFAA		859	0.0500	0.0586	117.2
Silver, AA	1016	995	0.10	0.091	91.0
Silver, AA	1017	995	0.10	0.095	95.0
PCBs 8082 Aqueous					
PCB-1016	371	703	500	449	89.8
PCB-1260	371	703	500	427	85.4
Surr: Tetrachloroxylene (TCX)	371	703	100	45	45.0
Surr: Decachlorobiphenyl (DCB)	371	703	100	64	64.0
UST VOLATILES 8260 - AQUEOUS					
Benzene		2642	20.0	22.6	113.0
Ethyl Benzene		2642	20.0	21.4	107.0
Toluene		2642	20.0	22.9	114.5
Xylenes, Total		2642	60.0	68.0	113.3
Surr: Dibromofluoromethane		2642	50.0	50.4	100.8
Surr: Toluene-d8		2642	50.0	56.0	112.0
Surr: Bromofluorobenzene		2642	50.0	53.6	107.2
PNA CMPDS - 8310 AQUEOUS					

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.14078

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Acenaphthene	409	1206	0.001	0.000870	87.0
Acenaphthylene	409	1206	0.001	0.000962	96.2
Anthracene	409	1206	0.001	0.000945	94.5
Benzo(a)anthracene	409	1206	0.001	0.000946	94.6
Benzo(b)fluoranthene	409	1206	0.001	0.000867	86.7
Benzo(k)fluoranthene	409	1206	0.001	0.000909	90.9
Benzo(a)pyrene	409	1206	0.001	0.000865	86.5
Benzo(ghi)perylene	409	1206	0.001	0.000985	98.5
Chrysene	409	1206	0.001	0.000955	95.5
Dibenzo(a,h)anthracene	409	1206	0.001	0.000936	93.6
Fluoranthene	409	1206	0.001	0.000970	97.0
Fluorene	409	1206	0.001	0.000938	93.8
Indeno(1,2,3-cd)pyrene	409	1206	0.001	0.000858	85.8
Naphthalene	409	1206	0.001	0.000955	95.5
Phenanthrene	409	1206	0.001	0.000854	85.4
Pyrene	409	1206	0.001	0.000958	95.8
Surr: p-Terphenyl	409	1206	2000	1,797	89.8
PNA CMPDS - 8310 AQUEOUS					
Acenaphthene	409	1207	0.001	0.000926	92.6
Acenaphthylene	409	1207	0.001	0.000976	97.6
Anthracene	409	1207	0.001	0.00102	102.0
Benzo(a)anthracene	409	1207	0.001	0.00103	103.0
Benzo(b)fluoranthene	409	1207	0.001	0.000964	96.4
Benzo(k)fluoranthene	409	1207	0.001	0.000964	96.4
Benzo(a)pyrene	409	1207	0.001	0.000903	90.3
Benzo(ghi)perylene	409	1207	0.001	0.000991	99.1
Chrysene	409	1207	0.001	0.00101	101.0
Dibenzo(a,h)anthracene	409	1207	0.001	0.000972	97.2
Fluoranthene	409	1207	0.001	0.000998	99.8
Fluorene	409	1207	0.001	0.000980	98.0
Indeno(1,2,3-cd)pyrene	409	1207	0.001	0.00104	104.0

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/10/1998

NET Job Number: 98.14078

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Naphthalene	409	1207	0.001	0.000902	90.2
Phenanthrene	409	1207	0.001	0.0010	100.0
Pyrene	409	1207	0.001	0.000973	97.3
Surr: p-Terphenyl	409	1207	2000	1,922	96.1

MWG13-15_45922

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QUALITY CONTROL REPORT

DUPLICATES

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/10/1998

NET Job Number: 98.14078

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	RPD
pH		1719	4.91	4.82	units	1.8
pH		1719	6.91	6.86	units	0.7

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.

NET Midwest, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

NET NATIONAL ENVIRONMENTAL TESTING, INC.®

CHAIN OF CUSTODY RECORD

COMPANY ENSR Corp
ADDRESS 740 Pasquinelli Westmont
PHONE (630) 887-1700 FAX (630) 850-5307
PROJECT NAME/LOCATION ComEd / Waukegan
PROJECT NUMBER 1801-023
PROJECT MANAGER Wei-Lin Feng

REPORT TO: Wei-Lin Feng
INVOICE TO:
P.O. NO.
NET QUOTE NO.

SAMPLED BY
Brian McReynolds (PRINT NAME) — Brian McReynolds (SIGNATURE)
(PRINT NAME) — (SIGNATURE)

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: pH	BNA	PCB	RCRA Metals	BTEX
10/29/98	11:15	MW-1	W			3		1		4	X	X	X	X	X
	13:00	MW-2													
	10:30	MW-3													
	14:00	MW-4													
	15:00	MW-5													
	15:45	MW-6													
	9:30	MW-7													

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ___ No ___

Is this work being conducted for regulatory enforcement action? Yes ___ No ___

Which regulations apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other ___ None ___

COMMENTS

~~pH~~ pH rec'd past hold time

MW-1
MW-3
MW-7

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) / NO
FIELD FILTERED? ~~YES / NO~~ N/A

COC SEALS PRESENT AND INTACT? (YES) / NO
VOLATILES FREE OF HEADSPACE? YES / (NO)

TEMPERATURE UPON RECEIPT: 2.3°C w/ice
Bottles supplied by NET? (YES) / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ___ DATE ___

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
Brian McReynolds	10/29/98	19:00			10/30/98	1245	P. Merrill

METHOD OF SHIPMENT: NET

REMARKS:

PT 1 - ORIGINAL - WHITE PT 2 - NET PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

MWG13-15_45926

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Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13995

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Waukegan; 1801-023-610

Sample Number	Sample Description	Date Taken	Date Received
500396	B23 (1-3)	10/27/1998	10/29/1998
500397	S7	10/27/1998	10/29/1998
500398	B3 (1-3)	10/27/1998	10/29/1998
500399	S4	10/27/1998	10/29/1998
500400	S5	10/27/1998	10/29/1998
500401	S3	10/27/1998	10/29/1998
500402	S2	10/27/1998	10/29/1998
500403	B18 (1-3)	10/27/1998	10/29/1998
500404	S15	10/28/1998	10/29/1998
500405	S14	10/28/1998	10/29/1998
500406	S13	10/28/1998	10/29/1998
500407	B12 (1-3)	10/28/1998	10/29/1998
500408	S9	10/28/1998	10/29/1998
500409	S8	10/28/1998	10/29/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500396

NET Job No.: 98.13995

Sample Description: B23 (1-3)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 08:10
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.66	units	11/06/1998	0.10	nwg		195	SW 9045B
Solids, Total	81.2	%	11/04/1998	0.1	aks		2527	SM 2540
Arsenic, GFAA	4.9	mg/kg dw	11/07/1998	0.62	mhp	237	673	SW 7060
Barium, ICP	17	mg/kg dw	11/10/1998	1.2	kdw	1171	2194	SW 6010B
Cadmium, ICP	0.62	mg/kg dw	11/09/1998	0.62	kdw	1171	2178	SW 6010B
Chromium, ICP	15	mg/kg dw	11/09/1998	2.5	kdw	1171	2163	SW 6010B
Lead, ICP	18	mg/kg dw	11/05/1998	4.9	kdw	1171	2393	SW 6010B
Mercury, CVAA	0.099	mg/kg dw	11/06/1998	0.049	sep	666	770	SW 7471A
Selenium, GFAA	<0.31	mg/kg dw	11/08/1998	0.31	jtt	237	562	SW 7740
Silver, AA	<2.5	mg/kg dw	11/03/1998	2.5	sep	493	570	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	11/05/1998	0.006	jap		76	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	11/05/1998	0.006	jap		76	SW 8260A
Toluene	<0.006	mg/kg dw	11/05/1998	0.006	jap		76	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	11/05/1998	0.006	jap		76	SW 8260A
Dibromofluoromethane (Surr)	84.6	%	11/05/1998	81-129	jap		76	SW 8260A
Toluene-d8 (Surr)	86.4	%	11/05/1998	74-129	jap		76	SW 8260A
4-Bromofluoromethane (Surr)	94.6	%	11/05/1998	70-130	jap		76	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/05/1998		mmv	769		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS								
Acenaphthene	0.028	mg/kg dw	11/07/1998	0.025	keh	769	1832	SW 8310
Acenaphthylene	<0.025	mg/kg dw	11/07/1998	0.025	keh	769	1832	SW 8310
Anthracene	0.11	mg/kg dw	11/07/1998	0.049	keh	769	1832	SW 8310
Benzo(a)anthracene	0.18	mg/kg dw	11/07/1998	0.0032	keh	769	1832	SW 8310
Benzo(b)fluoranthene	0.11	mg/kg dw	11/07/1998	0.0044	keh	769	1832	SW 8310

MWG13-15_45929

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500396

NET Job No.: 98.13995

Sample Description: B23 (1-3)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 08:10
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.087	mg/kg dw	11/07/1998	0.0042	keh	769	1832	SW 8310
Benzo(a)pyrene	0.20	mg/kg dw	11/07/1998	0.0057	keh	769	1832	SW 8310
Benzo(ghi)perylene	0.14	mg/kg dw	11/07/1998	0.049	keh	769	1832	SW 8310
Chrysene	0.15	mg/kg dw	11/07/1998	0.04	keh	769	1832	SW 8310
Dibenzo(a,h)anthracene	0.020	mg/kg dw	11/07/1998	0.007	keh	769	1832	SW 8310
Fluoranthene	0.41	mg/kg dw	11/07/1998	0.025	keh	769	1832	SW 8310
Fluorene	0.041	mg/kg dw	11/07/1998	0.025	keh	769	1832	SW 8310
Indeno(1,2,3-cd)pyrene	0.10	mg/kg dw	11/07/1998	0.011	keh	769	1832	SW 8310
Naphthalene	0.068	mg/kg dw	11/07/1998	0.031	keh	769	1832	SW 8310
Phenanthrene	0.25	mg/kg dw	11/07/1998	0.049	keh	769	1832	SW 8310
Pyrene	0.39	mg/kg dw	11/07/1998	0.025	keh	769	1832	SW 8310
Surr: p-Terphenyl	Masked		11/07/1998	43-125	keh	769	1832	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.049	mg/kg dw	11/06/1998	0.049	tls	381	60	SW 8082
PCB-1221	<0.049	mg/kg dw	11/06/1998	0.049	tls	381	60	SW 8082
PCB-1232	<0.049	mg/kg dw	11/06/1998	0.049	tls	381	60	SW 8082
PCB-1242	<0.049	mg/kg dw	11/06/1998	0.049	tls	381	60	SW 8082
PCB-1248	<0.049	mg/kg dw	11/06/1998	0.049	tls	381	60	SW 8082
PCB-1254	<0.049	mg/kg dw	11/06/1998	0.049	tls	381	60	SW 8082
PCB-1260	<0.049	mg/kg dw	11/06/1998	0.049	tls	381	60	SW 8082
Decachlorobiphenyl (Surr)	87.0	%	11/06/1998	NA	tls	381	60	SW 8082
2,4,5,6-TCMX (Surr)	81.0	%	11/06/1998	NA	tls	381	60	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500397

NET Job No.: 98.13995

Sample Description: S7
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 13:45
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.15		units	11/06/1998	0.10	nwg		195	SW 9045B
Solids, Total	72.5		%	11/04/1998	0.1	aks		2527	SM 2540
Arsenic, GFAA	5.2		mg/kg dw	11/07/1998	0.69	mhp	237	673	SW 7060
Barium, ICP	207		mg/kg dw	11/10/1998	1.4	kdw	1171	2194	SW 6010B
Cadmium, ICP	2.6		mg/kg dw	11/09/1998	0.69	kdw	1171	2178	SW 6010B
Chromium, ICP	29		mg/kg dw	11/09/1998	2.8	kdw	1171	2163	SW 6010B
Lead, ICP	70		mg/kg dw	11/09/1998	5.5	kdw	1171	2401	SW 6010B
Mercury, CVAA	0.072		mg/kg dw	11/06/1998	0.055	sep	666	770	SW 7471A
Selenium, GFAA	0.76		mg/kg dw	11/08/1998	0.34	jtt	237	562	SW 7740
Silver, AA	<2.8		mg/kg dw	11/03/1998	2.8	sep	493	570	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			11/02/1998		wna	245		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<69		mg/kg dw	11/04/1998	69	out	245	491	SW 8015M
TPH as Diesel	1,290	PT	mg/kg dw	11/04/1998	69	out	245	491	SW 8015M
TPH as Oil	<69		mg/kg dw	11/04/1998	69	out	245	491	SW 8015M
N-octacosane (TPH surr)	93.0		%	11/04/1998		out	245	491	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.007		mg/kg dw	11/05/1998	0.007	jap		76	SW 8260A
Ethylbenzene	<0.007		mg/kg dw	11/05/1998	0.007	jap		76	SW 8260A
Toluene	<0.007		mg/kg dw	11/05/1998	0.007	jap		76	SW 8260A
Xylenes, Total	<0.007		mg/kg dw	11/05/1998	0.007	jap		76	SW 8260A
Dibromofluoromethane (Surr)	87.2		%	11/05/1998	81-129	jap		76	SW 8260A
Toluene-d8 (Surr)	92.8		%	11/05/1998	74-129	jap		76	SW 8260A
4-Bromofluoromethane (Surr)	91.0		%	11/05/1998	70-130	jap		76	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/03/1998		mmv	767		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the diesel range.

MWG13-15_45931

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500397

NET Job No.: 98.13995

Sample Description: S7
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 13:45
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.5	mg/kg dw	11/07/1998	0.028	keh	767	1832	SW 8310
Acenaphthylene	<2.5	mg/kg dw	11/07/1998	0.028	keh	767	1832	SW 8310
Anthracene	<5.0	mg/kg dw	11/07/1998	0.055	keh	767	1832	SW 8310
Benzo(a)anthracene	<5.7	mg/kg dw	11/07/1998	0.0036	keh	767	1832	SW 8310
Benzo(b)fluoranthene	<0.45	mg/kg dw	11/07/1998	0.0050	keh	767	1832	SW 8310
Benzo(k)fluoranthene	<0.42	mg/kg dw	11/07/1998	0.0047	keh	767	1832	SW 8310
Benzo(a)pyrene	<0.57	mg/kg dw	11/07/1998	0.0063	keh	767	1832	SW 8310
Benzo(ghi)perylene	<5.0	mg/kg dw	11/07/1998	0.055	keh	767	1832	SW 8310
Chrysene	<4	mg/kg dw	11/07/1998	0.04	keh	767	1832	SW 8310
Dibenzo(a,h)anthracene	<0.7	mg/kg dw	11/07/1998	0.008	keh	767	1832	SW 8310
Fluoranthene	<2.5	mg/kg dw	11/07/1998	0.028	keh	767	1832	SW 8310
Fluorene	<2.5	mg/kg dw	11/07/1998	0.028	keh	767	1832	SW 8310
Indeno(1,2,3-cd)pyrene	<1.1	mg/kg dw	11/07/1998	0.012	keh	767	1832	SW 8310
Naphthalene	15	mg/kg dw	11/07/1998	0.034	keh	767	1832	SW 8310
Phenanthrene	7.3	mg/kg dw	11/07/1998	0.055	keh	767	1832	SW 8310
Pyrene	<2.5	mg/kg dw	11/07/1998	0.028	keh	767	1832	SW 8310
Surr: p-Terphenyl	Diluted out		11/07/1998	43-125	keh	767	1832	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.055	mg/kg dw	11/06/1998	0.055	tls	381	60	SW 8082
PCB-1221	<0.055	mg/kg dw	11/06/1998	0.055	tls	381	60	SW 8082
PCB-1232	<0.055	mg/kg dw	11/06/1998	0.055	tls	381	60	SW 8082
PCB-1242	<0.055	mg/kg dw	11/06/1998	0.055	tls	381	60	SW 8082
PCB-1248	<0.055	mg/kg dw	11/06/1998	0.055	tls	381	60	SW 8082
PCB-1254	0.207	mg/kg dw	11/06/1998	0.055	tls	381	60	SW 8082

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_45932

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500397

NET Job No.: 98.13995

Sample Description: S7
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 13:45
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.055	mg/kg dw	11/06/1998	0.055	tls	381	60	SW 8082
Decachlorobiphenyl (Surr)	70.0	%	11/06/1998	NA	tls	381	60	SW 8082
2,4,5,6-TCMX (Surr)	81.0	%	11/06/1998	NA	tls	381	60	SW 8082

MWG13-15_45933

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500398

NET Job No.: 98.13995

Sample Description: B3 (1-3)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 13:50
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	7.41	units	11/06/1998	0.10	nwg	195	SW 9045B
Solids, Total	86.1	%	11/04/1998	0.1	aks	2527	SM 2540
Arsenic, GFAA	4.2	mg/kg dw	11/07/1998	0.58	mhp	237 673	SW 7060
Barium, ICP	38	mg/kg dw	11/10/1998	1.2	kdw	1171 2194	SW 6010B
Cadmium, ICP	0.84	mg/kg dw	11/09/1998	0.58	kdw	1171 2178	SW 6010B
Chromium, ICP	14	mg/kg dw	11/09/1998	2.3	kdw	1171 2163	SW 6010B
Lead, ICP	21	mg/kg dw	11/09/1998	4.6	kdw	1171 2401	SW 6010B
Mercury, CVAA	0.050	mg/kg dw	11/06/1998	0.046	sep	666 770	SW 7471A
Selenium, GFAA	<0.29	mg/kg dw	11/08/1998	0.29	jtt	237 562	SW 7740
Silver, AA	<2.3	mg/kg dw	11/03/1998	2.3	sep	493 570	SW 7760
UST VOLATILES NON-AQUEOUS							
Benzene	<0.006	mg/kg dw	11/05/1998	0.006	jap	76	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	11/05/1998	0.006	jap	76	SW 8260A
Toluene	<0.006	mg/kg dw	11/05/1998	0.006	jap	76	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	11/05/1998	0.006	jap	76	SW 8260A
Dibromofluoromethane (Surr)	95.8	%	11/05/1998	81-129	jap	76	SW 8260A
Toluene-d8 (Surr)	84.4	%	11/05/1998	74-129	jap	76	SW 8260A
4-Bromofluoromethane (Surr)	80.4	%	11/05/1998	70-130	jap	76	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	768	SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV						
Acenaphthene	<0.23	mg/kg dw	11/07/1998	0.023	keh	768 1832	SW 8310
Acenaphthylene	<0.23	mg/kg dw	11/07/1998	0.023	keh	768 1832	SW 8310
Anthracene	<1.1	mg/kg dw	11/07/1998	0.046	keh	768 1832	SW 8310
Benzo(a)anthracene	0.46	mg/kg dw	11/07/1998	0.0030	keh	768 1832	SW 8310
Benzo(b)fluoranthene	0.22	mg/kg dw	11/07/1998	0.0042	keh	768 1832	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_45934

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500398

NET Job No.: 98.13995

Sample Description: B3 (1-3)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 13:50
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.15	mg/kg dw	11/07/1998	0.0039	keh	768	1832	SW 8310
Benzo(a)pyrene	0.24	mg/kg dw	11/07/1998	0.0053	keh	768	1832	SW 8310
Benzo(ghi)perylene	<0.46	mg/kg dw	11/07/1998	0.046	keh	768	1832	SW 8310
Chrysene	<0.3	mg/kg dw	11/07/1998	0.03	keh	768	1832	SW 8310
Dibenzo(a,h)anthracene	<0.07	mg/kg dw	11/07/1998	0.007	keh	768	1832	SW 8310
Fluoranthene	<1.4	mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Fluorene	<0.46	mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Indeno(1,2,3-cd)pyrene	<0.10	mg/kg dw	11/07/1998	0.010	keh	768	1832	SW 8310
Naphthalene	1.4	mg/kg dw	11/07/1998	0.029	keh	768	1832	SW 8310
Phenanthrene	1.5	mg/kg dw	11/07/1998	0.046	keh	768	1832	SW 8310
Pyrene	<1.9	mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Surr: p-Terphenyl	Masked		11/07/1998	43-125	keh	768	1832	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1221	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1232	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1242	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1248	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1254	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1260	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
Decachlorobiphenyl (Surr)	65.0	%	11/07/1998	NA	tls	381	60	SW 8082
2,4,5,6-TCMX (Surr)	90.0	%	11/07/1998	NA	tls	381	60	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
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11/11/1998

Sample No. : 500399

NET Job No.: 98.13995

Sample Description: S4
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 14:10
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.10	units	11/06/1998	0.10	nwg		195	SW 9045B
Solids, Total	96.5	%	11/04/1998	0.1	aks		2527	SM 2540
Arsenic, GFAA	3.7	mg/kg dw	11/07/1998	0.52	mhp	237	673	SW 7060
Barium, ICP	124	mg/kg dw	11/10/1998	1.0	kdw	1171	2194	SW 6010B
Cadmium, ICP	6.2	mg/kg dw	11/09/1998	0.52	kdw	1171	2178	SW 6010B
Chromium, ICP	104	mg/kg dw	11/09/1998	2.1	kdw	1171	2163	SW 6010B
Lead, ICP	48	mg/kg dw	11/09/1998	4.1	kdw	1171	2401	SW 6010B
Mercury, CVAA	<0.041	mg/kg dw	11/10/1998	0.041	sep	668	772	SW 7471A
Selenium, GFAA	<0.26	mg/kg dw	11/08/1998	0.26	jtt	237	562	SW 7740
Silver, AA	<2.1	mg/kg dw	11/03/1998	2.1	sep	493	570	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		11/02/1998		wna	245		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<518	mg/kg dw	11/04/1998	52	out	245	491	SW 8015M
TPH as Diesel	<518	mg/kg dw	11/04/1998	52	out	245	491	SW 8015M
TPH as Oil	14,900 PT	mg/kg dw	11/04/1998	52	out	245	491	SW 8015M
N-octacosane (TPH surr)	Diluted out	mg/kg dw	11/04/1998		out	245	491	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	11/05/1998	0.005	jap		76	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	11/05/1998	0.005	jap		76	SW 8260A
Toluene	<0.005	mg/kg dw	11/05/1998	0.005	jap		76	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	11/05/1998	0.005	jap		76	SW 8260A
Dibromofluoromethane (Surr)	98.2	%	11/05/1998	81-129	jap		76	SW 8260A
Toluene-d8 (Surr)	83.6	%	11/05/1998	74-129	jap		76	SW 8260A
4-Bromofluoromethane (Surr)	89.6	%	11/05/1998	70-130	jap		76	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	768		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

MWG13-15_45936

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500399

NET Job No.: 98.13995

Sample Description: S4
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 14:10
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.94	mg/kg dw	11/07/1998	0.021	keh	768	1832	SW 8310
Acenaphthylene	<0.94	mg/kg dw	11/07/1998	0.021	keh	768	1832	SW 8310
Anthracene	<1.8	mg/kg dw	11/07/1998	0.041	keh	768	1832	SW 8310
Benzo(a)anthracene	<1.1	mg/kg dw	11/07/1998	0.0027	keh	768	1832	SW 8310
Benzo(b)fluoranthene	<0.49	mg/kg dw	11/07/1998	0.0037	keh	768	1832	SW 8310
Benzo(k)fluoranthene	<0.16	mg/kg dw	11/07/1998	0.0035	keh	768	1832	SW 8310
Benzo(a)pyrene	<0.22	mg/kg dw	11/07/1998	0.0048	keh	768	1832	SW 8310
Benzo(ghi)perylene	<1.8	mg/kg dw	11/07/1998	0.041	keh	768	1832	SW 8310
Chrysene	<1	mg/kg dw	11/07/1998	0.03	keh	768	1832	SW 8310
Dibenzo(a,h)anthracene	<0.3	mg/kg dw	11/07/1998	0.006	keh	768	1832	SW 8310
Fluoranthene	<0.94	mg/kg dw	11/07/1998	0.021	keh	768	1832	SW 8310
Fluorene	<0.94	mg/kg dw	11/07/1998	0.021	keh	768	1832	SW 8310
Indeno(1,2,3-cd)pyrene	<0.40	mg/kg dw	11/07/1998	0.0089	keh	768	1832	SW 8310
Naphthalene	<1.2	mg/kg dw	11/07/1998	0.026	keh	768	1832	SW 8310
Phenanthrene	<1.8	mg/kg dw	11/07/1998	0.041	keh	768	1832	SW 8310
Pyrene	<0.94	mg/kg dw	11/07/1998	0.021	keh	768	1832	SW 8310
Surr: p-Terphenyl	Diluted out		11/07/1998	43-125	keh	768	1832	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.41	mg/kg dw	11/07/1998	0.041	tls	381	60	SW 8082
PCB-1221	<0.41	mg/kg dw	11/07/1998	0.041	tls	381	60	SW 8082
PCB-1232	<0.41	mg/kg dw	11/07/1998	0.041	tls	381	60	SW 8082
PCB-1242	<0.41	mg/kg dw	11/07/1998	0.041	tls	381	60	SW 8082
PCB-1248	<0.41	mg/kg dw	11/07/1998	0.041	tls	381	60	SW 8082
PCB-1254	<0.41	mg/kg dw	11/07/1998	0.041	tls	381	60	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500399

NET Job No.: 98.13995

Sample Description: S4
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 14:10
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.41	mg/kg dw	11/07/1998	0.041	tls	381	60	SW 8082
Decachlorobiphenyl (Surr)	123.0	%	11/07/1998	NA	tls	381	60	SW 8082
2,4,5,6-TCMX (Surr)	95.0	%	11/07/1998	NA	tls	381	60	SW 8082

MWG13-15_45938

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500400

NET Job No.: 98.13995

Sample Description: S5
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 14:25
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.76		units	11/06/1998	0.10	nwg		195	SW 9045B
Solids, Total	90.3		%	11/04/1998	0.1	aks		2527	SM 2540
Arsenic, GFAA	5.3		mg/kg dw	11/07/1998	0.55	mhp	237	673	SW 7060
Barium, ICP	42		mg/kg dw	11/10/1998	1.1	kdw	1171	2194	SW 6010B
Cadmium, ICP	13		mg/kg dw	11/09/1998	0.55	kdw	1171	2178	SW 6010B
Chromium, ICP	13		mg/kg dw	11/09/1998	2.2	kdw	1171	2163	SW 6010B
Lead, ICP	33		mg/kg dw	11/09/1998	4.4	kdw	1171	2401	SW 6010B
Mercury, CVAA	<0.044		mg/kg dw	11/10/1998	0.044	sep	668	772	SW 7471A
Selenium, GFAA	<0.28		mg/kg dw	11/08/1998	0.28	jtt	237	562	SW 7740
Silver, AA	<2.2		mg/kg dw	11/06/1998	2.2	sep	495	572	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			11/02/1998		wna	245		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	472	PT	mg/kg dw	11/04/1998	55	out	245	491	SW 8015M
TPH as Diesel	<55		mg/kg dw	11/04/1998	55	out	245	491	SW 8015M
TPH as Oil	4,710	PT	mg/kg dw	11/04/1998	55	out	245	491	SW 8015M
N-octacosane (TPH surr)	42.0		%	11/04/1998		out	245	491	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	11/06/1998	0.006	jap		78	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	11/06/1998	0.006	jap		78	SW 8260A
Toluene	<0.006		mg/kg dw	11/06/1998	0.006	jap		78	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	11/06/1998	0.006	jap		78	SW 8260A
Dibromofluoromethane (Surr)	87.8		%	11/06/1998	81-129	jap		78	SW 8260A
Toluene-d8 (Surr)	89.0		%	11/06/1998	74-129	jap		78	SW 8260A
4-Bromofluoromethane (Surr)	95.2		%	11/06/1998	70-130	jap		78	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/03/1998		mmv	768		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the gas/oil range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500400

NET Job No.: 98.13995

Sample Description: S5
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 14:25
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.2	mg/kg dw	11/07/1998	0.022	keh	768	1832	SW 8310
Acenaphthylene	<0.2	mg/kg dw	11/07/1998	0.022	keh	768	1832	SW 8310
Anthracene	<0.61	mg/kg dw	11/07/1998	0.044	keh	768	1832	SW 8310
Benzo(a)anthracene	<0.81	mg/kg dw	11/07/1998	0.0029	keh	768	1832	SW 8310
Benzo(b)fluoranthene	0.078	mg/kg dw	11/07/1998	0.0040	keh	768	1832	SW 8310
Benzo(k)fluoranthene	<0.31	mg/kg dw	11/07/1998	0.0038	keh	768	1832	SW 8310
Benzo(a)pyrene	<0.14	mg/kg dw	11/07/1998	0.0051	keh	768	1832	SW 8310
Benzo(ghi)perylene	<0.4	mg/kg dw	11/07/1998	0.044	keh	768	1832	SW 8310
Chrysene	<0.2	mg/kg dw	11/07/1998	0.03	keh	768	1832	SW 8310
Dibenzo(a,h)anthracene	<0.06	mg/kg dw	11/07/1998	0.007	keh	768	1832	SW 8310
Fluoranthene	<0.75	mg/kg dw	11/07/1998	0.022	keh	768	1832	SW 8310
Fluorene	<0.2	mg/kg dw	11/07/1998	0.022	keh	768	1832	SW 8310
Indeno(1,2,3-cd)pyrene	<0.08	mg/kg dw	11/07/1998	0.0095	keh	768	1832	SW 8310
Naphthalene	<0.2	mg/kg dw	11/07/1998	0.028	keh	768	1832	SW 8310
Phenanthrene	1.2	mg/kg dw	11/07/1998	0.044	keh	768	1832	SW 8310
Pyrene	0.41	mg/kg dw	11/07/1998	0.022	keh	768	1832	SW 8310
Surr: p-Terphenyl	Masked		11/07/1998	43-125	keh	768	1832	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.044	mg/kg dw	11/07/1998	0.044	tls	381	60	SW 8082
PCB-1221	<0.044	mg/kg dw	11/07/1998	0.044	tls	381	60	SW 8082
PCB-1232	<0.044	mg/kg dw	11/07/1998	0.044	tls	381	60	SW 8082
PCB-1242	0.075	mg/kg dw	11/07/1998	0.044	tls	381	60	SW 8082
PCB-1248	<0.044	mg/kg dw	11/07/1998	0.044	tls	381	60	SW 8082
PCB-1254	0.266	mg/kg dw	11/07/1998	0.044	tls	381	60	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500400

NET Job No.: 98.13995

Sample Description: S5
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 14:25
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	<0.044	mg/kg dw	11/07/1998	0.044	tls	381 60	SW 8082
Decachlorobiphenyl (Surr)	87.0	%	11/07/1998	NA	tls	381 60	SW 8082
2,4,5,6-TCMX (Surr)	91.0	%	11/07/1998	NA	tls	381 60	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500401

NET Job No.: 98.13995

Sample Description: S3
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 14:35
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	8.72	units	11/06/1998	0.10	nwg	195	SW 9045B
Solids, Total	85.3	%	11/04/1998	0.1	aks	2527	SM 2540
Arsenic, GFAA	1.6	mg/kg dw	11/07/1998	0.59	mhp	237 673	SW 7060
Barium, ICP	9.5	mg/kg dw	11/10/1998	1.2	kdw	1171 2194	SW 6010B
Cadmium, ICP	<0.59	mg/kg dw	11/09/1998	0.59	kdw	1171 2178	SW 6010B
Chromium, ICP	7.6	mg/kg dw	11/09/1998	2.3	kdw	1171 2163	SW 6010B
Lead, ICP	11	mg/kg dw	11/09/1998	4.7	kdw	1171 2401	SW 6010B
Mercury, CVAA	<0.047	mg/kg dw	11/06/1998	0.047	sep	666 770	SW 7471A
Selenium, GFAA	<0.29	mg/kg dw	11/08/1998	0.29	jtt	237 562	SW 7740
Silver, AA	<2.3	mg/kg dw	11/06/1998	2.3	sep	495 572	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		11/02/1998		wna	245	SW 8015M
TPH MODIFIED 8015							
TPH as Gas	<59	mg/kg dw	11/04/1998	59	out	245 491	SW 8015M
TPH as Diesel	<59	mg/kg dw	11/04/1998	59	out	245 491	SW 8015M
TPH as Oil	<59	mg/kg dw	11/04/1998	59	out	245 491	SW 8015M
N-octacosane (TPH surr)	97.0	%	11/04/1998		out	245 491	SW 8015M
UST VOLATILES NON-AQUEOUS							
Benzene	<0.006	mg/kg dw	11/05/1998	0.006	jap	76	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	11/05/1998	0.006	jap	76	SW 8260A
Toluene	<0.006	mg/kg dw	11/05/1998	0.006	jap	76	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	11/05/1998	0.006	jap	76	SW 8260A
Dibromofluoromethane (Surr)	91.6	%	11/05/1998	81-129	jap	76	SW 8260A
Toluene-d8 (Surr)	94.6	%	11/05/1998	74-129	jap	76	SW 8260A
4-Bromofluoromethane (Surr)	97.8	%	11/05/1998	70-130	jap	76	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	768	SW 3540C

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500401

NET Job No.: 98.13995

Sample Description: S3
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 14:35
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.023		mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Acenaphthylene	<0.023		mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Anthracene	<0.093	MX	mg/kg dw	11/07/1998	0.047	keh	768	1832	SW 8310
Benzo(a)anthracene	<0.10	MX	mg/kg dw	11/07/1998	0.0030	keh	768	1832	SW 8310
Benzo(b)fluoranthene	0.018		mg/kg dw	11/07/1998	0.0042	keh	768	1832	SW 8310
Benzo(k)fluoranthene	0.023		mg/kg dw	11/07/1998	0.0040	keh	768	1832	SW 8310
Benzo(a)pyrene	0.030		mg/kg dw	11/07/1998	0.0054	keh	768	1832	SW 8310
Benzo(ghi)perylene	<0.047		mg/kg dw	11/07/1998	0.047	keh	768	1832	SW 8310
Chrysene	0.041		mg/kg dw	11/07/1998	0.04	keh	768	1832	SW 8310
Dibenzo(a,h)anthracene	0.0083		mg/kg dw	11/07/1998	0.007	keh	768	1832	SW 8310
Fluoranthene	0.10		mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Fluorene	0.033		mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Indeno(1,2,3-cd)pyrene	0.021		mg/kg dw	11/07/1998	0.010	keh	768	1832	SW 8310
Naphthalene	0.042		mg/kg dw	11/07/1998	0.029	keh	768	1832	SW 8310
Phenanthrene	0.11		mg/kg dw	11/07/1998	0.047	keh	768	1832	SW 8310
Pyrene	0.056		mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Surr: p-Terphenyl	Masked			11/07/1998	43-125	keh	768	1832	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.047		mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
PCB-1221	<0.047		mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
PCB-1232	<0.047		mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
PCB-1242	<0.047		mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
PCB-1248	0.073		mg/kg dw	11/11/1998	0.047	tls	381	62	SW 8082
PCB-1254	<0.047		mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

MWG13-15_45943

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500401

NET Job No.: 98.13995

Sample Description: S3
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 14:35
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.047	mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
Decachlorobiphenyl (Surr)	80.0	%	11/07/1998	NA	tls	381	60	SW 8082
2,4,5,6-TCMX (Surr)	80.0	%	11/07/1998	NA	tls	381	60	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500402

NET Job No.: 98.13995

Sample Description: S2
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 14:45
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	6.93	units	11/06/1998	0.10	nwg		195	SW 9045B
Solids, Total	55.3	%	11/04/1998	0.1	aks		2527	SM 2540
Arsenic, GFAA	6.5	mg/kg dw	11/07/1998	0.90	mhp	238	673	SW 7060
Barium, ICP	150	mg/kg dw	11/09/1998	1.8	kdw	1172	2194	SW 6010B
Cadmium, ICP	6.0	mg/kg dw	11/09/1998	0.90	kdw	1172	2178	SW 6010B
Chromium, ICP	29	mg/kg dw	11/09/1998	3.6	kdw	1172	2163	SW 6010B
Lead, ICP	130	mg/kg dw	11/09/1998	7.2	kdw	1172	2401	SW 6010B
Mercury, CVAA	0.16	mg/kg dw	11/06/1998	0.072	sep	666	770	SW 7471A
Selenium, GFAA	0.51	mg/kg dw	11/08/1998	0.45	jtt	238	562	SW 7740
Silver, AA	<3.6	mg/kg dw	11/06/1998	3.6	sep	495	572	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		11/02/1998		wna	245		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<904	mg/kg dw	11/04/1998	90	out	245	491	SW 8015M
TPH as Diesel	94,000 PT	mg/kg dw	11/04/1998	90	out	245	491	SW 8015M
TPH as Oil	<904	mg/kg dw	11/04/1998	90	out	245	491	SW 8015M
N-octacosane (TPH surr)	Diluted out	mg/kg dw	11/04/1998		out	245	491	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	0.020	mg/kg dw	11/06/1998	0.009	jap		78	SW 8260A
Ethylbenzene	0.36	mg/kg dw	11/06/1998	0.009	jap		78	SW 8260A
Toluene	0.61	mg/kg dw	11/06/1998	0.009	jap		78	SW 8260A
Xylenes, Total	3.6	mg/kg dw	11/06/1998	0.009	jap		78	SW 8260A
Dibromofluoromethane (Surr)	94.6	%	11/06/1998	81-129	jap		78	SW 8260A
Toluene-d8 (Surr)	95.6	%	11/06/1998	74-129	jap		78	SW 8260A
4-Bromofluoromethane (Surr)	64.0	%	11/06/1998	70-130	jap		78	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	768		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the diesel range.

MWG13-15_45945

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500402

NET Job No.: 98.13995

Sample Description: S2
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 14:45
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.9	mg/kg dw	11/07/1998	0.036	keh	768	1832	SW 8310
Acenaphthylene	<2.9	mg/kg dw	11/07/1998	0.036	keh	768	1832	SW 8310
Anthracene	<85	mg/kg dw	11/07/1998	0.072	keh	768	1832	SW 8310
Benzo(a)anthracene	<5.8	mg/kg dw	11/07/1998	0.0047	keh	768	1832	SW 8310
Benzo(b)fluoranthene	<0.52	mg/kg dw	11/07/1998	0.0065	keh	768	1832	SW 8310
Benzo(k)fluoranthene	<0.49	mg/kg dw	11/07/1998	0.0061	keh	768	1832	SW 8310
Benzo(a)pyrene	<0.66	mg/kg dw	11/07/1998	0.0083	keh	768	1832	SW 8310
Benzo(ghi)perylene	<5.8	mg/kg dw	11/07/1998	0.072	keh	768	1832	SW 8310
Chrysene	<4	mg/kg dw	11/07/1998	0.05	keh	768	1832	SW 8310
Dibenzo(a,h)anthracene	<0.8	mg/kg dw	11/07/1998	0.01	keh	768	1832	SW 8310
Fluoranthene	<52	mg/kg dw	11/07/1998	0.036	keh	768	1832	SW 8310
Fluorene	<16	mg/kg dw	11/07/1998	0.036	keh	768	1832	SW 8310
Indeno(1,2,3-cd)pyrene	<1.3	mg/kg dw	11/07/1998	0.016	keh	768	1832	SW 8310
Naphthalene	65	mg/kg dw	11/07/1998	0.045	keh	768	1832	SW 8310
Phenanthrene	<8.9	mg/kg dw	11/07/1998	0.072	keh	768	1832	SW 8310
Pyrene	<42	mg/kg dw	11/07/1998	0.036	keh	768	1832	SW 8310
Surr: p-Terphenyl	Diluted out		11/07/1998	43-125	keh	768	1832	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.22	mg/kg dw	11/07/1998	0.072	tls	381	60	SW 8082
PCB-1221	<0.22	mg/kg dw	11/07/1998	0.072	tls	381	60	SW 8082
PCB-1232	<0.22	mg/kg dw	11/07/1998	0.072	tls	381	60	SW 8082
PCB-1242	<0.22	mg/kg dw	11/07/1998	0.072	tls	381	60	SW 8082
PCB-1248	<0.22	mg/kg dw	11/07/1998	0.072	tls	381	60	SW 8082
PCB-1254	0.24	mg/kg dw	11/07/1998	0.072	tls	381	60	SW 8082

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_45946

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500402

NET Job No.: 98.13995

Sample Description: S2
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 14:45
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.22	mg/kg dw	11/07/1998	0.072	tls	381	60	SW 8082
Decachlorobiphenyl (Surr)	80.0	%	11/07/1998	NA	tls	381	60	SW 8082
2,4,5,6-TCMX (Surr)	68.0	%	11/07/1998	NA	tls	381	60	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500403

NET Job No.: 98.13995

Sample Description: B18 (1-3)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 14:50
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	7.24	units	11/06/1998	0.10	nwg	195	SW 9045B
Solids, Total	87.9	%	11/04/1998	0.1	aks	2527	SM 2540
Arsenic, GFAA	6.9	mg/kg dw	11/07/1998	0.57	mhp	238 673	SW 7060
Barium, ICP	739	mg/kg dw	11/10/1998	1.1	kdw	1171 2194	SW 6010B
Cadmium, ICP	1.5	mg/kg dw	11/09/1998	0.57	kdw	1171 2178	SW 6010B
Chromium, ICP	9.8	mg/kg dw	11/09/1998	2.3	kdw	1171 2163	SW 6010B
Lead, ICP	24	mg/kg dw	11/09/1998	4.6	kdw	1171 2401	SW 6010B
Mercury, CVAA	0.093	mg/kg dw	11/06/1998	0.046	sep	666 770	SW 7471A
Selenium, GFAA	<0.28	mg/kg dw	11/08/1998	0.28	jtt	238 562	SW 7740
Silver, AA	<2.3	mg/kg dw	11/06/1998	2.3	sep	495 572	SW 7760
UST VOLATILES NON-AQUEOUS							
Benzene	<0.006	mg/kg dw	11/06/1998	0.006	jap	78	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	11/06/1998	0.006	jap	78	SW 8260A
Toluene	<0.006	mg/kg dw	11/06/1998	0.006	jap	78	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	11/06/1998	0.006	jap	78	SW 8260A
Dibromofluoromethane (Surr)	82.2	%	11/06/1998	81-129	jap	78	SW 8260A
Toluene-d8 (Surr)	85.8	%	11/06/1998	74-129	jap	78	SW 8260A
4-Bromofluoromethane (Surr)	92.6	%	11/06/1998	70-130	jap	78	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	768	SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV						
Acenaphthene	<0.1	mg/kg dw	11/07/1998	0.023	keh	768 1832	SW 8310
Acenaphthylene	<0.1	mg/kg dw	11/07/1998	0.023	keh	768 1832	SW 8310
Anthracene	<0.27	mg/kg dw	11/07/1998	0.046	keh	768 1832	SW 8310
Benzo(a)anthracene	<0.77	mg/kg dw	11/07/1998	0.0030	keh	768 1832	SW 8310
Benzo(b)fluoranthene	0.24	mg/kg dw	11/07/1998	0.0041	keh	768 1832	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_45948

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500403

NET Job No.: 98.13995

Sample Description: B18 (1-3)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/27/1998
Time Taken: 14:50
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.42	mg/kg dw	11/07/1998	0.0039	keh	768	1832	SW 8310
Benzo(a)pyrene	0.28	mg/kg dw	11/07/1998	0.0052	keh	768	1832	SW 8310
Benzo(ghi)perylene	0.26	mg/kg dw	11/07/1998	0.046	keh	768	1832	SW 8310
Chrysene	0.36	mg/kg dw	11/07/1998	0.03	keh	768	1832	SW 8310
Dibenzo(a,h)anthracene	<0.064	mg/kg dw	11/07/1998	0.007	keh	768	1832	SW 8310
Fluoranthene	<0.49	mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Fluorene	<0.1	mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Indeno(1,2,3-cd)pyrene	0.081	mg/kg dw	11/07/1998	0.0098	keh	768	1832	SW 8310
Naphthalene	0.73	mg/kg dw	11/07/1998	0.028	keh	768	1832	SW 8310
Phenanthrene	0.86	mg/kg dw	11/07/1998	0.046	keh	768	1832	SW 8310
Pyrene	0.56	mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Surr: p-Terphenyl	Masked		11/07/1998	43-125	keh	768	1832	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1221	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1232	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1242	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1248	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1254	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1260	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
Decachlorobiphenyl (Surr)	77.0	%	11/07/1998	NA	tls	381	60	SW 8082
2,4,5,6-TCMX (Surr)	85.0	%	11/07/1998	NA	tls	381	60	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
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11/11/1998

Sample No. : 500404

NET Job No.: 98.13995

Sample Description: S15
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 07:40
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	7.08	units	11/06/1998	0.10	nwg	195	SW 9045B
Solids, Total	76.6	%	11/04/1998	0.1	aks	2527	SM 2540
Arsenic, GFAA	3.3	mg/kg dw	11/07/1998	0.65	mhp	238 673	SW 7060
Barium, ICP	470	mg/kg dw	11/09/1998	1.3	kdw	1172 2194	SW 6010B
Cadmium, ICP	1.4	mg/kg dw	11/09/1998	0.65	kdw	1172 2178	SW 6010B
Chromium, ICP	12	mg/kg dw	11/09/1998	2.6	kdw	1172 2163	SW 6010B
Lead, ICP	42	mg/kg dw	11/09/1998	5.2	kdw	1172 2401	SW 6010B
Mercury, CVAA	0.056	mg/kg dw	11/06/1998	0.052	sep	666 770	SW 7471A
Selenium, GFAA	0.38	mg/kg dw	11/08/1998	0.33	jtt	238 562	SW 7740
Silver, AA	<2.6	mg/kg dw	11/06/1998	2.6	sep	495 572	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		11/02/1998		wna	245	SW 8015M
TPH MODIFIED 8015							
TPH as Gas	<653	mg/kg dw	11/04/1998	65	out	245 491	SW 8015M
TPH as Diesel	87,600 PT	mg/kg dw	11/04/1998	65	out	245 491	SW 8015M
TPH as Oil	<653	mg/kg dw	11/04/1998	65	out	245 491	SW 8015M
N-octacosane (TPH surr)	Diluted out	mg/kg dw	11/04/1998		out	245 491	SW 8015M
UST VOLATILES NON-AQUEOUS							
Benzene	<0.007	mg/kg dw	11/06/1998	0.007	jap	77	SW 8260A
Ethylbenzene	<0.007	mg/kg dw	11/06/1998	0.007	jap	77	SW 8260A
Toluene	<0.007	mg/kg dw	11/06/1998	0.007	jap	77	SW 8260A
Xylenes, Total	<0.007	mg/kg dw	11/06/1998	0.007	jap	77	SW 8260A
Dibromofluoromethane (Surr)	87.2	%	11/06/1998	81-129	jap	77	SW 8260A
Toluene-d8 (Surr)	90.2	%	11/06/1998	74-129	jap	77	SW 8260A
4-Bromofluoromethane (Surr)	100.0	%	11/06/1998	70-130	jap	77	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	768	SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the diesel range.

MWG13-15_45950

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500404

NET Job No.: 98.13995

Sample Description: S15
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 07:40
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<8.7	mg/kg dw	11/07/1998	0.026	keh	768	1832	SW 8310
Acenaphthylene	<25	mg/kg dw	11/07/1998	0.026	keh	768	1832	SW 8310
Anthracene	<100	mg/kg dw	11/07/1998	0.052	keh	768	1832	SW 8310
Benzo(a)anthracene	<21	mg/kg dw	11/07/1998	0.0034	keh	768	1832	SW 8310
Benzo(b)fluoranthene	<5.0	mg/kg dw	11/07/1998	0.0047	keh	768	1832	SW 8310
Benzo(k)fluoranthene	<1.1	mg/kg dw	11/07/1998	0.0044	keh	768	1832	SW 8310
Benzo(a)pyrene	<0.54	mg/kg dw	11/07/1998	0.0060	keh	768	1832	SW 8310
Benzo(ghi)perylene	<4.7	mg/kg dw	11/07/1998	0.052	keh	768	1832	SW 8310
Chrysene	<6.7	mg/kg dw	11/07/1998	0.04	keh	768	1832	SW 8310
Dibenzo(a,h)anthracene	<0.7	mg/kg dw	11/07/1998	0.008	keh	768	1832	SW 8310
Fluoranthene	<89	mg/kg dw	11/07/1998	0.026	keh	768	1832	SW 8310
Fluorene	65	mg/kg dw	11/07/1998	0.026	keh	768	1832	SW 8310
Indeno(1,2,3-cd)pyrene	<0.99	mg/kg dw	11/07/1998	0.011	keh	768	1832	SW 8310
Naphthalene	<34	mg/kg dw	11/07/1998	0.033	keh	768	1832	SW 8310
Phenanthrene	<72	mg/kg dw	11/07/1998	0.052	keh	768	1832	SW 8310
Pyrene	<157	mg/kg dw	11/07/1998	0.026	keh	768	1832	SW 8310
Surr: p-Terphenyl	Diluted out		11/07/1998	43-125	keh	768	1832	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.3	mg/kg dw	11/07/1998	0.052	tls	381	60	SW 8082
PCB-1221	<0.3	mg/kg dw	11/07/1998	0.052	tls	381	60	SW 8082
PCB-1232	<0.3	mg/kg dw	11/07/1998	0.052	tls	381	60	SW 8082
PCB-1242	<0.3	mg/kg dw	11/07/1998	0.052	tls	381	60	SW 8082
PCB-1248	<0.3	mg/kg dw	11/07/1998	0.052	tls	381	60	SW 8082
PCB-1254	<0.3	mg/kg dw	11/07/1998	0.052	tls	381	60	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500404

NET Job No.: 98.13995

Sample Description: S15
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 07:40
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.3	mg/kg dw	11/07/1998	0.052	tls	381	60	SW 8082
Decachlorobiphenyl (Surr)	101.0	%	11/07/1998	NA	tls	381	60	SW 8082
2,4,5,6-TCMX (Surr)	54.0	%	11/07/1998	NA	tls	381	60	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500405

NET Job No.: 98.13995

Sample Description: S14
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 07:45
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.75		units	11/06/1998	0.10	nwg		195	SW 9045B
Solids, Total	79.4		%	11/04/1998	0.1	aks		2527	SM 2540
Arsenic, GFAA	5.3		mg/kg dw	11/07/1998	0.63	mhp	238	673	SW 7060
Barium, ICP	605		mg/kg dw	11/09/1998	1.3	kdw	1172	2194	SW 6010B
Cadmium, ICP	<1.2	MX	mg/kg dw	11/09/1998	0.63	kdw	1172	2178	SW 6010B
Chromium, ICP	26		mg/kg dw	11/09/1998	2.5	kdw	1172	2163	SW 6010B
Lead, ICP	26		mg/kg dw	11/09/1998	5.0	kdw	1172	2401	SW 6010B
Mercury, CVAA	0.087		mg/kg dw	11/06/1998	0.050	sep	666	770	SW 7471A
Selenium, GFAA	2.4		mg/kg dw	11/08/1998	0.31	jtt	238	562	SW 7740
Silver, AA	<2.5		mg/kg dw	11/06/1998	2.5	sep	495	572	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			11/02/1998		wna	245		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<63		mg/kg dw	11/04/1998	63	out	245	491	SW 8015M
TPH as Diesel	<63		mg/kg dw	11/04/1998	63	out	245	491	SW 8015M
TPH as Oil	2,240	PT	mg/kg dw	11/04/1998	63	out	245	491	SW 8015M
N-octacosane (TPH surr)	78.0		%	11/04/1998		out	245	491	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	11/06/1998	0.006	jap		77	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	11/06/1998	0.006	jap		77	SW 8260A
Toluene	<0.006		mg/kg dw	11/06/1998	0.006	jap		77	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	11/06/1998	0.006	jap		77	SW 8260A
Dibromofluoromethane (Surr)	89.4		%	11/06/1998	81-129	jap		77	SW 8260A
Toluene-d8 (Surr)	85.4		%	11/06/1998	74-129	jap		77	SW 8260A
4-Bromofluoromethane (Surr)	84.0		%	11/06/1998	70-130	jap		77	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/03/1998		mmv	768		SW 3540C

MX : Dilution required due to sample matrix; analyte is not detected.
PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

MWG13-15_45953

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500405

NET Job No.: 98.13995

Sample Description: S14
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 07:45
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<1.0	mg/kg dw	11/07/1998	0.025	keh	768	1832	SW 8310
Acenaphthylene	<1.0	mg/kg dw	11/07/1998	0.025	keh	768	1832	SW 8310
Anthracene	<2.0	mg/kg dw	11/07/1998	0.050	keh	768	1832	SW 8310
Benzo(a)anthracene	<9.6	mg/kg dw	11/07/1998	0.0033	keh	768	1832	SW 8310
Benzo(b)fluoranthene	<0.67	mg/kg dw	11/07/1998	0.0045	keh	768	1832	SW 8310
Benzo(k)fluoranthene	<1.2	mg/kg dw	11/07/1998	0.0043	keh	768	1832	SW 8310
Benzo(a)pyrene	<1.1	mg/kg dw	11/07/1998	0.0058	keh	768	1832	SW 8310
Benzo(ghi)perylene	<2.0	mg/kg dw	11/07/1998	0.050	keh	768	1832	SW 8310
Chrysene	<2	mg/kg dw	11/07/1998	0.04	keh	768	1832	SW 8310
Dibenzo(a,h)anthracene	<0.92	mg/kg dw	11/07/1998	0.008	keh	768	1832	SW 8310
Fluoranthene	<1.6	mg/kg dw	11/07/1998	0.025	keh	768	1832	SW 8310
Fluorene	<1.0	mg/kg dw	11/07/1998	0.025	keh	768	1832	SW 8310
Indeno(1,2,3-cd)pyrene	<0.44	mg/kg dw	11/07/1998	0.011	keh	768	1832	SW 8310
Naphthalene	<1.2	mg/kg dw	11/07/1998	0.031	keh	768	1832	SW 8310
Phenanthrene	<2.0	mg/kg dw	11/07/1998	0.050	keh	768	1832	SW 8310
Pyrene	<1.6	mg/kg dw	11/07/1998	0.025	keh	768	1832	SW 8310
Surr: p-Terphenyl	Diluted out		11/07/1998	43-125	keh	768	1832	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.050	mg/kg dw	11/07/1998	0.050	tls	381	60	SW 8082
PCB-1221	<0.050	mg/kg dw	11/07/1998	0.050	tls	381	60	SW 8082
PCB-1232	<0.050	mg/kg dw	11/07/1998	0.050	tls	381	60	SW 8082
PCB-1242	<0.050	mg/kg dw	11/07/1998	0.050	tls	381	60	SW 8082
PCB-1248	<0.050	mg/kg dw	11/07/1998	0.050	tls	381	60	SW 8082
PCB-1254	<0.050	mg/kg dw	11/07/1998	0.050	tls	381	60	SW 8082

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_45954

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500405

NET Job No.: 98.13995

Sample Description: S14
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 07:45
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.050	mg/kg dw	11/07/1998	0.050	tls	381	60	SW 8082
Decachlorobiphenyl (Surr)	80.0	%	11/07/1998	NA	tls	381	60	SW 8082
2,4,5,6-TCMX (Surr)	68.0	%	11/07/1998	NA	tls	381	60	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500406

NET Job No.: 98.13995

Sample Description: S13
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 07:50
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.44		units	11/06/1998	0.10	nwg		196	SW 9045B
Solids, Total	77.0		%	11/04/1998	0.1	aks		2527	SM 2540
Arsenic, GFAA	3.9		mg/kg dw	11/07/1998	0.65	mhp	238	673	SW 7060
Barium, ICP	377		mg/kg dw	11/09/1998	1.3	kdw	1172	2194	SW 6010B
Cadmium, ICP	<1.3	MX	mg/kg dw	11/09/1998	0.65	kdw	1172	2178	SW 6010B
Chromium, ICP	18		mg/kg dw	11/09/1998	2.6	kdw	1172	2163	SW 6010B
Lead, ICP	18		mg/kg dw	11/09/1998	5.2	kdw	1172	2401	SW 6010B
Mercury, CVAA	<0.052		mg/kg dw	11/06/1998	0.052	sep	666	770	SW 7471A
Selenium, GFAA	0.34		mg/kg dw	11/08/1998	0.32	jtt	238	562	SW 7740
Silver, AA	<2.6		mg/kg dw	11/06/1998	2.6	sep	495	572	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			11/02/1998		wna	245		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<65		mg/kg dw	11/04/1998	65	out	245	491	SW 8015M
TPH as Diesel	<65		mg/kg dw	11/04/1998	65	out	245	491	SW 8015M
TPH as Oil	11,200	PT	mg/kg dw	11/04/1998	65	out	245	491	SW 8015M
N-octacosane (TPH surr)	64.0		%	11/04/1998		out	245	491	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	11/06/1998	0.006	jap		77	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	11/06/1998	0.006	jap		77	SW 8260A
Toluene	<0.006		mg/kg dw	11/06/1998	0.006	jap		77	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	11/06/1998	0.006	jap		77	SW 8260A
Dibromofluoromethane (Surr)	88.0		%	11/06/1998	81-129	jap		77	SW 8260A
Toluene-d8 (Surr)	88.4		%	11/06/1998	74-129	jap		77	SW 8260A
4-Bromofluoromethane (Surr)	99.2		%	11/06/1998	70-130	jap		77	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/03/1998		mmv	768		SW 3540C

MX : Dilution required due to sample matrix; analyte is not detected.
PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

MWG13-15_45956

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500406

NET Job No.: 98.13995

Sample Description: S13
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 07:50
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.6	mg/kg dw	11/07/1998	0.026	keh	768	1832	SW 8310
Acenaphthylene	<2.6	mg/kg dw	11/07/1998	0.026	keh	768	1832	SW 8310
Anthracene	<5.2	mg/kg dw	11/07/1998	0.052	keh	768	1832	SW 8310
Benzo(a)anthracene	<8.1	mg/kg dw	11/07/1998	0.0034	keh	768	1832	SW 8310
Benzo(b)fluoranthene	<1.7	mg/kg dw	11/07/1998	0.0047	keh	768	1832	SW 8310
Benzo(k)fluoranthene	<32	mg/kg dw	11/07/1998	0.0044	keh	768	1832	SW 8310
Benzo(a)pyrene	<0.79	mg/kg dw	11/07/1998	0.0060	keh	768	1832	SW 8310
Benzo(ghi)perylene	<5.2	mg/kg dw	11/07/1998	0.052	keh	768	1832	SW 8310
Chrysene	<4	mg/kg dw	11/07/1998	0.04	keh	768	1832	SW 8310
Dibenzo(a,h)anthracene	<0.8	mg/kg dw	11/07/1998	0.008	keh	768	1832	SW 8310
Fluoranthene	<2.6	mg/kg dw	11/07/1998	0.026	keh	768	1832	SW 8310
Fluorene	<2.6	mg/kg dw	11/07/1998	0.026	keh	768	1832	SW 8310
Indeno(1,2,3-cd)pyrene	<1.1	mg/kg dw	11/07/1998	0.011	keh	768	1832	SW 8310
Naphthalene	<3.2	mg/kg dw	11/07/1998	0.032	keh	768	1832	SW 8310
Phenanthrene	<5.2	mg/kg dw	11/07/1998	0.052	keh	768	1832	SW 8310
Pyrene	<2.6	mg/kg dw	11/07/1998	0.026	keh	768	1832	SW 8310
Surr: p-Terphenyl	Diluted out		11/07/1998	43-125	keh	768	1832	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.052	mg/kg dw	11/07/1998	0.052	tls	381	60	SW 8082
PCB-1221	<0.052	mg/kg dw	11/11/1998	0.052	tls	381	62	SW 8082
PCB-1232	<0.052	mg/kg dw	11/07/1998	0.052	tls	381	60	SW 8082
PCB-1242	<0.052	mg/kg dw	11/07/1998	0.052	tls	381	60	SW 8082
PCB-1248	<0.052	mg/kg dw	11/07/1998	0.052	tls	381	60	SW 8082
PCB-1254	<0.052	mg/kg dw	11/07/1998	0.052	tls	381	60	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500406

NET Job No.: 98.13995

Sample Description: S13
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 07:50
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.052	mg/kg dw	11/07/1998	0.052	tls	381	60	SW 8082
Decachlorobiphenyl (Surr)	Masked	%	11/07/1998	NA	tls	381	60	SW 8082
2,4,5,6-TCMX (Surr)	71.0	%	11/07/1998	NA	tls	381	60	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500407

NET Job No.: 98.13995

Sample Description: B12 (1-3)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 08:35
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.01		units	11/06/1998	0.10	nwg		196	SW 9045B
Solids, Total	84.4		%	11/04/1998	0.1	aks		2527	SM 2540
Arsenic, GFAA	7.6		mg/kg dw	11/07/1998	0.59	mhp	238	673	SW 7060
Barium, ICP	509		mg/kg dw	11/10/1998	1.2	kdw	1172	2194	SW 6010B
Cadmium, ICP	1.4		mg/kg dw	11/09/1998	0.59	kdw	1172	2178	SW 6010B
Chromium, ICP	154		mg/kg dw	11/09/1998	2.4	kdw	1172	2163	SW 6010B
Lead, ICP	77		mg/kg dw	11/09/1998	4.7	kdw	1172	2401	SW 6010B
Mercury, CVAA	<0.047		mg/kg dw	11/06/1998	0.047	sep	666	770	SW 7471A
Selenium, GFAA	0.43		mg/kg dw	11/08/1998	0.30	jtt	238	562	SW 7740
Silver, AA	<2.4		mg/kg dw	11/06/1998	2.4	sep	495	572	SW 7760
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	11/06/1998	0.006	jap		77	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	11/06/1998	0.006	jap		77	SW 8260A
Toluene	<0.006		mg/kg dw	11/06/1998	0.006	jap		77	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	11/06/1998	0.006	jap		77	SW 8260A
Dibromofluoromethane (Surr)	107.0		%	11/06/1998	81-129	jap		77	SW 8260A
Toluene-d8 (Surr)	94.8		%	11/06/1998	74-129	jap		77	SW 8260A
4-Bromofluoromethane (Surr)	79.2		%	11/06/1998	70-130	jap		77	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/03/1998		mmv	768		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.024		mg/kg dw	11/07/1998	0.024	keh	768	1832	SW 8310
Acenaphthylene	<0.024		mg/kg dw	11/07/1998	0.024	keh	768	1832	SW 8310
Anthracene	<0.047		mg/kg dw	11/07/1998	0.047	keh	768	1832	SW 8310
Benzo(a)anthracene	<0.017	MX	mg/kg dw	11/07/1998	0.0031	keh	768	1832	SW 8310
Benzo(b)fluoranthene	0.0098		mg/kg dw	11/07/1998	0.0043	keh	768	1832	SW 8310

MX : Dilution required due to sample matrix; analyte is not detected.

MWG13-15_45959

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500407

NET Job No.: 98.13995

Sample Description: B12 (1-3)
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 08:35
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.0059		mg/kg dw	11/07/1998	0.0040	keh	768	1832	SW 8310
Benzo(a)pyrene	0.013		mg/kg dw	11/07/1998	0.0055	keh	768	1832	SW 8310
Benzo(ghi)perylene	<0.047		mg/kg dw	11/07/1998	0.047	keh	768	1832	SW 8310
Chrysene	<0.04		mg/kg dw	11/07/1998	0.04	keh	768	1832	SW 8310
Dibenzo(a,h)anthracene	<0.007		mg/kg dw	11/07/1998	0.007	keh	768	1832	SW 8310
Fluoranthene	<0.045	MX	mg/kg dw	11/07/1998	0.024	keh	768	1832	SW 8310
Fluorene	<0.024		mg/kg dw	11/07/1998	0.024	keh	768	1832	SW 8310
Indeno(1,2,3-cd)pyrene	<0.010		mg/kg dw	11/07/1998	0.010	keh	768	1832	SW 8310
Naphthalene	0.11		mg/kg dw	11/07/1998	0.030	keh	768	1832	SW 8310
Phenanthrene	0.073		mg/kg dw	11/07/1998	0.047	keh	768	1832	SW 8310
Pyrene	<0.024		mg/kg dw	11/07/1998	0.024	keh	768	1832	SW 8310
Surr: p-Terphenyl	106.2		%	11/07/1998	43-125	keh	768	1832	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.047		mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
PCB-1221	<0.047		mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
PCB-1232	<0.047		mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
PCB-1242	<0.047		mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
PCB-1248	<0.047		mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
PCB-1254	<0.047		mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
PCB-1260	<0.047		mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
Decachlorobiphenyl (Surr)	67.0		%	11/07/1998	NA	tls	381	60	SW 8082
2,4,5,6-TCMX (Surr)	83.0		%	11/07/1998	NA	tls	381	60	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
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11/11/1998

Sample No. : 500408

NET Job No.: 98.13995

Sample Description: S9
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 09:45
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	7.61	units	11/06/1998	0.10	nwg	196	SW 9045B
Solids, Total	85.6	%	11/04/1998	0.1	aks	2527	SM 2540
Arsenic, GFAA	9.8	mg/kg dw	11/07/1998	0.58	mhp	238 673	SW 7060
Barium, ICP	152	mg/kg dw	11/10/1998	1.2	kdw	1172 2194	SW 6010B
Cadmium, ICP	11	mg/kg dw	11/09/1998	0.58	kdw	1172 2178	SW 6010B
Chromium, ICP	16	mg/kg dw	11/09/1998	2.3	kdw	1172 2163	SW 6010B
Lead, ICP	49	mg/kg dw	11/09/1998	4.7	kdw	1172 2401	SW 6010B
Mercury, CVAA	0.41	mg/kg dw	11/06/1998	0.047	sep	666 770	SW 7471A
Selenium, GFAA	0.42	mg/kg dw	11/08/1998	0.29	jtt	238 562	SW 7740
Silver, AA	<2.3	mg/kg dw	11/06/1998	2.3	sep	495 572	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		11/02/1998		wna	245	SW 8015M
TPH MODIFIED 8015							
TPH as Gas	<234	mg/kg dw	11/04/1998	58	out	245 491	SW 8015M
TPH as Diesel	<234	mg/kg dw	11/04/1998	58	out	245 491	SW 8015M
TPH as Oil	12,500 PT	mg/kg dw	11/04/1998	58	out	245 491	SW 8015M
N-octacosane (TPH surr)	Diluted out	mg/kg dw	11/04/1998		out	245 491	SW 8015M
UST VOLATILES NON-AQUEOUS							
Benzene	<0.006	mg/kg dw	11/06/1998	0.006	jap	77	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	11/06/1998	0.006	jap	77	SW 8260A
Toluene	<0.006	mg/kg dw	11/06/1998	0.006	jap	77	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	11/06/1998	0.006	jap	77	SW 8260A
Dibromofluoromethane (Surr)	96.2	%	11/06/1998	81-129	jap	77	SW 8260A
Toluene-d8 (Surr)	82.2	%	11/06/1998	74-129	jap	77	SW 8260A
4-Bromofluoromethane (Surr)	94.4	%	11/06/1998	70-130	jap	77	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	768	SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

MWG13-15_45961

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500408

NET Job No.: 98.13995

Sample Description: S9
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 09:45
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.92	mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Acenaphthylene	<0.92	mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Anthracene	<1.9	mg/kg dw	11/07/1998	0.047	keh	768	1832	SW 8310
Benzo(a)anthracene	<0.67	mg/kg dw	11/07/1998	0.0030	keh	768	1832	SW 8310
Benzo(b)fluoranthene	<0.28	mg/kg dw	11/07/1998	0.0042	keh	768	1832	SW 8310
Benzo(k)fluoranthene	<0.23	mg/kg dw	11/07/1998	0.0040	keh	768	1832	SW 8310
Benzo(a)pyrene	<0.22	mg/kg dw	11/07/1998	0.0054	keh	768	1832	SW 8310
Benzo(ghi)perylene	<1.9	mg/kg dw	11/07/1998	0.047	keh	768	1832	SW 8310
Chrysene	<2	mg/kg dw	11/07/1998	0.04	keh	768	1832	SW 8310
Dibenzo(a,h)anthracene	<0.3	mg/kg dw	11/07/1998	0.007	keh	768	1832	SW 8310
Fluoranthene	<0.92	mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Fluorene	<0.92	mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Indeno(1,2,3-cd)pyrene	<0.40	mg/kg dw	11/07/1998	0.010	keh	768	1832	SW 8310
Naphthalene	<1.2	mg/kg dw	11/07/1998	0.029	keh	768	1832	SW 8310
Phenanthrene	<1.9	mg/kg dw	11/07/1998	0.047	keh	768	1832	SW 8310
Pyrene	<0.92	mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Surr: p-Terphenyl	Diluted out		11/07/1998	43-125	keh	768	1832	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.047	mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
PCB-1221	<0.047	mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
PCB-1232	<0.047	mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
PCB-1242	<0.047	mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
PCB-1248	<0.047	mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
PCB-1254	<0.047	mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500408

NET Job No.: 98.13995

Sample Description: S9
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 09:45
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.047	mg/kg dw	11/07/1998	0.047	tls	381	60	SW 8082
Decachlorobiphenyl (Surr)	Masked	%	11/07/1998	NA	tls	381	60	SW 8082
2,4,5,6-TCMX (Surr)	79.0	%	11/07/1998	NA	tls	381	60	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500409

NET Job No.: 98.13995

Sample Description: S8
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 11:10
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	6.20	units	11/06/1998	0.10	nwg		196	SW 9045B
Solids, Total	86.1	%	11/04/1998	0.1	aks		2527	SM 2540
Arsenic, GFAA	10	mg/kg dw	11/07/1998	0.58	mhp	238	673	SW 7060
Barium, ICP	139	mg/kg dw	11/10/1998	1.2	kdw	1172	2194	SW 6010B
Cadmium, ICP	6.0	mg/kg dw	11/09/1998	0.58	kdw	1172	2178	SW 6010B
Chromium, ICP	39	mg/kg dw	11/09/1998	2.3	kdw	1172	2163	SW 6010B
Lead, ICP	139	mg/kg dw	11/09/1998	4.6	kdw	1172	2401	SW 6010B
Mercury, CVAA	0.11	mg/kg dw	11/06/1998	0.046	sep	666	770	SW 7471A
Selenium, GFAA	2.2	mg/kg dw	11/08/1998	0.29	jtt	238	562	SW 7740
Silver, AA	<2.3	mg/kg dw	11/06/1998	2.3	sep	495	572	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		11/02/1998		wna	245		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<1,160	mg/kg dw	11/04/1998	58	out	245	491	SW 8015M
TPH as Diesel	<1,160	mg/kg dw	11/04/1998	58	out	245	491	SW 8015M
TPH as Oil	283,000 PT	mg/kg dw	11/04/1998	58	out	245	491	SW 8015M
N-octacosane (TPH surr)	Diluted out	mg/kg dw	11/04/1998		out	245	491	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	11/06/1998	0.006	jap		77	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	11/06/1998	0.006	jap		77	SW 8260A
Toluene	<0.006	mg/kg dw	11/06/1998	0.006	jap		77	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	11/06/1998	0.006	jap		77	SW 8260A
Dibromofluoromethane (Surr)	92.2	%	11/06/1998	81-129	jap		77	SW 8260A
Toluene-d8 (Surr)	86.2	%	11/06/1998	74-129	jap		77	SW 8260A
4-Bromofluoromethane (Surr)	96.8	%	11/06/1998	70-130	jap		77	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	768		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

MWG13-15_45964

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500409

NET Job No.: 98.13995

Sample Description: S8
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 11:10
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<3.4	mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Acenaphthylene	<3.4	mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Anthracene	<6.9	mg/kg dw	11/07/1998	0.046	keh	768	1832	SW 8310
Benzo(a)anthracene	<3.9	mg/kg dw	11/07/1998	0.0030	keh	768	1832	SW 8310
Benzo(b)fluoranthene	<0.63	mg/kg dw	11/07/1998	0.0042	keh	768	1832	SW 8310
Benzo(k)fluoranthene	<0.58	mg/kg dw	11/07/1998	0.0039	keh	768	1832	SW 8310
Benzo(a)pyrene	<0.80	mg/kg dw	11/07/1998	0.0053	keh	768	1832	SW 8310
Benzo(ghi)perylene	<6.9	mg/kg dw	11/07/1998	0.046	keh	768	1832	SW 8310
Chrysene	<4	mg/kg dw	11/07/1998	0.03	keh	768	1832	SW 8310
Dibenzo(a,h)anthracene	<1	mg/kg dw	11/07/1998	0.007	keh	768	1832	SW 8310
Fluoranthene	<3.4	mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Fluorene	<3.4	mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Indeno(1,2,3-cd)pyrene	<1.5	mg/kg dw	11/07/1998	0.010	keh	768	1832	SW 8310
Naphthalene	<4.4	mg/kg dw	11/07/1998	0.029	keh	768	1832	SW 8310
Phenanthrene	<6.9	mg/kg dw	11/07/1998	0.046	keh	768	1832	SW 8310
Pyrene	<3.4	mg/kg dw	11/07/1998	0.023	keh	768	1832	SW 8310
Surr: p-Terphenyl	Diluted out		11/07/1998	43-125	keh	768	1832	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.46	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1221	<0.46	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1232	<0.46	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1242	<0.46	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1248	<0.46	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1254	<0.46	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500409

NET Job No.: 98.13995

Sample Description: S8
ComEd-Waukegan; 1801-023-610

Date Taken: 10/28/1998
Time Taken: 11:10
IEPA Cert. No. 100221

Date Received: 10/29/1998
Time Received: 10:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.46	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
Decachlorobiphenyl (Surr)	38.0	%	11/07/1998	NA	tls	381	60	SW 8082
2,4,5,6-TCMX (Surr)	72.0	%	11/07/1998	NA	tls	381	60	SW 8082

MWG13-15_45966

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13995

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
pH, Non-Aqueous	195	7.00	7.00	100.0
pH, Non-Aqueous	196	7.00	7.00	100.0
Arsenic, GFAA	673	0.0250	0.0242	96.8
Barium, ICP	2194	2.00	2.07	103.5
Cadmium, ICP	2178	1.00	0.996	99.6
Chromium, ICP	2163	2.00	2.00	100.0
Lead, ICP	2393	2.00	1.91	95.5
Lead, ICP	2401	2.00	2.02	101.0
Mercury, CVAA	770	0.0025	0.00230	92.0
Mercury, CVAA	772	0.0025	0.00253	101.2
Selenium, GFAA	562	0.050	0.0506	101.2
Selenium, GFAA	562	0.050	0.0501	100.2
Silver, AA	570	0.50	0.515	103.0
Silver, AA	572	0.50	0.495	99.0
UST VOLATILES NON-AQUEOUS				
Benzene	76	50.0	51.2	102.4
Ethylbenzene	76	50.0	49.2	98.4
Toluene	76	50.0	49.3	98.6
Xylenes, Total	76	150	146	97.3
UST VOLATILES NON-AQUEOUS				
Benzene	77	50.0	53.6	107.2
Ethylbenzene	77	50.0	53.3	106.6
Toluene	77	50.0	55.2	110.4
Xylenes, Total	77	150	161	107.3
UST VOLATILES NON-AQUEOUS				
Benzene	78	50.0	54.7	109.4
Ethylbenzene	78	50.0	53.1	106.2
Toluene	78	50.0	54.9	109.8
Xylenes, Total	78	150	160	106.7
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1832	5000	4,588	91.8
Acenaphthylene	1832	5000	5,060	101.2
Anthracene	1832	5000	5,107	102.1
Benzo(a)anthracene	1832	5000	4,951	99.0

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13995

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Benzo(b)fluoranthene	1832	5000	4,844	96.9
Benzo(k)fluoranthene	1832	5000	4,953	99.1
Benzo(a)pyrene	1832	5000	5,003	100.1
Benzo(ghi)perylene	1832	5000	4,921	98.4
Chrysene	1832	5000	4,987	99.7
Dibenzo(a,h)anthracene	1832	5000	4,928	98.6
Fluoranthene	1832	5000	4,849	97.0
Fluorene	1832	5000	4,885	97.7
Indeno(1,2,3-cd)pyrene	1832	5000	4,576	91.5
Naphthalene	1832	5000	4,627	92.5
Phenanthrene	1832	5000	4,659	93.2
Pyrene	1832	5000	4,999	100.0
Surr: p-Terphenyl	1832	5000	4,813	96.3
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1832	5000	4,598	92.0
Acenaphthylene	1832	5000	5,091	101.8
Anthracene	1832	5000	5,062	101.2
Benzo(a)anthracene	1832	5000	5,051	101.0
Benzo(b)fluoranthene	1832	5000	5,000	100.0
Benzo(k)fluoranthene	1832	5000	4,806	96.1
Benzo(a)pyrene	1832	5000	4,961	99.2
Benzo(ghi)perylene	1832	5000	4,943	98.9
Chrysene	1832	5000	4,972	99.4
Dibenzo(a,h)anthracene	1832	5000	4,977	99.5
Fluoranthene	1832	5000	4,889	97.8
Fluorene	1832	5000	4,901	98.0
Indeno(1,2,3-cd)pyrene	1832	5000	4,606	92.1
Naphthalene	1832	5000	4,695	93.9
Phenanthrene	1832	5000	4,694	93.9
Pyrene	1832	5000	5,064	101.3
Surr: p-Terphenyl	1832	5000	4,886	97.7
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1832	5000	4,477	89.5
Acenaphthylene	1832	5000	5,062	101.2

CCV - Continuing Calibration Verification

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13995

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Anthracene	1832	5000	5,092	101.8
Benzo(a)anthracene	1832	5000	4,930	98.6
Benzo(b)fluoranthene	1832	5000	5,289	105.8
Benzo(k)fluoranthene	1832	5000	4,828	96.6
Benzo(a)pyrene	1832	5000	4,949	99.0
Benzo(ghi)perylene	1832	5000	4,915	98.3
Chrysene	1832	5000	4,915	98.3
Dibenzo(a,h)anthracene	1832	5000	5,003	100.1
Fluoranthene	1832	5000	4,952	99.0
Fluorene	1832	5000	4,884	97.7
Indeno(1,2,3-cd)pyrene	1832	5000	4,783	95.7
Naphthalene	1832	5000	4,808	96.2
Phenanthrene	1832	5000	4,712	94.2
Pyrene	1832	5000	5,124	102.5
Surr: p-Terphenyl	1832	5000	4,756	95.1
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1832	5000	4,696	93.9
Acenaphthylene	1832	5000	5,096	101.9
Anthracene	1832	5000	5,039	100.8
Benzo(a)anthracene	1832	5000	5,158	103.2
Benzo(b)fluoranthene	1832	5000	5,085	101.7
Benzo(k)fluoranthene	1832	5000	4,840	96.8
Benzo(a)pyrene	1832	5000	4,881	97.6
Benzo(ghi)perylene	1832	5000	4,897	97.9
Chrysene	1832	5000	5,027	100.5
Dibenzo(a,h)anthracene	1832	5000	4,974	99.5
Fluoranthene	1832	5000	4,931	98.6
Fluorene	1832	5000	4,888	97.8
Indeno(1,2,3-cd)pyrene	1832	5000	4,557	91.1
Naphthalene	1832	5000	4,702	94.0
Phenanthrene	1832	5000	4,767	95.3
Pyrene	1832	5000	5,159	103.2
Surr: p-Terphenyl	1832	5000	4,914	98.3
PCB'S NON-AQUEOUS				

CCV - Continuing Calibration Verification

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13995

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
PCB-1016	60	500	489	97.8
PCB-1260	60	500	490	98.0
PCB'S NON-AQUEOUS				
PCB-1016	60	500	500	100.0
PCB-1260	60	500	479	95.8
PCB'S NON-AQUEOUS				
PCB-1016	60	500	498	99.6
PCB-1016	60	500	498	99.6
PCB-1260	60	500	457	91.4
PCB-1260	60	500	457	91.4
PCB'S NON-AQUEOUS				
PCB'S NON-AQUEOUS				
PCB'S NON-AQUEOUS				

CCV - Continuing Calibration Verification

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13995

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Arsenic, GFAA	237	671	<0.50	mg/Kg	0.50	SW 7060
Arsenic, GFAA	238	673	<0.50	mg/Kg	0.50	SW 7060
Barium, ICP	1171	2194	<1.0	mg/Kg	1.0	SW 6010B
Barium, ICP	1172	2194	<1.0	mg/Kg	1.0	SW 6010B
Cadmium, ICP	1171	2178	<0.50	mg/Kg	0.50	SW 6010B
Cadmium, ICP	1172	2178	<0.50	mg/Kg	0.50	SW 6010B
Chromium, ICP	1171	2163	<2.0	mg/Kg	2.0	SW 6010B
Chromium, ICP	1172	2163	<2.0	mg/Kg	2.0	SW 6010B
Lead, ICP	1171	2393	<4.0	mg/Kg	4.0	SW 6010B
Lead, ICP	1172	2401	<4.0	mg/Kg	4.0	SW 6010B
Mercury, CVAA	666	770	<0.040	mg/Kg	0.040	SW 7471A
Mercury, CVAA	668	772	<0.040	mg/Kg	0.040	SW 7471A
Selenium, GFAA	237	559	<0.25	mg/Kg	0.25	SW 7740
Selenium, GFAA	238	562	<0.25	mg/Kg	0.25	SW 7740
Silver, AA	493	570	<2.0	mg/Kg	2.0	SW 7760
Silver, AA	495	572	<2.0	mg/Kg	2.0	SW 7760
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		76	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		76	<0.005	mg/Kg	0.005	SW 8260A
Toluene		76	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		76	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		76	85.8	%	81-129	SW 8260A
Toluene-d8 (Surr)		76	95.6	%	74-129	SW 8260A
4-Bromofluoromethane (Surr)		76	103.0	%	70-130	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		77	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		77	<0.005	mg/Kg	0.005	SW 8260A
Toluene		77	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		77	<0.005	mg/Kg	0.005	SW 8260A

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13995

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Dibromofluoromethane (Surr)		77	101.4	%	81-129	SW 8260A
Toluene-d8 (Surr)		77	106.4	%	74-129	SW 8260A
4-Bromofluoromethane (Surr)		77	113.4	%	70-130	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		78	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		78	<0.005	mg/Kg	0.005	SW 8260A
Toluene		78	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		78	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		78	98.0	%	81-129	SW 8260A
Toluene-d8 (Surr)		78	107.4	%	74-129	SW 8260A
4-Bromofluoromethane (Surr)		78	111.2	%	70-130	SW 8260A
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	767	1826	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	767	1826	<0.020	mg/Kg	0.020	SW 8310
Anthracene	767	1826	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	767	1826	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	767	1826	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	767	1826	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	767	1826	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	767	1826	<0.040	mg/Kg	0.040	SW 8310
Chrysene	767	1826	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	767	1826	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	767	1826	<0.020	mg/Kg	0.020	SW 8310
Fluorene	767	1826	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	767	1826	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	767	1826	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	767	1826	<0.040	mg/Kg	0.040	SW 8310
Pyrene	767	1826	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	767	1826	86.2	%	43-125	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13995

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	767	1830	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	767	1830	<0.020	mg/Kg	0.020	SW 8310
Anthracene	767	1830	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	767	1830	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	767	1830	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	767	1830	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	767	1830	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	767	1830	<0.040	mg/Kg	0.040	SW 8310
Chrysene	767	1830	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	767	1830	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	767	1830	<0.020	mg/Kg	0.020	SW 8310
Fluorene	767	1830	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	767	1830	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	767	1830	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	767	1830	<0.040	mg/Kg	0.040	SW 8310
Pyrene	767	1830	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	767	1830	90.3	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	768	1832	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	768	1832	<0.020	mg/Kg	0.020	SW 8310
Anthracene	768	1832	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	768	1832	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	768	1832	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	768	1832	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	768	1832	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	768	1832	<0.040	mg/Kg	0.040	SW 8310
Chrysene	768	1832	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	768	1832	<0.006	mg/Kg	0.006	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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BLANK ANALYSIS

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740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/11/1998

NET Job Number: 98.13995

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Fluoranthene	768	1832	<0.020	mg/Kg	0.020	SW 8310
Fluorene	768	1832	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	768	1832	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	768	1832	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	768	1832	<0.040	mg/Kg	0.040	SW 8310
Pyrene	768	1832	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	768	1832	77.3	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	769	1832	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	769	1832	<0.020	mg/Kg	0.020	SW 8310
Anthracene	769	1832	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	769	1832	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	769	1832	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	769	1832	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	769	1832	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	769	1832	<0.040	mg/Kg	0.040	SW 8310
Chrysene	769	1832	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	769	1832	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	769	1832	<0.020	mg/Kg	0.020	SW 8310
Fluorene	769	1832	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	769	1832	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	769	1832	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	769	1832	<0.040	mg/Kg	0.040	SW 8310
Pyrene	769	1832	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	769	1832	78.0	%	43-125	SW 8310
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	381	53	<0.040	mg/Kg	0.040	SW 8082

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
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11/11/1998

NET Job Number: 98.13995

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
PCB-1242	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	381	53	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	381	53	84.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	381	53	67.0	%	NA	SW 8082

Advisory Control Limits for Blanks:

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13995

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Arsenic, GFAA	237	671	0.500	0.465	93.0
Arsenic, GFAA	238	673	0.0100	0.0117	117.0
Barium, ICP	1171	2194	5.00	5.09	101.8
Barium, ICP	1172	2194	5.00	5.18	103.6
Cadmium, ICP	1171	2178	2.50	2.72	108.8
Cadmium, ICP	1172	2178	2.50	2.71	108.4
Chromium, ICP	1171	2163	5.00	5.20	104.0
Chromium, ICP	1172	2163	5.00	5.80	116.0
Lead, ICP	1171	2393	5.00	5.20	104.0
Lead, ICP	1172	2401	5.00	5.80	116.0
Mercury, CVAA	666	770	0.0025	0.00248	99.2
Mercury, CVAA		770	0.0020	0.00165	82.5
Mercury, CVAA	668	772	0.0025	0.00275	110.0
Mercury, CVAA		772	0.0020	0.00204	102.0
Selenium, GFAA	237	559	0.50	0.43	86.0
Selenium, GFAA	238	562	0.50	0.60	120.0
Silver, AA	493	570	1.0	0.958	95.8
Silver, AA		570	0.10	0.095	95.0
Silver, AA	495	572	0.10	0.103	103.0
TPH MODIFIED 8015					
TPH as Gas	245	486	250	225	90.0
TPH as Diesel	245	486	250	216	86.4
TPH as Oil	245	486	250	201	80.4
N-octacosane (TPH surr)	245	486	100	117	117.0
UST VOLATILES NON-AQUEOUS					
Benzene		76	20.0	21.3	106.5
Ethylbenzene		76	20.0	20.7	103.5
Toluene		76	20.0	20.0	100.0
Xylenes, Total		76	60.0	61.4	102.3
Dibromofluoromethane (Surr)		76	50.0	49.2	98.4
Toluene-d8 (Surr)		76	50.0	53.8	107.6

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LABORATORY CONTROL STANDARD

ENSR
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11/11/1998

NET Job Number: 98.13995

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
4-Bromofluoromethane (Surr)		76	50.0	55.1	110.2
UST VOLATILES NON-AQUEOUS					
Benzene		77	20.0	21.8	109.0
Ethylbenzene		77	20.0	21.8	109.0
Toluene		77	20.0	20.8	104.0
Xylenes, Total		77	60.0	63.4	105.7
Dibromofluoromethane (Surr)		77	50.0	50.2	100.4
Toluene-d8 (Surr)		77	50.0	52.0	104.0
4-Bromofluoromethane (Surr)		77	50.0	56.5	113.0
UST VOLATILES NON-AQUEOUS					
Benzene		78	20.0	21.0	105.0
Ethylbenzene		78	20.0	20.7	103.5
Toluene		78	20.0	20 1	100.5
Xylenes, Total		78	60.0	61.6	102.7
Dibromofluoromethane (Surr)		78	50.0	48.1	96.2
Toluene-d8 (Surr)		78	50.0	51.4	102.8
4-Bromofluoromethane (Surr)		78	50.0	55.2	110.4
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	767	1828	0.033	0.027	81.8
Acenaphthylene	767	1828	0.033	0.028	84.8
Anthracene	767	1828	0.033	0.029	87.9
Benzo(a)anthracene	767	1828	0.033	0.027	81.8
Benzo(b)fluoranthene	767	1828	0.033	0.027	81.8
Benzo(k)fluoranthene	767	1828	0.033	0.028	84.8
Benzo(a)pyrene	767	1828	0.033	0.027	81.8
Benzo(ghi)perylene	767	1828	0.033	0.030	90.9
Chrysene	767	1828	0.033	0.029	87.9
Dibenzo(a,h)anthracene	767	1828	0.033	0.028	84.8
Fluoranthene	767	1828	0.033	0.029	87.9
Fluorene	767	1828	0.033	0.031	93.9
Indeno(1,2,3-cd)pyrene	767	1828	0.033	0.028	84.8

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/11/1998

NET Job Number: 98.13995

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Naphthalene	767	1828	0.033	0.031	93.9
Phenanthrene	767	1828	0.033	0.029	87.9
Pyrene	767	1828	0.033	0.033	100.0
Surr: p-Terphenyl	767	1828	2000	1,613	80.7
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	767	1830	0.033	0.032	97.0
Acenaphthylene	767	1830	0.033	0.030	90.9
Anthracene	767	1830	0.033	0.030	90.9
Benzo(a)anthracene	767	1830	0.033	0.031	93.9
Benzo(b)fluoranthene	767	1830	0.033	0.033	100.0
Benzo(k)fluoranthene	767	1830	0.033	0.029	87.9
Benzo(a)pyrene	767	1830	0.033	0.027	81.8
Benzo(ghi)perylene	767	1830	0.033	0.029	87.9
Chrysene	767	1830	0.033	0.031	93.9
Dibenzo(a,h)anthracene	767	1830	0.033	0.029	87.9
Fluoranthene	767	1830	0.033	0.032	97.0
Fluorene	767	1830	0.033	0.029	87.9
Indeno(1,2,3-cd)pyrene	767	1830	0.033	0.030	90.9
Naphthalene	767	1830	0.033	0.023	69.7
Phenanthrene	767	1830	0.033	0.030	90.9
Pyrene	767	1830	0.033	0.031	93.9
Surr: p-Terphenyl	767	1830	2000	1,705	85.3
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	768	1832	0.033	0.028	84.8
Acenaphthylene	768	1832	0.033	0.029	87.9
Anthracene	768	1832	0.033	0.030	90.9
Benzo(a)anthracene	768	1832	0.033	0.031	93.9
Benzo(b)fluoranthene	768	1832	0.033	0.028	84.8
Benzo(k)fluoranthene	768	1832	0.033	0.028	84.8
Benzo(a)pyrene	768	1832	0.033	0.029	87.9
Benzo(ghi)perylene	768	1832	0.033	0.028	84.8

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
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Bartlett, IL 60103
Tel: (630) 289-3100
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Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
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(800) 807-2877

QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13995

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Chrysene	768	1832	0.033	0.031	93.9
Dibenzo(a,h)anthracene	768	1832	0.033	0.029	87.9
Fluoranthene	768	1832	0.033	0.030	90.9
Fluorene	768	1832	0.033	0.030	90.9
Indeno(1,2,3-cd)pyrene	768	1832	0.033	0.028	84.8
Naphthalene	768	1832	0.033	0.028	84.8
Phenanthrene	768	1832	0.033	0.029	87.9
Pyrene	768	1832	0.033	0.033	100.0
Surr: p-Terphenyl	768	1832	2000	1,742	87.1
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	769	1832	0.033	0.028	84.8
Acenaphthylene	769	1832	0.033	0.032	97.0
Anthracene	769	1832	0.033	0.028	84.8
Benzo(a)anthracene	769	1832	0.033	0.030	90.9
Benzo(b)fluoranthene	769	1832	0.033	0.025	75.8
Benzo(k)fluoranthene	769	1832	0.033	0.032	97.0
Benzo(a)pyrene	769	1832	0.033	0.030	90.9
Benzo(ghi)perylene	769	1832	0.033	0.026	78.8
Chrysene	769	1832	0.033	0.031	93.9
Dibenzo(a,h)anthracene	769	1832	0.033	0.026	78.8
Fluoranthene	769	1832	0.033	0.028	84.8
Fluorene	769	1832	0.033	0.027	81.8
Indeno(1,2,3-cd)pyrene	769	1832	0.033	0.027	81.8
Naphthalene	769	1832	0.033	0.022	66.7
Phenanthrene	769	1832	0.033	0.026	78.8
Pyrene	769	1832	0.033	0.030	90.9
Surr: p-Terphenyl	769	1832	2000	1,593	79.7
PCB'S NON-AQUEOUS					
PCB-1016	381	53	500	440	88.0
PCB-1260	381	53	500	454	90.8
Decachlorobiphenyl (Surr)	381	53	100	92	92.0

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13995

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
2,4,5,6-TCMX (Surr)	381	53	100	81	81.0

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QUALITY CONTROL REPORT

DUPLICATES

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13995

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	RPD
pH, Non-Aqueous		195	8.66	8.64	units	0.2
pH, Non-Aqueous		196	7.44	7.52	units	1.1
Solids, Total		2527	85.3	84.3	%	1.2
Solids, Total		2527	77.6	79.4	%	2.3

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.

NET Midwest, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY: ENSR Corp
ADDRESS: 740 Pasquinelli Dr. St. 124 Westmont, IL
PHONE: (630) 887 1700 FAX: (630) 850 5307
PROJECT NAME/LOCATION: ComEd Waukegan
PROJECT NUMBER: 1801023610
PROJECT MANAGER: Wei-Lin Feng / Karen Dolnicks

REPORT TO: K. Dolnics
INVOICE TO: ENSR
P.O. NO.
NET QUOTE NO.

SAMPLED BY: B. Buckley (PRINT NAME) B Buckley (SIGNATURE)
(PRINT NAME) (SIGNATURE)

DATE 1998	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: TPH 9045	PNAs 8310	BTEX 8260	PCBs 8081	TPH 8015	RCRA Metals (TCLP)					COMMENTS
10/27	810	B23 (1-3)	S	X						2	X	X	X	X		X					NO TPH
10/27	1345	S7	S	X						2	X	X	X	X	X	X					
10/27	1350	B3 (1-3)	S	X						2	X	X	X	X		X					NO TPH
10/27	1410	S4	S	X						2	X	X	X	X	X	X					
10/27	1425	S5	S	X						2	X	X	X	X	X	X					
10/27	1435	S3	S	X						2	X	X	X	X	X	X					
10/27	1445	S2	S	X						2	X	X	X	X	X	X					
10/27	1450	B18 (1-3)	S	X						2	X	X	X	X		X					NO TPH
10/28	740	S15	S	X						2	X	X	X	X	X	X					
10/28	745	S14	S	X						2	X	X	X	X	X	X					
10/28	750	S13	S	X						2	X	X	X	X	X	X					
10/28	835	B12 (1-3)	S	X						2	X	X	X	X		X					NO TPH
10/28	945	S9	S	X						2	X	X	X	X	X	X					
10/28	1110	S8	S	X						2	X	X	X	X	X	X					
10/28	1130	S6	S	X						2	X	X	X	X	X	X					

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ___ No ___

Is this work being conducted for regulatory enforcement action? Yes ___ No ___

Which regulations apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other ___ None ___

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) / NO FIELD FILTERED? YES / (NO)
COC SEALS PRESENT AND INTACT? (YES) / NO VOLATILES FREE OF HEADSPACE? (YES) / NO
TEMPERATURE UPON RECEIPT: .34 Wet Ice
Bottles supplied by NET? (YES) / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ___ DATE ___

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
B. Buckley	10/28/98	1530			10/29/98	10:30	JD

METHOD OF SHIPMENT: FEDEX

REMARKS:

[redacted] ORIGIN [redacted] TE [redacted] ET PR [redacted] MANAG [redacted] LLOW [redacted] CUST [redacted] OPY - [redacted]

MWG13-15_45984

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(800) 807-2877

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.14072

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Waukegan; 1801-023 ~~210~~ 610

Sample Number	Sample Description	Date Taken	Date Received
500665	B-10 (0-4')	10/29/1998	10/30/1998
500666	B-11 (0-4')	10/29/1998	10/30/1998
500667	B-9 (0-4')	10/29/1998	10/30/1998
500668	B-8 (0-4')	10/29/1998	10/30/1998
500669	B-6 (0-4')	10/29/1998	10/30/1998
500670	B-7 (0-4')	10/29/1998	10/30/1998
500671	B-1 (0-4')	10/29/1998	10/30/1998
500672	B-15 (0-4')	10/29/1998	10/30/1998
500673	B-17 (0-4')	10/29/1998	10/30/1998
500674	S-11	10/29/1998	10/30/1998
500675	X-4	10/29/1998	10/30/1998
500676	X-1	10/29/1998	10/30/1998
500677	X-2	10/29/1998	10/30/1998
500678	S-6	10/29/1998	10/30/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

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Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.14072

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Waukegan; 1801-023-210

Sample Number	Sample Description	Date Taken	Date Received
500679	X-3	10/29/1998	10/30/1998
500680	X-5	10/29/1998	10/30/1998
500681	X-6	10/29/1998	10/30/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:
Mary Pearson

Mary Pearson
Project Manager

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500665

NET Job No.: 98.14072

Sample Description: B-10 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 09:10
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	8.40	units	11/06/1998	0.10	nwg	196	SW 9045B
Solids, Total	90.9	%	11/04/1998	0.1	aks	2528	SM 2540
Arsenic, GFAA	5.9	mg/kg dw	11/09/1998	0.55	jtt	236 674	SW 7060
Barium, ICP	42	mg/kg dw	11/07/1998	1.1	jtt	1169 2188	SW 6010B
Cadmium, ICP	0.57	mg/kg dw	11/06/1998	0.55	jtt	1169 2174	SW 6010B
Chromium, ICP	7.6	mg/kg dw	11/06/1998	2.2	jtt	1169 2159	SW 6010B
Lead, ICP	34	mg/kg dw	11/06/1998	4.4	jtt	1169 2397	SW 6010B
Mercury, CVAA	0.053	mg/kg dw	11/06/1998	0.044	sep	666 770	SW 7471A
Selenium, GFAA	<0.28	mg/kg dw	11/08/1998	0.28	jtt	236 562	SW 7740
Silver, AA	<2.2	mg/kg dw	11/04/1998	2.2	sep	494 571	SW 7760
UST VOLATILES NON-AQUEOUS							
Benzene	<0.006	mg/kg dw	11/06/1998	0.006	jap	77	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	11/06/1998	0.006	jap	77	SW 8260A
Toluene	<0.006	mg/kg dw	11/06/1998	0.006	jap	77	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	11/06/1998	0.006	jap	77	SW 8260A
Dibromofluoromethane (Surr)	101.2	%	11/06/1998	81-129	jap	77	SW 8260A
Toluene-d8 (Surr)	104.4	%	11/06/1998	74-129	jap	77	SW 8260A
4-Bromofluoromethane (Surr)	109.0	%	11/06/1998	70-130	jap	77	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	768	SW 3540C
PNA CMPDS - 8310 NONAQUEOUS							
Acenaphthene	<0.022	mg/kg dw	11/10/1998	0.022	keh	768 1833	SW 8310
Acenaphthylene	<0.022	mg/kg dw	11/10/1998	0.022	keh	768 1833	SW 8310
Anthracene	<0.044	mg/kg dw	11/10/1998	0.044	keh	768 1833	SW 8310
Benzo(a)anthracene	0.051	mg/kg dw	11/10/1998	0.0029	keh	768 1833	SW 8310
Benzo(b)fluoranthene	0.031	mg/kg dw	11/10/1998	0.0040	keh	768 1833	SW 8310

MWG13-15_45987

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ANALYTICAL REPORT

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ENSR
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Westmont, IL 60559

11/11/1998

Sample No. : 500665

NET Job No.: 98.14072

Sample Description: B-10 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 09:10
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.022	mg/kg dw	11/10/1998	0.0037	keh	768	1833	SW 8310
Benzo(a)pyrene	0.033	mg/kg dw	11/10/1998	0.0051	keh	768	1833	SW 8310
Benzo(ghi)perylene	<0.044	mg/kg dw	11/10/1998	0.044	keh	768	1833	SW 8310
Chrysene	0.047	mg/kg dw	11/10/1998	0.03	keh	768	1833	SW 8310
Dibenzo(a,h)anthracene	<0.007	mg/kg dw	11/10/1998	0.007	keh	768	1833	SW 8310
Fluoranthene	0.12	mg/kg dw	11/10/1998	0.022	keh	768	1833	SW 8310
Fluorene	<0.022	mg/kg dw	11/10/1998	0.022	keh	768	1833	SW 8310
Indeno(1,2,3-cd)pyrene	0.021	mg/kg dw	11/10/1998	0.0095	keh	768	1833	SW 8310
Naphthalene	0.041	mg/kg dw	11/10/1998	0.028	keh	768	1833	SW 8310
Phenanthrene	0.086	mg/kg dw	11/10/1998	0.044	keh	768	1833	SW 8310
Pyrene	0.074	mg/kg dw	11/10/1998	0.022	keh	768	1833	SW 8310
Surr: p-Terphenyl	113.8	%	11/10/1998	43-125	keh	768	1833	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.044	mg/kg dw	11/07/1998	0.044	tls	381	60	SW 8082
PCB-1221	<0.044	mg/kg dw	11/07/1998	0.044	tls	381	60	SW 8082
PCB-1232	<0.044	mg/kg dw	11/07/1998	0.044	tls	381	60	SW 8082
PCB-1242	<0.044	mg/kg dw	11/07/1998	0.044	tls	381	60	SW 8082
PCB-1248	<0.044	mg/kg dw	11/07/1998	0.044	tls	381	60	SW 8082
PCB-1254	<0.044	mg/kg dw	11/07/1998	0.044	tls	381	60	SW 8082
PCB-1260	<0.044	mg/kg dw	11/07/1998	0.044	tls	381	60	SW 8082
Decachlorobiphenyl (Surr)	63.0	%	11/07/1998	NA	tls	381	60	SW 8082
2,4,5,6-TCMX (Surr)	80.0	%	11/07/1998	NA	tls	381	60	SW 8082

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ANALYTICAL REPORT

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Westmont, IL 60559

11/11/1998

Sample No. : 500666

NET Job No.: 98.14072

Sample Description: B-11 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 09:20
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	7.46	units	11/06/1998	0.10	nwg	196	SW 9045B
Solids, Total	88.8	%	11/04/1998	0.1	aks	2528	SM 2540
Arsenic, GFAA	18	mg/kg dw	11/09/1998	0.56	jtt	236 674	SW 7060
Barium, ICP	59	mg/kg dw	11/07/1998	1.1	jtt	1169 2188	SW 6010B
Cadmium, ICP	1.9	mg/kg dw	11/06/1998	0.56	jtt	1169 2174	SW 6010B
Chromium, ICP	25	mg/kg dw	11/06/1998	2.3	jtt	1169 2159	SW 6010B
Lead, ICP	64	mg/kg dw	11/06/1998	4.5	jtt	1169 2397	SW 6010B
Mercury, CVAA	0.074	mg/kg dw	11/06/1998	0.045	sep	666 770	SW 7471A
Selenium, GFAA	<0.28	mg/kg dw	11/08/1998	0.28	jtt	236 562	SW 7740
Silver, AA	<2.3	mg/kg dw	11/04/1998	2.3	sep	494 571	SW 7760
UST VOLATILES NON-AQUEOUS							
Benzene	<0.006	mg/kg dw	11/06/1998	0.006	jap	77	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	11/06/1998	0.006	jap	77	SW 8260A
Toluene	<0.006	mg/kg dw	11/06/1998	0.006	jap	77	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	11/06/1998	0.006	jap	77	SW 8260A
Dibromofluoromethane (Surr)	94.6	%	11/06/1998	81-129	jap	77	SW 8260A
Toluene-d8 (Surr)	102.6	%	11/06/1998	74-129	jap	77	SW 8260A
4-Bromofluoromethane (Surr)	101.2	%	11/06/1998	70-130	jap	77	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	768	SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV						
Acenaphthene	<5.4	mg/kg dw	11/10/1998	0.023	keh	768 1833	SW 8310
Acenaphthylene	<1.8	mg/kg dw	11/10/1998	0.023	keh	768 1833	SW 8310
Anthracene	<3.6	mg/kg dw	11/10/1998	0.045	keh	768 1833	SW 8310
Benzo(a)anthracene	6.1	mg/kg dw	11/10/1998	0.0029	keh	768 1833	SW 8310
Benzo(b)fluoranthene	3.5	mg/kg dw	11/10/1998	0.0041	keh	768 1833	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_45989

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500666

NET Job No.: 98.14072

Sample Description: B-11 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 09:20
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<2.9	mg/kg dw	11/10/1998	0.0038	keh	768	1833	SW 8310
Benzo(a)pyrene	3.5	mg/kg dw	11/10/1998	0.0052	keh	768	1833	SW 8310
Benzo(ghi)perylene	4.8	mg/kg dw	11/10/1998	0.045	keh	768	1833	SW 8310
Chrysene	9.1	mg/kg dw	11/10/1998	0.03	keh	768	1833	SW 8310
Dibenzo(a,h)anthracene	0.95	mg/kg dw	11/10/1998	0.007	keh	768	1833	SW 8310
Fluoranthene	4.6	mg/kg dw	11/10/1998	0.023	keh	768	1833	SW 8310
Fluorene	<1.8	mg/kg dw	11/10/1998	0.023	keh	768	1833	SW 8310
Indeno(1,2,3-cd)pyrene	1.6	mg/kg dw	11/10/1998	0.0097	keh	768	1833	SW 8310
Naphthalene	<2.2	mg/kg dw	11/10/1998	0.028	keh	768	1833	SW 8310
Phenanthrene	23	mg/kg dw	11/10/1998	0.045	keh	768	1833	SW 8310
Pyrene	11	mg/kg dw	11/10/1998	0.023	keh	768	1833	SW 8310
Surr: p-Terphenyl	Diluted out		11/10/1998	43-125	keh	768	1833	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.045	mg/kg dw	11/07/1998	0.045	tls	381	60	SW 8082
PCB-1221	<0.045	mg/kg dw	11/07/1998	0.045	tls	381	60	SW 8082
PCB-1232	<0.045	mg/kg dw	11/07/1998	0.045	tls	381	60	SW 8082
PCB-1242	<0.045	mg/kg dw	11/07/1998	0.045	tls	381	60	SW 8082
PCB-1248	<0.045	mg/kg dw	11/07/1998	0.045	tls	381	60	SW 8082
PCB-1254	<0.045	mg/kg dw	11/07/1998	0.045	tls	381	60	SW 8082
PCB-1260	<0.045	mg/kg dw	11/07/1998	0.045	tls	381	60	SW 8082
Decachlorobiphenyl (Surr)	89.0	%	11/07/1998	NA	tls	381	60	SW 8082
2,4,5,6-TCMX (Surr)	80.0	%	11/07/1998	NA	tls	381	60	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500667

NET Job No.: 98.14072

Sample Description: B-9 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 09:30
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	9.12	units	11/06/1998	0.10	nwg	196	SW 9045B
Solids, Total	86.3	%	11/04/1998	0.1	aks	2528	SM 2540
Arsenic, GFAA	16	mg/kg dw	11/09/1998	0.58	jtt	236 674	SW 7060
Barium, ICP	290	mg/kg dw	11/07/1998	1.2	jtt	1169 2188	SW 6010B
Cadmium, ICP	1.3	mg/kg dw	11/06/1998	0.58	jtt	1169 2174	SW 6010B
Chromium, ICP	22	mg/kg dw	11/06/1998	2.3	jtt	1169 2159	SW 6010B
Lead, ICP	81	mg/kg dw	11/06/1998	4.6	jtt	1169 2397	SW 6010B
Mercury, CVAA	0.27	mg/kg dw	11/06/1998	0.046	sep	666 770	SW 7471A
Selenium, GFAA	0.31	mg/kg dw	11/08/1998	0.29	jtt	236 562	SW 7740
Silver, AA	<2.3	mg/kg dw	11/04/1998	2.3	sep	494 571	SW 7760
UST VOLATILES NON-AQUEOUS							
Benzene	<0.006	mg/kg dw	11/06/1998	0.006	jap	77	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	11/06/1998	0.006	jap	77	SW 8260A
Toluene	<0.006	mg/kg dw	11/06/1998	0.006	jap	77	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	11/06/1998	0.006	jap	77	SW 8260A
Dibromofluoromethane (Surr)	94.2	%	11/06/1998	81-129	jap	77	SW 8260A
Toluene-d8 (Surr)	102.0	%	11/06/1998	74-129	jap	77	SW 8260A
4-Bromofluoromethane (Surr)	102.6	%	11/06/1998	70-130	jap	77	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	768	SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV						
Acenaphthene	<1.4	mg/kg dw	11/10/1998	0.023	keh	768 1833	SW 8310
Acenaphthylene	<1.4	mg/kg dw	11/10/1998	0.023	keh	768 1833	SW 8310
Anthracene	<2.8	mg/kg dw	11/10/1998	0.046	keh	768 1833	SW 8310
Benzo(a)anthracene	4.6	mg/kg dw	11/10/1998	0.0030	keh	768 1833	SW 8310
Benzo(b)fluoranthene	3.7	mg/kg dw	11/10/1998	0.0042	keh	768 1833	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_45991

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500667

NET Job No.: 98.14072

Sample Description: B-9 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 09:30
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	2.2	mg/kg dw	11/10/1998	0.0039	keh	768	1833	SW 8310
Benzo(a)pyrene	4.4	mg/kg dw	11/10/1998	0.0053	keh	768	1833	SW 8310
Benzo(ghi)perylene	3.0	mg/kg dw	11/10/1998	0.046	keh	768	1833	SW 8310
Chrysene	3.7	mg/kg dw	11/10/1998	0.03	keh	768	1833	SW 8310
Dibenzo(a,h)anthracene	<0.4	mg/kg dw	11/10/1998	0.007	keh	768	1833	SW 8310
Fluoranthene	9.0	mg/kg dw	11/10/1998	0.023	keh	768	1833	SW 8310
Fluorene	<1.4	mg/kg dw	11/10/1998	0.023	keh	768	1833	SW 8310
Indeno(1,2,3-cd)pyrene	2.5	mg/kg dw	11/10/1998	0.010	keh	768	1833	SW 8310
Naphthalene	<1.7	mg/kg dw	11/10/1998	0.029	keh	768	1833	SW 8310
Phenanthrene	5.2	mg/kg dw	11/10/1998	0.046	keh	768	1833	SW 8310
Pyrene	7.3	mg/kg dw	11/10/1998	0.023	keh	768	1833	SW 8310
Surr: p-Terphenyl	Diluted out		11/10/1998	43-125	keh	768	1833	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	381		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1221	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1232	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1242	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1248	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1254	<0.046	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
PCB-1260	0.057	mg/kg dw	11/07/1998	0.046	tls	381	60	SW 8082
Decachlorobiphenyl (Surr)	59.0	%	11/07/1998	NA	tls	381	60	SW 8082
2,4,5,6-TCMX (Surr)	72.0	%	11/07/1998	NA	tls	381	60	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500668

NET Job No.: 98.14072

Sample Description: B-8 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 09:35
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	8.68	units	11/06/1998	0.10	nwg	196	SW 9045B
Solids, Total	92.2	%	11/04/1998	0.1	aks	2528	SM 2540
Arsenic, GFAA	6.3	mg/kg dw	11/09/1998	0.54	jtt	236 674	SW 7060
Barium, ICP	27	mg/kg dw	11/07/1998	1.1	jtt	1169 2188	SW 6010B
Cadmium, ICP	<0.54	mg/kg dw	11/06/1998	0.54	jtt	1169 2174	SW 6010B
Chromium, ICP	8.5	mg/kg dw	11/06/1998	2.2	jtt	1169 2159	SW 6010B
Lead, ICP	35	mg/kg dw	11/06/1998	4.3	jtt	1169 2397	SW 6010B
Mercury, CVAA	0.52	mg/kg dw	11/06/1998	0.043	sep	666 770	SW 7471A
Selenium, GFAA	<0.27	mg/kg dw	11/08/1998	0.27	jtt	236 562	SW 7740
Silver, AA	<2.2	mg/kg dw	11/04/1998	2.2	sep	494 571	SW 7760
UST VOLATILES NON-AQUEOUS							
Benzene	<0.005	mg/kg dw	11/06/1998	0.005	jap	77	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	11/06/1998	0.005	jap	77	SW 8260A
Toluene	<0.005	mg/kg dw	11/06/1998	0.005	jap	77	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	11/06/1998	0.005	jap	77	SW 8260A
Dibromofluoromethane (Surr)	95.8	%	11/06/1998	81-129	jap	77	SW 8260A
Toluene-d8 (Surr)	96.8	%	11/06/1998	74-129	jap	77	SW 8260A
4-Bromofluoromethane (Surr)	101.4	%	11/06/1998	70-130	jap	77	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	768	SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV						
Acenaphthene	<0.54	mg/kg dw	11/10/1998	0.022	keh	768 1833	SW 8310
Acenaphthylene	<0.1	mg/kg dw	11/10/1998	0.022	keh	768 1833	SW 8310
Anthracene	<0.2	mg/kg dw	11/10/1998	0.043	keh	768 1833	SW 8310
Benzo(a)anthracene	0.21	mg/kg dw	11/10/1998	0.0028	keh	768 1833	SW 8310
Benzo(b)fluoranthene	0.65	mg/kg dw	11/10/1998	0.0039	keh	768 1833	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_45993

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500668

NET Job No.: 98.14072

Sample Description: B-8 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 09:35
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.18	mg/kg dw	11/10/1998	0.0037	keh	768	1833	SW 8310
Benzo(a)pyrene	0.31	mg/kg dw	11/10/1998	0.0050	keh	768	1833	SW 8310
Benzo(ghi)perylene	0.49	mg/kg dw	11/10/1998	0.043	keh	768	1833	SW 8310
Chrysene	0.22	mg/kg dw	11/10/1998	0.03	keh	768	1833	SW 8310
Dibenzo(a,h)anthracene	0.038	mg/kg dw	11/10/1998	0.007	keh	768	1833	SW 8310
Fluoranthene	0.98	mg/kg dw	11/10/1998	0.022	keh	768	1833	SW 8310
Fluorene	0.21	mg/kg dw	11/10/1998	0.022	keh	768	1833	SW 8310
Indeno(1,2,3-cd)pyrene	0.29	mg/kg dw	11/10/1998	0.0093	keh	768	1833	SW 8310
Naphthalene	0.16	mg/kg dw	11/10/1998	0.027	keh	768	1833	SW 8310
Phenanthrene	0.36	mg/kg dw	11/10/1998	0.043	keh	768	1833	SW 8310
Pyrene	0.76	mg/kg dw	11/10/1998	0.022	keh	768	1833	SW 8310
Surr: p-Terphenyl	Masked		11/10/1998	43-125	keh	768	1833	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	382		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.043	mg/kg dw	11/07/1998	0.043	tls	382	58	SW 8082
PCB-1221	<0.043	mg/kg dw	11/07/1998	0.043	tls	382	58	SW 8082
PCB-1232	<0.043	mg/kg dw	11/07/1998	0.043	tls	382	58	SW 8082
PCB-1242	<0.043	mg/kg dw	11/07/1998	0.043	tls	382	58	SW 8082
PCB-1248	<0.043	mg/kg dw	11/07/1998	0.043	tls	382	58	SW 8082
PCB-1254	<0.043	mg/kg dw	11/07/1998	0.043	tls	382	58	SW 8082
PCB-1260	<0.043	mg/kg dw	11/07/1998	0.043	tls	382	58	SW 8082
Decachlorobiphenyl (Surr)	79.0	%	11/07/1998	NA	tls	382	58	SW 8082
2,4,5,6-TCMX (Surr)	88.0	%	11/07/1998	NA	tls	382	58	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500669

NET Job No.: 98.14072

Sample Description: B-6 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 09:55
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.33	units	11/06/1998	0.10	nwg		196	SW 9045B
Solids, Total	94.4	%	11/04/1998	0.1	aks		2528	SM 2540
Arsenic, GFAA	3.3	mg/kg dw	11/09/1998	0.53	jtt	236	674	SW 7060
Barium, ICP	14	mg/kg dw	11/07/1998	1.1	jtt	1169	2188	SW 6010B
Cadmium, ICP	<0.53	mg/kg dw	11/06/1998	0.53	jtt	1169	2174	SW 6010B
Chromium, ICP	5.7	mg/kg dw	11/06/1998	2.1	jtt	1169	2159	SW 6010B
Lead, ICP	10	mg/kg dw	11/06/1998	4.2	jtt	1169	2397	SW 6010B
Mercury, CVAA	<0.042	mg/kg dw	11/06/1998	0.042	sep	666	770	SW 7471A
Selenium, GFAA	<0.26	mg/kg dw	11/08/1998	0.26	jtt	236	562	SW 7740
Silver, AA	<2.1	mg/kg dw	11/04/1998	2.1	sep	494	571	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	11/06/1998	0.005	jap		78	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	11/06/1998	0.005	jap		78	SW 8260A
Toluene	<0.005	mg/kg dw	11/06/1998	0.005	jap		78	SW 8260A
Xylenes, Total	0.015	mg/kg dw	11/06/1998	0.005	jap		78	SW 8260A
Dibromofluoromethane (Surr)	89.2	%	11/06/1998	81-129	jap		78	SW 8260A
Toluene-d8 (Surr)	94.2	%	11/06/1998	74-129	jap		78	SW 8260A
4-Bromofluoromethane (Surr)	95.8	%	11/06/1998	70-130	jap		78	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	768		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.06	mg/kg dw	11/10/1998	0.021	keh	768	1833	SW 8310
Acenaphthylene	<0.06	mg/kg dw	11/10/1998	0.021	keh	768	1833	SW 8310
Anthracene	<0.1	mg/kg dw	11/10/1998	0.042	keh	768	1833	SW 8310
Benzo(a)anthracene	<0.030	mg/kg dw	11/10/1998	0.0028	keh	768	1833	SW 8310
Benzo(b)fluoranthene	<0.01	mg/kg dw	11/10/1998	0.0038	keh	768	1833	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_45995

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500669

NET Job No.: 98.14072

Sample Description: B-6 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 09:55
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.01		mg/kg dw	11/10/1998	0.0036	keh	768	1833	SW 8310
Benzo(a)pyrene	<0.01		mg/kg dw	11/10/1998	0.0049	keh	768	1833	SW 8310
Benzo(ghi)perylene	<0.1		mg/kg dw	11/10/1998	0.042	keh	768	1833	SW 8310
Chrysene	<0.1		mg/kg dw	11/10/1998	0.03	keh	768	1833	SW 8310
Dibenzo(a,h)anthracene	<0.02		mg/kg dw	11/10/1998	0.006	keh	768	1833	SW 8310
Fluoranthene	<3.4		mg/kg dw	11/10/1998	0.021	keh	768	1833	SW 8310
Fluorene	<0.06		mg/kg dw	11/10/1998	0.021	keh	768	1833	SW 8310
Indeno(1,2,3-cd)pyrene	<0.03		mg/kg dw	11/10/1998	0.0091	keh	768	1833	SW 8310
Naphthalene	<0.08		mg/kg dw	11/10/1998	0.026	keh	768	1833	SW 8310
Phenanthrene	<0.1		mg/kg dw	11/10/1998	0.042	keh	768	1833	SW 8310
Pyrene	<0.06		mg/kg dw	11/10/1998	0.021	keh	768	1833	SW 8310
Surr: p-Terphenyl	128.6	SR	%	11/10/1998	43-125	keh	768	1833	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/04/1998	COMPLETE	mmv	382		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.042		mg/kg dw	11/07/1998	0.042	tls	382	58	SW 8082
PCB-1221	<0.042		mg/kg dw	11/07/1998	0.042	tls	382	58	SW 8082
PCB-1232	<0.042		mg/kg dw	11/07/1998	0.042	tls	382	58	SW 8082
PCB-1242	<0.042		mg/kg dw	11/07/1998	0.042	tls	382	58	SW 8082
PCB-1248	<0.042		mg/kg dw	11/07/1998	0.042	tls	382	58	SW 8082
PCB-1254	<0.042		mg/kg dw	11/07/1998	0.042	tls	382	58	SW 8082
PCB-1260	0.048		mg/kg dw	11/07/1998	0.042	tls	382	58	SW 8082
Decachlorobiphenyl (Surr)	63.0		%	11/07/1998	NA	tls	382	58	SW 8082
2,4,5,6-TCMX (Surr)	70.0		%	11/07/1998	NA	tls	382	58	SW 8082

SR : Elevated surrogate recovery due to sample matrix

MWG13-15_45996

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500670

NET Job No.: 98.14072

Sample Description: B-7 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 10:00
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	9.06	units	11/06/1998	0.10	nwg	196	SW 9045B
Solids, Total	88.9	%	11/04/1998	0.1	aks	2528	SM 2540
Arsenic, GFAA	6.4	mg/kg dw	11/09/1998	0.56	jtt	236 674	SW 7060
Barium, ICP	247	mg/kg dw	11/07/1998	1.1	jtt	1169 2188	SW 6010B
Cadmium, ICP	<0.56	mg/kg dw	11/06/1998	0.56	jtt	1169 2174	SW 6010B
Chromium, ICP	7.6	mg/kg dw	11/06/1998	2.2	jtt	1169 2159	SW 6010B
Lead, ICP	16	mg/kg dw	11/06/1998	4.5	jtt	1169 2397	SW 6010B
Mercury, CVAA	<0.045	mg/kg dw	11/06/1998	0.045	sep	666 770	SW 7471A
Selenium, GFAA	<0.28	mg/kg dw	11/08/1998	0.28	jtt	236 562	SW 7740
Silver, AA	<2.2	mg/kg dw	11/04/1998	2.2	sep	494 571	SW 7760
UST VOLATILES NON-AQUEOUS							
Benzene	<0.006	mg/kg dw	11/06/1998	0.006	jap	78	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	11/06/1998	0.006	jap	78	SW 8260A
Toluene	<0.006	mg/kg dw	11/06/1998	0.006	jap	78	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	11/06/1998	0.006	jap	78	SW 8260A
Dibromofluoromethane (Surr)	92.4	%	11/06/1998	81-129	jap	78	SW 8260A
Toluene-d8 (Surr)	95.4	%	11/06/1998	74-129	jap	78	SW 8260A
4-Bromofluoromethane (Surr)	103.0	%	11/06/1998	70-130	jap	78	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	768	SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV						
Acenaphthene	<0.09	mg/kg dw	11/09/1998	0.022	keh	768 1834	SW 8310
Acenaphthylene	<0.09	mg/kg dw	11/09/1998	0.022	keh	768 1834	SW 8310
Anthracene	<0.2	mg/kg dw	11/09/1998	0.045	keh	768 1834	SW 8310
Benzo(a)anthracene	<0.01	mg/kg dw	11/09/1998	0.0029	keh	768 1834	SW 8310
Benzo(b)fluoranthene	<0.02	mg/kg dw	11/09/1998	0.0040	keh	768 1834	SW 8310

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500670

NET Job No.: 98.14072

Sample Description: B-7 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 10:00
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.02	mg/kg dw	11/09/1998	0.0038	keh	768	1834	SW 8310
Benzo(a)pyrene	<0.02	mg/kg dw	11/09/1998	0.0052	keh	768	1834	SW 8310
Benzo(ghi)perylene	<0.2	mg/kg dw	11/09/1998	0.045	keh	768	1834	SW 8310
Chrysene	<0.1	mg/kg dw	11/09/1998	0.03	keh	768	1834	SW 8310
Dibenzo(a,h)anthracene	<0.03	mg/kg dw	11/09/1998	0.007	keh	768	1834	SW 8310
Fluoranthene	<0.09	mg/kg dw	11/09/1998	0.022	keh	768	1834	SW 8310
Fluorene	<0.09	mg/kg dw	11/09/1998	0.022	keh	768	1834	SW 8310
Indeno(1,2,3-cd)pyrene	<0.04	mg/kg dw	11/09/1998	0.0097	keh	768	1834	SW 8310
Naphthalene	<0.1	mg/kg dw	11/09/1998	0.028	keh	768	1834	SW 8310
Phenanthrene	<0.2	mg/kg dw	11/09/1998	0.045	keh	768	1834	SW 8310
Pyrene	<0.09	mg/kg dw	11/09/1998	0.022	keh	768	1834	SW 8310
Surr: p-Terphenyl	114.6	%	11/09/1998	43-125	keh	768	1834	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	382		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.045	mg/kg dw	11/07/1998	0.045	tls	382	58	SW 8082
PCB-1221	<0.045	mg/kg dw	11/07/1998	0.045	tls	382	58	SW 8082
PCB-1232	<0.045	mg/kg dw	11/07/1998	0.045	tls	382	58	SW 8082
PCB-1242	<0.045	mg/kg dw	11/07/1998	0.045	tls	382	58	SW 8082
PCB-1248	<0.045	mg/kg dw	11/07/1998	0.045	tls	382	58	SW 8082
PCB-1254	<0.045	mg/kg dw	11/07/1998	0.045	tls	382	58	SW 8082
PCB-1260	<0.045	mg/kg dw	11/07/1998	0.045	tls	382	58	SW 8082
Decachlorobiphenyl (Surr)	69.0	%	11/07/1998	NA	tls	382	58	SW 8082
2,4,5,6-TCMX (Surr)	74.0	%	11/07/1998	NA	tls	382	58	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500671

NET Job No.: 98.14072

Sample Description: B-1 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 11:10
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.16	units	11/06/1998	0.10	nwg		197	SW 9045B
Solids, Total	94.9	%	11/04/1998	0.1	aks		2528	SM 2540
Arsenic, GFAA	6.7	mg/kg dw	11/09/1998	0.53	jtt	236	674	SW 7060
Barium, ICP	601	mg/kg dw	11/07/1998	1.1	jtt	1169	2188	SW 6010B
Cadmium, ICP	1.0	mg/kg dw	11/06/1998	0.53	jtt	1169	2174	SW 6010B
Chromium, ICP	232	mg/kg dw	11/06/1998	2.1	jtt	1169	2159	SW 6010B
Lead, ICP	40	mg/kg dw	11/06/1998	4.2	jtt	1169	2397	SW 6010B
Mercury, CVAA	<0.042	mg/kg dw	11/06/1998	0.042	sep	666	770	SW 7471A
Selenium, GFAA	<0.26	mg/kg dw	11/08/1998	0.26	jtt	236	562	SW 7740
Silver, AA	<2.1	mg/kg dw	11/04/1998	2.1	sep	494	571	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	11/06/1998	0.005	jap		78	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	11/06/1998	0.005	jap		78	SW 8260A
Toluene	<0.005	mg/kg dw	11/06/1998	0.005	jap		78	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	11/06/1998	0.005	jap		78	SW 8260A
Dibromofluoromethane (Surr)	91.8	%	11/06/1998	81-129	jap		78	SW 8260A
Toluene-d8 (Surr)	94.4	%	11/06/1998	74-129	jap		78	SW 8260A
4-Bromofluoromethane (Surr)	102.0	%	11/06/1998	70-130	jap		78	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/03/1998		mmv	768		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS								
Acenaphthene	<0.021	mg/kg dw	11/09/1998	0.021	keh	768	1834	SW 8310
Acenaphthylene	<0.021	mg/kg dw	11/09/1998	0.021	keh	768	1834	SW 8310
Anthracene	<0.042	mg/kg dw	11/09/1998	0.042	keh	768	1834	SW 8310
Benzo(a)anthracene	0.042	mg/kg dw	11/09/1998	0.0027	keh	768	1834	SW 8310
Benzo(b)fluoranthene	0.017	mg/kg dw	11/09/1998	0.0038	keh	768	1834	SW 8310

MWG13-15_45999

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500671

NET Job No.: 98.14072

Sample Description: B-1 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 11:10
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.027	mg/kg dw	11/09/1998	0.0036	keh	768	1834	SW 8310
Benzo(a)pyrene	0.032	mg/kg dw	11/09/1998	0.0048	keh	768	1834	SW 8310
Benzo(ghi)perylene	<0.042	mg/kg dw	11/09/1998	0.042	keh	768	1834	SW 8310
Chrysene	0.036	mg/kg dw	11/09/1998	0.03	keh	768	1834	SW 8310
Dibenzo(a,h)anthracene	0.0074	mg/kg dw	11/09/1998	0.006	keh	768	1834	SW 8310
Fluoranthene	0.030	mg/kg dw	11/09/1998	0.021	keh	768	1834	SW 8310
Fluorene	<0.021	mg/kg dw	11/09/1998	0.021	keh	768	1834	SW 8310
Indeno(1,2,3-cd)pyrene	<0.0091	mg/kg dw	11/09/1998	0.0091	keh	768	1834	SW 8310
Naphthalene	0.033	mg/kg dw	11/09/1998	0.026	keh	768	1834	SW 8310
Phenanthrene	0.061	mg/kg dw	11/09/1998	0.042	keh	768	1834	SW 8310
Pyrene	0.076	mg/kg dw	11/09/1998	0.021	keh	768	1834	SW 8310
Surr: p-Terphenyl	107.6	%	11/09/1998	43-125	keh	768	1834	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	382		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.042	mg/kg dw	11/07/1998	0.042	tls	382	58	SW 8082
PCB-1221	<0.042	mg/kg dw	11/07/1998	0.042	tls	382	58	SW 8082
PCB-1232	<0.042	mg/kg dw	11/07/1998	0.042	tls	382	58	SW 8082
PCB-1242	<0.042	mg/kg dw	11/07/1998	0.042	tls	382	58	SW 8082
PCB-1248	<0.042	mg/kg dw	11/07/1998	0.042	tls	382	58	SW 8082
PCB-1254	<0.042	mg/kg dw	11/07/1998	0.042	tls	382	58	SW 8082
PCB-1260	<0.042	mg/kg dw	11/07/1998	0.042	tls	382	58	SW 8082
Decachlorobiphenyl (Surr)	81.0	%	11/07/1998	NA	tls	382	58	SW 8082
2,4,5,6-TCMX (Surr)	85.0	%	11/07/1998	NA	tls	382	58	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500672

NET Job No.: 98.14072

Sample Description: B-15 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 11:30
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.42		units	11/06/1998	0.10	nwg		197	SW 9045B
Solids, Total	87.3		%	11/04/1998	0.1	aks		2528	SM 2540
Arsenic, GFAA	13		mg/kg dw	11/09/1998	0.57	jtt	236	674	SW 7060
Barium, ICP	493		mg/kg dw	11/07/1998	1.1	jtt	1169	2188	SW 6010B
Cadmium, ICP	0.86		mg/kg dw	11/06/1998	0.57	jtt	1169	2174	SW 6010B
Chromium, ICP	126		mg/kg dw	11/06/1998	2.3	jtt	1169	2159	SW 6010B
Lead, ICP	41		mg/kg dw	11/06/1998	4.6	jtt	1169	2397	SW 6010B
Mercury, CVAA	0.055		mg/kg dw	11/06/1998	0.046	sep	666	770	SW 7471A
Selenium, GFAA	<0.29		mg/kg dw	11/08/1998	0.29	jtt	236	562	SW 7740
Silver, AA	<2.3		mg/kg dw	11/04/1998	2.3	sep	494	571	SW 7760
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	11/06/1998	0.006	jap		78	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	11/06/1998	0.006	jap		78	SW 8260A
Toluene	<0.006		mg/kg dw	11/06/1998	0.006	jap		78	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	11/06/1998	0.006	jap		78	SW 8260A
Dibromofluoromethane (Surr)	91.6		%	11/06/1998	81-129	jap		78	SW 8260A
Toluene-d8 (Surr)	91.4		%	11/06/1998	74-129	jap		78	SW 8260A
4-Bromofluoromethane (Surr)	99.4		%	11/06/1998	70-130	jap		78	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/05/1998		mmv	769		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.023		mg/kg dw	11/09/1998	0.023	keh	769	1834	SW 8310
Acenaphthylene	<0.023		mg/kg dw	11/09/1998	0.023	keh	769	1834	SW 8310
Anthracene	<0.071	MX	mg/kg dw	11/09/1998	0.046	keh	769	1834	SW 8310
Benzo(a)anthracene	<0.063	MX	mg/kg dw	11/09/1998	0.0030	keh	769	1834	SW 8310
Benzo(b)fluoranthene	0.014		mg/kg dw	11/09/1998	0.0041	keh	769	1834	SW 8310

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500672

NET Job No.: 98.14072

Sample Description: B-15 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 11:30
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.015	MX	mg/kg dw	11/09/1998	0.0039	keh	769	1834	SW 8310
Benzo(a)pyrene	0.032		mg/kg dw	11/09/1998	0.0053	keh	769	1834	SW 8310
Benzo(ghi)perylene	<0.046		mg/kg dw	11/09/1998	0.046	keh	769	1834	SW 8310
Chrysene	<0.03		mg/kg dw	11/09/1998	0.03	keh	769	1834	SW 8310
Dibenzo(a,h)anthracene	<0.007		mg/kg dw	11/09/1998	0.007	keh	769	1834	SW 8310
Fluoranthene	<0.10	MX	mg/kg dw	11/09/1998	0.023	keh	769	1834	SW 8310
Fluorene	<0.044	MX	mg/kg dw	11/09/1998	0.023	keh	769	1834	SW 8310
Indeno(1,2,3-cd)pyrene	<0.0099		mg/kg dw	11/09/1998	0.0099	keh	769	1834	SW 8310
Naphthalene	0.11		mg/kg dw	11/09/1998	0.029	keh	769	1834	SW 8310
Phenanthrene	0.14		mg/kg dw	11/09/1998	0.046	keh	769	1834	SW 8310
Pyrene	<0.046	MX	mg/kg dw	11/09/1998	0.023	keh	769	1834	SW 8310
Surr: p-Terphenyl	Masked			11/09/1998	43-125	keh	769	1834	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/04/1998	COMPLETE	mmv	382		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.046		mg/kg dw	11/07/1998	0.046	tls	382	58	SW 8082
PCB-1221	<0.046		mg/kg dw	11/07/1998	0.046	tls	382	58	SW 8082
PCB-1232	<0.046		mg/kg dw	11/07/1998	0.046	tls	382	58	SW 8082
PCB-1242	<0.046		mg/kg dw	11/07/1998	0.046	tls	382	58	SW 8082
PCB-1248	<0.046		mg/kg dw	11/07/1998	0.046	tls	382	58	SW 8082
PCB-1254	<0.046		mg/kg dw	11/07/1998	0.046	tls	382	58	SW 8082
PCB-1260	1.02		mg/kg dw	11/09/1998	0.046	tls	382	61	SW 8082
Decachlorobiphenyl (Surr)	70.0		%	11/07/1998	NA	tls	382	58	SW 8082
2,4,5,6-TCMX (Surr)	68.0		%	11/07/1998	NA	tls	382	58	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500673

NET Job No.: 98.14072

Sample Description: B-17 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 12:55
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.50		units	11/06/1998	0.10	nwg		197	SW 9045B
Solids, Total	93.8		%	11/04/1998	0.1	aks		2528	SM 2540
Arsenic, GFAA	5.0		mg/kg dw	11/09/1998	0.53	jtt	236	674	SW 7060
Barium, ICP	267		mg/kg dw	11/07/1998	1.1	jtt	1169	2188	SW 6010B
Cadmium, ICP	0.75		mg/kg dw	11/06/1998	0.53	jtt	1169	2174	SW 6010B
Chromium, ICP	128		mg/kg dw	11/06/1998	2.1	jtt	1169	2159	SW 6010B
Lead, ICP	27		mg/kg dw	11/06/1998	4.3	jtt	1169	2397	SW 6010B
Mercury, CVAA	<0.043		mg/kg dw	11/10/1998	0.043	sep	668	772	SW 7471A
Selenium, GFAA	<0.27		mg/kg dw	11/08/1998	0.27	jtt	236	562	SW 7740
Silver, AA	<2.1		mg/kg dw	11/04/1998	2.1	sep	494	571	SW 7760
UST VOLATILES NON-AQUEOUS									
Benzene	<0.005		mg/kg dw	11/06/1998	0.005	jap		78	SW 8260A
Ethylbenzene	<0.005		mg/kg dw	11/06/1998	0.005	jap		78	SW 8260A
Toluene	<0.005		mg/kg dw	11/06/1998	0.005	jap		78	SW 8260A
Xylenes, Total	<0.005		mg/kg dw	11/06/1998	0.005	jap		78	SW 8260A
Dibromofluoromethane (Surr)	99.8		%	11/06/1998	81-129	jap		78	SW 8260A
Toluene-d8 (Surr)	88.2		%	11/06/1998	74-129	jap		78	SW 8260A
4-Bromofluoromethane (Surr)	85.2		%	11/06/1998	70-130	jap		78	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/05/1998		mmv	769		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.021		mg/kg dw	11/09/1998	0.021	keh	769	1834	SW 8310
Acenaphthylene	<0.021		mg/kg dw	11/09/1998	0.021	keh	769	1834	SW 8310
Anthracene	<0.043		mg/kg dw	11/09/1998	0.043	keh	769	1834	SW 8310
Benzo(a)anthracene	<0.067	MX	mg/kg dw	11/09/1998	0.0028	keh	769	1834	SW 8310
Benzo(b)fluoranthene	0.019		mg/kg dw	11/09/1998	0.0038	keh	769	1834	SW 8310

MX : Dilution required due to sample matrix; analyte is not detected.

MWG13-15_46003

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500673

NET Job No.: 98.14072

Sample Description: B-17 (0-4')
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 12:55
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.032	MX	mg/kg dw	11/09/1998	0.0036	keh	769	1834	SW 8310
Benzo(a)pyrene	0.015		mg/kg dw	11/09/1998	0.0049	keh	769	1834	SW 8310
Benzo(ghi)perylene	<0.043		mg/kg dw	11/09/1998	0.043	keh	769	1834	SW 8310
Chrysene	<0.03		mg/kg dw	11/09/1998	0.03	keh	769	1834	SW 8310
Dibenzo(a,h)anthracene	<0.006		mg/kg dw	11/09/1998	0.006	keh	769	1834	SW 8310
Fluoranthene	<0.057	MX	mg/kg dw	11/09/1998	0.021	keh	769	1834	SW 8310
Fluorene	<0.021		mg/kg dw	11/09/1998	0.021	keh	769	1834	SW 8310
Indeno(1,2,3-cd)pyrene	<0.0092		mg/kg dw	11/09/1998	0.0092	keh	769	1834	SW 8310
Naphthalene	0.10		mg/kg dw	11/09/1998	0.027	keh	769	1834	SW 8310
Phenanthrene	0.082		mg/kg dw	11/09/1998	0.043	keh	769	1834	SW 8310
Pyrene	<0.034	MX	mg/kg dw	11/09/1998	0.021	keh	769	1834	SW 8310
Surr: p-Terphenyl	102.3		%	11/09/1998	43-125	keh	769	1834	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/04/1998	COMPLETE	mmv	382		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.043		mg/kg dw	11/07/1998	0.043	tls	382	58	SW 8082
PCB-1221	<0.043		mg/kg dw	11/07/1998	0.043	tls	382	58	SW 8082
PCB-1232	<0.043		mg/kg dw	11/07/1998	0.043	tls	382	58	SW 8082
PCB-1242	<0.043		mg/kg dw	11/07/1998	0.043	tls	382	58	SW 8082
PCB-1248	<0.043		mg/kg dw	11/07/1998	0.043	tls	382	58	SW 8082
PCB-1254	<0.043		mg/kg dw	11/07/1998	0.043	tls	382	58	SW 8082
PCB-1260	<0.043		mg/kg dw	11/07/1998	0.043	tls	382	58	SW 8082
Decachlorobiphenyl (Surr)	77.0		%	11/07/1998	NA	tls	382	58	SW 8082
2,4,5,6-TCMX (Surr)	82.0		%	11/07/1998	NA	tls	382	58	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500674

NET Job No.: 98.14072

Sample Description: S-11
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 13:45
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	7.61	units	11/06/1998	0.10	nwg	197	SW 9045B
Solids, Total	61.8	%	11/04/1998	0.1	aks	2528	SM 2540
Arsenic, GFAA	29	mg/kg dw	11/09/1998	0.81	jtt	236 674	SW 7060
Barium, ICP	1,230	mg/kg dw	11/07/1998	1.6	jtt	1169 2188	SW 6010B
Cadmium, ICP	18	mg/kg dw	11/06/1998	0.81	jtt	1169 2174	SW 6010B
Chromium, ICP	150	mg/kg dw	11/06/1998	3.2	jtt	1169 2159	SW 6010B
Lead, ICP	1,340	mg/kg dw	11/06/1998	6.5	jtt	1169 2397	SW 6010B
Mercury, CVAA	0.15	mg/kg dw	11/10/1998	0.065	sep	668 772	SW 7471A
Selenium, GFAA	2.6	mg/kg dw	11/08/1998	0.40	jtt	236 562	SW 7740
Silver, AA	<3.2	mg/kg dw	11/04/1998	3.2	sep	494 571	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		11/03/1998		mmv	246	SW 8015M
TPH MODIFIED 8015							
TPH as Gas	<809	mg/kg dw	11/05/1998	81	out	246 490	SW 8015M
TPH as Diesel	<809	mg/kg dw	11/05/1998	81	out	246 490	SW 8015M
TPH as Oil	65,000 PT	mg/kg dw	11/05/1998	81	out	246 490	SW 8015M
N-octacosane (TPH surr)	Diluted out	mg/kg dw	11/05/1998		out	246 490	SW 8015M
UST VOLATILES NON-AQUEOUS							
Benzene	<0.008	mg/kg dw	11/06/1998	0.008	jap	78	SW 8260A
Ethylbenzene	<0.008	mg/kg dw	11/06/1998	0.008	jap	78	SW 8260A
Toluene	<0.008	mg/kg dw	11/06/1998	0.008	jap	78	SW 8260A
Xylenes, Total	<0.008	mg/kg dw	11/06/1998	0.008	jap	78	SW 8260A
Dibromofluoromethane (Surr)	97.8	%	11/06/1998	81-129	jap	78	SW 8260A
Toluene-d8 (Surr)	81.0	%	11/06/1998	74-129	jap	78	SW 8260A
4-Bromofluoromethane (Surr)	84.2	%	11/06/1998	70-130	jap	78	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		11/05/1998		mmv	769	SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

MWG13-15_46005

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500674

NET Job No.: 98.14072

Sample Description: S-11
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 13:45
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS		ELV							
Acenaphthene	<0.32		mg/kg dw	11/09/1998	0.032	keh	769	1834	SW 8310
Acenaphthylene	<0.32		mg/kg dw	11/09/1998	0.032	keh	769	1834	SW 8310
Anthracene	<0.65		mg/kg dw	11/09/1998	0.065	keh	769	1834	SW 8310
Benzo(a)anthracene	<0.39		mg/kg dw	11/09/1998	0.0042	keh	769	1834	SW 8310
Benzo(b)fluoranthene	0.079		mg/kg dw	11/09/1998	0.0058	keh	769	1834	SW 8310
Benzo(k)fluoranthene	0.099		mg/kg dw	11/09/1998	0.0055	keh	769	1834	SW 8310
Benzo(a)pyrene	0.11		mg/kg dw	11/09/1998	0.0074	keh	769	1834	SW 8310
Benzo(ghi)perylene	<0.65		mg/kg dw	11/09/1998	0.065	keh	769	1834	SW 8310
Chrysene	<0.5		mg/kg dw	11/09/1998	0.05	keh	769	1834	SW 8310
Dibenzo(a,h)anthracene	<0.1		mg/kg dw	11/09/1998	0.01	keh	769	1834	SW 8310
Fluoranthene	<0.32		mg/kg dw	11/09/1998	0.032	keh	769	1834	SW 8310
Fluorene	<0.32		mg/kg dw	11/09/1998	0.032	keh	769	1834	SW 8310
Indeno(1,2,3-cd)pyrene	<0.14		mg/kg dw	11/09/1998	0.014	keh	769	1834	SW 8310
Naphthalene	<0.40		mg/kg dw	11/09/1998	0.040	keh	769	1834	SW 8310
Phenanthrene	0.66		mg/kg dw	11/09/1998	0.065	keh	769	1834	SW 8310
Pyrene	<0.32		mg/kg dw	11/09/1998	0.032	keh	769	1834	SW 8310
Surr: p-Terphenyl	Masked			11/09/1998	43-125	keh	769	1834	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/04/1998	COMPLETE	mmv	382		SW 3540C
PCB'S NON-AQUEOUS		ELV							
PCB-1016	<0.1		mg/kg dw	11/09/1998	0.065	tls	382	61	SW 8082
PCB-1221	<0.1		mg/kg dw	11/09/1998	0.065	tls	382	61	SW 8082
PCB-1232	<0.1		mg/kg dw	11/09/1998	0.065	tls	382	61	SW 8082
PCB-1242	<0.1		mg/kg dw	11/09/1998	0.065	tls	382	61	SW 8082
PCB-1248	<0.1		mg/kg dw	11/09/1998	0.065	tls	382	61	SW 8082
PCB-1254	<0.1		mg/kg dw	11/09/1998	0.065	tls	382	61	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500674

NET Job No.: 98.14072

Sample Description: S-11
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 13:45
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	0.79	mg/kg dw	11/09/1998	0.065	tls	382 61	SW 8082
Decachlorobiphenyl (Surr)	99.0	%	11/09/1998	NA	tls	382 61	SW 8082
2,4,5,6-TCMX (Surr)	82.0	%	11/09/1998	NA	tls	382 61	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500675

NET Job No.: 98.14072

Sample Description: X-4
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 14:10
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.38		units	11/06/1998	0.10	nwg		197	SW 9045B
Solids, Total	37.0		%	11/04/1998	0.1	aks		2528	SM 2540
Arsenic, GFAA	35		mg/kg dw	11/09/1998	1.4	jtt	238	674	SW 7060
Barium, ICP	892		mg/kg dw	11/10/1998	2.7	kdw	1172	2194	SW 6010B
Cadmium, ICP	<2.5	MX	mg/kg dw	11/09/1998	1.4	kdw	1172	2178	SW 6010B
Chromium, ICP	15		mg/kg dw	11/09/1998	5.4	kdw	1172	2163	SW 6010B
Lead, ICP	26		mg/kg dw	11/09/1998	11	kdw	1172	2401	SW 6010B
Mercury, CVAA	0.15		mg/kg dw	11/10/1998	0.11	sep	668	772	SW 7471A
Selenium, GFAA	0.76		mg/kg dw	11/08/1998	0.68	jtt	238	562	SW 7740
Silver, AA	<5.4		mg/kg dw	11/06/1998	5.4	sep	496	572	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			11/03/1998		mmv	246		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<140		mg/kg dw	11/05/1998	140	out	246	490	SW 8015M
TPH as Diesel	<140		mg/kg dw	11/05/1998	140	out	246	490	SW 8015M
TPH as Oil	10,900	PT	mg/kg dw	11/05/1998	140	out	246	490	SW 8015M
N-octacosane (TPH surr)	79.0		%	11/05/1998		out	246	490	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.01		mg/kg dw	11/07/1998	0.01	mjo		79	SW 8260A
Ethylbenzene	<0.01		mg/kg dw	11/07/1998	0.01	mjo		79	SW 8260A
Toluene	<0.01		mg/kg dw	11/07/1998	0.01	mjo		79	SW 8260A
Xylenes, Total	<0.01		mg/kg dw	11/07/1998	0.01	mjo		79	SW 8260A
Dibromofluoromethane (Surr)	93.4		%	11/07/1998	81-129	mjo		79	SW 8260A
Toluene-d8 (Surr)	75.6		%	11/07/1998	74-129	mjo		79	SW 8260A
4-Bromofluoromethane (Surr)	73.6		%	11/07/1998	70-130	mjo		79	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/05/1998		mmv	769		SW 3540C

MX : Dilution required due to sample matrix; analyte is not detected.
PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500675

NET Job No.: 98.14072

Sample Description: X-4
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 14:10
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.3	mg/kg dw	11/10/1998	0.054	keh	769	1834	SW 8310
Acenaphthylene	<0.3	mg/kg dw	11/10/1998	0.054	keh	769	1834	SW 8310
Anthracene	<0.6	mg/kg dw	11/10/1998	0.11	keh	769	1834	SW 8310
Benzo(a)anthracene	<2.0	mg/kg dw	11/10/1998	0.0070	keh	769	1834	SW 8310
Benzo(b)fluoranthene	<0.57	mg/kg dw	11/10/1998	0.0097	keh	769	1834	SW 8310
Benzo(k)fluoranthene	<0.70	mg/kg dw	11/10/1998	0.0092	keh	769	1834	SW 8310
Benzo(a)pyrene	<0.49	mg/kg dw	11/10/1998	0.012	keh	769	1834	SW 8310
Benzo(ghi)perylene	<0.6	mg/kg dw	11/10/1998	0.11	keh	769	1834	SW 8310
Chrysene	<0.4	mg/kg dw	11/10/1998	0.08	keh	769	1834	SW 8310
Dibenzo(a,h)anthracene	<0.1	mg/kg dw	11/10/1998	0.02	keh	769	1834	SW 8310
Fluoranthene	<0.3	mg/kg dw	11/10/1998	0.054	keh	769	1834	SW 8310
Fluorene	<0.57	mg/kg dw	11/10/1998	0.054	keh	769	1834	SW 8310
Indeno(1,2,3-cd)pyrene	<0.1	mg/kg dw	11/10/1998	0.023	keh	769	1834	SW 8310
Naphthalene	<0.3	mg/kg dw	11/10/1998	0.068	keh	769	1834	SW 8310
Phenanthrene	<0.6	mg/kg dw	11/10/1998	0.11	keh	769	1834	SW 8310
Pyrene	0.32	mg/kg dw	11/10/1998	0.054	keh	769	1834	SW 8310
Surr: p-Terphenyl	Masked		11/10/1998	43-125	keh	769	1834	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	382		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.11	mg/kg dw	11/07/1998	0.11	tls	382	58	SW 8082
PCB-1221	<0.11	mg/kg dw	11/07/1998	0.11	tls	382	58	SW 8082
PCB-1232	<0.11	mg/kg dw	11/07/1998	0.11	tls	382	58	SW 8082
PCB-1242	<0.11	mg/kg dw	11/07/1998	0.11	tls	382	58	SW 8082
PCB-1248	<0.11	mg/kg dw	11/07/1998	0.11	tls	382	58	SW 8082
PCB-1254	<0.11	mg/kg dw	11/07/1998	0.11	tls	382	58	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500675

NET Job No.: 98.14072

Sample Description: X-4
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 14:10
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	<0.11	mg/kg dw	11/07/1998	0.11	tls	382 58	SW 8082
Decachlorobiphenyl (Surr)	69.0	%	11/07/1998	NA	tls	382 58	SW 8082
2,4,5,6-TCMX (Surr)	80.0	%	11/07/1998	NA	tls	382 58	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500676

NET Job No.: 98.14072

Sample Description: X-1
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 14:30
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.99		units	11/06/1998	0.10	nwg		197	SW 9045B
Solids, Total	28.9		%	11/04/1998	0.1	aks		2528	SM 2540
Arsenic, GFAA	69		mg/kg dw	11/09/1998	1.7	jtt	238	674	SW 7060
Barium, ICP	190		mg/kg dw	11/10/1998	3.5	kdw	1172	2194	SW 6010B
Cadmium, ICP	<3.1	MX	mg/kg dw	11/09/1998	1.7	kdw	1172	2178	SW 6010B
Chromium, ICP	19		mg/kg dw	11/09/1998	6.9	kdw	1172	2163	SW 6010B
Lead, ICP	415		mg/kg dw	11/09/1998	14	kdw	1172	2401	SW 6010B
Mercury, CVAA	0.25		mg/kg dw	11/10/1998	0.14	sep	668	772	SW 7471A
Selenium, GFAA	<0.87		mg/kg dw	11/08/1998	0.87	jtt	238	562	SW 7740
Silver, AA	<6.9		mg/kg dw	11/06/1998	6.9	sep	496	572	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			11/03/1998		mmv	246		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<170		mg/kg dw	11/05/1998	170	out	246	490	SW 8015M
TPH as Diesel	17,800	PT	mg/kg dw	11/05/1998	170	out	246	490	SW 8015M
TPH as Oil	<170		mg/kg dw	11/05/1998	170	out	246	490	SW 8015M
N-octacosane (TPH surr)	135.0		%	11/05/1998		out	246	490	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.02		mg/kg dw	11/08/1998	0.02	mjo		80	SW 8260A
Ethylbenzene	<0.02		mg/kg dw	11/08/1998	0.02	mjo		80	SW 8260A
Toluene	<0.02		mg/kg dw	11/08/1998	0.02	mjo		80	SW 8260A
Xylenes, Total	<0.02		mg/kg dw	11/08/1998	0.02	mjo		80	SW 8260A
Dibromofluoromethane (Surr)	89.4		%	11/08/1998	81-129	mjo		80	SW 8260A
Toluene-d8 (Surr)	90.2		%	11/08/1998	74-129	mjo		80	SW 8260A
4-Bromofluoromethane (Surr)	93.8		%	11/08/1998	70-130	mjo		80	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/05/1998		mmv	769		SW 3540C

MX : Dilution required due to sample matrix; analyte is not detected.
PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the diesel range.

MWG13-15_46011

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500676

NET Job No.: 98.14072

Sample Description: X-1
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 14:30
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.069	mg/kg dw	11/10/1998	0.069	keh	769	1834	SW 8310
Acenaphthylene	<0.069	mg/kg dw	11/10/1998	0.069	keh	769	1834	SW 8310
Anthracene	<0.27	mg/kg dw	11/10/1998	0.14	keh	769	1834	SW 8310
Benzo(a)anthracene	<0.17	mg/kg dw	11/10/1998	0.0090	keh	769	1834	SW 8310
Benzo(b)fluoranthene	<0.093	mg/kg dw	11/10/1998	0.012	keh	769	1834	SW 8310
Benzo(k)fluoranthene	<0.13	mg/kg dw	11/10/1998	0.012	keh	769	1834	SW 8310
Benzo(a)pyrene	<0.066	mg/kg dw	11/10/1998	0.016	keh	769	1834	SW 8310
Benzo(ghi)perylene	<0.14	mg/kg dw	11/10/1998	0.14	keh	769	1834	SW 8310
Chrysene	<0.55	mg/kg dw	11/10/1998	0.1	keh	769	1834	SW 8310
Dibenzo(a,h)anthracene	<0.02	mg/kg dw	11/10/1998	0.02	keh	769	1834	SW 8310
Fluoranthene	<1.3	mg/kg dw	11/10/1998	0.069	keh	769	1834	SW 8310
Fluorene	<0.59	mg/kg dw	11/10/1998	0.069	keh	769	1834	SW 8310
Indeno(1,2,3-cd)pyrene	0.031	mg/kg dw	11/10/1998	0.030	keh	769	1834	SW 8310
Naphthalene	<0.087	mg/kg dw	11/10/1998	0.087	keh	769	1834	SW 8310
Phenanthrene	<0.14	mg/kg dw	11/10/1998	0.14	keh	769	1834	SW 8310
Pyrene	<1.9	mg/kg dw	11/10/1998	0.069	keh	769	1834	SW 8310
Surr: p-Terphenyl	Masked		11/10/1998	43-125	keh	769	1834	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/04/1998	COMPLETE	mmv	382		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.14	mg/kg dw	11/07/1998	0.14	tls	382	58	SW 8082
PCB-1221	<0.14	mg/kg dw	11/07/1998	0.14	tls	382	58	SW 8082
PCB-1232	<0.14	mg/kg dw	11/07/1998	0.14	tls	382	58	SW 8082
PCB-1242	<0.14	mg/kg dw	11/07/1998	0.14	tls	382	58	SW 8082
PCB-1248	<0.14	mg/kg dw	11/07/1998	0.14	tls	382	58	SW 8082
PCB-1254	0.17	mg/kg dw	11/07/1998	0.14	tls	382	58	SW 8082

ELV :Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500676

NET Job No.: 98.14072

Sample Description: X-1
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 14:30
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.14	mg/kg dw	11/07/1998	0.14	tls	382	58	SW 8082
Decachlorobiphenyl (Surr)	87.0	%	11/07/1998	NA	tls	382	58	SW 8082
2,4,5,6-TCMX (Surr)	67.0	%	11/07/1998	NA	tls	382	58	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500677

NET Job No.: 98.14072

Sample Description: X-2
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 14:40
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.78		units	11/06/1998	0.10	nwg		197	SW 9045B
Solids, Total	55.9		%	11/04/1998	0.1	aks		2528	SM 2540
Arsenic, GFAA	16		mg/kg dw	11/09/1998	0.89	mhp	239	675	SW 7060
Barium, ICP	160		mg/kg dw	11/10/1998	1.8	kdw	1172	2194	SW 6010B
Cadmium, ICP	1.7		mg/kg dw	11/09/1998	0.89	kdw	1172	2178	SW 6010B
Chromium, ICP	38		mg/kg dw	11/09/1998	3.6	kdw	1172	2163	SW 6010B
Lead, ICP	30		mg/kg dw	11/09/1998	7.2	kdw	1172	2401	SW 6010B
Mercury, CVAA	<0.072		mg/kg dw	11/10/1998	0.072	sep	668	772	SW 7471A
Selenium, GFAA	<0.45		mg/kg dw	11/09/1998	0.45	mhp	239	563	SW 7740
Silver, AA	<3.6		mg/kg dw	11/06/1998	3.6	sep	496	572	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			11/03/1998		mmv	246		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<89		mg/kg dw	11/05/1998	89	out	246	490	SW 8015M
TPH as Diesel	630	PT	mg/kg dw	11/05/1998	89	out	246	490	SW 8015M
TPH as Oil	<89		mg/kg dw	11/05/1998	89	out	246	490	SW 8015M
N-octacosane (TPH surr)	84.0		%	11/05/1998		out	246	490	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.009		mg/kg dw	11/07/1998	0.009	mjo		79	SW 8260A
Ethylbenzene	<0.009		mg/kg dw	11/07/1998	0.009	mjo		79	SW 8260A
Toluene	<0.009		mg/kg dw	11/07/1998	0.009	mjo		79	SW 8260A
Xylenes, Total	<0.009		mg/kg dw	11/07/1998	0.009	mjo		79	SW 8260A
Dibromofluoromethane (Surr)	88.0		%	11/07/1998	81-129	mjo		79	SW 8260A
Toluene-d8 (Surr)	86.2		%	11/07/1998	74-129	mjo		79	SW 8260A
4-Bromofluoromethane (Surr)	86.6		%	11/07/1998	70-130	mjo		79	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/05/1998		mmv	769		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the diesel range.

MWG13-15_46015

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500677

NET Job No.: 98.14072

Sample Description: X-2
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 14:40
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.036		mg/kg dw	11/10/1998	0.036	keh	769	1834	SW 8310
Acenaphthylene	<0.036		mg/kg dw	11/10/1998	0.036	keh	769	1834	SW 8310
Anthracene	<0.072		mg/kg dw	11/10/1998	0.072	keh	769	1834	SW 8310
Benzo(a)anthracene	<0.036	MX	mg/kg dw	11/10/1998	0.0047	keh	769	1834	SW 8310
Benzo(b)fluoranthene	<0.0064		mg/kg dw	11/10/1998	0.0064	keh	769	1834	SW 8310
Benzo(k)fluoranthene	0.0081		mg/kg dw	11/10/1998	0.0061	keh	769	1834	SW 8310
Benzo(a)pyrene	<0.014	MX	mg/kg dw	11/10/1998	0.0082	keh	769	1834	SW 8310
Benzo(ghi)perylene	<0.072		mg/kg dw	11/10/1998	0.072	keh	769	1834	SW 8310
Chrysene	<0.05		mg/kg dw	11/10/1998	0.05	keh	769	1835	SW 8310
Dibenzo(a,h)anthracene	<0.01		mg/kg dw	11/10/1998	0.01	keh	769	1834	SW 8310
Fluoranthene	<0.036		mg/kg dw	11/10/1998	0.036	keh	769	1834	SW 8310
Fluorene	<0.036		mg/kg dw	11/10/1998	0.036	keh	769	1834	SW 8310
Indeno(1,2,3-cd)pyrene	<0.015		mg/kg dw	11/10/1998	0.015	keh	769	1834	SW 8310
Naphthalene	0.15		mg/kg dw	11/10/1998	0.045	keh	769	1834	SW 8310
Phenanthrene	<0.072		mg/kg dw	11/10/1998	0.072	keh	769	1834	SW 8310
Pyrene	<0.036		mg/kg dw	11/10/1998	0.036	keh	769	1834	SW 8310
Surr: p-Terphenyl	73.9		%	11/10/1998	43-125	keh	769	1834	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/05/1998	COMPLETE	mmv	382		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.072		mg/kg dw	11/07/1998	0.072	tls	382	58	SW 8082
PCB-1221	<0.072		mg/kg dw	11/07/1998	0.072	tls	382	58	SW 8082
PCB-1232	<0.072		mg/kg dw	11/07/1998	0.072	tls	382	58	SW 8082
PCB-1242	<0.072		mg/kg dw	11/07/1998	0.072	tls	382	58	SW 8082
PCB-1248	<0.072		mg/kg dw	11/07/1998	0.072	tls	382	58	SW 8082
PCB-1254	<0.072		mg/kg dw	11/07/1998	0.072	tls	382	58	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500677

NET Job No.: 98.14072

Sample Description: X-2
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 14:40
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.072	mg/kg dw	11/07/1998	0.072	tls	382	58	SW 8082
Decachlorobiphenyl (Surr)	70.0	%	11/07/1998	NA	tls	382	58	SW 8082
2,4,5,6-TCMX (Surr)	96.0	%	11/07/1998	NA	tls	382	58	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500678

NET Job No.: 98.14072

Sample Description: S-6
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 14:50
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	6.60		units	11/06/1998	0.10	nwg		197	SW 9045B
Solids, Total	95.5		%	11/04/1998	0.1	aks		2528	SM 2540
Arsenic, GFAA	2.8		mg/kg dw	11/09/1998	0.52	mhp	239	675	SW 7060
Barium, ICP	41		mg/kg dw	11/10/1998	1.0	kdw	1173	2194	SW 6010B
Cadmium, ICP	<0.52		mg/kg dw	11/09/1998	0.52	kdw	1173	2178	SW 6010B
Chromium, ICP	4.5		mg/kg dw	11/09/1998	2.1	kdw	1173	2163	SW 6010B
Lead, ICP	8.5		mg/kg dw	11/09/1998	4.2	kdw	1173	2401	SW 6010B
Mercury, CVAA	<0.042		mg/kg dw	11/10/1998	0.042	sep	668	772	SW 7471A
Selenium, GFAA	0.31		mg/kg dw	11/09/1998	0.26	mhp	239	563	SW 7740
Silver, AA	2.2		mg/kg dw	11/06/1998	2.1	sep	496	572	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			11/03/1998		mmv	246		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<52		mg/kg dw	11/05/1998	52	out	246	490	SW 8015M
TPH as Diesel	5,790	PT	mg/kg dw	11/05/1998	52	out	246	490	SW 8015M
TPH as Oil	<52		mg/kg dw	11/05/1998	52	out	246	490	SW 8015M
N-octacosane (TPH surr)	104.0		%	11/05/1998		out	246	490	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.005		mg/kg dw	11/07/1998	0.005	mjo		79	SW 8260A
Ethylbenzene	<0.005		mg/kg dw	11/07/1998	0.005	mjo		79	SW 8260A
Toluene	<0.005		mg/kg dw	11/07/1998	0.005	mjo		79	SW 8260A
Xylenes, Total	<0.005		mg/kg dw	11/07/1998	0.005	mjo		79	SW 8260A
Dibromofluoromethane (Surr)	98.0		%	11/07/1998	81-129	mjo		79	SW 8260A
Toluene-d8 (Surr)	80.0		%	11/07/1998	74-129	mjo		79	SW 8260A
4-Bromofluoromethane (Surr)	91.0		%	11/07/1998	70-130	mjo		79	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/05/1998		mmv	769		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the diesel range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500678

NET Job No.: 98.14072

Sample Description: S-6
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 14:50
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.1	mg/kg dw	11/10/1998	0.021	keh	769	1834	SW 8310
Acenaphthylene	<2.1	mg/kg dw	11/10/1998	0.021	keh	769	1834	SW 8310
Anthracene	<4.2	mg/kg dw	11/10/1998	0.042	keh	769	1834	SW 8310
Benzo(a)anthracene	<1.4	mg/kg dw	11/10/1998	0.0027	keh	769	1834	SW 8310
Benzo(b)fluoranthene	<0.38	mg/kg dw	11/10/1998	0.0038	keh	769	1834	SW 8310
Benzo(k)fluoranthene	<0.36	mg/kg dw	11/10/1998	0.0036	keh	769	1834	SW 8310
Benzo(a)pyrene	<0.48	mg/kg dw	11/10/1998	0.0048	keh	769	1834	SW 8310
Benzo(ghi)perylene	<4.2	mg/kg dw	11/10/1998	0.042	keh	769	1834	SW 8310
Chrysene	<3	mg/kg dw	11/10/1998	0.03	keh	769	1834	SW 8310
Dibenzo(a,h)anthracene	<0.6	mg/kg dw	11/10/1998	0.006	keh	769	1834	SW 8310
Fluoranthene	<2.1	mg/kg dw	11/10/1998	0.021	keh	769	1834	SW 8310
Fluorene	<2.1	mg/kg dw	11/10/1998	0.021	keh	769	1834	SW 8310
Indeno(1,2,3-cd)pyrene	<0.90	mg/kg dw	11/10/1998	0.0090	keh	769	1834	SW 8310
Naphthalene	<2.6	mg/kg dw	11/10/1998	0.026	keh	769	1834	SW 8310
Phenanthrene	<4.2	mg/kg dw	11/10/1998	0.042	keh	769	1834	SW 8310
Pyrene	<7.0	mg/kg dw	11/10/1998	0.021	keh	769	1834	SW 8310
Surr: p-Terphenyl	Diluted out		11/10/1998	43-125	keh	769	1834	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/05/1998	COMPLETE	mmv	382		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.2	mg/kg dw	11/09/1998	0.042	tls	382	61	SW 8082
PCB-1221	<0.2	mg/kg dw	11/09/1998	0.042	tls	382	61	SW 8082
PCB-1232	<0.2	mg/kg dw	11/09/1998	0.042	tls	382	61	SW 8082
PCB-1242	<0.2	mg/kg dw	11/09/1998	0.042	tls	382	61	SW 8082
PCB-1248	<0.2	mg/kg dw	11/09/1998	0.042	tls	382	61	SW 8082
PCB-1254	<0.2	mg/kg dw	11/09/1998	0.042	tls	382	61	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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(800) 807-2877

ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500678

NET Job No.: 98.14072

Sample Description: S-6
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 14:50
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.2	mg/kg dw	11/09/1998	0.042	tls	382	61	SW 8082
Decachlorobiphenyl (Surr)	69.0	%	11/09/1998	NA	tls	382	61	SW 8082
2,4,5,6-TCMX (Surr)	52.0	%	11/09/1998	NA	tls	382	61	SW 8082

NATIONAL ENVIRONMENTAL TESTING, INC.

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Rockford Division
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Tel: (815) 874-2171
Fax: (815) 874-5622
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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500679

NET Job No.: 98.14072

Sample Description: X-3
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 14:25
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.99		units	11/06/1998	0.10	nwg		197	SW 9045B
Solids, Total	39.2		%	11/04/1998	0.1	aks		2528	SM 2540
Arsenic, GFAA	9.7		mg/kg dw	11/09/1998	1.3	mhp	239	675	SW 7060
Barium, ICP	765		mg/kg dw	11/10/1998	2.6	kdw	1173	2194	SW 6010B
Cadmium, ICP	2.2		mg/kg dw	11/09/1998	1.3	kdw	1173	2178	SW 6010B
Chromium, ICP	31		mg/kg dw	11/09/1998	5.1	kdw	1173	2163	SW 6010B
Lead, ICP	71		mg/kg dw	11/09/1998	10	kdw	1173	2401	SW 6010B
Mercury, CVAA	0.92		mg/kg dw	11/10/1998	0.10	sep	668	772	SW 7471A
Selenium, GFAA	0.71		mg/kg dw	11/09/1998	0.64	mhp	239	563	SW 7740
Silver, AA	<5.1		mg/kg dw	11/06/1998	5.1	sep	496	572	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			11/03/1998		mmv	246		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<130		mg/kg dw	11/05/1998	130	out	246	490	SW 8015M
TPH as Diesel	<130		mg/kg dw	11/05/1998	130	out	246	490	SW 8015M
TPH as Oil	9,390	PT	mg/kg dw	11/05/1998	130	out	246	490	SW 8015M
N-octacosane (TPH surr)	46.0		%	11/05/1998		out	246	490	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.01		mg/kg dw	11/07/1998	0.01	mjo		79	SW 8260A
Ethylbenzene	<0.01		mg/kg dw	11/07/1998	0.01	mjo		79	SW 8260A
Toluene	<0.01		mg/kg dw	11/07/1998	0.01	mjo		79	SW 8260A
Xylenes, Total	<0.01		mg/kg dw	11/07/1998	0.01	mjo		79	SW 8260A
Dibromofluoromethane (Surr)	82.2		%	11/07/1998	81-129	mjo		79	SW 8260A
Toluene-d8 (Surr)	86.4		%	11/07/1998	74-129	mjo		79	SW 8260A
4-Bromofluoromethane (Surr)	92.8		%	11/07/1998	70-130	mjo		79	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/05/1998		mmv	769		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

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ANALYTICAL REPORT

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11/11/1998

Sample No. : 500679

NET Job No.: 98.14072

Sample Description: X-3
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
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IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.12	MX	mg/kg dw	11/10/1998	0.051	keh	769	1834	SW 8310
Acenaphthylene	<0.051		mg/kg dw	11/10/1998	0.051	keh	769	1834	SW 8310
Anthracene	<0.10		mg/kg dw	11/10/1998	0.10	keh	769	1834	SW 8310
Benzo(a)anthracene	<0.74	MX	mg/kg dw	11/10/1998	0.0066	keh	769	1834	SW 8310
Benzo(b)fluoranthene	0.092		mg/kg dw	11/10/1998	0.0092	keh	769	1834	SW 8310
Benzo(k)fluoranthene	<0.20	MX	mg/kg dw	11/10/1998	0.0087	keh	769	1834	SW 8310
Benzo(a)pyrene	<0.13	MX	mg/kg dw	11/10/1998	0.012	keh	769	1834	SW 8310
Benzo(ghi)perylene	<0.10		mg/kg dw	11/10/1998	0.10	keh	769	1834	SW 8310
Chrysene	0.17		mg/kg dw	11/10/1998	0.08	keh	769	1834	SW 8310
Dibenzo(a,h)anthracene	<0.031	MX	mg/kg dw	11/10/1998	0.02	keh	769	1834	SW 8310
Fluoranthene	0.33		mg/kg dw	11/10/1998	0.051	keh	769	1834	SW 8310
Fluorene	<0.79	MX	mg/kg dw	11/10/1998	0.051	keh	769	1834	SW 8310
Indeno(1,2,3-cd)pyrene	0.061		mg/kg dw	11/10/1998	0.022	keh	769	1834	SW 8310
Naphthalene	<0.064		mg/kg dw	11/10/1998	0.064	keh	769	1834	SW 8310
Phenanthrene	0.23		mg/kg dw	11/10/1998	0.10	keh	769	1834	SW 8310
Pyrene	0.28		mg/kg dw	11/10/1998	0.051	keh	769	1834	SW 8310
Surr: p-Terphenyl	Masked			11/10/1998	43-125	keh	769	1834	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/05/1998	COMPLETE	mmv	382		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.10		mg/kg dw	11/07/1998	0.10	tls	382	58	SW 8082
PCB-1221	<0.10		mg/kg dw	11/07/1998	0.10	tls	382	58	SW 8082
PCB-1232	<0.10		mg/kg dw	11/07/1998	0.10	tls	382	58	SW 8082
PCB-1242	<0.10		mg/kg dw	11/07/1998	0.10	tls	382	58	SW 8082
PCB-1248	<0.10		mg/kg dw	11/07/1998	0.10	tls	382	58	SW 8082
PCB-1254	<0.10		mg/kg dw	11/07/1998	0.10	tls	382	58	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
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Westmont, IL 60559

11/11/1998

Sample No. : 500679

NET Job No.: 98.14072

Sample Description: X-3
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 14:25
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	<0.10	mg/kg dw	11/07/1998	0.10	tls	382 58	SW 8082
Decachlorobiphenyl (Surr)	70.0	%	11/07/1998	NA	tls	382 58	SW 8082
2,4,5,6-TCMX (Surr)	112.0	%	11/07/1998	NA	tls	382 58	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500680

NET Job No.: 98.14072

Sample Description: X-5
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 15:40
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.92		units	11/06/1998	0.10	nwg		197	SW 9045B
Solids, Total	53.0		%	11/04/1998	0.1	aks		2528	SM 2540
Arsenic, GFAA	28		mg/kg dw	11/09/1998	0.94	mhp	239	675	SW 7060
Barium, ICP	3,770		mg/kg dw	11/10/1998	1.9	kdw	1173	2194	SW 6010B
Cadmium, ICP	2.1		mg/kg dw	11/09/1998	0.94	kdw	1173	2178	SW 6010B
Chromium, ICP	42		mg/kg dw	11/09/1998	3.8	kdw	1173	2163	SW 6010B
Lead, ICP	55		mg/kg dw	11/09/1998	7.5	kdw	1173	2401	SW 6010B
Mercury, CVAA	0.77		mg/kg dw	11/10/1998	0.075	sep	668	772	SW 7471A
Selenium, GFAA	2.6		mg/kg dw	11/09/1998	0.47	mhp	239	563	SW 7740
Silver, AA	4.5		mg/kg dw	11/06/1998	3.8	sep	496	572	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			11/03/1998		mmv	246		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<94		mg/kg dw	11/05/1998	94	out	246	490	SW 8015M
TPH as Diesel	<94		mg/kg dw	11/05/1998	94	out	246	490	SW 8015M
TPH as Oil	<94		mg/kg dw	11/05/1998	94	out	246	490	SW 8015M
N-octacosane (TPH surr)	75.0		%	11/05/1998		out	246	490	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.009		mg/kg dw	11/07/1998	0.009	mjo		79	SW 8260A
Ethylbenzene	<0.009		mg/kg dw	11/07/1998	0.009	mjo		79	SW 8260A
Toluene	<0.009		mg/kg dw	11/07/1998	0.009	mjo		79	SW 8260A
Xylenes, Total	<0.009		mg/kg dw	11/07/1998	0.009	mjo		79	SW 8260A
Dibromofluoromethane (Surr)	128.8	R	%	11/07/1998	81-129	mjo		79	SW 8260A
Toluene-d8 (Surr)	81.6		%	11/07/1998	74-129	mjo		79	SW 8260A
4-Bromofluoromethane (Surr)	60.2	R	%	11/07/1998	70-130	mjo		79	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/05/1998		mmv	769		SW 3540C

R : Surrogate recovery verified by re-analysis.

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ANALYTICAL REPORT

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11/11/1998

Sample No. : 500680

NET Job No.: 98.14072

Sample Description: X-5
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
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IEPA Cert. No. 100221

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Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.038		mg/kg dw	11/10/1998	0.038	keh	769	1834	SW 8310
Acenaphthylene	<0.038		mg/kg dw	11/10/1998	0.038	keh	769	1834	SW 8310
Anthracene	<0.075		mg/kg dw	11/10/1998	0.075	keh	769	1834	SW 8310
Benzo(a)anthracene	<0.043	MX	mg/kg dw	11/10/1998	0.0049	keh	769	1834	SW 8310
Benzo(b)fluoranthene	<0.0068		mg/kg dw	11/10/1998	0.0068	keh	769	1834	SW 8310
Benzo(k)fluoranthene	<0.032	MX	mg/kg dw	11/10/1998	0.0064	keh	769	1834	SW 8310
Benzo(a)pyrene	<0.0087		mg/kg dw	11/10/1998	0.0087	keh	769	1834	SW 8310
Benzo(ghi)perylene	<0.075		mg/kg dw	11/10/1998	0.075	keh	769	1834	SW 8310
Chrysene	<0.06		mg/kg dw	11/10/1998	0.06	keh	769	1834	SW 8310
Dibenzo(a,h)anthracene	<0.01		mg/kg dw	11/10/1998	0.01	keh	769	1834	SW 8310
Fluoranthene	<0.038		mg/kg dw	11/10/1998	0.038	keh	769	1834	SW 8310
Fluorene	<0.038		mg/kg dw	11/10/1998	0.038	keh	769	1834	SW 8310
Indeno(1,2,3-cd)pyrene	<0.016		mg/kg dw	11/10/1998	0.016	keh	769	1834	SW 8310
Naphthalene	<0.047		mg/kg dw	11/10/1998	0.047	keh	769	1834	SW 8310
Phenanthrene	<0.075		mg/kg dw	11/10/1998	0.075	keh	769	1834	SW 8310
Pyrene	<0.038		mg/kg dw	11/10/1998	0.038	keh	769	1834	SW 8310
Surr: p-Terphenyl	21.0	SR	%	11/10/1998	43-125	keh	769	1834	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/05/1998	COMPLETE	mmv	382		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.075		mg/kg dw	11/07/1998	0.075	tls	382	58	SW 8082
PCB-1221	<0.075		mg/kg dw	11/07/1998	0.075	tls	382	58	SW 8082
PCB-1232	<0.075		mg/kg dw	11/07/1998	0.075	tls	382	58	SW 8082
PCB-1242	<0.075		mg/kg dw	11/07/1998	0.075	tls	382	58	SW 8082
PCB-1248	<0.075		mg/kg dw	11/07/1998	0.075	tls	382	58	SW 8082
PCB-1254	<0.075		mg/kg dw	11/07/1998	0.075	tls	382	58	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.
SR : Surrogate recovery was outside of acceptance limits, due to sample matrix

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11/11/1998

Sample No. : 500680

NET Job No.: 98.14072

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ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 15:40
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.075	mg/kg dw	11/07/1998	0.075	tls	382	58	SW 8082
Decachlorobiphenyl (Surr)	77.0	%	11/07/1998	NA	tls	382	58	SW 8082
2,4,5,6-TCMX (Surr)	73.0	%	11/07/1998	NA	tls	382	58	SW 8082

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11/11/1998

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ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 15:50
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.89		units	11/06/1998	0.10	nwg		198	SW 9045B
Solids, Total	47.9		%	11/04/1998	0.1	aks		2529	SM 2540
Arsenic, GFAA	33		mg/kg dw	11/09/1998	1.0	mhp	239	675	SW 7060
Barium, ICP	3,970		mg/kg dw	11/10/1998	2.1	kdw	1173	2194	SW 6010B
Cadmium, ICP	2.9		mg/kg dw	11/09/1998	1.0	kdw	1173	2178	SW 6010B
Chromium, ICP	52		mg/kg dw	11/09/1998	4.2	kdw	1173	2163	SW 6010B
Lead, ICP	71		mg/kg dw	11/09/1998	8.4	kdw	1173	2401	SW 6010B
Mercury, CVAA	0.73		mg/kg dw	11/10/1998	0.084	sep	668	772	SW 7471A
Selenium, GFAA	2.5	M+	mg/kg dw	11/09/1998	0.52	mhp	239	563	SW 7740
Silver, AA	<4.2		mg/kg dw	11/06/1998	4.2	sep	496	572	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			11/03/1998		mmv	246		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<100		mg/kg dw	11/05/1998	100	out	246	490	SW 8015M
TPH as Diesel	<100		mg/kg dw	11/05/1998	100	out	246	490	SW 8015M
TPH as Oil	223	PT	mg/kg dw	11/05/1998	100	out	246	490	SW 8015M
N-octacosane (TPH surr)	78.0		%	11/05/1998		out	246	490	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.01		mg/kg dw	11/07/1998	0.01	mjo		79	SW 8260A
Ethylbenzene	<0.01		mg/kg dw	11/07/1998	0.01	mjo		79	SW 8260A
Toluene	<0.01		mg/kg dw	11/07/1998	0.01	mjo		79	SW 8260A
Xylenes, Total	<0.01		mg/kg dw	11/07/1998	0.01	mjo		79	SW 8260A
Dibromofluoromethane (Surr)	101.0		%	11/07/1998	81-129	mjo		79	SW 8260A
Toluene-d8 (Surr)	80.6		%	11/07/1998	74-129	mjo		79	SW 8260A
4-Bromofluoromethane (Surr)	54.8	R	%	11/07/1998	70-130	mjo		79	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			11/05/1998		mmv	769		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.
R : Surrogate recovery verified by re-analysis.

MWG13-15_46027

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11/11/1998

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Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.042		mg/kg dw	11/10/1998	0.042	keh	769	1834	SW 8310
Acenaphthylene	<0.042		mg/kg dw	11/10/1998	0.042	keh	769	1834	SW 8310
Anthracene	<0.084		mg/kg dw	11/10/1998	0.084	keh	769	1834	SW 8310
Benzo(a)anthracene	<0.10	MX	mg/kg dw	11/10/1998	0.0054	keh	769	1834	SW 8310
Benzo(b)fluoranthene	<0.0075		mg/kg dw	11/10/1998	0.0075	keh	769	1834	SW 8310
Benzo(k)fluoranthene	<0.0071		mg/kg dw	11/10/1998	0.0071	keh	769	1834	SW 8310
Benzo(a)pyrene	<0.0096		mg/kg dw	11/10/1998	0.0096	keh	769	1834	SW 8310
Benzo(ghi)perylene	<0.084		mg/kg dw	11/10/1998	0.084	keh	769	1834	SW 8310
Chrysene	<0.06		mg/kg dw	11/10/1998	0.06	keh	769	1834	SW 8310
Dibenzo(a,h)anthracene	<0.01		mg/kg dw	11/10/1998	0.01	keh	769	1834	SW 8310
Fluoranthene	<0.042		mg/kg dw	11/10/1998	0.042	keh	769	1834	SW 8310
Fluorene	<0.042		mg/kg dw	11/10/1998	0.042	keh	769	1834	SW 8310
Indeno(1,2,3-cd)pyrene	<0.018		mg/kg dw	11/10/1998	0.018	keh	769	1834	SW 8310
Naphthalene	<0.052		mg/kg dw	11/10/1998	0.052	keh	769	1834	SW 8310
Phenanthrene	<0.084		mg/kg dw	11/10/1998	0.084	keh	769	1834	SW 8310
Pyrene	<0.042		mg/kg dw	11/10/1998	0.042	keh	769	1834	SW 8310
Surr: p-Terphenyl	83.8		%	11/10/1998	43-125	keh	769	1834	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/05/1998	COMPLETE	mmv	382		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.084		mg/kg dw	11/07/1998	0.084	tls	382	58	SW 8082
PCB-1221	<0.084		mg/kg dw	11/07/1998	0.084	tls	382	58	SW 8082
PCB-1232	<0.084		mg/kg dw	11/07/1998	0.084	tls	382	58	SW 8082
PCB-1242	<0.084		mg/kg dw	11/07/1998	0.084	tls	382	58	SW 8082
PCB-1248	<0.084		mg/kg dw	11/07/1998	0.084	tls	382	58	SW 8082
PCB-1254	<0.084		mg/kg dw	11/07/1998	0.084	tls	382	58	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 500681

NET Job No.: 98.14072

Sample Description: X-6
ComEd-Waukegan; 1801-023-210

Date Taken: 10/29/1998
Time Taken: 15:50
IEPA Cert. No. 100221

Date Received: 10/30/1998
Time Received: 12:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.084	mg/kg dw	11/07/1998	0.084	tls	382	58	SW 8082
Decachlorobiphenyl (Surr)	74.0	%	11/07/1998	NA	tls	382	58	SW 8082
2,4,5,6-TCMX (Surr)	86.0	%	11/07/1998	NA	tls	382	58	SW 8082

MWG13-15_46029

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.14072

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
pH, Non-Aqueous	196	7.00	7.00	100.0
pH, Non-Aqueous	197	7.00	7.00	100.0
pH, Non-Aqueous	198	7.00	7.0	100.0
Arsenic, GFAA	674	0.0250	0.0248	99.2
Arsenic, GFAA	675	0.0250	0.0243	97.2
Barium, ICP	2188	2.00	1.99	99.5
Barium, ICP	2188	2.00	2.03	101.5
Barium, ICP	2194	2.00	2.07	103.5
Cadmium, ICP	2174	1.00	1.07	107.0
Cadmium, ICP	2178	1.00	0.996	99.6
Chromium, ICP	2159	2.00	2.17	108.5
Chromium, ICP	2163	2.00	2.00	100.0
Lead, ICP	2397	2.00	2.11	105.5
Lead, ICP	2401	2.00	2.02	101.0
Mercury, CVAA	770	0.0025	0.00230	92.0
Mercury, CVAA	772	0.0025	0.00253	101.2
Selenium, GFAA	562	0.050	0.0506	101.2
Selenium, GFAA	562	0.050	0.0501	100.2
Selenium, GFAA	563	0.0500	0.0494	98.8
Silver, AA	571	0.50	0.497	99.4
Silver, AA	572	0.50	0.495	99.0
UST VOLATILES NON-AQUEOUS				
Benzene	77	50.0	53.6	107.2
Ethylbenzene	77	50.0	53.3	106.6
Toluene	77	50.0	55.2	110.4
Xylenes, Total	77	150	161	107.3
UST VOLATILES NON-AQUEOUS				
Benzene	78	50.0	54.7	109.4
Ethylbenzene	78	50.0	53.1	106.2
Toluene	78	50.0	54.9	109.8
Xylenes, Total	78	150	160	106.7
UST VOLATILES NON-AQUEOUS				
Benzene	79	50.0	48.6	97.2
Ethylbenzene	79	50.0	46.5	93.0

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/11/1998

NET Job Number: 98.14072

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Toluene	79	50.0	49.6	99.2
Xylenes, Total	79	150	140	93.3
UST VOLATILES NON-AQUEOUS				
Benzene	80	50.0	47.8	95.6
Ethylbenzene	80	50.0	45.3	90.6
Toluene	80	50.0	47.7	95.4
Xylenes, Total	80	150	138	92.0
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1833	5000	4,772	95.4
Acenaphthylene	1833	5000	5,052	101.0
Anthracene	1833	5000	5,101	102.0
Benzo(a)anthracene	1833	5000	5,100	102.0
Benzo(b)fluoranthene	1833	5000	5,023	100.5
Benzo(k)fluoranthene	1833	5000	4,833	96.7
Benzo(a)pyrene	1833	5000	4,841	96.8
Benzo(ghi)perylene	1833	5000	5,077	101.5
Chrysene	1833	5000	5,078	101.6
Dibenzo(a,h)anthracene	1833	5000	4,997	99.9
Fluoranthene	1833	5000	5,044	100.9
Fluorene	1833	5000	4,953	99.1
Indeno(1,2,3-cd)pyrene	1833	5000	5,032	100.6
Naphthalene	1833	5000	4,652	93.0
Phenanthrene	1833	5000	5,042	100.8
Pyrene	1833	5000	4,907	98.1
Surr: p-Terphenyl	1833	5000	4,856	97.1
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1833	5000	4,848	97.0
Acenaphthylene	1833	5000	5,219	104.4
Anthracene	1833	5000	5,161	103.2
Benzo(a)anthracene	1833	5000	5,266	105.3
Benzo(b)fluoranthene	1833	5000	4,961	99.2
Benzo(k)fluoranthene	1833	5000	4,980	99.6
Benzo(a)pyrene	1833	5000	4,874	97.5
Benzo(ghi)perylene	1833	5000	5,175	103.5

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
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11/11/1998

NET Job Number: 98.14072

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Chrysene	1833	5000	5,175	103.5
Dibenzo(a,h)anthracene	1833	5000	5,114	102.3
Fluoranthene	1833	5000	5,133	102.7
Fluorene	1833	5000	5,041	100.8
Indeno(1,2,3-cd)pyrene	1833	5000	5,070	101.4
Naphthalene	1833	5000	4,767	95.3
Phenanthrene	1833	5000	5,120	102.4
Pyrene	1833	5000	4,980	99.6
Surr: p-Terphenyl	1833	5000	4,976	99.5
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1833	5000	4,815	96.3
Acenaphthylene	1833	5000	5,143	102.9
Anthracene	1833	5000	5,176	103.5
Benzo(a)anthracene	1833	5000	5,204	104.1
Benzo(b)fluoranthene	1833	5000	5,071	101.4
Benzo(k)fluoranthene	1833	5000	4,923	98.5
Benzo(a)pyrene	1833	5000	4,957	99.1
Benzo(ghi)perylene	1833	5000	5,149	103.0
Chrysene	1833	5000	5,232	104.6
Dibenzo(a,h)anthracene	1833	5000	5,058	101.2
Fluoranthene	1833	5000	5,090	101.8
Fluorene	1833	5000	5,015	100.3
Indeno(1,2,3-cd)pyrene	1833	5000	5,098	102.0
Naphthalene	1833	5000	4,759	95.2
Phenanthrene	1833	5000	5,135	102.7
Pyrene	1833	5000	5,004	100.1
Surr: p-Terphenyl	1833	5000	5,030	100.6
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1833	5000	4,926	98.5
Acenaphthylene	1833	5000	5,116	102.3
Anthracene	1833	5000	5,182	103.6
Benzo(a)anthracene	1833	5000	5,207	104.1
Benzo(b)fluoranthene	1833	5000	4,911	98.2
Benzo(k)fluoranthene	1833	5000	4,858	97.2

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.14072

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Benzo(a)pyrene	1833	5000	4,927	98.5
Benzo(ghi)perylene	1833	5000	5,045	100.9
Chrysene	1833	5000	5,186	103.7
Dibenzo(a,h)anthracene	1833	5000	5,114	102.3
Fluoranthene	1833	5000	5,120	102.4
Fluorene	1833	5000	5,038	100.8
Indeno(1,2,3-cd)pyrene	1833	5000	5,132	102.6
Naphthalene	1833	5000	4,745	94.9
Phenanthrene	1833	5000	5,144	102.9
Pyrene	1833	5000	5,045	100.9
Surr: p-Terphenyl	1833	5000	4,911	98.2
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1834	5000	4,550	91.0
Acenaphthylene	1834	5000	5,058	101.2
Anthracene	1834	5000	5,063	101.3
Benzo(a)anthracene	1834	5000	4,980	99.6
Benzo(b)fluoranthene	1834	5000	4,930	98.6
Benzo(k)fluoranthene	1834	5000	4,872	97.4
Benzo(a)pyrene	1834	5000	4,826	96.5
Benzo(ghi)perylene	1834	5000	4,855	97.1
Chrysene	1834	5000	4,996	99.9
Dibenzo(a,h)anthracene	1834	5000	4,914	98.3
Fluoranthene	1834	5000	4,867	97.3
Fluorene	1834	5000	4,876	97.5
Indeno(1,2,3-cd)pyrene	1834	5000	4,600	92.0
Naphthalene	1834	5000	4,583	91.7
Phenanthrene	1834	5000	4,614	92.3
Pyrene	1834	5000	4,947	98.9
Surr: p-Terphenyl	1834	5000	4,831	96.6
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1834	5000	4,611	92.2
Acenaphthylene	1834	5000	5,039	100.8
Anthracene	1834	5000	5,085	101.7
Benzo(a)anthracene	1834	5000	4,971	99.4

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.14072

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Benzo(b)fluoranthene	1834	5000	4,874	97.5
Benzo(k)fluoranthene	1834	5000	4,857	97.1
Benzo(a)pyrene	1834	5000	5,112	102.2
Benzo(ghi)perylene	1834	5000	4,926	98.5
Chrysene	1834	5000	5,072	101.4
Dibenzo(a,h)anthracene	1834	5000	4,944	98.9
Fluoranthene	1834	5000	4,890	97.8
Fluorene	1834	5000	4,895	97.9
Indeno(1,2,3-cd)pyrene	1834	5000	4,465	89.3
Naphthalene	1834	5000	4,705	94.1
Phenanthrene	1834	5000	4,608	92.2
Pyrene	1834	5000	4,986	99.7
Surr: p-Terphenyl	1834	5000	4,754	95.1
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1834	5000	4,433	88.7
Acenaphthylene	1834	5000	5,054	101.1
Anthracene	1834	5000	5,185	103.7
Benzo(a)anthracene	1834	5000	4,988	99.8
Benzo(b)fluoranthene	1834	5000	4,898	98.0
Benzo(k)fluoranthene	1834	5000	4,927	98.5
Benzo(a)pyrene	1834	5000	5,071	101.4
Benzo(ghi)perylene	1834	5000	4,983	99.7
Chrysene	1834	5000	5,015	100.3
Dibenzo(a,h)anthracene	1834	5000	5,124	102.5
Fluoranthene	1834	5000	5,102	102.0
Fluorene	1834	5000	5,010	100.2
Indeno(1,2,3-cd)pyrene	1834	5000	4,507	90.1
Naphthalene	1834	5000	4,621	92.4
Phenanthrene	1834	5000	4,812	96.2
Pyrene	1834	5000	5,147	102.9
Surr: p-Terphenyl	1834	5000	4,778	95.6
PNA CMPDS - 8310 NONAQUEOUS				
Chrysene	1835	5000	4,966	99.3
PNA CMPDS - 8310 NONAQUEOUS				

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.14072

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Chrysene	1835	5000	5,018	100.4
PNA CMPDS - 8310 NONAQUEOUS				
Chrysene	1835	5000	4,928	98.6
PCB'S NON-AQUEOUS				
PCB-1016	58	500	494	98.8
PCB-1260	58	500	436	87.2
PCB'S NON-AQUEOUS				
PCB-1016	58	500	506	101.2
PCB-1260	58	500	444	88.8
PCB'S NON-AQUEOUS				
PCB-1016	58	500	505	101.0
PCB-1260	58	500	505	101.0
PCB'S NON-AQUEOUS				
PCB-1016	58	500	469	93.8
PCB-1260	58	500	451	90.2
PCB'S NON-AQUEOUS				
PCB-1016	58	500	498	99.6
PCB-1260	58	500	431	86.2
PCB'S NON-AQUEOUS				
PCB-1016	60	500	489	97.8
PCB-1260	60	500	490	98.0
PCB'S NON-AQUEOUS				
PCB-1016	60	500	500	100.0
PCB-1260	60	500	479	95.8
PCB'S NON-AQUEOUS				
PCB-1016	60	500	498	99.6
PCB-1016	60	500	498	99.6
PCB-1260	60	500	457	91.4
PCB-1260	60	500	457	91.4
PCB'S NON-AQUEOUS				
PCB-1016	61	500	483	96.6
PCB-1260	61	500	453	90.6
PCB'S NON-AQUEOUS				
PCB-1016	61	500	494	98.8

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.14072

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
PCB-1260	61	500	454	90.8
PCB'S NON-AQUEOUS				
PCB-1016	61	500	510	102.0
PCB-1260	61	500	503	100.6

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.14072

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Arsenic, GFAA	236	674	<0.25	mg/Kg	0.50	SW 7060
Arsenic, GFAA	238	673	<0.50	mg/Kg	0.50	SW 7060
Arsenic, GFAA	239	675	<0.50	mg/Kg	0.50	SW 7060
Barium, ICP	1169	2188	<1.0	mg/Kg	1.0	SW 6010B
Barium, ICP	1172	2194	<1.0	mg/Kg	1.0	SW 6010B
Barium, ICP	1173	2194	<1.0	mg/Kg	1.0	SW 6010B
Cadmium, ICP	1169	2174	<0.50	mg/Kg	0.50	SW 6010B
Cadmium, ICP	1172	2178	<0.50	mg/Kg	0.50	SW 6010B
Cadmium, ICP	1173	2178	<0.50	mg/Kg	0.50	SW 6010B
Chromium, ICP	1169	2159	<2.0	mg/Kg	2.0	SW 6010B
Chromium, ICP	1172	2163	<2.0	mg/Kg	2.0	SW 6010B
Chromium, ICP	1173	2163	<2.0	mg/Kg	2.0	SW 6010B
Lead, ICP	1169	2397	<4.0	mg/Kg	4.0	SW 6010B
Lead, ICP	1172	2401	<4.0	mg/Kg	4.0	SW 6010B
Lead, ICP	1173	2401	<4.0	mg/Kg	4.0	SW 6010B
Mercury, CVAA	666	770	<0.040	mg/Kg	0.040	SW 7471A
Mercury, CVAA	668	772	<0.040	mg/Kg	0.040	SW 7471A
Selenium, GFAA	236	562	<0.25	mg/Kg	0.25	SW 7740
Selenium, GFAA	238	562	<0.25	mg/Kg	0.25	SW 7740
Selenium, GFAA	239	563	<0.25	mg/Kg	0.25	SW 7740
Silver, AA	494	571	<2.0	mg/Kg	2.0	SW 7760
Silver, AA	496	572	<2.0	mg/Kg	2.0	SW 7760
TPH MODIFIED 8015						SW 8015M
TPH as Gas	246	490	<50	mg/Kg	50	SW 8015M
TPH as Diesel	246	490	<50	mg/Kg	50	SW 8015M
TPH as Oil	246	490	<50	mg/Kg	50	SW 8015M
N-octacosane (TPH surr)	246	490	102.0	%		SW 8015M
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		77	<0.005	mg/Kg	0.005	SW 8260A

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.14072

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Ethylbenzene		77	<0.005	mg/Kg	0.005	SW 8260A
Toluene		77	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		77	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		77	101.4	%	81-129	SW 8260A
Toluene-d8 (Surr)		77	106.4	%	74-129	SW 8260A
4-Bromofluoromethane (Surr)		77	113.4	%	70-130	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		78	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		78	<0.005	mg/Kg	0.005	SW 8260A
Toluene		78	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		78	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		78	98.0	%	81-129	SW 8260A
Toluene-d8 (Surr)		78	107.4	%	74-129	SW 8260A
4-Bromofluoromethane (Surr)		78	111.2	%	70-130	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		79	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		79	<0.005	mg/Kg	0.005	SW 8260A
Toluene		79	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		79	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		79	81.0	%	81-129	SW 8260A
Toluene-d8 (Surr)		79	91.2	%	74-129	SW 8260A
4-Bromofluoromethane (Surr)		79	101.6	%	70-130	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		80	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		80	<0.005	mg/Kg	0.005	SW 8260A
Toluene		80	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		80	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		80	81.0	%	81-129	SW 8260A
Toluene-d8 (Surr)		80	92.0	%	74-129	SW 8260A

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/11/1998

NET Job Number: 98.14072

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
4-Bromofluoromethane (Surr)		80	99.0	%	70-130	SW 8260A
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	768	1832	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	768	1832	<0.020	mg/Kg	0.020	SW 8310
Anthracene	768	1832	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	768	1832	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	768	1832	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	768	1832	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	768	1832	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	768	1832	<0.040	mg/Kg	0.040	SW 8310
Chrysene	768	1832	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	768	1832	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	768	1832	<0.020	mg/Kg	0.020	SW 8310
Fluorene	768	1832	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	768	1832	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	768	1832	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	768	1832	<0.040	mg/Kg	0.040	SW 8310
Pyrene	768	1832	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	768	1832	77.3	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	769	1832	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	769	1832	<0.020	mg/Kg	0.020	SW 8310
Anthracene	769	1832	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	769	1832	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	769	1832	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	769	1832	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	769	1832	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	769	1832	<0.040	mg/Kg	0.040	SW 8310
Chrysene	769	1832	<0.03	mg/Kg	0.03	SW 8310

Advisory Control Limits for Blanks:

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ENSR
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11/11/1998

NET Job Number: 98.14072

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Dibenzo(a,h)anthracene	769	1832	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	769	1832	<0.020	mg/Kg	0.020	SW 8310
Fluorene	769	1832	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	769	1832	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	769	1832	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	769	1832	<0.040	mg/Kg	0.040	SW 8310
Pyrene	769	1832	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	769	1832	78.0	%	43-125	SW 8310
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	382	58	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	382	58	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	382	58	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	382	58	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	382	58	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	382	58	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	382	58	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	382	58	86.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	382	58	80.0	%	NA	SW 8082
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	382	58	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	382	58	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	382	58	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	382	58	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	382	58	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	382	58	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	382	58	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	382	58	84.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	382	58	78.0	%	NA	SW 8082
PCB'S NON-AQUEOUS						SW 8082

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/11/1998

NET Job Number: 98.14072

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
PCB-1016	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	381	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	381	53	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	381	53	84.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	381	53	67.0	%	NA	SW 8082

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
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11/11/1998

NET Job Number: 98.14072

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Arsenic, GFAA	236	674	0.50	0.55	110.0
Arsenic, GFAA	238	673	0.0100	0.0117	117.0
Arsenic, GFAA	239	675	0.0100	0.0098	98.0
Barium, ICP	1169	2188	50.0	53.0	106.0
Barium, ICP	1172	2194	5.00	5.18	103.6
Barium, ICP	1173	2194	5.00	5.11	102.2
Cadmium, ICP	1169	2174	2.50	2.61	104.4
Cadmium, ICP	1172	2178	2.50	2.71	108.4
Cadmium, ICP	1173	2178	2.50	2.53	101.2
Chromium, ICP	1169	2159	5.00	5.40	108.0
Chromium, ICP	1172	2163	5.00	5.80	116.0
Chromium, ICP	1173	2163	5.00	5.30	106.0
Lead, ICP	1169	2397	5.00	6.15	123.0
Lead, ICP	1172	2401	5.00	5.80	116.0
Lead, ICP	1173	2401	5.00	6.25	125.0
Mercury, CVAA	666	770	0.0025	0.00248	99.2
Mercury, CVAA		770	0.0020	0.00165	82.5
Mercury, CVAA	668	772	0.0025	0.00275	110.0
Mercury, CVAA		772	0.0020	0.00204	102.0
Selenium, GFAA	236	562	0.50	0.58	116.0
Selenium, GFAA	238	562	0.50	0.60	120.0
Selenium, GFAA	239	563	0.0100	0.0098	98.0
Silver, AA	494	571	0.10	0.089	89.0
Silver, AA	496	572	0.10	0.107	107.0
TPH MODIFIED 8015					
TPH as Gas	246	490	250	159	63.6
TPH as Diesel	246	490	250	207	82.8
TPH as Oil	246	490	250	202	80.8
N-octacosane (TPH surr)	246	490	100	110	110.0
UST VOLATILES NON-AQUEOUS					
Benzene		77	20.0	21.8	109.0

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.14072

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Ethylbenzene		77	20.0	21.8	109.0
Toluene		77	20.0	20.8	104.0
Xylenes, Total		77	60.0	63.4	105.7
Dibromofluoromethane (Surr)		77	50.0	50.2	100.4
Toluene-d8 (Surr)		77	50.0	52.0	104.0
4-Bromofluoromethane (Surr)		77	50.0	56.5	113.0
UST VOLATILES NON-AQUEOUS					
Benzene		78	20.0	21.0	105.0
Ethylbenzene		78	20.0	20.7	103.5
Toluene		78	20.0	20.1	100.5
Xylenes, Total		78	60.0	61.6	102.7
Dibromofluoromethane (Surr)		78	50.0	48.1	96.2
Toluene-d8 (Surr)		78	50.0	51.4	102.8
4-Bromofluoromethane (Surr)		78	50.0	55.2	110.4
UST VOLATILES NON-AQUEOUS					
Benzene		79	20.0	20.6	103.0
Ethylbenzene		79	20.0	20.3	101.5
Toluene		79	20.0	19.3	96.5
Xylenes, Total		79	60.0	59.4	99.0
Dibromofluoromethane (Surr)		79	50.0	42.5	85.0
Toluene-d8 (Surr)		79	50.0	48.5	97.0
4-Bromofluoromethane (Surr)		79	50.0	50.5	101.0
UST VOLATILES NON-AQUEOUS					
Benzene		80	20.0	19.0	95.0
Ethylbenzene		80	20.0	19.0	95.0
Toluene		80	20.0	19.0	95.0
Xylenes, Total		80	60.0	58.0	96.7
Dibromofluoromethane (Surr)		80	50.0	45.0	90.0
Toluene-d8 (Surr)		80	50.0	49.0	98.0
4-Bromofluoromethane (Surr)		80	50.0	55.0	110.0
PNA CMPDS - 8310 NONAQUEOUS					

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.14072

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Acenaphthene	768	1832	0.033	0.028	84.8
Acenaphthylene	768	1832	0.033	0.029	87.9
Anthracene	768	1832	0.033	0.030	90.9
Benzo(a)anthracene	768	1832	0.033	0.031	93.9
Benzo(b)fluoranthene	768	1832	0.033	0.028	84.8
Benzo(k)fluoranthene	768	1832	0.033	0.028	84.8
Benzo(a)pyrene	768	1832	0.033	0.029	87.9
Benzo(ghi)perylene	768	1832	0.033	0.028	84.8
Chrysene	768	1832	0.033	0.031	93.9
Dibenzo(a,h)anthracene	768	1832	0.033	0.029	87.9
Fluoranthene	768	1832	0.033	0.030	90.9
Fluorene	768	1832	0.033	0.030	90.9
Indeno(1,2,3-cd)pyrene	768	1832	0.033	0.028	84.8
Naphthalene	768	1832	0.033	0.028	84.8
Phenanthrene	768	1832	0.033	0.029	87.9
Pyrene	768	1832	0.033	0.033	100.0
Surr: p-Terphenyl	768	1832	2000	1,742	87.1
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	769	1832	0.033	0.028	84.8
Acenaphthylene	769	1832	0.033	0.032	97.0
Anthracene	769	1832	0.033	0.028	84.8
Benzo(a)anthracene	769	1832	0.033	0.030	90.9
Benzo(b)fluoranthene	769	1832	0.033	0.025	75.8
Benzo(k)fluoranthene	769	1832	0.033	0.032	97.0
Benzo(a)pyrene	769	1832	0.033	0.030	90.9
Benzo(ghi)perylene	769	1832	0.033	0.026	78.8
Chrysene	769	1832	0.033	0.031	93.9
Dibenzo(a,h)anthracene	769	1832	0.033	0.026	78.8
Fluoranthene	769	1832	0.033	0.028	84.8
Fluorene	769	1832	0.033	0.027	81.8
Indeno(1,2,3-cd)pyrene	769	1832	0.033	0.027	81.8

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.14072

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Naphthalene	769	1832	0.033	0.022	66.7
Phenanthrene	769	1832	0.033	0.026	78.8
Pyrene	769	1832	0.033	0.030	90.9
Surr: p-Terphenyl	769	1832	2000	1,593	79.7
PCB'S NON-AQUEOUS					
PCB-1016	382	58	500	487	97.4
PCB-1260	382	58	500	475	95.0
Decachlorobiphenyl (Surr)	382	58	100	95	95.0
2,4,5,6-TCMX (Surr)	382	58	100	87	87.0
PCB'S NON-AQUEOUS					
PCB-1016	382	58	500	400	80.0
PCB-1260	382	58	500	419	83.8
Decachlorobiphenyl (Surr)	382	58	100	79	79.0
2,4,5,6-TCMX (Surr)	382	58	100	70	70.0
PCB'S NON-AQUEOUS					
PCB-1016	381	53	500	440	88.0
PCB-1260	381	53	500	454	90.8
Decachlorobiphenyl (Surr)	381	53	100	92	92.0
2,4,5,6-TCMX (Surr)	381	53	100	81	81.0

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QUALITY CONTROL REPORT

DUPLICATES

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.14072

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	RPD
pH, Non-Aqueous		196	7.44	7.52	units	1.1
pH, Non-Aqueous		197	9.16	9.18	units	0.2
pH, Non-Aqueous		198	8.89	8.97	units	0.9
Solids, Total		2528	88.9	88.7	%	0.2
Solids, Total		2528	53.0	53.7	%	1.3
Solids, Total		2529	97.4	97.8	%	0.4

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.

NET Midwest, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY ENSR Corp.
ADDRESS 740 Pasquinelli Dr.
PHONE (630) 887 1700 FAX (630) 850 5307
PROJECT NAME/LOCATION ComEd Waukegan
PROJECT NUMBER 18010236.10
PROJECT MANAGER Weilin Feng / Karen Dolmics

REPORT TO: K. Dolmics
INVOICE TO: ENSR
P.O. NO.
NET QUOTE NO.

MWG13-15_46049

SAMPLED BY B. Buckley (PRINT NAME) B. Buckley SIGNATURE
(PRINT NAME) SIGNATURE

DATE 1998	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: pH 9045	PNAs 8310	BTEX 8260	PCBs 8081	RCRA Metals (totals)	TPH 8015
10/29	910	B10 (0-4)	S	X						2	X	X	X	X	X	
10/29	920	B11 (0-4)	S	X						2	X	X	X	X	X	
10/29	930	B9 (0-4)	S	X						2	X	X	X	X	X	
10/29	935	B8 (0-4)	S	X						2	X	X	X	X	X	
10/29	955	B6 (0-4)	S	X						2	X	X	X	X	X	
10/29	1000	B7 (0-4)	S	X						2	X	X	X	X	X	
10/29	1110	B1 (0-4)	S	X						2	X	X	X	X	X	
10/29	1130	B15 (0-4)	S	X						2	X	X	X	X	X	
10/29	1255	B17 (0-4)	S	X						2	X	X	X	X	X	
10/29	1345	S11	S	X						2	X	X	X	X	X	X
10/29	1410	X4	S	X						2	X	X	X	X	X	X
10/29	1430	X1	S	X						2	X	X	X	X	X	X
10/29	1440	X2	S	X						2	X	X	X	X	X	X
10/29	1450	S6	S	X						2	X	X	X	X	X	X
10/29	1425	X3	S	X						2	X	X	X	X	X	X

To assist us in selecting the proper method
Is this work being conducted for regulatory compliance monitoring? Yes ___ No ___
Is this work being conducted for regulatory enforcement action? Yes ___ No ___
Which regulations apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other ___ None ___

COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) NO FIELD FILTERED? ~~YES / NO~~ N/A
COC SEALS PRESENT AND INTACT? (YES) NO VOLATILES FREE OF HEADSPACE? (YES) NO
TEMPERATURE UPON RECEIPT: 2.3°C wetice Bottles supplied by NET? (YES) NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ___ DATE ___

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
B. Buckley	10/29/98	1430			10/30/98	1245	P. Murrill

METHOD OF SHIPMENT: Net Pick up @ office
REMARKS:

[redacted] ORIGINAL - WHITE [redacted] NET PROJECT MANAGER - YELLOW [redacted] - CUSTOMER COPY [redacted]

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY ENSR Corp.
ADDRESS 740 Pasquinelli Dr. St. 124 Westmont, IL
PHONE (630) 887-1700 FAX (630) 850 5307
PROJECT NAME/LOCATION ComEd / Waukegan
PROJECT NUMBER 18010 23610
PROJECT MANAGER Wei-Lin Feng / Karen Dolinics

REPORT TO: K. Dolnics
INVOICE TO: ENSR
P.O. NO.
NET QUOTE NO.

SAMPLED BY B. Buckley (PRINT NAME) B. Buckley SIGNATURE
(PRINT NAME) SIGNATURE

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: pH 9045	PNAs 8310	BTEX 8260	PCBs 8081	RCRA Metals (totals)	TPH 8015
10/29	1540	~~X4 (DUP)~~ X5	S	X						2	X	X	X	X	X	X
10/29	1550	~~X5 (MS)~~ X6	S	X						2	X	X	X	X	X	X

To assist us in selecting the proper method
Is this work being conducted for regulatory compliance monitoring? Yes ___ No ___
Is this work being conducted for regulatory enforcement action? Yes ___ No ___
Which regulations apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other ___ None ___

COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) / NO
FIELD FILTERED? ~~YES / NO~~ N/A
COC SEALS PRESENT AND INTACT? (YES) / NO
VOLATILES FREE OF HEADSPACE? (YES) / NO
TEMPERATURE UPON RECEIPT: 2.3°C w/ice
Bottles supplied by NET? (YES) / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ___ DATE ___

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
B Buckley	10/29	1615			10/30/98	1245	P. Merrill

METHOD OF SHIPMENT Net Pick up - office
REMARKS:

ORIGINAL - WHITE - NET PROJECT MANAGER - YELLOW - CUSTOMER COPY

MWG13-15_46051

C

APPENDIX C

Monitoring Well Gauging and Survey Data

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Waukegan Generating Station
10 Greenwood Avenue
Waukegan, Illinois

r:chhicago\project\h171\comed\fossil\waukegan\phase2.doc

Project: ComEd Waukegan Generating Station
Project #: 1801-023-610
Date: 10/28/98

Operator: BM
Method: IP
Equipment #: IP #

Well ID	TOC Elevation (feet)	Total Depth of Well (feet)	Depth to Water (feet)	Depth to LPHC (feet)	LPHC Thickness (feet)	LPHC Specific Gravity	Corrective Depth to Water (feet)	Corrective Water Elevation (feet)
MW-2	96.58	8.17	1.71	NA	NA	NA	1.71	94.87
MW-3	97.81	8.13	1.30	NA	NA	NA	1.30	96.51
MW-5	98.24	8.38	3.69	NA	NA	NA	3.69	94.55
MW-6	98.36	9.78	7.48	NA	NA	NA	7.48	90.88
MW-7	96.42	9.51	4.25	NA	NA	NA	4.25	92.17
MW-11	98.75	12.83	3.04	NA	NA	NA	3.04	95.71
MW-12	99.18	14.95	3.47	NA	NA	NA	3.47	95.71

Note:
TOC elevation is based on an arbitrary 100 foot benchmark.

r:chicago\project\h171\comed\fossil\gaugdata(waukegan).xls

Exhibit A3

HYDROGEOLOGIC ASSESSMENT REPORT
WAUKEGAN GENERATING STATION
WAUKEGAN, ILLINOIS

SUBMITTED BY:
MIDWEST GENERATION, LLC
235 REMINGTON BLVD, SUITE A
BOLINGBROOK, ILLINOIS 60440

SUBMITTED TO:
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 N GRAND AVENUE EAST
SPRINGFIELD, ILLINOIS 62702

PREPARED BY:
PATRICK ENGINEERING INC.
4970 VARSITY DRIVE
LISLE, ILLINOIS 60532

PATRICK PROJECT NO. 21053.070

FEBRUARY 2011

PATRICK ENGINEERING

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Appendix B – Figure - Potable Wells Within 2,500 Feet (NRT – July 2009)
Appendix C – Laboratory Analytical Reports
Appendix D – Hydraulic Conductivity Testing Data

1.0 INTRODUCTION

1.1 Background

Pursuant to the request of the Illinois Environmental Protection Agency (Illinois EPA), this document presents the Hydrogeologic Assessment Report for the on-site ash pond areas at the Midwest Generation, LLC (MWG) Waukegan Generating Station in Waukegan, Illinois. This hydrogeologic assessment was performed in accordance with the Hydrogeologic Assessment Plan, approved by the Illinois EPA, dated September 3, 2010.

As defined by the Hydrogeologic Assessment Plan, the purpose of this investigation was to: (i) evaluate the potential, if any, for migration of ash-related constituents from the on-site ash ponds and to conduct monitoring for groundwater constituents regulated by the Illinois Part 620 groundwater standards, as requested by the Illinois EPA; (ii) characterize the subsurface hydrogeology; and (iii) identify potable well use within 2,500 feet of the ash ponds. The results of this investigation are described in this Hydrogeologic Assessment Report.

1.2 Site Location and Description

The Waukegan facility (the Site) is located in Section 15, Township 45 North, Range 12 East, in the City of Waukegan, Lake County, Illinois. Figure 1 provides a Site Location Map.

The Site contains two active ash ponds. The ponds are lined with a high-density polyethylene (HDPE); the total area of the two ash ponds is approximately 25 acres. Figure 2 shows the locations of the two ash ponds.

1.3 Regional Setting

The Site is located along the shore of Lake Michigan on the northeast side of Waukegan. The surrounding land use consists of undeveloped land to the north, apparently vacant industrial land to the south, residential properties to the west, and Lake Michigan to the east.

Patrick Engineering Inc. (Patrick) conducted a review of publically available geological information from the Illinois State Geological Survey website. Based upon water well logs from the area, the geology beneath the Site consists of approximately 100 feet of sand deposits, underlain by Silurian Dolomite to approximately 360 feet below ground surface, underlain by the Maquoketa shale. The Maquoketa shale is generally considered to be an aquitard that separates the shallow groundwater in the unconsolidated units and the Silurian dolomite from the underlying aquifers.

Groundwater flow in the shallow, unconsolidated aquifer would be expected to flow towards Lake Michigan, to the east. Groundwater flow in the deeper aquifers is controlled by the regional hydraulic gradient in these aquifers, which is to the northeast.

2.0 HYDROGEOLOGIC ASSESSMENT METHODOLOGY

The following sections present the methodologies used to evaluate the potential for migration of ash-related constituents from the ash ponds and to monitor for all Part 620-regulated constituents, to characterize the subsurface hydrogeology, and to identify potable well use within 2,500 feet of the Site.

2.1 Evaluation of Ash-Related Constituents Migration Potential

The Illinois EPA requested that an evaluation of the potential for migration of ash-related constituents from the ash ponds and that monitoring for all Part 620-regulated constituents be performed in accordance with the groundwater standards included in 35 Illinois Administrative Code (IAC) Part 620, Subparts C and D. Accordingly, groundwater monitoring wells were installed at the Site in locations both upgradient and downgradient of the two ash ponds.

2.1.1 Installation of Groundwater Monitoring Wells

Patrick installed five (5) groundwater monitoring wells spaced approximately 150 to 300 feet apart around the perimeter of the ash ponds. The well locations were selected so that both upgradient and downgradient wells were represented, based upon available data regarding the expected groundwater flow direction. The spacing of the well locations at the Site along the downgradient edge of the ash ponds was calculated so as to detect a groundwater plume emanating from a point source beneath the ash ponds. Figure 3 shows the location of the five monitoring wells.

One of the installed monitoring wells is located upgradient of the ash ponds; the additional four wells are located downgradient of the ash ponds. The well borings were advanced using hollow-stem augers to depths ranging from 30 to 32 feet below ground surface (bgs). Borings were terminated after the field geologist determined that the boring was installed approximately 10 feet past the first intersection of the groundwater table in order to ensure that a representative

groundwater sample could be obtained. Upon termination of each boring, a 2-inch diameter, PVC well was installed in order to collect samples of the groundwater in the uppermost aquifer. The monitoring wells were completed to approximately 3 feet above grade, with PVC casing, and were covered with a stick-up, steel well protector with a locking cap. Soil lithology was inspected and logged by an experienced geologist during the boring process. Boring logs with well construction information are included as Appendix A.

2.1.2 Initial Groundwater Sampling and Analytical Testing

The groundwater sampling event for the Site took place on October 25, 2010. The groundwater elevation in each of the five wells was measured prior to sampling. Groundwater samples were collected from each well with a peristaltic pump, using established low-flow sampling techniques. Temperature, pH, and conductivity measurements were taken using a portable meter in all wells; refer to Table 1 for these field parameter results. All groundwater samples were filtered in the field using a disposable, 0.45µm, in-line filter to allow for the analytical testing of dissolved compounds. The samples were immediately placed on ice in a cooler and kept at a temperature of no higher than 4º F. The samples were transported to TestAmerica, an Illinois-EPA accredited analytical laboratory, in accordance with chain-of-custody procedures to maintain the integrity of the samples.

The analytical laboratory tested groundwater samples from each of the wells for the compounds listed in Table 2. Analytes tested include the inorganic compounds listed in 35 IAC 620.410(a), excluding both radium and the poly-aromatic hydrocarbons (PAHs) listed in 35 IAC 620.410(b).

2.2 Characterization of Subsurface Hydrogeology

The subsurface hydrogeology beneath the ash ponds was characterized by determining Site lithology and the groundwater flow patterns in the vicinity of the ash ponds as described below.

2.2.1 Site Lithology

The Site lithology was determined by logging soil samples collected from the soil borings created during the installation of the groundwater monitoring wells. The soil borings were installed under the direction of an experienced geologist. Each boring was sampled at 2-foot intervals using a 2-inch O.D. split-spoon sampler (ASTM D 1586). Each soil sample was inspected and logged by the geologist during the boring process. Boring logs with well construction information are provided as Appendix A.

2.2.2 Topographic and Water Elevation Surveys

A survey crew measured both the top-of-casing and ground surface elevations of all installed monitoring wells and the groundwater elevations within each of the monitoring wells on December 6, 2010. The survey crew concurrently measured the water elevation in the two ash ponds. Lake Michigan was inaccessible the day of the survey.

2.2.3 Hydraulic Testing of Selected Wells

Patrick conducted three *in situ* hydraulic conductivity tests on wells MW-1, MW-3, and MW-5 on January 4, 2011. The testing consisted of at least one rising-head and one falling-head slug test performed at each well. Using a data-logging pressure transducer, Patrick measured the rate of groundwater level recovery in the wells after either inserting a slug into, or removing a slug from, each monitoring well.

2.3 Identification of Potable Well Use

Natural Resource Technology, Inc. (NRT) has previously completed an investigation of potable water well use within 2,500 feet of the Waukegan ash ponds. MWG submitted the results of this investigation to the Illinois EPA by letter dated July 15, 2009. These results are summarized in Appendix B.

The following databases and sources of information were used in order to identify local community water sources and water well locations in the vicinity of the Site:

- Illinois State Geological Survey (ISGS) -Water Well Database Query;
- Illinois State Water Survey (ISWS) Private Well Database and water well construction report request; and
- Illinois Division of Public Water Supply web-based Geographic System (GIS) files.

3.0 HYDROGEOLOGIC ASSESSMENT RESULTS

3.1 Evaluation of Ash-Related Constituents Migration Potential

The analytical laboratory results for the hydrogeologic assessment are presented in Table 2. Full laboratory data packages from TestAmerica are provided as Appendix C. Antimony, arsenic, boron, sulfate, and total dissolved solids (TDS) were detected in one or more monitoring wells at concentrations exceeding the Part 620 Class I Groundwater Quality Standards. In some cases, the highest concentrations of a given compound were found in the upgradient wells. Beryllium, cadmium, chromium, cobalt, copper, cyanide, lead, mercury, nickel, silver, thallium, zinc, nitrogen/nitrite, and nitrogen/nitrate/nitrite were not detected in any of the groundwater samples.

A determination of the potential for the individual ash ponds to be contributing to the distribution of analytes in the underlying groundwater and the extent, if any, of such contribution cannot be made from the results of this single sampling event alone. To develop a true, statistically-significant upgradient background concentration for the various compounds will require a number of sequential sampling events over time. Based on a statistically developed background value, downgradient concentrations can be compared to the background value over time to determine the likelihood and extent of any constituent migration from the on-site ash ponds. A plan to develop such an analytical database through additional sampling is presented in the last section of this report.

3.2 Characterization of Subsurface Hydrogeology

The lithology of the Site is predominantly fine sand and silt fill underlain by sand and gravel. Refer to Figure 4 for a geologic cross-section of the Site.

The results of the topographic and water elevation surveys are presented in Table 3.

The uppermost groundwater unit at the Site is found at depths ranging from 22.4 to 23 feet bgs. The direction of groundwater flow is to the southeast towards Lake Michigan. The hydraulic

gradient is approximately 0.0017 based upon the groundwater elevation data collected on December 6, 2010. A potentiometric surface map is provided as Figure 5.

Patrick used the hydraulic testing data to calculate the hydraulic conductivity of the uppermost aquifer using the Bouwer and Rice method. Hydraulic conductivity calculations are provided in Appendix D. The hydraulic conductivity of Site soils ranged from 3.67 x 10^{-3} to 4.41 x 10^{-3} ft/second. The average hydraulic conductivity was 4.04 x 10^{-3} ft/second. Using the highest calculated hydraulic conductivity and the measured hydraulic gradient, Patrick calculated the maximum groundwater velocity to be approximately 0.59 ft/day (4.04 x 10^{-3} ft/sec x 0.0017 x 60 sec/min x 60 min/hour x 24 hours/day).

3.3 Identification of Potable Well Use

As stated above, NRT has previously completed an investigation of potable water well use within 2,500 feet of the Waukegan ash ponds. MWG submitted the results of this investigation to the Illinois EPA by letter dated July 15, 2009. According to this letter, eight potable/industrial use wells are located within a 2,500-foot radius of the Site's ash ponds (refer to Appendix B.) There are no potable use wells to the east or south of the ash ponds.

4.0 LONG-TERM MONITORING PLAN

In order to properly assess the groundwater monitoring data collected in this single sampling event, MWG will conduct a quarterly groundwater sampling program in which the same monitoring wells described in this report will be sampled for the identical analyte list employed during this investigation. MWG proposes to begin this quarterly monitoring program in March 2011, and will submit the results of the sampling program to the Illinois EPA on an ongoing, quarterly basis. MWG proposes to continue this program until sufficient statistically-significant data is available to properly assess the groundwater data. If the quarterly sampling results continue to show non-detect results for certain of the analytes, as was the case in this single sampling event, MWG may propose to Illinois EPA that these analytes be eliminated from future sampling events.

Table 1
GROUNDWATER FIELD PARAMTER DATA
Waukegan Station, Waukegan, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

Groundwater Field Paramter Data - Waukegan Station

Monitoring Well	Date	Time	Conductance	Temperature °C	pH
MW-01	10/25/2010	16:30	659	17.62	9.82
MW-01	10/25/2010	16:35	669	17.50	10.08
MW-01	10/25/2010	16:40	695	17.38	10.41
MW-01	10/25/2010	16:45	698	17.38	10.41
MW-02	10/25/2010	15:40	630	16.50	10.51
MW-02	10/25/2010	15:45	633	15.79	10.50
MW-02	10/25/2010	15:50	631	15.54	10.44
MW-02	10/25/2010	16:00	600	15.70	10.12
MW-02	10/25/2010	16:15	605	15.27	9.98
MW-02	10/25/2010	16:20	610	15.30	9.98
MW-03	10/25/2010	14:55	466	18.20	9.07
MW-03	10/25/2010	14:05	459	18.08	9.13
MW-03	10/25/2010	14:10	464	17.80	9.18
MW-03	10/25/2010	15:15	454	18.05	9.22
MW-03	10/25/2010	15:20	454	17.99	9.23
MW-03	10/25/2010	15:30	455	17.98	9.21
MW-04	10/25/2010	14:00	653	16.21	8.25
MW-04	10/25/2010	14:15	645	16.25	8.34
MW-04	10/25/2010	14:30	643	16.25	8.22
MW-04	10/25/2010	14:40	638	16.04	7.89
MW-04	10/25/2010	14:45	637	16.00	7.80
MW-05	10/25/2010	12:45	1774	16.60	7.25
MW-05	10/25/2010	12:58	1772	14.79	7.14
MW-05	10/25/2010	12:55	1774	15.40	7.18
MW-05	10/25/2010	13:00	1792	15.27	7.20
MW-05	10/25/2010	13:05	1794	15.18	7.21
MW-05	10/25/2010	13:15	1801	15.23	7.21

Notes:

* (S/cm) = Specific Conductivity measured in Seconds/Centimeters

Table 2
GROUNDWATER ANALYTICAL RESULTS
Waukegan Station, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard* (mg/L)	MW-5 mg/L	MW-1 mg/L	MW-2 mg/L	MW-3 mg/L	MW-4 mg/L
		Class I	**10/25/10**	**10/25/10**	**10/25/10**	**10/25/10**	**10/25/10**
Chemical Name			upgradient	downgradient			
Antimony	Metals 6020	0.006	ND	0.0052	**0.015**	0.0051	ND
Arsenic	Metals 6020	0.05	0.0076	**0.054**	0.025	0.0043	0.006
Barium	Metals 6020	2.0	0.060	0.023	0.0091	0.0057	0.026
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	3.5	ND	ND	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**0.71**	ND	0.0034	ND	0.058
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	ND	ND	ND	ND	ND
Selenium	Metals 6020	0.05	0.0028	0.031	0.026	0.0094	0.0039
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND
Boron	Metals 6020	2	**28**	**2.6**	**2.2**	1.7	2.0
Sulfate	Dissolved 9038	400	**920**	350	230	120	250
Chloride	Dissolved 9251	200	100	39	42	53	39
Nitrogen/Nitrate	Nitrogen By calc	10	ND	ND	ND	ND	ND
Total Dissolved Solids	Dissolved 2540C	1,200	**1,500**	460	410	280	430
Fluoride	Dissolved 4500 FC	4	0.29	0.45	0.35	0.27	0.6
Nitrogen/Nitrite	Dissolved 4500 NO2	NA	ND	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	NA	ND	ND	ND	ND	ND

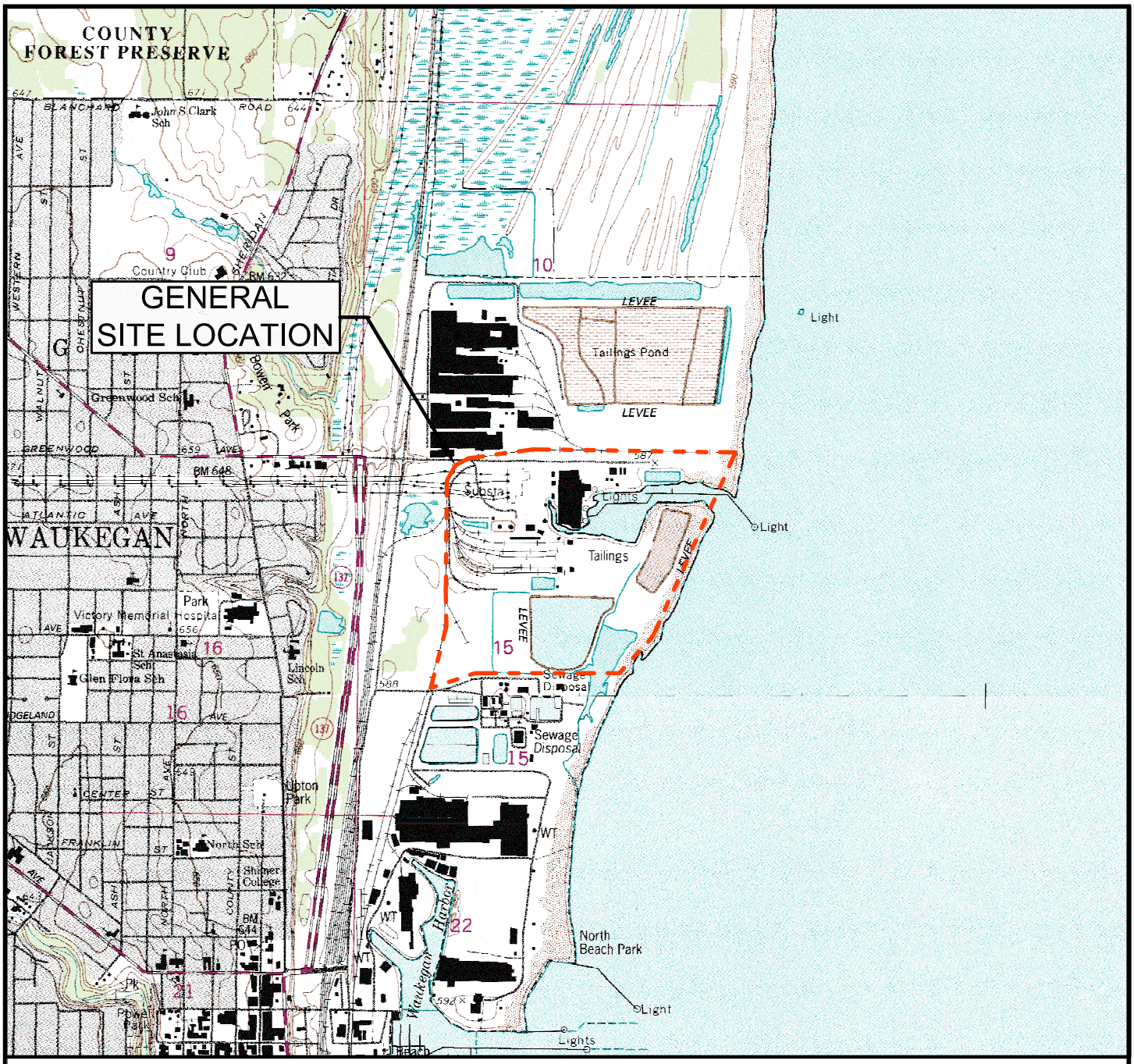
Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
mg/L = milligrams per liter

-Determination of the potential for the individual ash ponds to be contributing to the distribution of analytes in the underlying groundwater cannot be made from the results of this single sampling event alone. To develop a true, statistically-significant upgradient background concentration for the various compounds will require a number of sequential sampling events over time. After a statistically developed background value is available, the downgradient concentrations can be compared to this background value over time to determine the likelihood of contaminant migration from the on-site ash ponds. A plan to develop such an analytical database through additional sampling is discussed in the last section of this report.

Table 3
WATER ELEVATION SURVEY DATA
Waukegan Station, Waukegan, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

PATRICK ENGINEERING	Water Elevation	Depth to Water	Lid Elevation	Ground Elevation	Top of Riser Elevation
MONITORING WELLS					
MW-1	580.635	22.50	603.465	603.462	603.135
MW-2	580.633	22.41	603.332	603.283	603.043
MW-3	580.516	22.38	603.206	603.178	602.896
MW-4	580.431	22.72	603.545	603.525	603.151
MW-5	581.830	23.01	605.369	601.526	604.840
ASH PONDS					
East Pond	585.443	NS	NS	NS	NS
West Pond	594.993	NS	NS	NS	NS

*Survey data taken on 12/16/10
NS = not surveyed
Elevations are leveled from site control points per Commonwealth Edison Drawing
"Coordinates & Elevations for Coal Monuments & Test Borings-Waukegan" revised 12/1/1999



LEGEND

SITE BOUNDARY

NOTE:
THIS DRAWING WAS PREPARED USING ILLINOIS' WAUKEGAN (1993) AND ZION (1993) 7.5 MINUTE-SERIES TOPOGRAPHIC QUADRANGLE MAP.

Date: FEB. 2011	FIGURE 1 SITE LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21053.070	**WAUKEGAN STATION WAUKEGAN, ILLINOIS**	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_7162



LEGEND

ASH POND

N

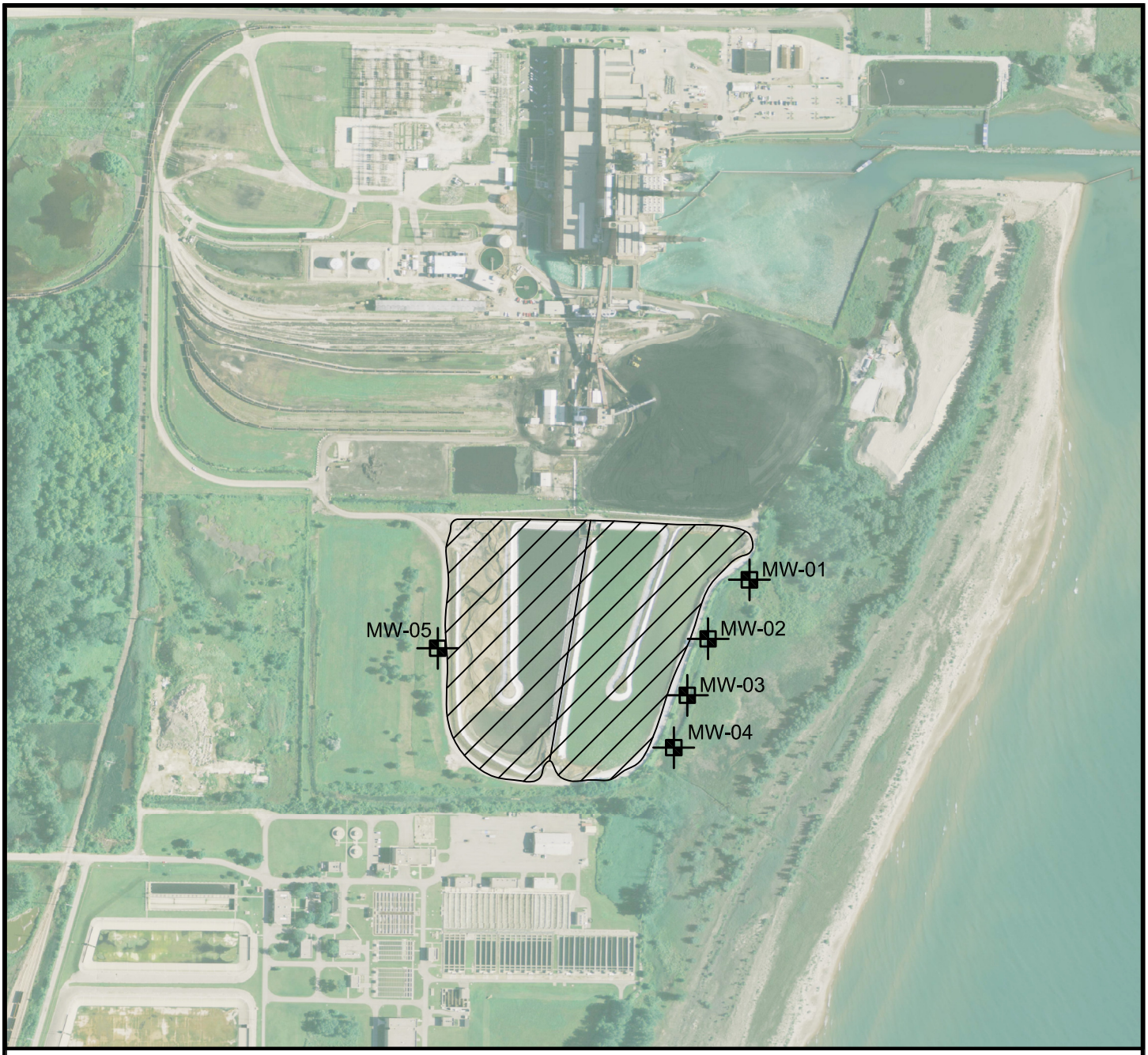
0 600'

GRAPHIC SCALE

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

Date: FEB. 2011	FIGURE 2 ASH POND LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21053.070	**WAUKEGAN STATION WAUKEGAN, ILLINOIS**	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681
App. By: RMF		PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409

MWG13-15_7163



LEGEND

MW-01 MONITORING WELL LOCATION

N

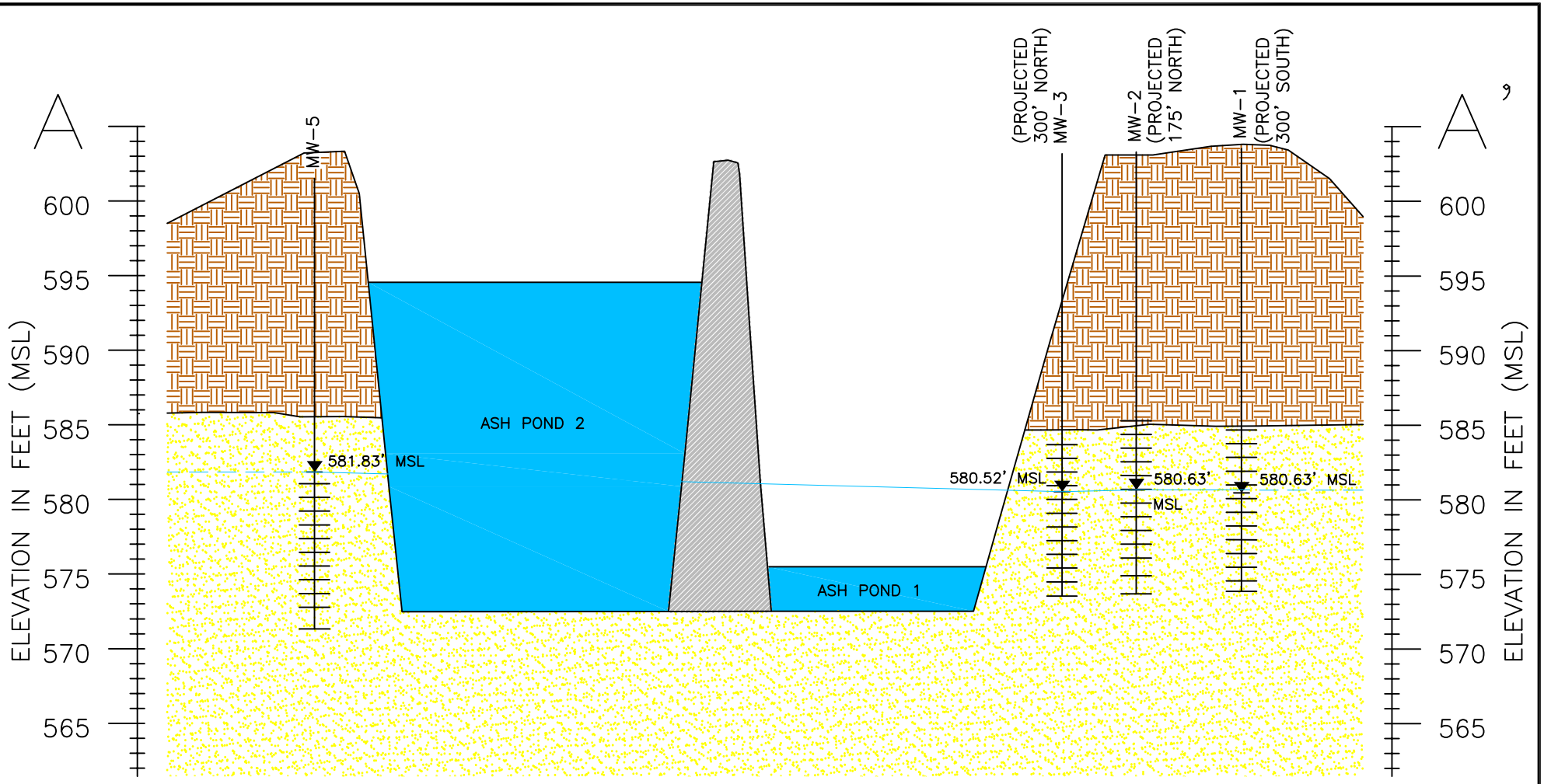
0 600'

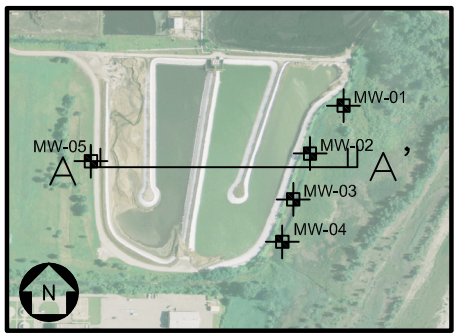
GRAPHIC SCALE

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

Date: FEB. 2011	FIGURE 3 MONITORING WELL LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21053.070	**WAUKEGAN STATION WAUKEGAN, ILLINOIS**	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_7164

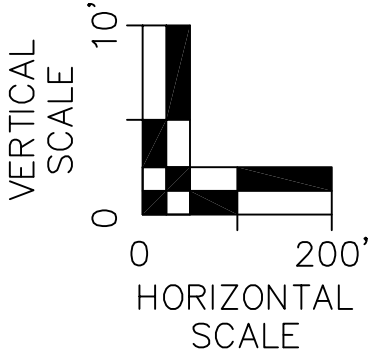




CROSS SECTION A-A'
NOT TO SCALE

LEGEND

- FILL
- SILTY CLAY
- SANDY GRAVEL
- GROUNDWATER ELEVATION (FT. / MSL)



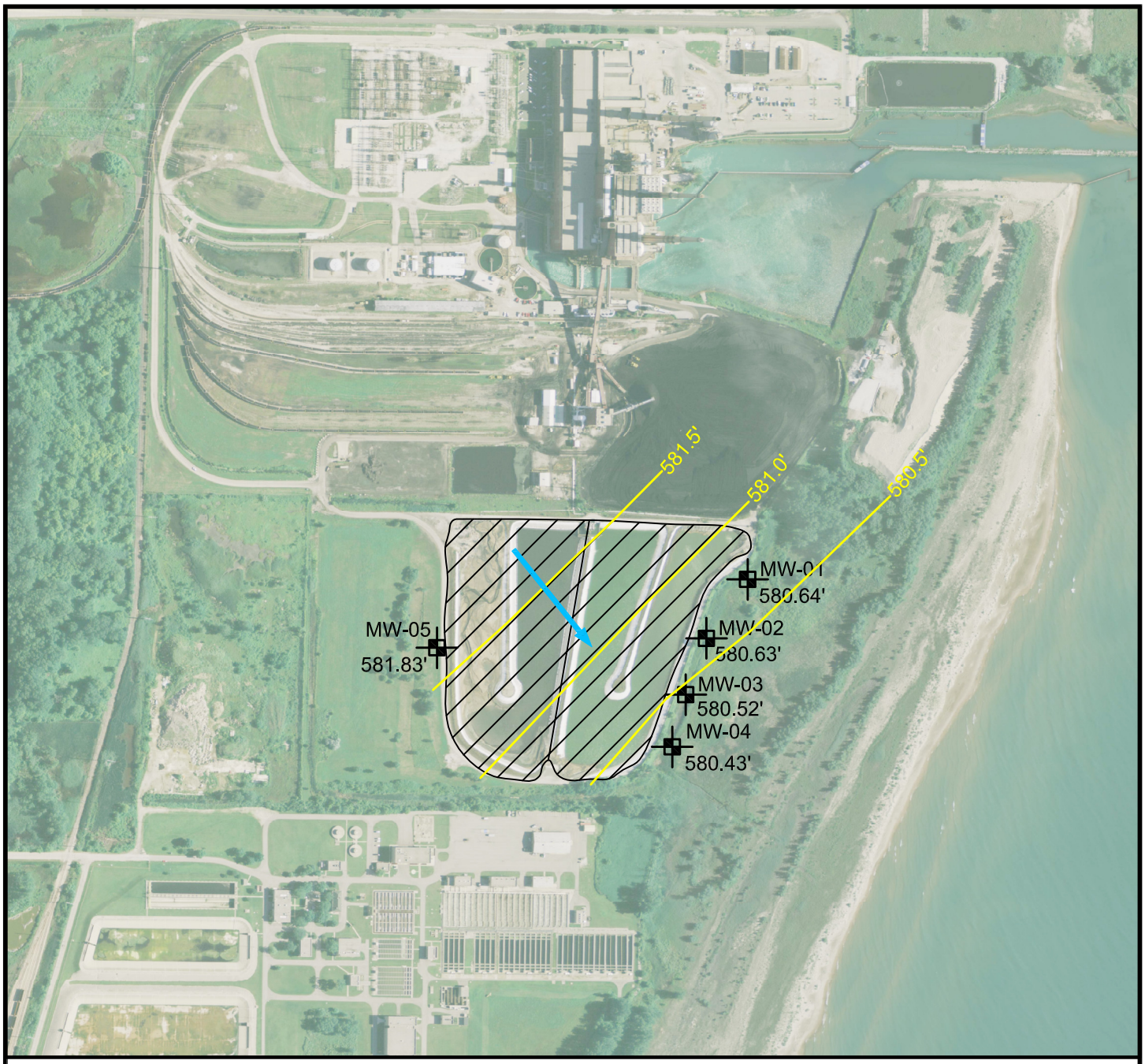
PATRICK ENGINEERING INC.
4970 Varsity Drive
Lisle, Illinois 60532-4101
TEL. (630) 795-7200
FAX (630) 724-1681
http://www.patrickengineering.com
PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409

FIGURE 4
CROSS SECTION A-A' - SITE LITHOLOGY

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Date: FEB. 2011
Proj No.: 21053.070
App. By: RMF

MWG13-15_7165



LEGEND

MW-01 580.64' — MONITORING WELL LOCATION (NOVEMBER 2010) WITH GROUNDWATER ELEVATION (FT. / MSL)

GROUNDWATER FLOW DIRECTION

581.5' — POTENTIOMETRIC SURFACE CONTOUR (FT. / MSL)

N

0 600'

GRAPHIC SCALE

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

Date: FEB. 2011	FIGURE 5 POTENTIOMETRIC SURFACE MAP	PATRICK ENGINEERING INC.
Proj No.: 21053.070	**WAUKEGAN STATION WAUKEGAN, ILLINOIS**	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_7166

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-1-Wa** SHEET 1 OF 2
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Waukegan**

LOGGED BY **MPG**
GROUND ELEVATION **23.5**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
23.5	0.0		Brown fine sand, fine gravel, black cinders, ash FILL				
				SS-1 1.0-2.5 16"R	3 5 7		qu=NT
							Bentonite seal 2.0'-20.0'. Stickup protective cover installed.
				SS-2 3.5-5.0 18"R	6 10 13		qu=NT
			Dry				
				SS-3 6.0-7.5 14"R	6 11 16		qu=NT
			Dry	SS-4 8.5-10.0 12"R	4 9 10		qu=NT
				SS-5 11.0-12.5 16"R	2 3 3		qu=NT
10.0	13.5		Light brown fine and medium sand, dry FILL	SS-6 13.5-15.0 18"R	2 4 3		qu=NT
			Occasional black coal, cinders	SS-7 16.0-17.5 18"R	3 4 4		qu=NT
			Brown fine sand, occasional black cinders	SS-8 18.5-20.0 18"R	6 7 9		qu=NT
3.5	20.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/13/10** ENDED **10/13/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **23.5**
▼
▼

MWG13-15_7167

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-1-Wa** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Waukegan**

LOGGED BY **MPG**
GROUND ELEVATION **23.5**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) (1 2 3 4 5)	NOTES & TEST RESULTS
3.5	20.0		Light brown fine sand, trace medium sand, medium dense, moist				Sand pack 20.0'-32.0'
			SM	SS-9 21.0-22.5 18"R	5 8 10		qu=NT
							Set screen (slot 0.010") 22.0'-32.0'
0.0	23.5		▽ Saturated	SS-10 23.5-25.0 18"R	6 9 10		qu=NT
			Trace fine gravel				
				SS-11 26.0-27.5 18"R	5 6 12		qu=NT
				SS-12 28.5-30.0 18"R	6 9 13		qu=NT
			Fine sand, trace coarse to medium sand, medium dense, saturated				
-8.5	32.0		End of Boring at 32.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/13/10** ENDED **10/13/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **23.5**
▽
▼

MWG13-15_7168

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-2-Wa** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Waukegan**

LOGGED BY **MPG**
GROUND ELEVATION **23.0**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
23.0	0.0		Black coal cinders, ash, fine sand, fine gravel, gray silt FILL				
				SS-1 1.0-2.5 14"R	4 10 15		qu=NT
							Bentonite seal 2.0'-19.0'. Stickup protective cover installed.
				SS-2 3.5-5.0 14"R	8 10 23		qu=NT
			Dry				
				SS-3 6.0-7.5 14"R	12 11 16		qu=NT
				SS-4 8.5-10.0 18"R	7 12 14		qu=NT
			Dry				
12.0	11.0		Light brown fine sand, gray fine sand	SS-5 11.0-12.5 18"R	12 13 13		qu=NT
				SS-6 13.5-15.0 18"R	1 3 6		qu=NT
				SS-7 16.0-17.5 18"R	8 10 10		qu=NT
			Dry				
4.5	18.5		Light brown fine sand, trace medium sand, well graded SM	SS-8 18.5-20.0 18"R	9 12 14		qu=NT Sand pack 19.0'-30.0'

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/13/10** ENDED **10/13/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **21.5**

MWG13-15_7169

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-2-Wa** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Waukegan**

LOGGED BY **MPG**
GROUND ELEVATION **23.0**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
3.0	20.0						Set screen (slot 0.010") 20.0'-30.0'
1.5	21.5		∇ Saturated	SS-9 21.0-22.5 18"R	6 10 11		qu=NT
			Medium dense, dry				
			Trace fine gravel and coarse sand	SS-10 23.5-25.0 18"R	3 7 12		qu=NT
				SS-11 26.0-27.5 18"R	4 7 13		qu=NT
				SS-12 28.5-30.0 18"R	2 8 12		qu=NT
-7.0	30.0		End of Boring at 30.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/13/10** ENDED **10/13/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
∇ **21.5**
▼
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-3-Wa** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Waukegan**

LOGGED BY **MPG**
GROUND ELEVATION **23.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
23.2	0.0		Brown silty sand, fine gravel, black coal cinders, ash				
			FILL	SS-1 1.0-2.5 16"R	7 13 16		qu=NT
							Bentonite seal 2.0'-19.0'. Stickup protective cover installed.
				SS-2 3.5-5.0 18"R	9 16 18		qu=NT
			Dry				
				SS-3 6.0-7.5 14"R	15 20 26/4.5"		qu=NT
			Gray silt, cinders, ash, sand				
				SS-4 8.5-10.0 18"R	9 16 18		qu=NT
				SS-5 11.0-12.5 18"R	6 10 12		qu=NT
				SS-6 13.5-15.0 18"R	3 4 9		qu=NT
			Light brown fine sand				
			Black coarse coal cinders	SS-7 16.0-17.5 18"R	7 7 9		qu=NT
4.7	18.5		Light brown fine sand				
			SM	SS-8 18.5-20.0 18"R	6 7 12		Sand pack 19.0'-20.0'
3.2	20.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/13/10** ENDED **10/13/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **21.0**

MWG13-15_7171

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-3-Wa** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Waukegan**

LOGGED BY **MPG**
GROUND ELEVATION **23.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
3.2	20.0		Light brown fine sand, trace medium sand, well graded, medium dense				Set screen (slot 0.010") 20.0'-30.0'
2.2	21.0		▽ SM Saturated	SS-9 21.0-22.5 18"R	4 6 10		qu=NT
			Trace fine gravel	SS-10 23.5-25.0 18"R	4 6 10		qu=NT
				SS-11 26.0-27.5 18"R	6 7 16		qu=NT
				SS-12 28.5-30.0 18"R	6 12 14		qu=NT
-6.8	30.0		End of Boring at 30.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/13/10** ENDED **10/13/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **21.0**
▼
▼

MWG13-15_7172

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-4-Wa** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Waukegan**

LOGGED BY **MPG**
GROUND ELEVATION **23.6**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
23.6	0.0		Dark brown silt, coarse gravel, black coal cinders, dry FILL				
				SS-1 1.0-2.5 18"R	6 13 19		qu=NT
							Bentonite seal 2.0'-19.0'. Stickup protective cover installed.
				SS-2 3.5-5.0 17"R	8 24 21		qu=NT
				SS-3 6.0-7.5 6"R	13 31/4"		qu=NT
			Wood, gray silt, cinders, dry	SS-4 8.5-10.0 18"R	14 26 26		qu=NT
			Some medium sand	SS-5 11.0-12.5 18"R	11 14 13		qu=NT
			Cinders mixed with brown fine sand	SS-6 13.5-15.0 18"R	5 8 8		qu=NT
				SS-7 16.0-17.5 18"R	7 10 12		qu=NT
5.1	18.5		Light brown fine sand, well graded, medium dense SM	SS-8 18.5-20.0 18"R	7 11 13		qu=NT Sand pack 19.0'-30.0'

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/12/10** ENDED **10/12/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **23.0**
▼
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-4-Wa** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Waukegan**

LOGGED BY **MPG**
GROUND ELEVATION **23.6**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
3.6	20.0						Set screen (slot 0.010") 20.0'-30.0'
			Moist	SS-9 21.0-22.5 18"R	4 6 6		qu=NT
0.6	23.0		▽ Saturated				
				SS-10 23.5-25.0 18"R	4 4 8		qu=NT
				SS-11 26.0-27.5 18"R	8 8 10		qu=NT
			Trace fine gravel, trace coarse sand	SS-12 28.5-30.0 18"R	7 8 12		qu=NT
-6.4	30.0		End of Boring at 30.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/12/10** ENDED **10/12/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **23.0**
▽
▽

MWG13-15_7174

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-5-Wa** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Waukegan**

LOGGED BY **MPG**
GROUND ELEVATION **21.5**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
21.5 / 21.0	0.0 / 0.5		Dark brown silty clay topsoil FILL				
			Black coal cinders, medium sand FILL	SS-1 1.0-2.5 14"R	6 10 10		qu=NT
							Bentonite seal 2.0'-18.0'. Stickup protective cover installed.
			Dry	SS-2 3.5-5.0 14"R	4 6 5		qu=NT
			Brown fine to medium sand, with black coal cinders	SS-3 6.0-7.5 16"R	2 6 8		qu=NT
			Loose	SS-4 8.5-10.0 18"R	2 2 2		qu=NT
			Brick	SS-5 11.0-12.5 18"R	1 2 1		qu=NT
			Moist				
			Black coal cinders	SS-6 13.5-15.0 17"R	1 2 1		qu=NT
			Dark gray silt	SS-7 16.0-17.5 18"R	4 2 2		qu=NT
4.5	17.0		Gray medium sand, black coal cinders				
			Gray fine sand, trace medium to coarse sand, well graded, loose to medium dense, saturated SM	SS-8 18.5-20.0	4 4 5		Sand pack 18.0'-30.0' Set screen (slot 0.010") 18.5'-28.5'

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/12/10** ENDED **10/12/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **21.0**
▼
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-5-Wa** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Waukegan**

LOGGED BY **MPG**
GROUND ELEVATION **21.5**

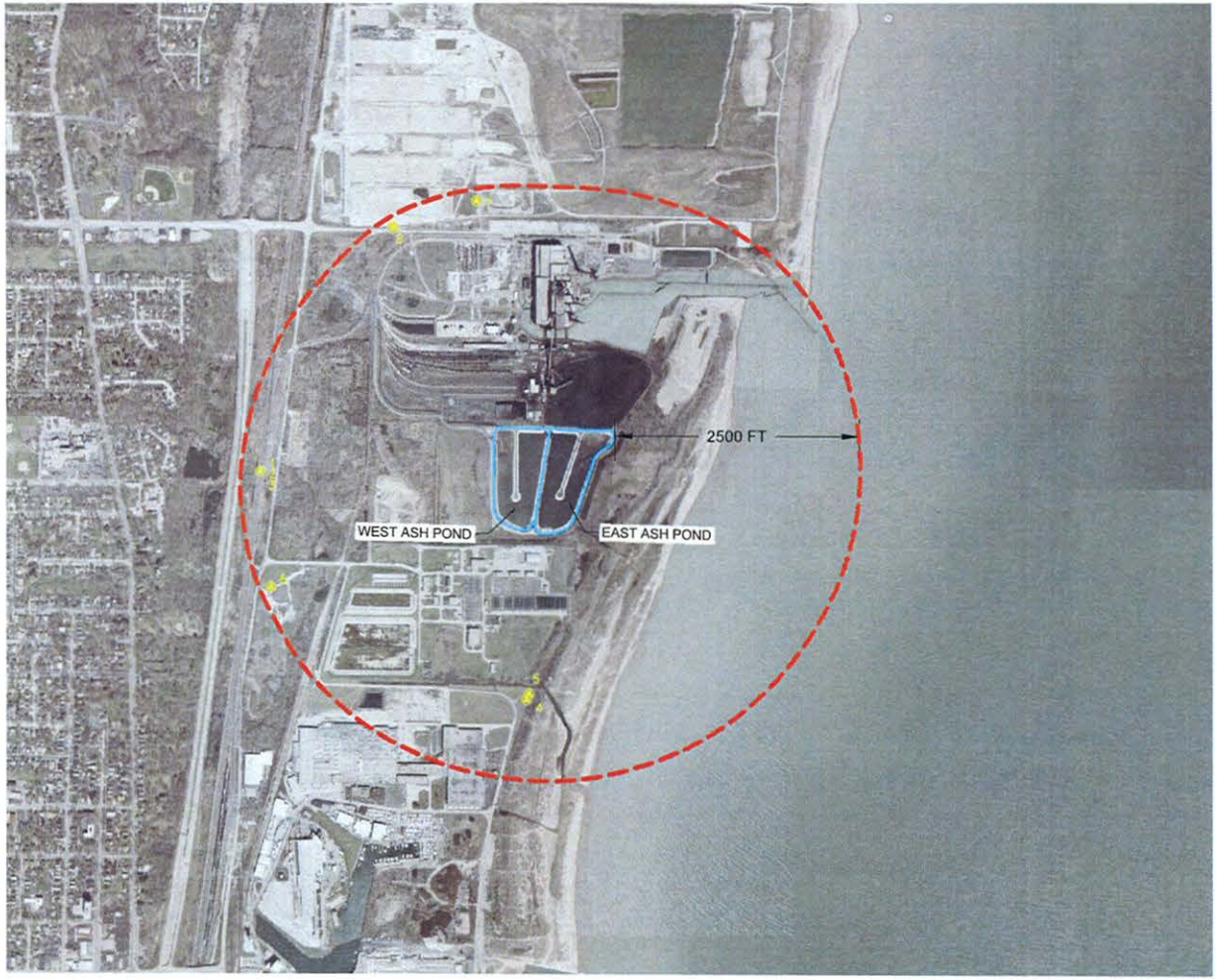
ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
1.5	20.0						
0.5	21.0		▽				
			Gray fine gravel, coarse sand, poorly graded, medium dense, saturated GP	SS-9 21.0-22.5 16"R	5 7 8		qu=NT
				SS-10 23.5-25.0 18"R	6 9 8		qu=NT
-4.5	26.0		Gray fine sand, trace medium sand, trace fine gravel, well graded, medium dense SM	SS-11 26.0-27.5 16"R	6 8 13		qu=NT
				SS-12 28.5-30.0 18"R	7 10 13		qu=NT
-8.5	30.0		End of Boring at 30.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/12/10** ENDED **10/12/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **21.0**
▼
▼

MWG13-15_7176



LEGEND

POTABLE WELL LOCATION (APPROXIMATE)

ASH POND

2,500 FOOT RADIUS OF ASH POND SYSTEMS

NOTE:
REFER TO SUMMARY TABLE FOR SPECIFIC WELL INFORMATION.

SOURCE:
2005 DIGITAL ORTHOPHOTO FROM ILLINOIS NATURAL RESOURCES GEOSPATIAL DATA CLEARINGHOUSE
WELL LOCATIONS FROM ILLINOIS STATE GEOLOGICAL SURVEY, ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, AND ILLINOIS STATE WATER SURVEY.

N

0 600 1200
SCALE IN FEET

DRAWN BY: KNW DATE: 6/09/09
CHECKED BY: HMS DATE: 6/15/09
APPROVED BY: HMS DATE: 07/07/09
DRAWING NO: 1792-3-B05
REFERENCE: 16TOM305920, 335920, 320920,320905,335905,305905

POTABLE WATER WELLS

WAUKEGAN STATION
MIDWEST GENERATION
WAUKEGAN, LAKE COUNTY, ILLINOIS

NATURAL RESOURCE TECHNOLOGY

PROJECT NO.
1792/3.0

FIGURE NO.
1

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 500-28779-1

Job Description: Waukegan GW Sampling

For:
Patrick Engineering
4985 Varsity Drive
Lisle, IL 60532-4144

Attention: Andrew Gagnon

Approved for release.
Bonnie M Stadelmann
Project Manager II
10/28/2010 4:22 PM

Bonnie M Stadelmann
Project Manager II
bonnie.stadelmann@testamericainc.com
10/28/2010

cc: Ms. Maria Race

These test results meet all the requirements of NELAC for accredited parameters.

The Lab Certification ID#:
TestAmerica Chicago 100201

All questions regarding this test report should be directed to the TestAmerica Project Manager whose signature appears on this report. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

Job Narrative
500-28779-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

Metals
Method(s) 6020: The serial dilution performed for the following sample, 500-28779-1, was outside control limits for As.

Method(s) 6020: The matrix duplicate %RPD for 500-28779-1 was outside the control limits for Sb.

No other analytical or quality issues were noted.

Field Service / Mobile Lab
No analytical or quality issues were noted.

General Chemistry
Method(s) SM 4500 NO3 F: The nitrate matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 98229 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria. MW-04 (500-28779-4)

No other analytical or quality issues were noted.

METHOD SUMMARY

Client: Patrick Engineering Job Number: 500-28779-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Metals (ICP/MS)	TAL CHI	SW846 6020	
Sample Filtration, Field	TAL CHI		FIELD_FLTRD
Preparation, Soluble	TAL CHI		Soluble Metals
Mercury (CVAA)	TAL CHI	SW846 7470A	
Sample Filtration, Field	TAL CHI		FIELD_FLTRD
Preparation, Mercury	TAL CHI		SW846 7470A
Cyanide	TAL CHI	SW846 9014	
Sample Filtration, Field	TAL CHI		FIELD_FLTRD
Cyanide, Distillation	TAL CHI		SW846 9010B
Sulfate, Turbidimetric	TAL CHI	SW846 9038	
Sample Filtration, Field	TAL CHI		FIELD_FLTRD
Chloride	TAL CHI	SW846 9251	
Sample Filtration, Field	TAL CHI		FIELD_FLTRD
Nitrogen, Nitrate-Nitrite	TAL CHI	SM Nitrate by calc	
Sample Filtration, Field	TAL CHI		FIELD_FLTRD
Solids, Total Dissolved (TDS)	TAL CHI	SM SM 2540C	
Sample Filtration, Field	TAL CHI		FIELD_FLTRD
Fluoride	TAL CHI	SM SM 4500 F C	
Sample Filtration, Field	TAL CHI		FIELD_FLTRD
Nitrogen, Nitrite	TAL CHI	SM SM 4500 NO2 B	
Sample Filtration, Field	TAL CHI		FIELD_FLTRD
Nitrogen, Nitrate	TAL CHI	SM SM 4500 NO3 F	
Sample Filtration, Field	TAL CHI		FIELD_FLTRD

Lab References:

TAL CHI = TestAmerica Chicago

Method References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Patrick Engineering

Job Number: 500-28779-1

Method	Analyst	Analyst ID
SW846 6020	Kolarczyk, Paul F	PFK
SW846 7470A	Roach, Jessica	JR
SW846 9014	Moore, Colleen L	CLM
SW846 9038	Boyd, Cheryl L	CLB
SW846 9251	Deb, Khona	KD
SM Nitrate by calc	Ficarello, Peter M	PMF
SM SM 2540C	Boyd, Cheryl L	CLB
SM SM 4500 F C	Moore, Colleen L	CLM
SM SM 4500 NO2 B	Moore, Colleen L	CLM
SM SM 4500 NO3 F	Ficarello, Peter M	PMF

SAMPLE SUMMARY

Client: Patrick Engineering

Job Number: 500-28779-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
500-28779-1	MW-01	Water	10/25/2010 1645	10/26/2010 1000
500-28779-2	MW-02	Water	10/25/2010 1615	10/26/2010 1000
500-28779-3	MW-03	Water	10/25/2010 1530	10/26/2010 1000
500-28779-4	MW-04	Water	10/25/2010 1445	10/26/2010 1000
500-28779-5	MW-05	Water	10/25/2010 1330	10/26/2010 1000

SAMPLE RESULTS

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Job Number: 500-28779-1

Client Sample ID: MW-01
Lab Sample ID: 500-28779-1

Date Sampled: 10/25/2010 1645
Date Received: 10/26/2010 1000
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	10/26/2010 1244	
Prep Method: Soluble Metals		Date Prepared:	10/26/2010 1142	
Beryllium	<0.0010	mg/L	0.0010	1.0
Boron	2.6	mg/L	0.050	1.0
Method: Dissolved-6020		Date Analyzed:	10/26/2010 1625	
Prep Method: Soluble Metals		Date Prepared:	10/26/2010 1142	
Antimony	0.0052	mg/L	0.0030	1.0
Arsenic	0.054	mg/L	0.0010	1.0
Barium	0.023	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	<0.0025	mg/L	0.0025	1.0
Nickel	<0.0020	mg/L	0.0020	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Method: Dissolved-6020		Date Analyzed:	10/28/2010 1349	
Prep Method: Soluble Metals		Date Prepared:	10/26/2010 1142	
Selenium	0.031	mg/L	0.0025	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-7470A		Date Analyzed:	10/28/2010 0910	
Prep Method: 7470A		Date Prepared:	10/27/2010 1511	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	10/27/2010 1316	
Prep Method: 9010B		Date Prepared:	10/27/2010 1020	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	10/27/2010 0630	
Sulfate	350	mg/L	50	10
Method: Dissolved-9251		Date Analyzed:	10/27/2010 1932	
Chloride	39	mg/L	2.0	1.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	10/27/2010 1531	
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	10/26/2010 2110	

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Job Number: 500-28779-1

Client Sample ID: MW-01
Lab Sample ID: 500-28779-1

Date Sampled: 10/25/2010 1645
Date Received: 10/26/2010 1000
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Total Dissolved Solids	460	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	10/28/2010 0932	
Fluoride	0.45	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	10/27/2010 1112	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	10/27/2010 1046	
Nitrogen, Nitrate Nitrite	<0.10	mg/L	0.10	1.0

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Job Number: 500-28779-1

Client Sample ID: MW-02
Lab Sample ID: 500-28779-2

Date Sampled: 10/25/2010 1615
Date Received: 10/26/2010 1000
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	10/26/2010 1253	
Prep Method: Soluble Metals		Date Prepared:	10/26/2010 1142	
Beryllium	<0.0010	mg/L	0.0010	1.0
Boron	2.2	mg/L	0.050	1.0
Method: Dissolved-6020		Date Analyzed:	10/26/2010 1643	
Prep Method: Soluble Metals		Date Prepared:	10/26/2010 1142	
Antimony	0.015	mg/L	0.0030	1.0
Arsenic	0.025	mg/L	0.0010	1.0
Barium	0.0091	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	0.0034	mg/L	0.0025	1.0
Nickel	<0.0020	mg/L	0.0020	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Method: Dissolved-6020		Date Analyzed:	10/28/2010 1341	
Prep Method: Soluble Metals		Date Prepared:	10/26/2010 1142	
Selenium	0.026	mg/L	0.0025	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-7470A		Date Analyzed:	10/28/2010 0913	
Prep Method: 7470A		Date Prepared:	10/27/2010 1511	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	10/27/2010 1317	
Prep Method: 9010B		Date Prepared:	10/27/2010 1020	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	10/27/2010 0631	
Sulfate	230	mg/L	50	10
Method: Dissolved-9251		Date Analyzed:	10/27/2010 1933	
Chloride	42	mg/L	2.0	1.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	10/27/2010 1535	
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	10/26/2010 2122	

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Job Number: 500-28779-1

Client Sample ID: MW-02
Lab Sample ID: 500-28779-2

Date Sampled: 10/25/2010 1615
Date Received: 10/26/2010 1000
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Total Dissolved Solids	410	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	10/28/2010 0940	
Fluoride	0.35	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	10/27/2010 1112	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	10/27/2010 1048	
Nitrogen, Nitrate Nitrite	<0.10	mg/L	0.10	1.0

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Job Number: 500-28779-1

Client Sample ID: MW-03
Lab Sample ID: 500-28779-3

Date Sampled: 10/25/2010 1530
Date Received: 10/26/2010 1000
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	10/26/2010 1254	
Prep Method: Soluble Metals		Date Prepared:	10/26/2010 1142	
Beryllium	<0.0010	mg/L	0.0010	1.0
Boron	1.7	mg/L	0.050	1.0
Method: Dissolved-6020		Date Analyzed:	10/26/2010 1646	
Prep Method: Soluble Metals		Date Prepared:	10/26/2010 1142	
Antimony	0.0051	mg/L	0.0030	1.0
Arsenic	0.0043	mg/L	0.0010	1.0
Barium	0.0057	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	<0.0025	mg/L	0.0025	1.0
Nickel	<0.0020	mg/L	0.0020	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Method: Dissolved-6020		Date Analyzed:	10/28/2010 1343	
Prep Method: Soluble Metals		Date Prepared:	10/26/2010 1142	
Selenium	0.0094	mg/L	0.0025	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-7470A		Date Analyzed:	10/28/2010 0916	
Prep Method: 7470A		Date Prepared:	10/27/2010 1511	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	10/27/2010 1317	
Prep Method: 9010B		Date Prepared:	10/27/2010 1020	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	10/27/2010 0632	
Sulfate	120	mg/L	20	4.0
Method: Dissolved-9251		Date Analyzed:	10/27/2010 1934	
Chloride	53	mg/L	2.0	1.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	10/27/2010 1539	
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	10/26/2010 2125	

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Job Number: 500-28779-1

Client Sample ID: MW-03
Lab Sample ID: 500-28779-3

Date Sampled: 10/25/2010 1530
Date Received: 10/26/2010 1000
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Total Dissolved Solids	280	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	10/28/2010 0947	
Fluoride	0.27	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	10/27/2010 1113	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	10/27/2010 1054	
Nitrogen, Nitrate Nitrite	<0.10	mg/L	0.10	1.0

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Job Number: 500-28779-1

Client Sample ID: MW-04
Lab Sample ID: 500-28779-4

Date Sampled: 10/25/2010 1445
Date Received: 10/26/2010 1000
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	10/26/2010 1255	
Prep Method: Soluble Metals		Date Prepared:	10/26/2010 1142	
Beryllium	<0.0010	mg/L	0.0010	1.0
Boron	2.0	mg/L	0.050	1.0
Method: Dissolved-6020		Date Analyzed:	10/26/2010 1648	
Prep Method: Soluble Metals		Date Prepared:	10/26/2010 1142	
Antimony	<0.0030	mg/L	0.0030	1.0
Arsenic	0.0060	mg/L	0.0010	1.0
Barium	0.026	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	0.058	mg/L	0.0025	1.0
Nickel	<0.0020	mg/L	0.0020	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Method: Dissolved-6020		Date Analyzed:	10/28/2010 1345	
Prep Method: Soluble Metals		Date Prepared:	10/26/2010 1142	
Selenium	0.0039	mg/L	0.0025	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-7470A		Date Analyzed:	10/28/2010 0918	
Prep Method: 7470A		Date Prepared:	10/27/2010 1511	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	10/27/2010 1317	
Prep Method: 9010B		Date Prepared:	10/27/2010 1020	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	10/27/2010 0635	
Sulfate	250	mg/L	50	10
Method: Dissolved-9251		Date Analyzed:	10/27/2010 1935	
Chloride	39	mg/L	2.0	1.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	10/27/2010 1542	
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	10/26/2010 2129	

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Job Number: 500-28779-1

Client Sample ID: MW-04
Lab Sample ID: 500-28779-4

Date Sampled: 10/25/2010 1445
Date Received: 10/26/2010 1000
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Total Dissolved Solids	430	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	10/28/2010 0951	
Fluoride	0.60	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	10/27/2010 1114	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	10/27/2010 1056	
Nitrogen, Nitrate Nitrite	<0.10	mg/L	0.10	1.0

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Job Number: 500-28779-1

Client Sample ID: MW-05
Lab Sample ID: 500-28779-5

Date Sampled: 10/25/2010 1330
Date Received: 10/26/2010 1000
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	10/26/2010 1256	
Prep Method: Soluble Metals		Date Prepared:	10/26/2010 1142	
Beryllium	<0.0010	mg/L	0.0010	1.0
Method: Dissolved-6020		Date Analyzed:	10/26/2010 1320	
Prep Method: Soluble Metals		Date Prepared:	10/26/2010 1142	
Boron	28	mg/L	5.0	100
Method: Dissolved-6020		Date Analyzed:	10/26/2010 1651	
Prep Method: Soluble Metals		Date Prepared:	10/26/2010 1142	
Antimony	<0.0030	mg/L	0.0030	1.0
Arsenic	0.0076	mg/L	0.0010	1.0
Barium	0.060	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	3.5	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	0.71	mg/L	0.0025	1.0
Nickel	<0.0020	mg/L	0.0020	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Method: Dissolved-6020		Date Analyzed:	10/28/2010 1347	
Prep Method: Soluble Metals		Date Prepared:	10/26/2010 1142	
Selenium	0.0028	mg/L	0.0025	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-7470A		Date Analyzed:	10/28/2010 0921	
Prep Method: 7470A		Date Prepared:	10/27/2010 1511	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	10/27/2010 1317	
Prep Method: 9010B		Date Prepared:	10/27/2010 1020	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	10/27/2010 0636	
Sulfate	920	mg/L	200	40
Method: Dissolved-9251		Date Analyzed:	10/27/2010 1950	
Chloride	100	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	10/28/2010 1513	

Andrew Gagnon
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Job Number: 500-28779-1

Client Sample ID: MW-05
Lab Sample ID: 500-28779-5

Date Sampled: 10/25/2010 1330
Date Received: 10/26/2010 1000
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	10/26/2010 2133	
Total Dissolved Solids	1500	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	10/28/2010 0955	
Fluoride	0.29	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	10/27/2010 1115	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	10/28/2010 1025	
Nitrogen, Nitrate Nitrite	<0.10	mg/L	0.10	1.0

DATA REPORTING QUALIFIERS

Client: Patrick Engineering Job Number: 500-28779-1

Lab Section	Qualifier	Description
Metals		
	F	Duplicate RPD exceeds the control limit
General Chemistry		
	F	MS or MSD exceeds the control limits

QUALITY CONTROL RESULTS

Client: Patrick Engineering Job Number: 500-28779-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 500-98116					
LCS 500-98116/2-A	Lab Control Sample	S	Water	Soluble Metals	
MB 500-98116/1-A	Method Blank	S	Water	Soluble Metals	
500-28779-1	MW-01	D	Water	Soluble Metals	
500-28779-1DU	Duplicate	D	Water	Soluble Metals	
500-28779-1MS	Matrix Spike	D	Water	Soluble Metals	
500-28779-1MSD	Matrix Spike Duplicate	D	Water	Soluble Metals	
500-28779-2	MW-02	D	Water	Soluble Metals	
500-28779-3	MW-03	D	Water	Soluble Metals	
500-28779-4	MW-04	D	Water	Soluble Metals	
500-28779-5	MW-05	D	Water	Soluble Metals	
Analysis Batch:500-98137					
LCS 500-98116/2-A	Lab Control Sample	S	Water	6020	500-98116
MB 500-98116/1-A	Method Blank	S	Water	6020	500-98116
500-28779-1	MW-01	D	Water	6020	500-98116
500-28779-1DU	Duplicate	D	Water	6020	500-98116
500-28779-1MS	Matrix Spike	D	Water	6020	500-98116
500-28779-1MSD	Matrix Spike Duplicate	D	Water	6020	500-98116
500-28779-2	MW-02	D	Water	6020	500-98116
500-28779-3	MW-03	D	Water	6020	500-98116
500-28779-4	MW-04	D	Water	6020	500-98116
500-28779-5	MW-05	D	Water	6020	500-98116
Analysis Batch:500-98199					
LCS 500-98116/2-A	Lab Control Sample	S	Water	6020	500-98116
MB 500-98116/1-A	Method Blank	S	Water	6020	500-98116
500-28779-1	MW-01	D	Water	6020	500-98116
500-28779-1DU	Duplicate	D	Water	6020	500-98116
500-28779-1MS	Matrix Spike	D	Water	6020	500-98116
500-28779-1MSD	Matrix Spike Duplicate	D	Water	6020	500-98116
500-28779-2	MW-02	D	Water	6020	500-98116
500-28779-3	MW-03	D	Water	6020	500-98116
500-28779-4	MW-04	D	Water	6020	500-98116
500-28779-5	MW-05	D	Water	6020	500-98116
Prep Batch: 500-98248					
LCS 500-98248/2-A	Lab Control Sample	T	Water	7470A	
MB 500-98248/1-A	Method Blank	T	Water	7470A	
500-28779-1	MW-01	D	Water	7470A	
500-28779-2	MW-02	D	Water	7470A	
500-28779-3	MW-03	D	Water	7470A	
500-28779-4	MW-04	D	Water	7470A	
500-28779-5	MW-05	D	Water	7470A	

Client: Patrick Engineering

Job Number: 500-28779-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:500-98258					
LCS 500-98116/2-A	Lab Control Sample	S	Water	6020	500-98116
MB 500-98116/1-A	Method Blank	S	Water	6020	500-98116
500-28779-1	MW-01	D	Water	6020	500-98116
500-28779-1DU	Duplicate	D	Water	6020	500-98116
500-28779-1MS	Matrix Spike	D	Water	6020	500-98116
500-28779-1MSD	Matrix Spike Duplicate	D	Water	6020	500-98116
500-28779-2	MW-02	D	Water	6020	500-98116
Analysis Batch:500-98340					
LCS 500-98248/2-A	Lab Control Sample	T	Water	7470A	500-98248
MB 500-98248/1-A	Method Blank	T	Water	7470A	500-98248
500-28779-1	MW-01	D	Water	7470A	500-98248
500-28779-2	MW-02	D	Water	7470A	500-98248
500-28779-3	MW-03	D	Water	7470A	500-98248
500-28779-4	MW-04	D	Water	7470A	500-98248
500-28779-5	MW-05	D	Water	7470A	500-98248
Analysis Batch:500-98378					
LCS 500-98116/2-A	Lab Control Sample	S	Water	6020	500-98116
MB 500-98116/1-A	Method Blank	S	Water	6020	500-98116
500-28779-1	MW-01	D	Water	6020	500-98116
500-28779-1DU	Duplicate	D	Water	6020	500-98116
500-28779-1MS	Matrix Spike	D	Water	6020	500-98116
500-28779-1MSD	Matrix Spike Duplicate	D	Water	6020	500-98116
500-28779-2	MW-02	D	Water	6020	500-98116
500-28779-3	MW-03	D	Water	6020	500-98116
500-28779-4	MW-04	D	Water	6020	500-98116
500-28779-5	MW-05	D	Water	6020	500-98116

Report Basis
D = Dissolved
S = Soluble
T = Total

Client: Patrick Engineering Job Number: 500-28779-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:500-98171					
LCS 500-98171/2	Lab Control Sample	T	Water	SM 2540C	
MB 500-98171/1	Method Blank	T	Water	SM 2540C	
500-28779-1	MW-01	D	Water	SM 2540C	
500-28779-1DU	Duplicate	D	Water	SM 2540C	
500-28779-1MS	Matrix Spike	D	Water	SM 2540C	
500-28779-2	MW-02	D	Water	SM 2540C	
500-28779-3	MW-03	D	Water	SM 2540C	
500-28779-4	MW-04	D	Water	SM 2540C	
500-28779-5	MW-05	D	Water	SM 2540C	
Prep Batch: 500-98202					
HLCS 500-98202/3-A	High Level Control Sample	T	Water	9010B	
LCS 500-98202/2-A	Lab Control Sample	T	Water	9010B	
LLCS 500-98202/4-A	Low Level Control Sample	T	Water	9010B	
MB 500-98202/1-A	Method Blank	T	Water	9010B	
500-28779-1	MW-01	D	Water	9010B	
500-28779-2	MW-02	D	Water	9010B	
500-28779-3	MW-03	D	Water	9010B	
500-28779-4	MW-04	D	Water	9010B	
500-28779-5	MW-05	D	Water	9010B	
Analysis Batch:500-98229					
LCS 500-98229/4	Lab Control Sample	T	Water	SM 4500 NO3 F	
MB 500-98229/3	Method Blank	T	Water	SM 4500 NO3 F	
500-28779-1	MW-01	D	Water	SM 4500 NO3 F	
500-28779-2	MW-02	D	Water	SM 4500 NO3 F	
500-28779-3	MW-03	D	Water	SM 4500 NO3 F	
500-28779-4	MW-04	D	Water	SM 4500 NO3 F	
500-28779-4MS	Matrix Spike	D	Water	SM 4500 NO3 F	
500-28779-4MSD	Matrix Spike Duplicate	D	Water	SM 4500 NO3 F	
Analysis Batch:500-98243					
HLCS 500-98202/3-A	High Level Control Sample	T	Water	9014	500-98202
LCS 500-98202/2-A	Lab Control Sample	T	Water	9014	500-98202
LLCS 500-98202/4-A	Low Level Control Sample	T	Water	9014	500-98202
MB 500-98202/1-A	Method Blank	T	Water	9014	500-98202
500-28779-1	MW-01	D	Water	9014	500-98202
500-28779-2	MW-02	D	Water	9014	500-98202
500-28779-3	MW-03	D	Water	9014	500-98202
500-28779-4	MW-04	D	Water	9014	500-98202
500-28779-5	MW-05	D	Water	9014	500-98202

Client: Patrick Engineering Job Number: 500-28779-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:500-98250					
LCS 500-98250/4	Lab Control Sample	T	Water	SM 4500 NO2 B	
MB 500-98250/3	Method Blank	T	Water	SM 4500 NO2 B	
500-28779-1	MW-01	D	Water	SM 4500 NO2 B	
500-28779-2	MW-02	D	Water	SM 4500 NO2 B	
500-28779-3	MW-03	D	Water	SM 4500 NO2 B	
500-28779-3MS	Matrix Spike	D	Water	SM 4500 NO2 B	
500-28779-3MSD	Matrix Spike Duplicate	D	Water	SM 4500 NO2 B	
500-28779-4	MW-04	D	Water	SM 4500 NO2 B	
500-28779-5	MW-05	D	Water	SM 4500 NO2 B	
Analysis Batch:500-98255					
500-28779-1	MW-01	D	Water	Nitrate by calc	
500-28779-2	MW-02	D	Water	Nitrate by calc	
500-28779-3	MW-03	D	Water	Nitrate by calc	
500-28779-4	MW-04	D	Water	Nitrate by calc	
500-28779-5	MW-05	D	Water	Nitrate by calc	
Analysis Batch:500-98277					
LCS 500-98277/122	Lab Control Sample	T	Water	9251	
MB 500-98277/121	Method Blank	T	Water	9251	
500-28779-1	MW-01	D	Water	9251	
500-28779-1MS	Matrix Spike	D	Water	9251	
500-28779-1MSD	Matrix Spike Duplicate	D	Water	9251	
500-28779-2	MW-02	D	Water	9251	
500-28779-3	MW-03	D	Water	9251	
500-28779-4	MW-04	D	Water	9251	
500-28779-5	MW-05	D	Water	9251	
Analysis Batch:500-98305					
LCS 500-98305/4	Lab Control Sample	T	Water	9038	
MB 500-98305/3	Method Blank	T	Water	9038	
500-28779-1	MW-01	D	Water	9038	
500-28779-2	MW-02	D	Water	9038	
500-28779-3	MW-03	D	Water	9038	
500-28779-3MS	Matrix Spike	D	Water	9038	
500-28779-3MSD	Matrix Spike Duplicate	D	Water	9038	
500-28779-4	MW-04	D	Water	9038	
500-28779-5	MW-05	D	Water	9038	

Client: Patrick Engineering

Job Number: 500-28779-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:500-98335					
LCS 500-98335/4	Lab Control Sample	T	Water	SM 4500 F C	
MB 500-98335/3	Method Blank	T	Water	SM 4500 F C	
500-28779-1	MW-01	D	Water	SM 4500 F C	
500-28779-1MS	Matrix Spike	D	Water	SM 4500 F C	
500-28779-1MSD	Matrix Spike Duplicate	D	Water	SM 4500 F C	
500-28779-2	MW-02	D	Water	SM 4500 F C	
500-28779-3	MW-03	D	Water	SM 4500 F C	
500-28779-4	MW-04	D	Water	SM 4500 F C	
500-28779-5	MW-05	D	Water	SM 4500 F C	
Analysis Batch:500-98362					
LCS 500-98362/35	Lab Control Sample	T	Water	SM 4500 NO3 F	
MB 500-98362/34	Method Blank	T	Water	SM 4500 NO3 F	
500-28779-5	MW-05	D	Water	SM 4500 NO3 F	

Report Basis
D = Dissolved
T = Total

Client: Patrick Engineering

Job Number: 500-28779-1

Method Blank - Batch: 500-98116

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: MB 500-98116/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/26/2010 1242
Date Prepared: 10/26/2010 1142

Analysis Batch: 500-98137
Prep Batch: 500-98116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2102610B.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Beryllium	<0.0010		0.0010
Boron	<0.050		0.050

Method Blank - Batch: 500-98116

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: MB 500-98116/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/26/2010 1619
Date Prepared: 10/26/2010 1142

Analysis Batch: 500-98199
Prep Batch: 500-98116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2102610D.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Antimony	<0.0030		0.0030
Arsenic	<0.0010		0.0010
Barium	<0.0025		0.0025
Cadmium	<0.00050		0.00050
Chromium	<0.0050		0.0050
Cobalt	<0.0010		0.0010
Copper	<0.0020		0.0020
Iron	<0.10		0.10
Lead	<0.00050		0.00050
Manganese	<0.0025		0.0025
Nickel	<0.0020		0.0020
Silver	<0.00050		0.00050
Thallium	<0.0020		0.0020

Client: Patrick Engineering

Job Number: 500-28779-1

Method Blank - Batch: 500-98116

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: MB 500-98116/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/28/2010 1324
Date Prepared: 10/26/2010 1142

Analysis Batch: 500-98378
Prep Batch: 500-98116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2102810AA.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Selenium	<0.0025		0.0025
Zinc	<0.020		0.020

Client: Patrick Engineering

Job Number: 500-28779-1

Lab Control Sample - Batch: 500-98116

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: LCS 500-98116/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/26/2010 1243
Date Prepared: 10/26/2010 1142

Analysis Batch: 500-98137
Prep Batch: 500-98116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2102610B.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Beryllium	0.0500	0.0464	93	80 - 120	
Boron	1.00	1.03	103	80 - 120	

Lab Control Sample - Batch: 500-98116

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: LCS 500-98116/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/26/2010 1622
Date Prepared: 10/26/2010 1142

Analysis Batch: 500-98199
Prep Batch: 500-98116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2102610D.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony	0.500	0.440	88	80 - 120	
Arsenic	0.100	0.0988	99	80 - 120	
Barium	0.500	0.459	92	80 - 120	
Cadmium	0.0500	0.0512	102	80 - 120	
Chromium	0.200	0.194	97	80 - 120	
Cobalt	0.500	0.502	100	80 - 120	
Copper	0.250	0.267	107	80 - 120	
Iron	1.00	0.913	91	80 - 120	
Lead	0.100	0.109	109	80 - 120	
Manganese	0.500	0.486	97	80 - 120	
Nickel	0.500	0.525	105	80 - 120	
Silver	0.0500	0.0520	104	80 - 120	
Thallium	0.100	0.110	110	80 - 120	

Client: Patrick Engineering

Job Number: 500-28779-1

Lab Control Sample - Batch: 500-98116

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: LCS 500-98116/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/28/2010 1318
Date Prepared: 10/26/2010 1142

Analysis Batch: 500-98378
Prep Batch: 500-98116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2102810AA.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Selenium	0.100	0.0942	94	80 - 120	
Zinc	0.500	0.480	96	80 - 120	

Client: Patrick Engineering

Job Number: 500-28779-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-98116

Method: 6020
Preparation: Soluble Metals Dissolved

MS Lab Sample ID:	500-28779-1	Analysis Batch:	500-98137	Instrument ID:	ICPMS2
Client Matrix:	Water	Prep Batch:	500-98116	Lab File ID:	MS2102610B.csv
Dilution:	1.0			Initial Weight/Volume:	1.0 mL
Date Analyzed:	10/26/2010 1251			Final Weight/Volume:	1.0 mL
Date Prepared:	10/26/2010 1142				

MSD Lab Sample ID:	500-28779-1	Analysis Batch:	500-98137	Instrument ID:	ICPMS2
Client Matrix:	Water	Prep Batch:	500-98116	Lab File ID:	MS2102610B.csv
Dilution:	1.0			Initial Weight/Volume:	1.0 mL
Date Analyzed:	10/26/2010 1252			Final Weight/Volume:	1.0 mL
Date Prepared:	10/26/2010 1142				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Beryllium	103	106	75 - 125	2	20		
Boron	108	119	75 - 125	3	20		

Client: Patrick Engineering

Job Number: 500-28779-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-98116

Method: 6020
Preparation: Soluble Metals Dissolved

MS Lab Sample ID:	500-28779-1	Analysis Batch:	500-98199	Instrument ID:	ICPMS2
Client Matrix:	Water	Prep Batch:	500-98116	Lab File ID:	MS2102610D.csv
Dilution:	1.0			Initial Weight/Volume:	1.0 mL
Date Analyzed:	10/26/2010 1638			Final Weight/Volume:	1.0 mL
Date Prepared:	10/26/2010 1142				

MSD Lab Sample ID:	500-28779-1	Analysis Batch:	500-98199	Instrument ID:	ICPMS2
Client Matrix:	Water	Prep Batch:	500-98116	Lab File ID:	MS2102610D.csv
Dilution:	1.0			Initial Weight/Volume:	1.0 mL
Date Analyzed:	10/26/2010 1641			Final Weight/Volume:	1.0 mL
Date Prepared:	10/26/2010 1142				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Antimony	91	96	75 - 125	5	20		
Arsenic	115	118	75 - 125	2	20		
Barium	94	95	75 - 125	1	20		
Cadmium	108	111	75 - 125	3	20		
Chromium	91	96	75 - 125	5	20		
Cobalt	93	98	75 - 125	5	20		
Copper	96	101	75 - 125	5	20		
Iron	85	91	75 - 125	6	20		
Lead	108	109	75 - 125	1	20		
Manganese	94	99	75 - 125	5	20		
Nickel	96	101	75 - 125	5	20		
Silver	80	82	75 - 125	2	20		
Thallium	109	110	75 - 125	1	20		

Client: Patrick Engineering

Job Number: 500-28779-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-98116

Method: 6020
Preparation: Soluble Metals Dissolved

MS Lab Sample ID:	500-28779-1	Analysis Batch:	500-98378	Instrument ID:	ICPMS2
Client Matrix:	Water	Prep Batch:	500-98116	Lab File ID:	MS2102810AA.csv
Dilution:	1.0			Initial Weight/Volume:	1.0 mL
Date Analyzed:	10/28/2010 1337			Final Weight/Volume:	1.0 mL
Date Prepared:	10/26/2010 1142				

MSD Lab Sample ID:	500-28779-1	Analysis Batch:	500-98378	Instrument ID:	ICPMS2
Client Matrix:	Water	Prep Batch:	500-98116	Lab File ID:	MS2102810AA.csv
Dilution:	1.0			Initial Weight/Volume:	1.0 mL
Date Analyzed:	10/28/2010 1339			Final Weight/Volume:	1.0 mL
Date Prepared:	10/26/2010 1142				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Selenium	103	106	75 - 125	2	20		
Zinc	108	108	75 - 125	1	20		

Client: Patrick Engineering

Job Number: 500-28779-1

Duplicate - Batch: 500-98116

Method: 6020
Preparation: Soluble Metals Dissolved

Lab Sample ID: 500-28779-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/26/2010 1250
Date Prepared: 10/26/2010 1142

Analysis Batch: 500-98137
Prep Batch: 500-98116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2102610B.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Beryllium	<0.0010	<0.0010	NC	20	
Boron	2.6	2.62	1	20	

Duplicate - Batch: 500-98116

Method: 6020
Preparation: Soluble Metals Dissolved

Lab Sample ID: 500-28779-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/26/2010 1635
Date Prepared: 10/26/2010 1142

Analysis Batch: 500-98199
Prep Batch: 500-98116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2102610D.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Antimony	0.0052	<0.0030	157	20	F
Arsenic	0.054	0.0547	0.9	20	
Barium	0.023	0.0230	1	20	
Cadmium	<0.00050	<0.00050	NC	20	
Chromium	<0.0050	<0.0050	NC	20	
Cobalt	<0.0010	<0.0010	NC	20	
Copper	<0.0020	<0.0020	NC	20	
Iron	<0.10	<0.10	NC	20	
Lead	<0.00050	<0.00050	NC	20	
Manganese	<0.0025	<0.0025	8	20	
Nickel	<0.0020	<0.0020	7	20	
Silver	<0.00050	<0.00050	NC	20	
Thallium	<0.0020	<0.0020	NC	20	

Client: Patrick Engineering

Job Number: 500-28779-1

Duplicate - Batch: 500-98116

Method: 6020
Preparation: Soluble Metals Dissolved

Lab Sample ID: 500-28779-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/28/2010 1335
Date Prepared: 10/26/2010 1142

Analysis Batch: 500-98378
Prep Batch: 500-98116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2102810AA.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Selenium	0.031	0.0379	19	20	
Zinc	<0.020	<0.020	NC	20	

Client: Patrick Engineering

Job Number: 500-28779-1

Method Blank - Batch: 500-98248

Method: 7470A
Preparation: 7470A

Lab Sample ID: MB 500-98248/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/28/2010 0832
Date Prepared: 10/27/2010 1511

Analysis Batch: 500-98340
Prep Batch: 500-98248
Units: mg/L

Instrument ID: HG5
Lab File ID: 102810R.PRN
Initial Weight/Volume: 25 mL
Final Weight/Volume: 25 mL

Analyte	Result	Qual	RL
Mercury	<0.00020		0.00020

Lab Control Sample - Batch: 500-98248

Method: 7470A
Preparation: 7470A

Lab Sample ID: LCS 500-98248/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/28/2010 0834
Date Prepared: 10/27/2010 1511

Analysis Batch: 500-98340
Prep Batch: 500-98248
Units: mg/L

Instrument ID: HG5
Lab File ID: 102810R.PRN
Initial Weight/Volume: 25 mL
Final Weight/Volume: 25 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.00200	0.00186	93	80 - 120	

Client: Patrick Engineering

Job Number: 500-28779-1

Method Blank - Batch: 500-98202

Method: 9014
Preparation: 9010B

Lab Sample ID: MB 500-98202/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/27/2010 1315
Date Prepared: 10/27/2010 1020

Analysis Batch: 500-98243
Prep Batch: 500-98202
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Cyanide, Total-Dissolved	<0.010		0.010

Client: Patrick Engineering

Job Number: 500-28779-1

Lab Control Sample - Batch: 500-98202

Method: 9014
Preparation: 9010B

Lab Sample ID: LCS 500-98202/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/27/2010 1315
Date Prepared: 10/27/2010 1020

Analysis Batch: 500-98243
Prep Batch: 500-98202
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cyanide, Total-Dissolved	0.100	0.0963	96	80 - 120	

High Level Control Sample - Batch: 500-98202

Method: 9014
Preparation: 9010B

Lab Sample ID: HLCS 500-98202/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/27/2010 1316
Date Prepared: 10/27/2010 1020

Analysis Batch: 500-98243
Prep Batch: 500-98202
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cyanide, Total-Dissolved	0.400	0.368	92	90 - 110	

Low Level Control Sample - Batch: 500-98202

Method: 9014
Preparation: 9010B

Lab Sample ID: LLCS 500-98202/4-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/27/2010 1316
Date Prepared: 10/27/2010 1020

Analysis Batch: 500-98243
Prep Batch: 500-98202
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cyanide, Total-Dissolved	0.0400	0.0431	108	75 - 125	

Client: Patrick Engineering

Job Number: 500-28779-1

Method Blank - Batch: 500-98305

Method: 9038
Preparation: N/A

Lab Sample ID: MB 500-98305/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/27/2010 0628
Date Prepared: N/A

Analysis Batch: 500-98305
Prep Batch: N/A
Units: mg/L

Instrument ID: SPEC3
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Sulfate-Dissolved	<5.0		5.0

Lab Control Sample - Batch: 500-98305

Method: 9038
Preparation: N/A

Lab Sample ID: LCS 500-98305/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/27/2010 0629
Date Prepared: N/A

Analysis Batch: 500-98305
Prep Batch: N/A
Units: mg/L

Instrument ID: SPEC3
Lab File ID: N/A
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate-Dissolved	20.0	18.2	91	80 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-98305

Method: 9038
Preparation: N/A

MS Lab Sample ID: 500-28779-3
Client Matrix: Water
Dilution: 8.0
Date Analyzed: 10/27/2010 0633
Date Prepared: N/A

Analysis Batch: 500-98305
Prep Batch: N/A

Instrument ID: SPEC3
Lab File ID: N/A
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

MSD Lab Sample ID: 500-28779-3
Client Matrix: Water
Dilution: 8.0
Date Analyzed: 10/27/2010 0634
Date Prepared: N/A

Analysis Batch: 500-98305
Prep Batch: N/A

Instrument ID: SPEC3
Lab File ID: N/A
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Sulfate-Dissolved	112	108	75 - 125	2	20		

Client: Patrick Engineering

Job Number: 500-28779-1

Method Blank - Batch: 500-98277

Method: 9251
Preparation: N/A

Lab Sample ID: MB 500-98277/121
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/27/2010 1929
Date Prepared: N/A

Analysis Batch: 500-98277
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-10-27-19-58-1.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Chloride-Dissolved	<2.0		2.0

Lab Control Sample - Batch: 500-98277

Method: 9251
Preparation: N/A

Lab Sample ID: LCS 500-98277/122
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/27/2010 1930
Date Prepared: N/A

Analysis Batch: 500-98277
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-10-27-19-58-1.csv
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Dissolved	50.0	48.9	98	80 - 120	

Matrix Spike - Batch: 500-98277

Method: 9251
Preparation: N/A

Lab Sample ID: 500-28779-1
Client Matrix: Water
Dilution: 5.0
Date Analyzed: 10/27/2010 1949
Date Prepared: N/A

Analysis Batch: 500-98277
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-10-27-19-58-1.csv
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Dissolved	39	50.0	92.8	108	75 - 125	

Client: Patrick Engineering

Job Number: 500-28779-1

Method Blank - Batch: 500-98171

Method: SM 2540C
Preparation: N/A

Lab Sample ID: MB 500-98171/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/26/2010 2103
Date Prepared: N/A

Analysis Batch: 500-98171
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Total Dissolved Solids-Dissolved	<10		10

Lab Control Sample - Batch: 500-98171

Method: SM 2540C
Preparation: N/A

Lab Sample ID: LCS 500-98171/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/26/2010 2106
Date Prepared: N/A

Analysis Batch: 500-98171
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Dissolved Solids-Dissolved	250	264	106	80 - 120	

Matrix Spike - Batch: 500-98171

Method: SM 2540C
Preparation: N/A

Lab Sample ID: 500-28779-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/26/2010 2118
Date Prepared: N/A

Analysis Batch: 500-98171
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Total Dissolved Solids-Dissolved	460	250	714	101	75 - 125	

Client: Patrick Engineering

Job Number: 500-28779-1

Duplicate - Batch: 500-98171

Method: SM 2540C
Preparation: N/A

Lab Sample ID: 500-28779-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/26/2010 2114
Date Prepared: N/A

Analysis Batch: 500-98171
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Dissolved Solids-Dissolved	460	476	3	20	

Client: Patrick Engineering

Job Number: 500-28779-1

Method Blank - Batch: 500-98335

Method: SM 4500 F C
Preparation: N/A

Lab Sample ID: MB 500-98335/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/28/2010 0924
Date Prepared: N/A

Analysis Batch: 500-98335
Prep Batch: N/A
Units: mg/L

Instrument ID: PC-Titrate
Lab File ID: 10102801.txt
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Fluoride-Dissolved	<0.10		0.10

Lab Control Sample - Batch: 500-98335

Method: SM 4500 F C
Preparation: N/A

Lab Sample ID: LCS 500-98335/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/28/2010 0927
Date Prepared: N/A

Analysis Batch: 500-98335
Prep Batch: N/A
Units: mg/L

Instrument ID: PC-Titrate
Lab File ID: 10102801.txt
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Fluoride-Dissolved	10.0	10.4	104	80 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-98335

Method: SM 4500 F C
Preparation: N/A

MS Lab Sample ID: 500-28779-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/28/2010 0934
Date Prepared: N/A

Analysis Batch: 500-98335
Prep Batch: N/A

Instrument ID: PC-Titrate
Lab File ID: 10102801.txt
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

MSD Lab Sample ID: 500-28779-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/28/2010 0937
Date Prepared: N/A

Analysis Batch: 500-98335
Prep Batch: N/A

Instrument ID: PC-Titrate
Lab File ID: 10102801.txt
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Fluoride-Dissolved	87	88	75 - 125	2	20		

Client: Patrick Engineering

Job Number: 500-28779-1

Method Blank - Batch: 500-98250

Method: SM 4500 NO2 B
Preparation: N/A

Lab Sample ID: MB 500-98250/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/27/2010 1111
Date Prepared: N/A

Analysis Batch: 500-98250
Prep Batch: N/A
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Nitrogen, Nitrite-Dissolved	<0.020		0.020

Lab Control Sample - Batch: 500-98250

Method: SM 4500 NO2 B
Preparation: N/A

Lab Sample ID: LCS 500-98250/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/27/2010 1111
Date Prepared: N/A

Analysis Batch: 500-98250
Prep Batch: N/A
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrogen, Nitrite-Dissolved	0.100	0.0997	100	80 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-98250

Method: SM 4500 NO2 B
Preparation: N/A

MS Lab Sample ID: 500-28779-3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/27/2010 1113
Date Prepared: N/A

Analysis Batch: 500-98250
Prep Batch: N/A

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

MSD Lab Sample ID: 500-28779-3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/27/2010 1114
Date Prepared: N/A

Analysis Batch: 500-98250
Prep Batch: N/A

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Nitrogen, Nitrite-Dissolved	92	95	75 - 125	3	20		

Client: Patrick Engineering

Job Number: 500-28779-1

Method Blank - Batch: 500-98229

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: MB 500-98229/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/27/2010 1003
Date Prepared: N/A

Analysis Batch: 500-98229
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-10-27-11-37-12.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Nitrogen, Nitrate Nitrite-Dissolved	<0.10		0.10

Lab Control Sample - Batch: 500-98229

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: LCS 500-98229/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/27/2010 1006
Date Prepared: N/A

Analysis Batch: 500-98229
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-10-27-11-37-12.csv
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrogen, Nitrate Nitrite-Dissolved	1.00	1.10	110	80 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-98229

Method: SM 4500 NO3 F
Preparation: N/A

MS Lab Sample ID: 500-28779-4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/27/2010 1058
Date Prepared: N/A

Analysis Batch: 500-98229
Prep Batch: N/A

Instrument ID: AQ2
Lab File ID: 2010-10-27-11-37-12.csv
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

MSD Lab Sample ID: 500-28779-4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/27/2010 1101
Date Prepared: N/A

Analysis Batch: 500-98229
Prep Batch: N/A

Instrument ID: AQ2
Lab File ID: 2010-10-27-11-37-12.csv
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Nitrogen, Nitrate Nitrite-Dissolved	56	54	75 - 125	3	20	F	F

Client: Patrick Engineering

Job Number: 500-28779-1

Method Blank - Batch: 500-98362

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: MB 500-98362/34
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/28/2010 1021
Date Prepared: N/A

Analysis Batch: 500-98362
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-10-28-11-30-20.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Nitrogen, Nitrate Nitrite-Dissolved	<0.10		0.10

Lab Control Sample - Batch: 500-98362

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: LCS 500-98362/35
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 10/28/2010 1023
Date Prepared: N/A

Analysis Batch: 500-98362
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-10-28-11-30-20.csv
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrogen, Nitrate Nitrite-Dissolved	1.00	1.05	105	80 - 120	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

Chain of Custody Record

Lab Job #: 500-28779

Chain of Custody Number:

Page ____ of ____

Temperature °C of Cooler: 2.1

(optional) Report To		(optional) Bill To	
Contact:	ANDREW GAGNON	Contact:	SAME
Company:	PATRICK ENG	Company:	
Address:	4970 VARSITY DR	Address:	
Address:	LISLE IL 60532	Address:	
Phone:	630-795-7200	Phone:	
Fax:		Fax:	
E-Mail:	AGAGNON@PATRICKENGINEERING.COM	PO#/Reference#	21053.070-200

Client: PATRICK ENG	Client Project #: 21053.070-200	Preservative	
Project Name: MIDWEST GENERATION		Parameter	SEE ATTACHED LIST
Project Location/State: WAUKEGAN IL	Lab Project #		
Sampler: MPG	Lab PM		

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Comments
1		MW-01	10/25	16:45	5	W	
2		MW-02	10/25	16:15	5	W	
3		MW-03	10/25	15:30	5	W	
4		MW-04	10/25	14:45	5	W	
5		MW-05	10/25	13:30	5	W	

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	PATRICK	10/26	1000	[signature]	TA	10/26/12	1000
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped
Hand Delivered

Matrix Key
WW Wastewater
W Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL Oil
A – Air
SE – Sediment
SO – Soil
L - Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TAL-4124-600 (1209)

MWG13-15_7221

500-28779

TABLE 1
PROPOSED SAMPLING AND ANALYSIS PLAN
Midwest Generation, LLC
Powerton Generating Station
~~Pekin~~ WAUKEGAN, Illinois
July 2010

PARAMETER	NOTES
pH	Field Parameter
Specific Conductance	Field Parameter
Groundwater Depth	Field Parameter
Well Depth	Field Parameter
Boron[a]	Laboratory Parameter
Sulfate[b]	Laboratory Parameter
Iron[a]	Laboratory Parameter
Manganese[a]	Laboratory Parameter
Total Dissolved Solids[c]	Laboratory Parameter
Antimony[a]	Laboratory Parameter
Arsenic[a]	Laboratory Parameter
Barium[a]	Laboratory Parameter
Beryllium[a]	Laboratory Parameter
Cadmium[a]	Laboratory Parameter
Chloride[d]	Laboratory Parameter
Chromium[a]	Laboratory Parameter
Cobalt[a]	Laboratory Parameter
Copper[a]	Laboratory Parameter
Cyanide[a]	Laboratory Parameter
Fluoride[a]	Laboratory Parameter
Lead[a]	Laboratory Parameter
Mercury[e]	Laboratory Parameter
Nickel[a]	Laboratory Parameter
Nitrate as N[f]	Laboratory Parameter
Selenium[a]	Laboratory Parameter
Silver[a]	Laboratory Parameter
Thallium[a]	Laboratory Parameter
Zinc[a]	Laboratory Parameter

NOTES:

[a] Dissolved metals analyzed by SW-846 Method 6020

[b] Dissolved sulfate analyzed by SW-846 Method 9038

[c] Total dissolved solids analyzed by SW-846 Method 2540C

[d] Dissolved chloride analyzed by SW-846 Method 9251

[e] Dissolved mercury analyzed by SW-846 Method 7470A

[f] Dissolved nitrate analyzed by SW-846 Method 4500 NO2 and NO3

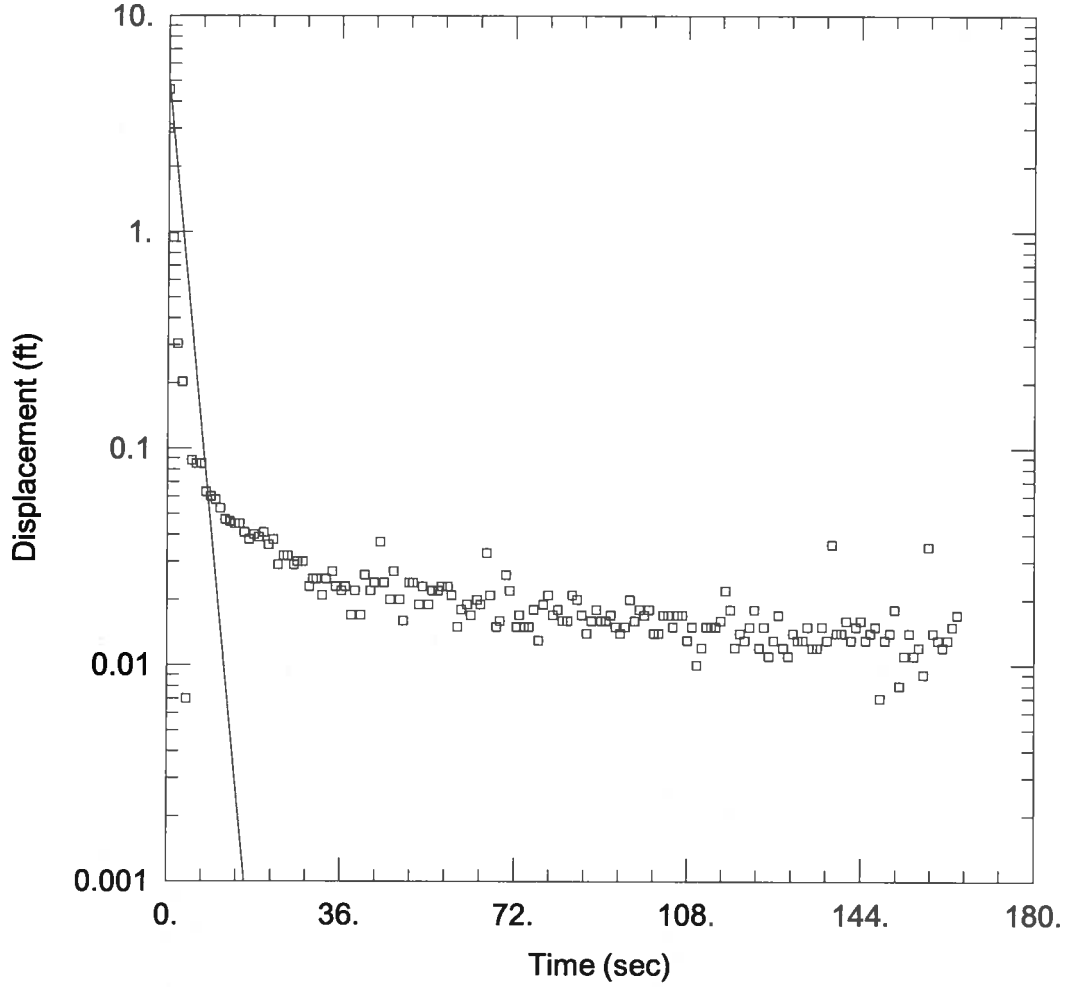
Login Sample Receipt Check List

Client: Patrick Engineering

Job Number: 500-28779-1

Login Number: 28779
List Source: TestAmerica Chicago
Creator: Kelsey, Shawn M
List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	



WELL TEST ANALYSIS

Data Set: P:\...\waukegan mw-3 d2.aqt
Date: 02/18/11 Time: 09:16:45

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Waukegan
Test Well: MW-1 (u2)
Test Date: 12/22/10

AQUIFER DATA

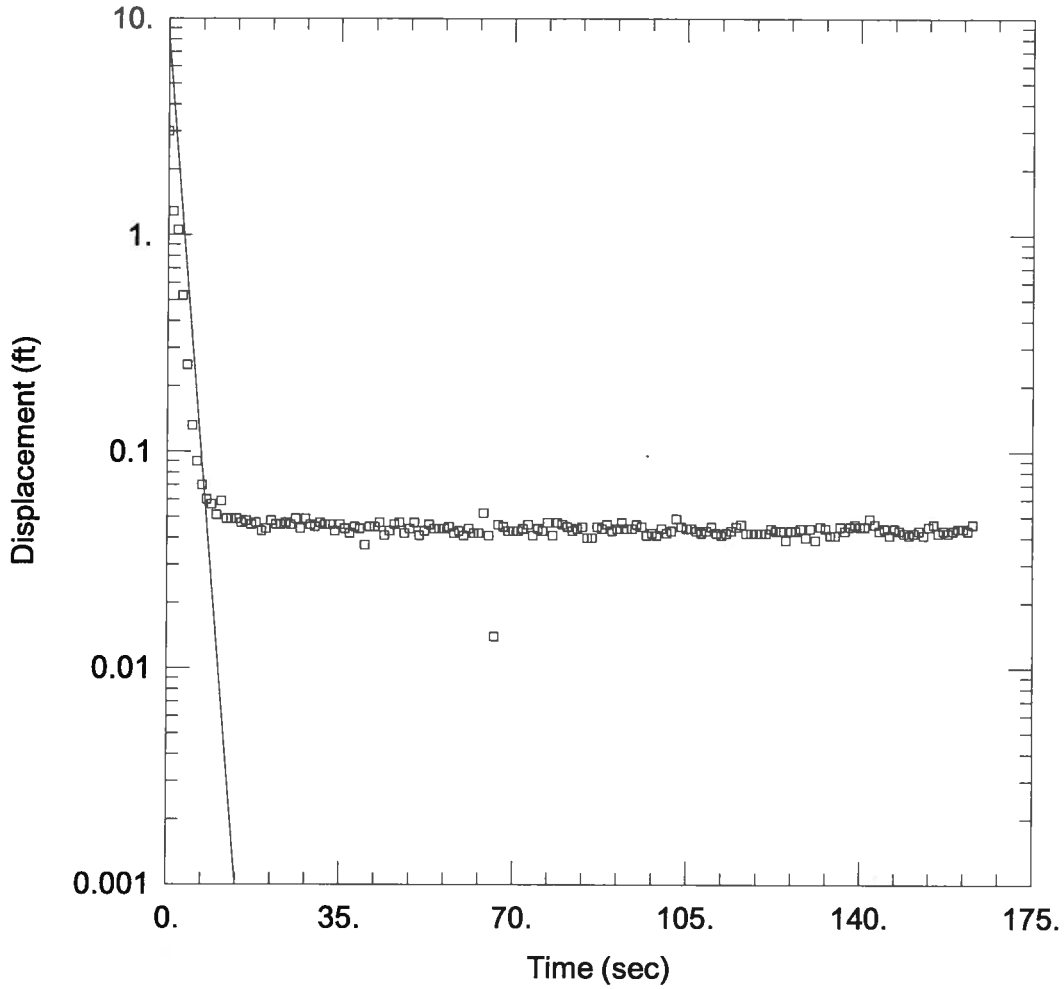
Saturated Thickness: 7.8 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-3 (d2))

Initial Displacement: 3. ft
Total Well Penetration Depth: 29.84 ft
Casing Radius: 0.2 ft
Static Water Column Height: 7.8 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.004353 ft/sec
y0 = 5.111 ft



WELL TEST ANALYSIS

Data Set: P:\...\waukegan mw-1 u2.aqt
Date: 02/18/11 Time: 09:17:01

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Waukegan
Test Well: MW-1 (u2)
Test Date: 12/22/10

AQUIFER DATA

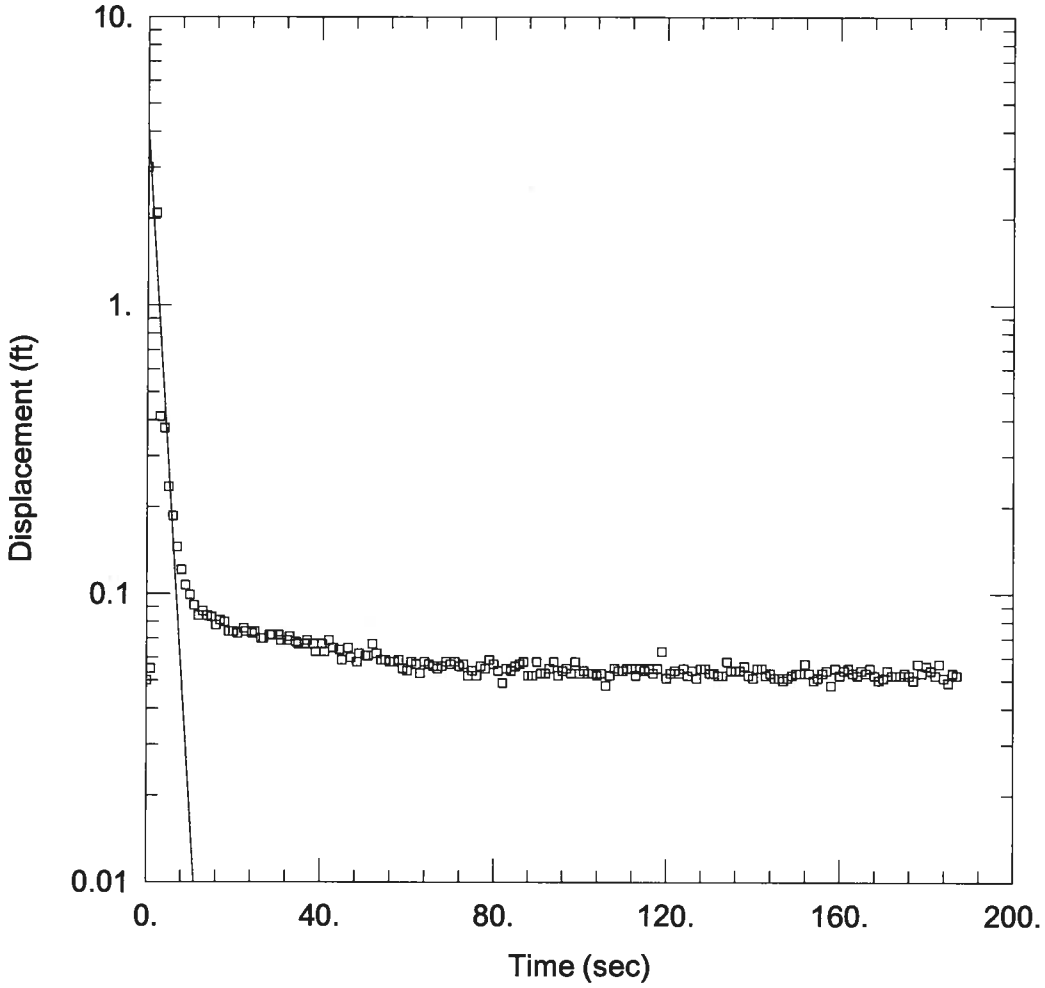
Saturated Thickness: 9.62 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-1 (u2))

Initial Displacement: 3. ft
Total Well Penetration Depth: 31.92 ft
Casing Radius: 0.2 ft
Static Water Column Height: 9.62 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.004406 ft/sec
y0 = 8.075 ft



WELL TEST ANALYSIS

Data Set: P:\...\waukegan mw-1 d1.aqt
Date: 02/18/11 Time: 09:17:17

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Waukegan
Test Well: MW-1 (u2)
Test Date: 12/22/10

AQUIFER DATA

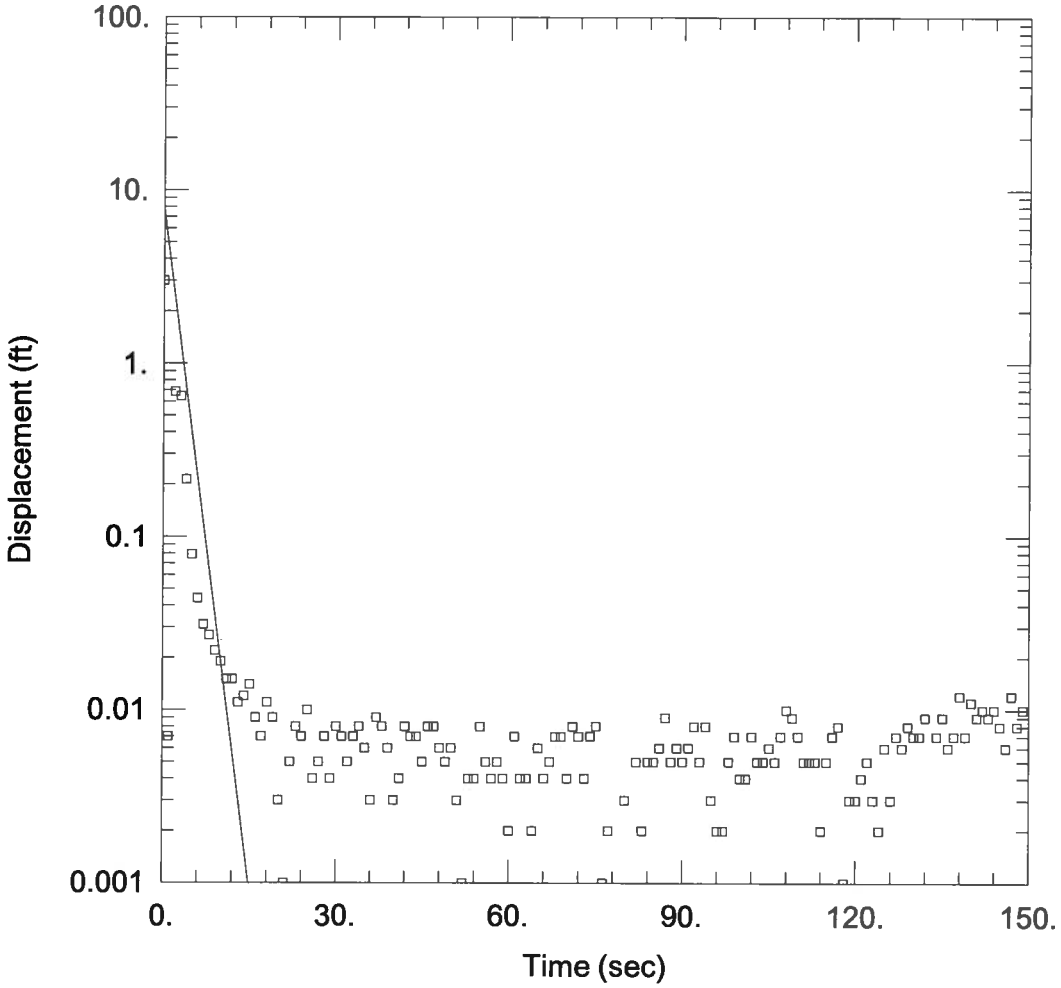
Saturated Thickness: 9.62 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-1 (d1))

Initial Displacement: 3. ft
Total Well Penetration Depth: 31.92 ft
Casing Radius: 0.2 ft
Static Water Column Height: 9.62 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.003731 ft/sec
y0 = 4.289 ft



WELL TEST ANALYSIS

Data Set: P:\...\waukegan mw-5 u3.aqt
Date: 02/18/11 Time: 09:17:32

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Waukegan
Test Well: MW-1 (u2)
Test Date: 12/22/10

AQUIFER DATA

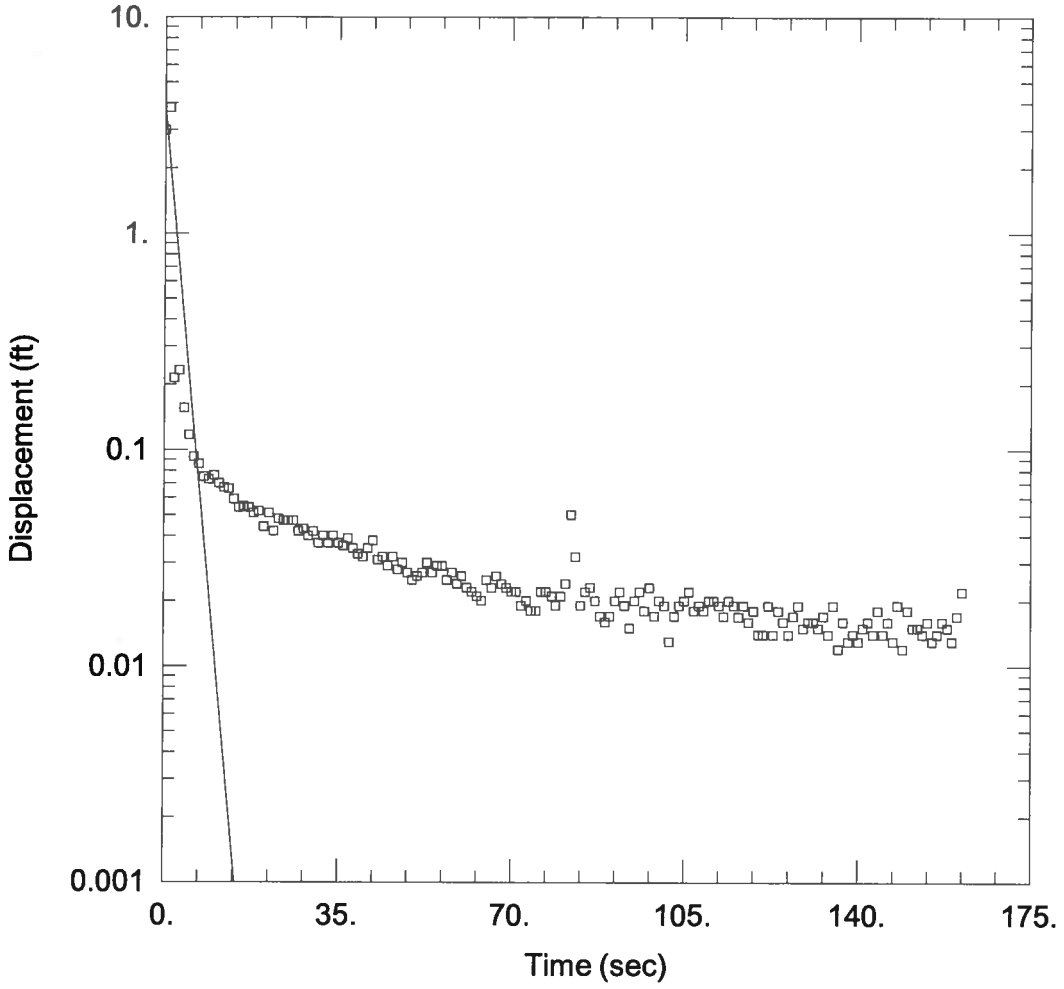
Saturated Thickness: 9.56 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-5 (u3))

Initial Displacement: 3. ft
Total Well Penetration Depth: 32.18 ft
Casing Radius: 0.2 ft
Static Water Column Height: 9.56 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.004135 ft/sec
y0 = 7.778 ft



WELL TEST ANALYSIS

Data Set: P:\...\waukegan mw-5 d3.aqt
Date: 02/18/11 Time: 09:18:36

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Waukegan
Test Well: MW-1 (u2)
Test Date: 12/22/10

AQUIFER DATA

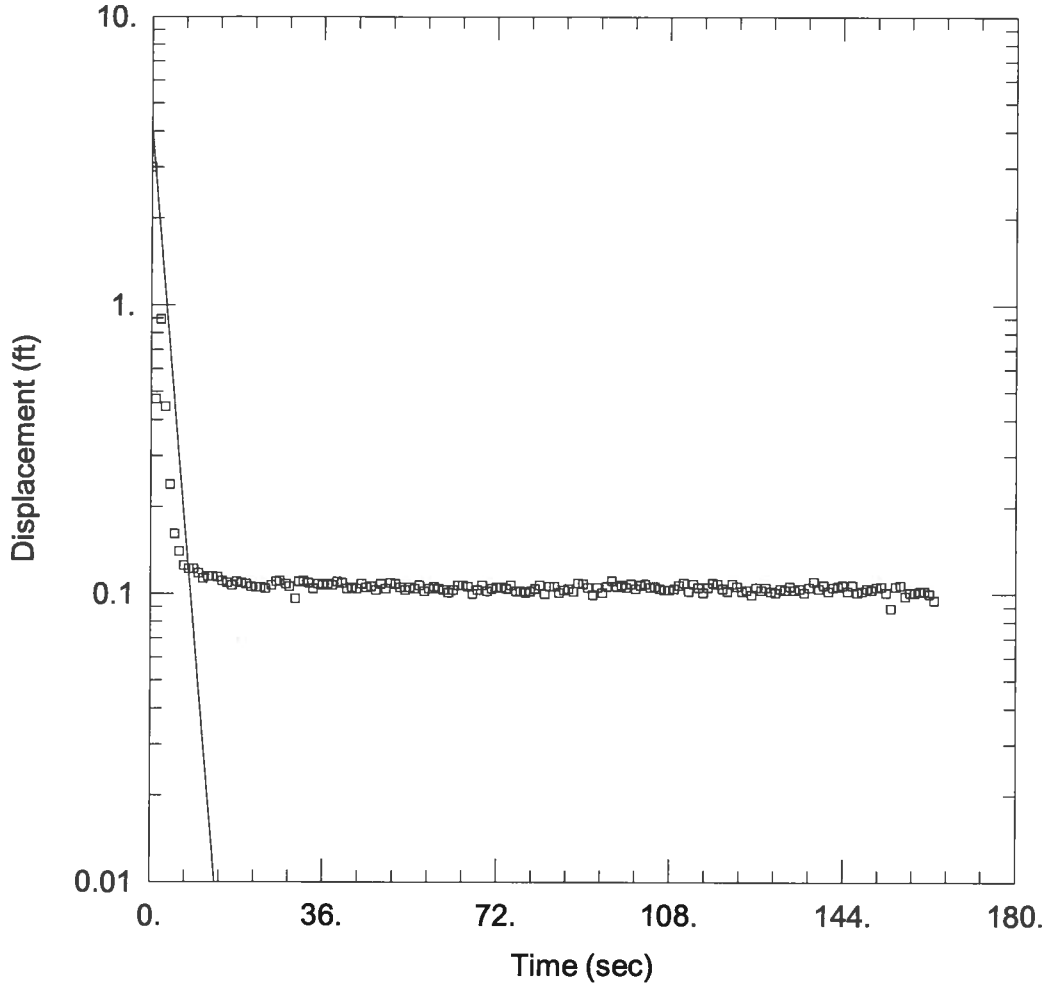
Saturated Thickness: 9.56 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-5 (d3))

Initial Displacement: 3. ft
Total Well Penetration Depth: 32.18 ft
Casing Radius: 0.2 ft
Static Water Column Height: 9.56 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.003948 ft/sec
y0 = 3.829 ft



WELL TEST ANALYSIS

Data Set: P:\...\waukegan mw-3 u3.aqt
Date: 02/18/11 Time: 09:19:02

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Waukegan
Test Well: MW-1 (u2)
Test Date: 12/22/10

AQUIFER DATA

Saturated Thickness: 7.8 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-3 (u3))

Initial Displacement: 3. ft
Total Well Penetration Depth: 29.84 ft
Casing Radius: 0.2 ft
Static Water Column Height: 7.8 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.00367 ft/sec
y0 = 4.161 ft

Exhibit A4

KPRG
ENVIRONMENTAL CONSULTATION & REMEDIATION
KPRG and Associates, Inc.

GEOLOGIC LOG OF MW-8

Midwest Generation, LLC
Waukegan Station
Waukegan, Illinois

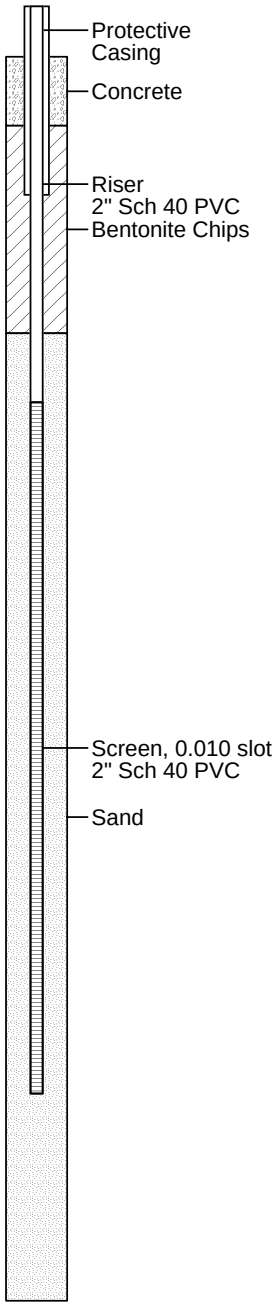
Project No. 20013

Date Started	: 04/29/2014
Date Well Set	: 04/29/2014
Rock Coring Tools	: Not cored
Drilling Tools	: 4.25 ID HSA
Drill Rig	: Geoprobe
Driller Name/Co	: J. Martin/TSC

Total Boring Depth	: 18 feet
Well Bottom Depth	: 15 feet
Surface Elev.	: 588.42 feet above MSL
TOC Elev.	: 590.99 feet above MSL
Groundwater Elev.	: feet above MSL
Riser Material	: 2" Sch 40 PVC
Screen Material	: 2" Sch 40 PVC, 0.010 slot
Coordinate N	: 2080826 N
Coordinate E	: 1123351 E
Logged By	: P. Allenstein

Depth in Feet	Surf. Elev. 588.42	DESCRIPTION	PID	% Recovery
0		Grass, Black clayey TOP SOIL		
		FILL: Gray SILT with traces fine sand, very moist		100
2	586			
		FILL: Brown SILT with black sandy SLAG layered		100
4	584	FILL: Greenish gray SILTY SAND - thin slag layer		
		Black SILT and CLAY, wet		100
6	582			
				100
		6" PEAT		
8	580	Gray SILTY SAND, fine to coarse grained, wet		
				50
10	578			
				50
12	576			
				50
14	574	Brown SILTY SAND, fine to medium grained		
				50
16	572			
				50
18	570	End of Boring at 18'		

Well Diagram: MW-8



KPRG
ENVIRONMENTAL CONSULTATION & REMEDIATION
KPRG and Associates, Inc.

GEOLOGIC LOG OF MW-9

Midwest Generation, LLC
Waukegan Station
Waukegan, Illinois

Project No. 20013

Date Started	: 04/29/2014
Date Well Set	: 04/29/2014
Rock Coring Tools	: Not cored
Drilling Tools	: 4.25 ID HSA
Drill Rig	: Geoprobe
Driller Name/Co	: J. Martin/TSC

Total Boring Depth	: 18 feet
Well Bottom Depth	: 16 feet
Surface Elev.	: 591.58 feet above MSL
TOC Elev.	: 594.09 feet above MSL
Groundwater Elev.	: feet above MSL
Riser Material	: 2" Sch 40 PVC
Screen Material	: 2" Sch 40 PVC, 0.010 slot
Coordinate N	: 2081118 N
Coordinate E	: 1123540 E
Logged By	: P. Allenstein

Depth in Feet	Surf. Elev. 591.58	DESCRIPTION	PID	% Recovery
0		FILL: Black CLAY/SILT/fine grained SAND mix, moist		
		FILL: Gray SILT, dry		100
	590			
2				75
	588			
4		- Begin dark gray		75
	586			
6		FILL: Black SLAG		100
	584			
8				100
	582			
10		PEAT, black SILTY CLAY with organics, wet		
		Light gray SILTY SAND, fine to medium grained with trace coarse grained, organics		100
	580			
12				
		Brown SILTY SAND, fine to medium grained with trace coarse grained		
	578			
14				
	576			
16				
	574			
18		End of Boring at 18'		

Well Diagram: MW-9

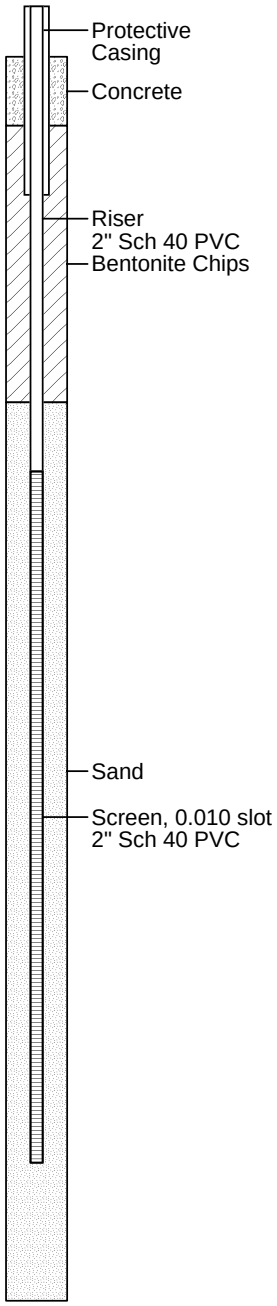


Exhibit A5

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

217/785-0561

RECEIVED

JUN 13 2012

ENVIRONMENTAL SERVICES
MIDWEST GENERATION EME, LLC

June 11, 2012

CERTIFIED MAIL # 7010 2780 0002 1163 7216
RETURN RECEIPT REQUESTED

Mr. Basil G. Constantelos: Managing Director, Environmental Services
Midwest Generation EME, LLC
2535 Remington Blvd
Suite A
Bolingbrook, IL 60440

Re: Violation Notice: Midwest Generation, LLC, Waukegan Generating Station
Identification No.: 6281
Violation Notice No.: W-2012-00056

Dear Mr. Constantelos:

This constitutes a Violation Notice pursuant to Section 31(a)(1) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(1), and is based upon a review of available information and an investigation by representatives of the Illinois Environmental Protection Agency ("Illinois EPA").

The Illinois EPA hereby provides notice of alleged violations of environmental laws, regulations, or permits as set forth in Attachment A to this notice. Attachment A includes an explanation of the activities that the Illinois EPA believes may resolve the specified alleged violations. Due to the nature and seriousness of the alleged violations, please be advised that resolution of the violations may also require the involvement of a prosecutorial authority for purposes that may include, among others, the imposition of statutory penalties.

A written response, which may include a request for a meeting with representatives of the Illinois EPA, must be submitted via certified mail to the Illinois EPA within 45 days of receipt of this letter. If a meeting is requested, it shall be held within 60 days of receipt of this notice. The response must include information in rebuttal, explanation, or justification of each alleged violation and a statement indicating whether or not the facility wishes to enter into a Compliance Commitment Agreement ("CCA") pursuant to Section 31(a) of the Act. If the facility wishes to enter into a CCA, the written response must also include proposed terms for the CCA that includes dates for achieving each commitment and may include a statement that compliance has been achieved for some or all of the alleged violations. The proposed terms of the CCA should contain sufficient detail and must include steps to be taken to achieve compliance and the necessary dates by which compliance will be achieved.

The Illinois EPA will review the proposed terms for a CCA provided by the facility and, within 30 days of receipt, will respond with either a proposed CCA or a notice that no CCA will be issued by the Illinois EPA. If the Illinois EPA sends a proposed CCA, the facility must respond in writing by either agreeing to and signing the proposed CCA or by notifying the Illinois EPA that the facility rejects the terms of the proposed CCA.

If a timely written response to this Violation Notice is not provided, it shall be considered a waiver of the opportunity to respond and meet, and the Illinois EPA may proceed with referral to a prosecutorial authority.

Written communications should be directed to:

Illinois EPA – Division of Public Water Supplies
Attn: Andrea Rhodes, CAS #19
P.O. BOX 19276
Springfield, IL 62794-9276

All communications must include reference to this Violation Notice number, W-2012-00056.

Questions regarding this Violation Notice should be directed to Andrea Rhodes at 217/785-0561.

Sincerely,

Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

Attachments

cc: Maria Race

CASE ID: 2012-006

ATTACHMENT A

MIDWEST GENERATION, LLC, WAUKEGAN GENERATING STATION, ID:6281
VIOLATION NOTICE NO. W-2012-00056:

A review of information available to the Illinois EPA indicates the following on-going violations of statutes, regulations, or permits. Included with each type of violation is an explanation of the activities that the Illinois EPA believes may resolve the violation.

Groundwater Quality

No person shall cause, threaten or allow the release of any contaminant to a resource groundwater such that: treatment or additional treatment is necessary to continue an existing use or to assure a potential use of such groundwater; or an existing or potential use of such groundwater is precluded. No person shall cause, threaten or allow the release of any contaminant to groundwater so as to cause a groundwater quality standard to be exceeded. Midwest Generation, LLC must take actions to mitigate existing contamination and prevent the continuing release of contaminants into the environment.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-1 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	9.54 su	6.5-9.0 su	3/14/2012
pH	9.97 su	6.5-9.0 su	6/13/2011
pH	9.92 su	6.5-9.0 su	3/24/2011
Antimony	0.052 mg/l	0.006 mg/l	10/25/2010
Arsenic	0.078 mg/l	0.05 mg/l	3/14/2012
Arsenic	0.057 mg/l	0.05 mg/l	12/6/2011
Arsenic	0.077 mg/l	0.05 mg/l	9/13/2011
Arsenic	0.17 mg/l	0.05 mg/l	6/13/2011
Arsenic	0.054 mg/l	0.05 mg/l	10/25/2010
Boron	2.5 mg/l	2.0 mg/l	3/14/2012
Boron	2.8 mg/l	2.0 mg/l	12/6/2011
Boron	2.5 mg/l	2.0 mg/l	9/13/2011
Boron	2.6 mg/l	2.0 mg/l	6/13/2011
Boron	2.6 mg/l	2.0 mg/l	10/25/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

ATTACHMENT A

MIDWEST GENERATION, LLC, WAUKEGAN GENERATING STATION, ID:6281
VIOLATION NOTICE NO. W-2012-00056:

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-2 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	9.31 su	6.5-9.0 su	3/24/2011
Boron	2.2 mg/l	2.0 mg/l	3/24/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-3 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	9.20 su	6.5-9.0 su	9/13/2011
Boron	2.3 mg/l	2.0 mg/l	6/13/2011
Boron	2.2 mg/l	2.0 mg/l	3/24/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-4 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Manganese	0.36 mg/l	0.15 mg/l	9/13/2011
Boron	2.2 mg/l	2.0 mg/l	3/14/2012
Boron	2.1 mg/l	2.0 mg/l	12/6/2011
Boron	2.1 mg/l	2.0 mg/l	3/24/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

ATTACHMENT A

MIDWEST GENERATION, LLC, WAUKEGAN GENERATING STATION, ID:6281
VIOLATION NOTICE NO. W-2012-00056

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-5 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Iron	6.6 mg/l	5.0 mg/l	3/14/2012
Iron	5.6 mg/l	5.0 mg/l	12/6/2011
Manganese	0.76 mg/l	0.15 mg/l	3/14/2012
Manganese	0.99 mg/l	0.15 mg/l	12/6/2011
Manganese	0.28 mg/l	0.15 mg/l	6/13/2011
Manganese	0.60 mg/l	0.15 mg/l	3/24/2011
Boron	44 mg/l	2.0 mg/l	3/14/2012
Boron	37 mg/l	2.0 mg/l	12/6/2011
Boron	30 mg/l	2.0 mg/l	9/13/2011
Boron	12 mg/l	2.0 mg/l	6/13/2011
Boron	33 mg/l	2.0 mg/l	3/24/2011
Sulfate	980 mg/l	400 mg/l	3/14/2012
Sulfate	1,100 mg/l	400 mg/l	12/6/2011
Sulfate	810 mg/l	400 mg/l	9/13/2011
Sulfate	1,100 mg/l	400 mg/l	6/13/2011
Sulfate	780 mg/l	400 mg/l	3/24/2011
Sulfate	920 mg/l	400 mg/l	10/25/2010
Chloride	220 mg/l	200 mg/l	9/13/2011
Chloride	540 mg/l	200 mg/l	6/13/2011
TDS	2,000 mg/l	1,200 mg/l	3/14/2012
TDS	2,300 mg/l	1,200 mg/l	12/6/2011
TDS	2,300 mg/l	1,200 mg/l	9/13/2011
TDS	3,300 mg/l	1,200 mg/l	6/13/2011
TDS	1,800 mg/l	1,200 mg/l	3/24/2011
TDS	1,500 mg/l	1,200 mg/l	10/25/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Exhibit A6

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

217-785-0561

October 24, 2012

CERTIFIED MAIL # 7011 1150 0001 0859 0119
RETURN RECEIPT REQUESTED

John Kennedy
Senior Vice President, Generation
235 Remington, Suite A
Bolingbrook, IL 60440

Re: Compliance Commitment Acceptance
Violation Notice: W-2012-00057
Midwest Generation, LLC, Powerton Generating Station; ID Number: 6282

Dear Mr. Kennedy:

The Illinois Environmental Protection Agency ("Illinois EPA") has approved the Compliance Commitment Agreement ("CCA") for Midwest Generation, LLC, Powerton Generating Station. Please find enclosed an executed copy of the CCA for your records.

Failure to fully comply with the CCA may, at the sole discretion of the Illinois EPA, result in referral of this matter to the Office of the Attorney General, the State's Attorney or the United States Environmental Protection Agency.

The CCA does not constitute a waiver or modification of the terms and conditions of any license or permit issued by the Illinois EPA or any other unit or department of local, state or federal government or of any local, state or federal statute or regulatory requirement.

Questions regarding this matter should be directed to Andrea Rhodes at 217/785-0561. Written communications should be directed to the Illinois Environmental Protection Agency, Bureau of Water, CAS #19, P.O. Box 19276, Springfield, IL 62794-9276, and all communications shall include reference to your Violation Notice Number W-2012-00057.

Sincerely,

Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

Attachments

cc: Basil G. Constantelos
Maria Race
Susan M. Franzetti

RECEIVED
OCT 29 2012

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF:

MIDWEST GENERATION, LLC,
POWERTON GENERATING STATION
PEKIN, TAZEWELL COUNTY, IL
ID NUMBER: 6282

RECEIVED
OCT 17 2012
IEPA/CAS

ILLINOIS EPA VN W-2012-00057
BUREAU OF WATER

COMPLIANCE COMMITMENT AGREEMENT

I. Jurisdiction

1. This Compliance Commitment Agreement ("CCA") is entered into voluntarily by the Illinois Environmental Protection Agency ("Illinois EPA") and Midwest Generation, LLC, Powerton Generating Station ("Respondent") (collectively, the "Parties") under the authority vested in the Illinois EPA pursuant to Section 31(a)(7)(i) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(7)(i).

II. Allegation of Violations

2. Respondent owns and operates Powerton Generating Station in Pekin, Tazewell County, Illinois ("Powerton").

3. Pursuant to Violation Notice ("VN") W-2012-00057 issued on June 11, 2012, the Illinois EPA contends that Respondent has violated the following provisions of the Act and Illinois Pollution Control Board ("Board") Regulations:

   a) Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring wells MW-1, MW-2, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, and MW-15. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

III. Compliance Activities

4. On September 4, 2012, the Illinois EPA received Respondent's response to VN W-2012-00057, which included proposed terms for a CCA. The Illinois EPA has reviewed Respondent's proposed CCA terms, as well as considered whether any additional terms and conditions are necessary to attain compliance with the alleged violations cited in the VN.

5. Respondent agrees to undertake and complete the following actions, which the Illinois EPA has determined are necessary to attain compliance with the allegations contained in VN W-2012-00057:

   a) The ash ponds at Powerton shall not be used as permanent disposal sites and shall continue to function as treatment ponds to precipitate ash. Ash shall continue to be removed from the ponds on a periodic basis.

   b) The ash treatment ponds shall be maintained and operated in a manner which protects the integrity of the existing liners. During the removal of ash from the ponds, appropriate procedures shall be followed to protect the integrity of the existing liners, including operating the ash removal equipment in a manner which minimizes the risk of any damage to the liner.

   c) During the ash removal process, visual inspections of the ponds shall be conducted to identify any signs of a breach in the integrity of the pond liners. In the event that a breach of the pond liners is detected, Midwest Generation shall promptly notify the Illinois EPA and shall implement a corrective action plan for repair or replacement as necessary, of the liner. Upon the Illinois EPA's approval, and the issuance of any necessary construction permit, Midwest Generation will implement the corrective action plan.

   d) Midwest Generation shall monitor the new well as described in 5(f) below and the existing fifteen groundwater monitoring wells quarterly for constituents in 35 Ill. Adm. Code 620.410(a) and (d), with the exception of radium 226 and 228, and report its findings to the Illinois EPA within 30 days of the end of each quarter. In addition, Midwest Generation shall record and report groundwater elevation and submit a potentiometric surface map with the above quarterly groundwater monitoring report.

   e) Within 90 days of the effective date of the CCA, Midwest Generation shall submit an application for a construction permit to re-line the Ash Surge Basin and the Secondary Ash Settling Basin at Powerton with a 60 mil thickness high density polyethylene ("HDPE") liner or an Illinois EPA approved equivalent material.

   f) Midwest Generation shall install an additional groundwater monitoring well south of monitor well 9, in a location approved by the Illinois EPA, to better define up gradient groundwater quality, within 60 days of the effective date of the CCA.

g) Midwest Generation shall submit an application to establish a GMZ pursuant to 35 Ill. Adm. Code Part 620.250 within 90 days of the effective date of the CCA.

h) Midwest Generation shall enter into an Environmental Land Use Control (ELUC) to cover the area of the Powerton Station property which is contained within the GMZ. Midwest Generation shall submit a proposed draft ELUC to the Illinois EPA for review and comment within 90 days of the effective date of the CCA.

i) Midwest Generation shall record the ELUC within 30 days of approval of the ELUC by the Illinois EPA.

j) Midwest Generation shall establish a GMZ pursuant to 35 Ill. Adm. Code Part 620.250 within one year of the effective date of the CCA.

k) Once the Ash Surge Basin and the Secondary Ash Settling Basin have been lined and a GMZ and ELUC have been established at Powerton, Midwest Generation shall submit a certification (or a statement) of compliance. Midwest Generation may submit either the attached "Illinois EPA Compliance Statement" or another similar writing to satisfy the statement of compliance within one year of the effective date of the CCA.

l) Midwest Generation shall not allow the East Yard Run-off Basin to be part of the ash sluicing flow system. Further, Midwest Generation shall submit monitoring results from water contained in the East Yard Run-off Basin proximate to outfall monitoring point 003 within 60 days of the effective date of the CCA. Quarterly monitoring of the East Yard Run-off Basin shall be for the constituents listed in 35 Ill. Adm. Code 620.410(a) and (d) with the exception of radium 226 and radium 228. At the end of four (4) quarters of monitoring, Midwest Generation may request cessation of water monitoring from the East Yard Run-off Basin.

m) Midwest Generation shall not use any unlined areas for permanent or temporary ash storage or ash handling.

IV. Terms and Conditions

6. Respondent shall comply with all provisions of this CCA, including, but not limited to, any appendices to this CCA and all documents incorporated by reference into this CCA. Pursuant to Section 31(a)(10) of the Act, 415 ILCS 5/31(a)(10), if Respondent complies with the terms of this CCA, the Illinois EPA shall not refer the alleged violations that are the subject of this CCA, as described in Section II above, to the Office of the Illinois Attorney General or the State's Attorney of the county in which the alleged violations occurred. Successful completion of this CCA or an amended CCA shall be a factor to be weighed, in favor of the Respondent, by the Office of the Illinois Attorney General in determining whether to file a complaint on its own motion for the violations cited in VN W-2012-00057.

7. This CCA is solely intended to address the violations alleged in Illinois EPA VN W-2012-00057. The Illinois EPA reserves and this CCA is without prejudice to, all rights of the Illinois EPA against Respondent with respect to noncompliance with any term of this CCA, as well as to all other matters. Nothing in this CCA is intended as a waiver, discharge, release, or covenant not to sue for any claim or cause of action, administrative or judicial, civil or criminal, past or future, in law or in equity, which the Illinois EPA may have against Respondent, or any other person as defined by Section 3.315 of the Act, 415 ILCS 5/3.315. This CCA in no way affects the responsibilities of Respondent to comply with any other federal, state or local laws or regulations, including but not limited to the Act, and the Board Regulations [and Permit, if applicable].

8. Pursuant to Section 42(k) of the Act, 415 ILCS 5/42(k), in addition to any other remedy or penalty that may apply, whether civil or criminal, Respondent shall be liable for an additional civil penalty of $2,000 for violation of any of the terms or conditions of this CCA.

9. This CCA shall apply to and be binding upon the Illinois EPA, and on Respondent and Respondent's officers, directors, employees, agents, successors, assigns, heirs, trustees, receivers, and upon all persons, including but not limited to contractors and consultants, acting on behalf of Respondent, as well as upon subsequent purchasers of Respondent's Powerton in Pekin, Tazewell County, Illinois.

10. In any action by the Illinois EPA to enforce the terms of this CCA, Respondent consents to and agrees not to contest the authority or jurisdiction of the Illinois EPA to enter into or enforce this CCA, and agrees not to contest the validity of this CCA or its terms and conditions.

11. This CCA shall only become effective:

    a) If, within 30 days of receipt, Respondent executes this CCA and submits it, via certified mail, to Illinois EPA, Bureau of Water, Andrea Rhodes, MC #19, 1021 North Grand Ave East, Springfield, IL 62702. If Respondent fails to execute and submit this CCA within 30 days of receipt, via certified mail, this CCA shall be deemed rejected by operation of law; and

    b) Upon execution by all Parties.

12. Pursuant to Section 31(a)(7.5) of the Act, 415 ILCS 5/31(a)(7.5), this CCA shall not be amended or modified prior to execution by the Parties. Any amendment or modification to this CCA by Respondent prior to execution by all Parties shall be considered a rejection of the CCA by operation of law. This CCA may only be amended subsequent to its effective date, in writing, and by mutual agreement between the Illinois EPA and Respondent's signatory to this CCA, Respondent's legal representative, or Respondent's agent.

AGREED:
FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY:

BY: _____ DATE: 10/24/12
Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

FOR RESPONDENT:

BY: _____ DATE: Oct 15, 2012
John Kennedy
Senior Vice President, Generation
Midwest Generation, LLC

Illinois EPA Compliance Statement

The owner of the facility must acknowledge that all compliance commitment agreement (CCA) measures have been successfully completed.

Please complete, sign, and return.

I _____ *(print name)*, hereby certify that all violations addressed in Violation Notice (VN) number _____ have been addressed and that all CCA measures were completed on _____ *(date)*.

_____
Signature

_____
Title

_____
Telephone Number

_____
Date

Be sure to retain copies of this document for your files. Should you need additional notification forms, please contact this office at (217)785-0561. Return this completed form to:

Illinois Environmental Protection Agency
Compliance Assurance Section #19
Bureau of Water
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

"Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Agency,.....related to or required by this Act, a regulation adopted under this Act, any federal law or regulation for which the Agency has responsibility, or any permit, term, or condition thereof, commits a Class 4 felony..." (415 ILCS 5/44(h) (8))

Exhibit A7

MIDWEST
GENERATION EME, LLC
An *EDISON INTERNATIONAL*® Company

Amy L. Hanrahan
Senior Environmental
Engineer
Environmental Services

January 18, 2013

Ms. Andrea Rhodes
Illinois Environmental Protection Agency – DPWS
MC #19
1021 North Grand Avenue East
Springfield, IL 62702

VIA FEDERAL EXPRESS

Re: Compliance Commitment Agreement – ELUC
Midwest Generation, LLC, Waukegan Station; ID No. 6281
Violation Notice W-2012-00056

Dear Ms. Rhodes:

The Compliance Commitment Agreement (CCA) for the above referenced site relative to Violation Notice W-2012-00056 was signed by Midwest Generation on October 15, 2012 and executed by Illinois Environmental Protection Agency (IEPA) signature on October 24, 2012 (effective date). Item 5 (f) of the CCA requires that Midwest Generation submit a proposed Environmental Land Use Control (ELUC) to cover the remaining Waukegan Station property to the east that is not already included in the existing ComEd Former Tannery Site ELUC. The proposed ELUC extension is to be submitted to IEPA within 90 days of the effective date of the CCA.

The areal extent of the proposed ELUC extension is provided with the attached documentation (Exhibit B Figure B-4). The western boundary of the proposed ELUC extension abuts the boundary of the existing ELUC. The south boundary is defined by the existing property line. The east boundary is Lake Michigan and the north boundary is defined by the northern extent of the ash pond system. The proposed vertical extent of the ELUC is the unconsolidated overburden deposits overlying the Silurian dolomite bedrock beneath the site. The estimated vertical thickness of the unconsolidated deposits is 100 feet below ground surface based on information provided in the Hydrogeologic Assessment Report dated February 2011 that was submitted to the IEPA.

Attached is a proposed ELUC for the Waukegan Station. Please note that the formal legal description that would be included as part of Exhibit A will be completed upon IEPA approval of the proposed ELUC. This submittal fulfills the requirements set forth under Item 5 (f) of the signed CCA. Please call me at 630-771-7863 if there are any questions.

235 Remington Blvd.
Suite A
Bolingbrook, Il 60440
Tel: 630 771 7863
Fax: 949 225 0813
ahanrahan@mwgen.com

Sincerely,
Midwest Generation, LLC

Amy Hanrahan
Senior Environmental Engineer

cc: Ms. Maria Race, Midwest Generation EME, LLC
Mr. Basil Constantelos, Midwest Generation EME, LLC
Mr. Robert Chmielewski, Midwest Generation, LLC
Mr. Christopher Foley, Midwest Generation EME, LLC
Ms. Susan Franzetti, Nijman Franzetti, LLP
Mr. Richard Gnat, KPRG and Associates, Inc.
Mr. Bill Buscher, IEPA

PREPARED BY:

Name: Christopher M. Foley

Address: Midwest Generation, LLC
500 West Madison Street
Suite 2640
Chicago, Illinois 60661

RETURN TO:

Name: Christopher M. Foley

Address: Midwest Generation, LLC
500 West Madison Street
Suite 2640
Chicago, Illinois 60661

THE ABOVE SPACE FOR RECORDER'S OFFICE

Environmental Land Use Control

THIS ENVIRONMENTAL LAND USE CONTROL ("ELUC"), is made this _____ day of _____, 2013, by Midwest Generation, LLC, ("Property Owner") of that portion (as identified in Exhibit A) of the real property located at the common address of Waukegan Station, 401 E. Greenwood Avenue, Waukegan, Illinois 60087 ("Property").

WHEREAS, 415 ILCS 5/58.17 and 35 Ill. Adm. Code 742 provide for the use of an ELUC as an institutional control in order to impose land use limitations or requirements related to environmental contamination so that persons conducting remediation can obtain a No Further Remediation determination from the Illinois Environmental Protection Agency ("IEPA"). The reason for an ELUC is to ensure protection of human health and the environment. The limitations and requirements contained herein are necessary in order to protect against exposure to contaminated groundwater that may be present on the property as a result of past industrial activities on or in the vicinity of the property. Under 35 Ill. Adm. Code 742, the use of risk-based, site-specific remediation objectives may require the use of an ELUC on real property, and the ELUC may apply to certain physical features (e.g., engineered barriers, monitoring wells, caps, etc.).

NOW, THEREFORE, the recitals set forth above are incorporated by reference as if fully set forth herein and the Property Owner agrees as follows:

Section One. Property Owner does hereby establish an ELUC on the real estate, situated in the County of Lake, State of Illinois and further described in Exhibit A attached hereto and incorporated herein by reference (the "Property").

Attached as Exhibit B are site maps that show the legal boundary of the Property, any physical features to which the ELUC applies, the horizontal and vertical extent of the contaminants of concern above the applicable remediation objectives for groundwater and the nature, location of the source, and direction of movement of the contaminants of concern, as required under 35 Ill. Adm. Code 742.

Section Two. Property Owner represents and warrants it is the current owner of the Property and has the authority to record this ELUC on the chain of title for the Property with the Office of the Recorder or Registrar of Titles in Lake County, Illinois.

Section Three. The Property Owner hereby agrees, for itself, and its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein, that the groundwater under the Property shall not be used as a potable supply of water.

Section Four. This ELUC is binding on the Property Owner, its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein. This ELUC shall apply in perpetuity against the Property and shall not be released until the IEPA determines there is no longer a need for this ELUC as an institutional control or until the IEPA, upon written request, issues a no further remediation determination approving modification or removal of the limitation(s) or requirement(s); and until a release or modification of the land use limitation or requirement is filed on the chain of title for the Property.

Section Five. Future Improvement of Property: This ELUC does not limit Property Owner's or its successors' or assigns' ability to construct on or otherwise improve the Property or to allow others to use the Property. Property Owner reserves the right to remove contaminated groundwater from the Property and to dispose of it as is appropriate under applicable laws.

Section Six. Future Monitoring: Until such time as this ELUC is released or modified pursuant to the terms of Section Four above, Property Owner shall conduct the following groundwater monitoring program on the Property:

> Monitoring wells MW-1 through MW-7 surrounding the East and West Ash Ponds will be sampled as required under Item 5 (d) of the CCA. These wells will continue to be monitored on a quarterly basis for constituents listed in 35 IAC 620.410(a), with the exception of radium 226/228. The monitoring data will be reported to IEPA within 30 days of the end of each quarter. In addition, an updated groundwater potentiometric surface map will be provided with each quarterly submittal. IEPA, upon written request, may approve a reduction in the frequency and scope of the sampling program in the future. Upon the IEPA's approval, the approved changes in the frequency and scope of the monitoring

program shall be implemented. A change in the frequency and scope of the monitoring program does not require the filing of a modification of this ELUC in the chain of title for the Property.

Section Seven. The effective date of this ELUC shall be the date that it is officially recorded in the chain of title for the Property to which the ELUC applies.

WITNESS the following signatures:
Property Owner(s)

By: _____
Its: _____
Date: _____

STATE OF ILLINOIS)
) SS:
COUNTY OF _____)

I, _____the undersigned, a Notary Public for said County and State, DO HEREBY CERTIFY, that _____, personally known to me to be the _____ of Midwest Generation, LLC, the Property Owner and personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that in said capacity signed and delivered the said instrument as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and official seal, this _____ day of _____, 2013.

_____
Notary Public

PIN NO. 08-15-200-006 (partial)

EXHIBIT A

The subject property is located in the City of Waukegan, Lake County, State of Illinois, commonly known as Waukegan Station, Waukegan, Illinois and more particularly described as:

COMMON ADDRESS:

Waukegan Station (portion)
401 E. Greenwood Avenue
Waukegan, Illinois 60087

LEGAL DESCRIPTION:

(The legal description of the proposed area will be formalized upon IEPA approval of this proposed ELUC)

REAL ESTATE TAX INDEX OR PARCEL #

08-15-200-006 (partial)

EXHIBIT B
Maps



ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

SITE MAP WITH PROPERTY BOUNDARY

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 550'	Date: January 14, 2013
KPRG Project No. 18311.31	EXHIBIT B-1

W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\waukegan station eluc.dwg(site map)

MWG13-15_607



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

GROUNDWATER CONTOUR MAP 12/2012

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 500'	Date: January 14, 2013
KPRG Project No. 18311.31	EXHIBIT B-2

W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\waukegan station eluc.dwg(gw map)

MWG13-15_608



MW-1	
ANTIMONY	<0.0030
ARSENIC	0.091
BORON	1.9
CHLORIDE	48
IRON	<0.10
MANGANESE	<0.0025
SULFATE	200
TDS	460
pH	10.27

MW-2	
ANTIMONY	<0.0030
ARSENIC	0.0089
BORON	1.9
CHLORIDE	54
IRON	<0.10
MANGANESE	0.023
SULFATE	210
TDS	500
pH	7.93

MW-3	
ANTIMONY	<0.0030
ARSENIC	0.0031
BORON	1.9
CHLORIDE	49
IRON	<0.10
MANGANESE	0.0034
SULFATE	240
TDS	520
pH	7.81

MW-4	
ANTIMONY	<0.0030
ARSENIC	0.008
BORON	2.5
CHLORIDE	55
IRON	<0.10
MANGANESE	0.031
SULFATE	220
TDS	510
pH	8.31

MW-5	
ANTIMONY	<0.0030
ARSENIC	0.011
BORON	27
CHLORIDE	220
IRON	3.9
MANGANESE	0.48
SULFATE	550
TDS	1,800
pH	7.36

MW-6	
ANTIMONY	<0.0030
ARSENIC	0.0029
BORON	1.1
CHLORIDE	110
IRON	2.6
MANGANESE	0.21
SULFATE	160
TDS	940
pH	7.52

MW-7	
ANTIMONY	<0.0030
ARSENIC	0.0099
BORON	43
CHLORIDE	60
IRON	12
MANGANESE	0.46
SULFATE	630
TDS	1,800
pH	7.28

GROUNDWATER RESULTS NOTES:
ALL VALUES ARE MILLIGRAMS PER LITER (mg/L)
TDS = TOTAL DISSOLVED SOLIDS
BOLD = BOLD VALUES EXCEED 35 IAC PART 620

ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

AREAL DISTRIBUTION OF GROUNDWATER IMPACTS

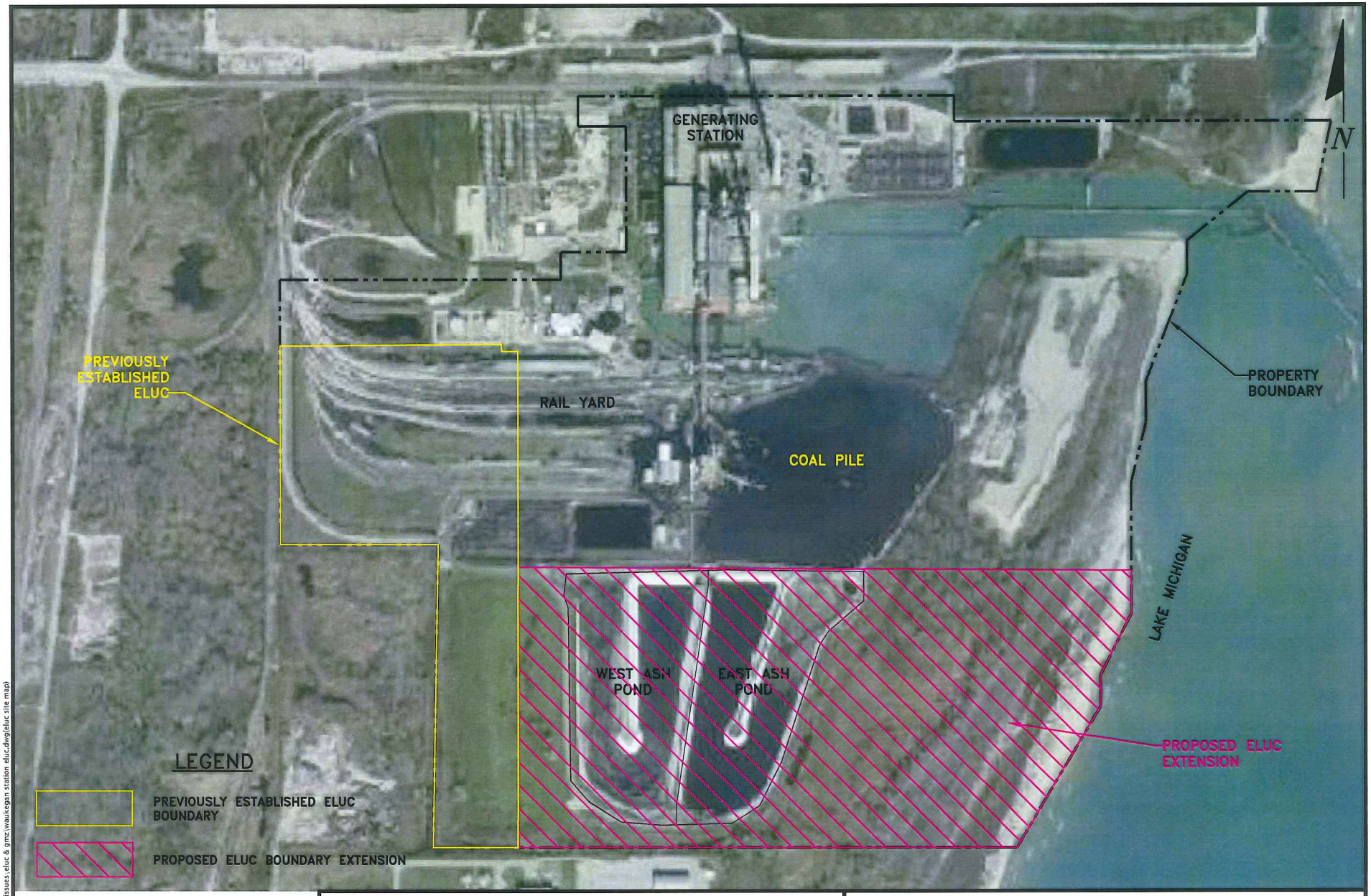
WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 500' | Date: January 14, 2013

KPRG Project No. 18311.3 | EXHIBIT B-3

W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\waukegan station eluc.dwg\mw well site map)

MWG13-15_609



0 500'
APPROXIMATE SCALE

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

PROPOSED ELUC BOUNDARY EXTENSION

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 500' | Date: January 14, 2013

KPRG Project No. 18311.31 | EXHIBIT B-4

W:\C-p&p\projects\midwest generation\ash pond issues\eluc & gmz\waukegan station eluc.dwg(eluc site map)

MWG13-15_610

Exhibit A8

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217)782-2829
PAT QUINN, GOVERNOR LISA BONNETT, DIRECTOR

217-785-0561

August 26, 2013

John Kennedy
Senior Vice President, Generation
235 Remington, Suite A
Bolingbrook, IL 60440

Re: Groundwater ELUC
Violation Notice: W-2012-00056
Midwest Generation, LLC, Waukegan Generating Station; ID Number: 6281

Dear Mr. Kennedy:

The Illinois Environmental Protection Agency ("Illinois EPA") has received the Environmental Land Use Control ("ELUC") submitted as required by the approved Compliance Commitment Agreement ("CCA"), in response to the Violation Notice dated June 11, 2012.

The Illinois EPA has reviewed the draft environmental land use control ("ELUC") submitted in response to Item 5(f) of the approved CCA. The Illinois EPA has no further comment on the ELUC as drafted. Midwest Generation should proceed with the ELUC as proposed. Please submit a copy of the filed ELUC to the Illinois EPA.

Questions regarding this matter should be directed to Illinois EPA, Bureau of Water, Lynn Dunaway at 217/785-4787. Written communications should be directed to Illinois EPA – DPWS, Attn: Andrea Rhodes, MC #19, 1021 North Grand Ave East, Springfield, IL 62702.

Sincerely,

William E. Buscher

William E. Buscher, PG
Manager, Hydrogeology and Compliance Unit
Groundwater Section
Division of Public Water Supplies
Bureau of Water

cc: Andrea Rhodes
Mike Crumly
Lynn Dunaway
Basil G. Constantelos
Maria Race
Amy Hanrahan
Susan M. Franzetti

cc: Basil G. Constantelos
Midwest Generation EME, LLC
235 Remington Blvd, Suite A
Bolingbrook, IL 60440

Amy Hanrahan
Midwest Generation EME, LLC
235 Remington Blvd, Suite A
Bolingbrook, IL 60440

Maria Race
Midwest Generation EME, LLC
2535 Remington Blvd, Suite A
Bolingbrook, IL 60440

Susan M. Franzetti
10 South LaSalle St.
Suite 3600
Chicago, IL 60603

Exhibit A9

PATRICK
ENGINEERING

March 5, 2012

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Subject: Quarterly Groundwater Monitoring Results – Annual Report 2011
Waukegan Generating Station- Ash Impoundment

Reference: Patrick Project No. 21153.033

To Whom It May Concern:

Patrick Engineering Inc. (Patrick) has prepared this letter report, on behalf of Midwest Generation, LLC, to provide the annual report for groundwater monitoring results associated with the on-site ash ponds at the Waukegan Generating Station (the Site) located at 401 E. Greenwood Ave. in Waukegan, Illinois (Figure 1). The Site is located along the shore of Lake Michigan on the northeast side of Waukegan. The surrounding land use consists of undeveloped land to the north, apparently vacant industrial land to the south, residential properties to the west, and Lake Michigan to the east. The Site contains two active ash ponds.

Five monitoring wells have been installed (MW-1 through MW-5) surrounding the ash impoundments at the Waukegan facility. The well locations were selected so that both upgradient and downgradient wells were represented, based upon available data regarding the expected groundwater flow direction. Monitoring well MW-5 is installed upgradient of the ash ponds. The well locations are shown on Figure 2.

This groundwater monitoring is being performed as part of the long-term monitoring plan described in the Hydrogeologic Assessment Report submitted to the Illinois Environmental Protection Agency (Illinois EPA) in February 2011. Groundwater data has been collected on a quarterly basis starting in December of 2010 and is continuing into 2012.

GROUNDWATER ELEVATIONS

Groundwater levels in the monitoring wells are collected quarterly prior to sampling. The groundwater levels were compared to the Lake Michigan water levels collected by the NOAA Lake Michigan Water Elevation data at stations collected near Milwaukee, Wisconsin and Calumet, Indiana. The data from these two stations were interpolated to calculate an expected elevation near the Waukegan Station. The fluctuations in the groundwater elevations were compared to the fluctuations in the lake water levels for each monitoring event. There appears to be a correlation between Lake levels and the groundwater levels at the Site. The direction of

groundwater flow at the site is west to east, directly towards Lake Michigan. Groundwater elevation data is summarized in Table 1 and shown on Figure 3. A chart depicting the groundwater elevations as compared to the Lake Michigan elevations is included as Attachment A in this report.

SAMPLING METHODOLOGY

In accordance with the long-term monitoring plan referenced above, water samples are collected quarterly from five monitoring wells (MW-1 through MW-5) surrounding the ash impoundments at the Waukegan facility. These wells were most recently sampled on December 6, 2011.

Groundwater samples were collected from each well with a peristaltic pump, using established low-flow sampling techniques. Temperature, turbidity, conductivity, dissolved oxygen (DO), oxygen reduction potential (ORP), and pH measurements were taken at each of the wells using a portable meter with a flow through cell. All groundwater samples were filtered in the field using a disposable, 0.45µm, in-line filter to allow for the analytical testing of dissolved compounds. Field parameter data is provided in Table 2.

After collection, all samples were immediately placed on ice in a cooler and kept at a temperature no higher than 4° F. The samples were transported to TestAmerica Laboratories, an Illinois-EPA accredited analytical laboratory, in accordance with chain-of-custody procedures to maintain sample integrity. Analytes tested included the inorganic compounds listed in 35 Illinois Administrative Code (IAC) 620.410(a), excluding both radium and the poly-aromatic hydrocarbons (PAHs) listed in 35 IAC 620.410(b). Analytical laboratory results are presented in Table 3 (both current and historical). The laboratory analytical reports provided by TestAmerica Laboratories are provided as Attachment C.

ANALYTICAL RESULTS

Groundwater samples were collected from the 5 monitoring wells on site on a quarterly basis beginning in March 2011. Both the upgradient well and downgradient monitoring wells on site have Class I Groundwater Quality Standard exceedances. The following compounds exceeded their respective Class I standards: arsenic, boron, manganese, sulfate, chloride and total dissolved solids.

Patrick compared upgradient well concentrations with downgradient well concentrations. The concentrations of boron, iron, manganese, chloride and total dissolved solids are higher, sometimes significantly higher, in the upgradient well (MW-5) than in the downgradient wells. The downgradient wells, MW-1 through MW-4, have higher concentrations of arsenic, with the highest concentrations found in MW-1 (the northernmost downgradient well).

Patrick performed a trend analysis on the following analytical parameters, (arsenic, barium, cyanide, iron, manganese, selenium, boron, sulfate, chloride, nitrogen-nitrate, total dissolved solids, fluoride, and nitrogen-nitrate-nitrite). Analytical parameters without any detections were not included in the analysis. There were no statistically significant (at the 95% confidence level) increasing or decreasing trends for any of the analyzed compounds. Trend analysis charts are included in Attachment B of this report.

Quarterly Groundwater Monitoring Results – Annual Report 2011
Waukegan Generating Station- Ash Impoundment
March 5, 2012

In accordance with the long-term monitoring plan, groundwater samples from the ash pond wells at the Waukegan facility will continue to be collected, analyzed, and reported to Illinois EPA on a quarterly basis until sufficient statistically-significant data is available to properly assess the groundwater data.

If you have any questions, please contact me at 630-795-7464.

Sincerely,

PATRICK ENGINEERING INC.

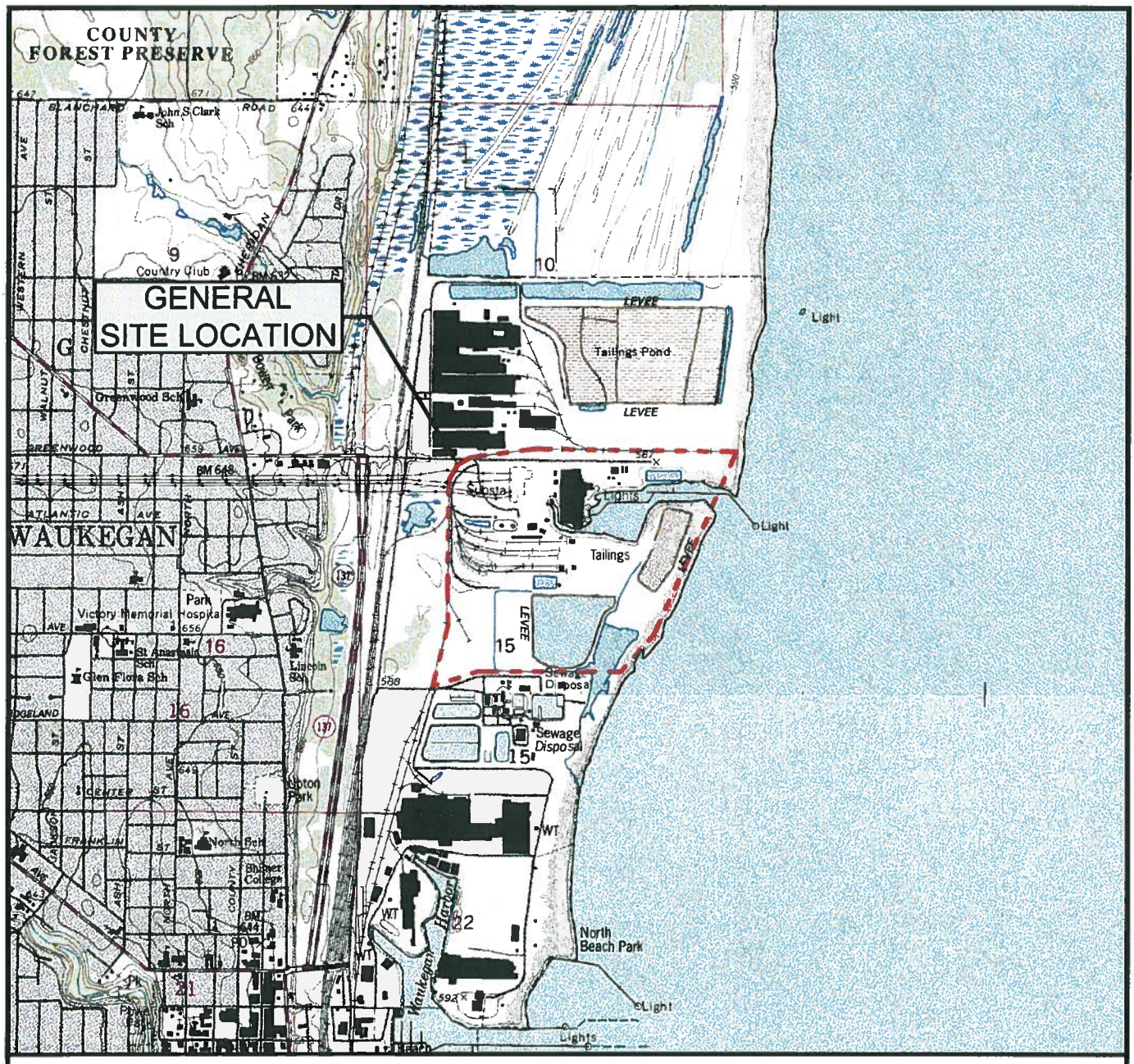


Richard M. Frendt, P.E
Senior Project Manager

RMF/dcm
Enclosures: Figure 1: Site Location Map
Figure 2: Monitoring Well Location Map
Figure 3: Groundwater Elevation Map
Table 1: Groundwater Elevation Survey Data
Table 2: Field Parameter Data
Table 3: Groundwater Analytical Results
Attachment A: Groundwater and Lake Michigan Elevations Chart
Attachment B: Trend Analysis Charts
Attachment C: Laboratory Data

FIGURE 1

SITE LOCATION MAP



LEGEND

SITE BOUNDARY

N

0 2,000'

GRAPHIC SCALE

NOTE:
THIS DRAWING WAS PREPARED USING ILLINOIS' WAUKEGAN (1993) AND ZION (1993) 7.5 MINUTE-SERIES TOPOGRAPHIC QUADRANGLE MAP.

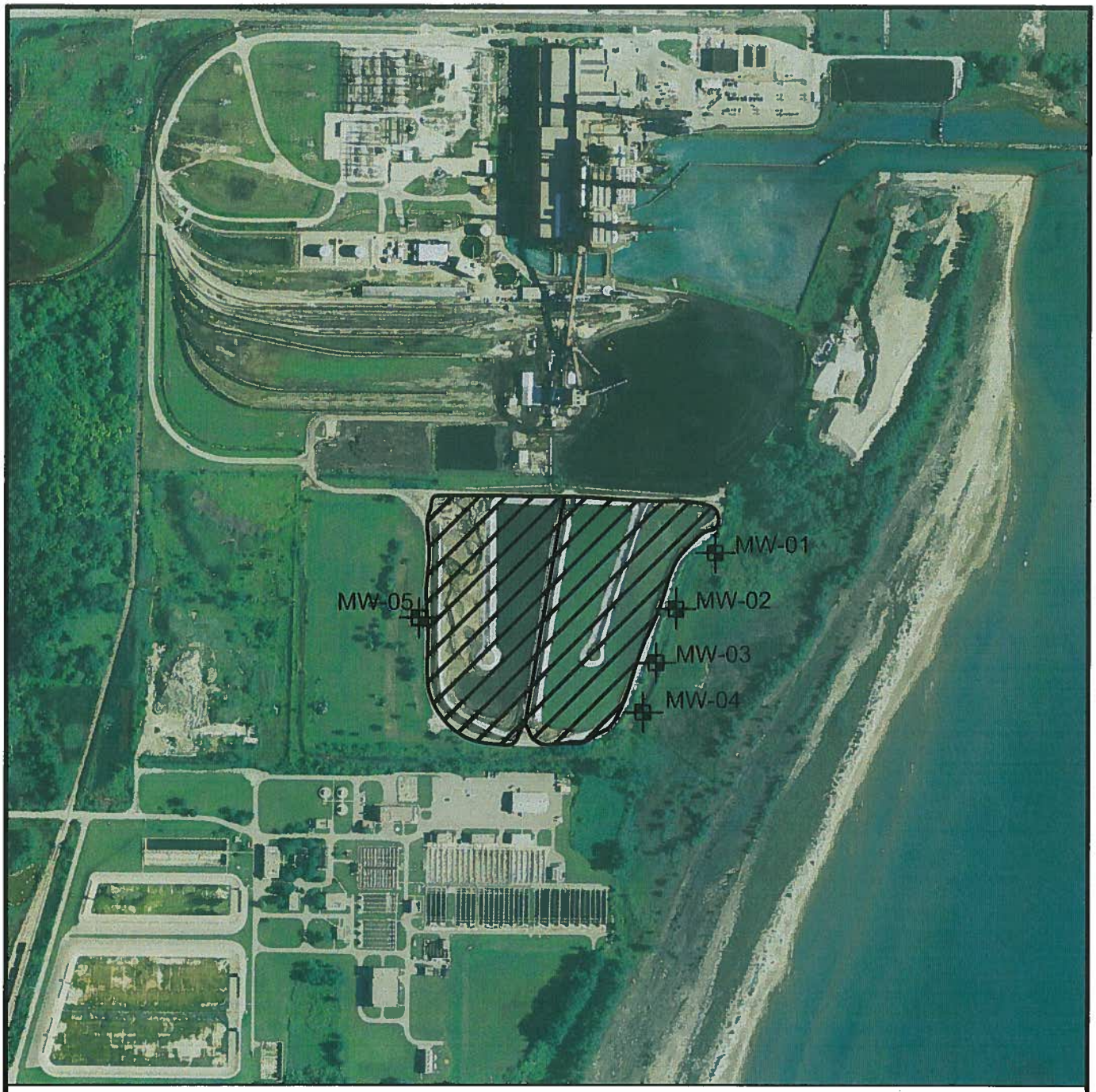
Date: DEC. 2011	FIGURE 1 SITE LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21153.033	**WAUKEGAN STATION WAUKEGAN, ILLINOIS**	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_41676

FIGURE 2

MONITORING WELL LOCATION MAP

MWG13-15_41677



LEGEND

MW-01 Monitoring Well Location

Ash Ponds

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

N

1" = 600'

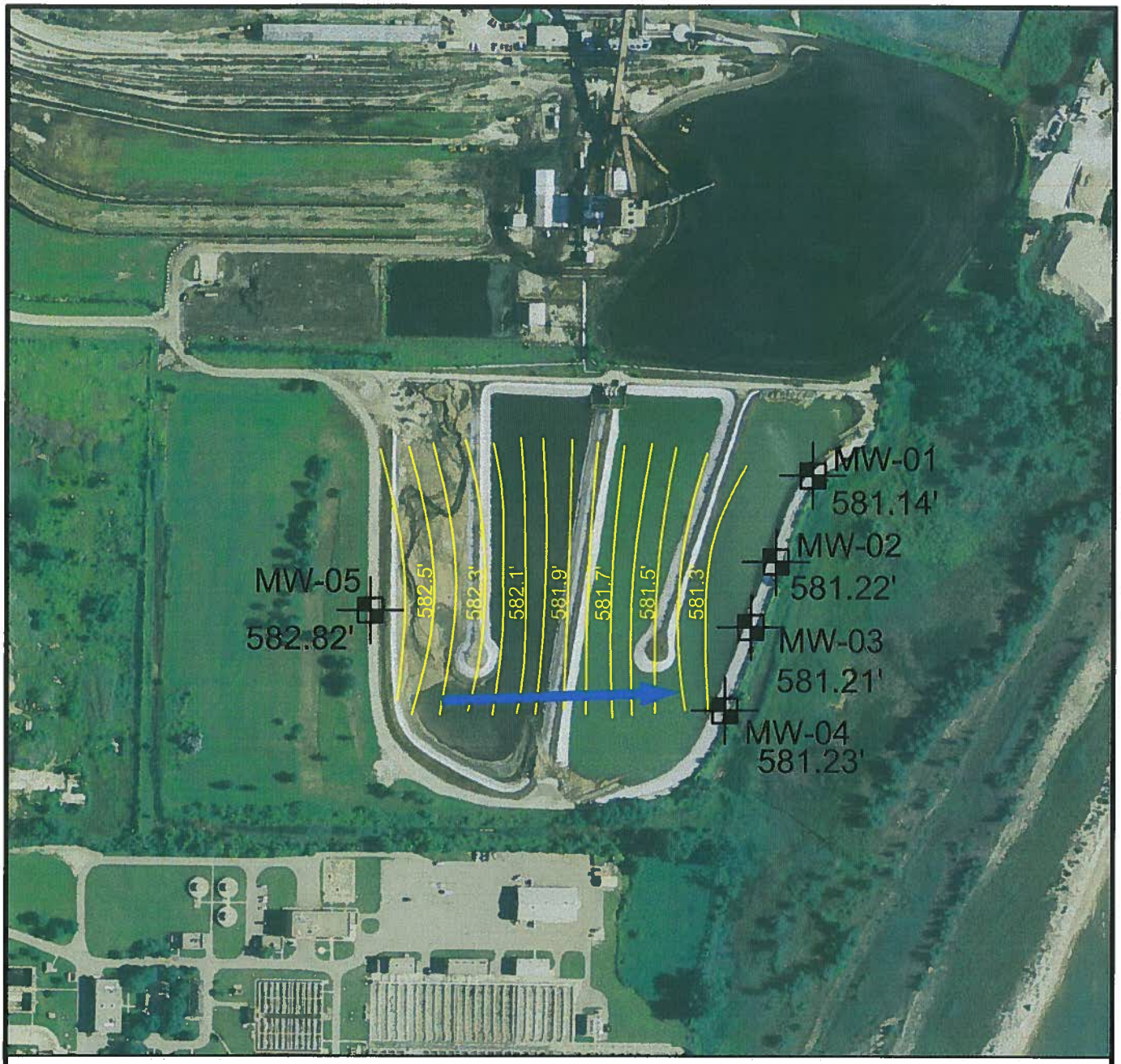
Date: DEC. 2011	FIGURE 2 MONITORING WELL LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21153.033	WAUKEGAN STATION WAUKEGAN, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681
App. By: RMF		PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409

MWG13-15_41678

FIGURE 3

GROUNDWATER ELEVATION MAP

MWG13-15_41679



LEGEND

MW-01
505.46'
MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION (FT. / MSL)

583.21'
GROUNDWATER ELEVATION CONTOUR (FT. / MSL)

GROUNDWATER FLOW DIRECTION

N

1" = 400'

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

Date: DEC. 2011	FIGURE 3 GROUNDWATER ELEVATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21153.033	WAUKEGAN STATION WAUKEGAN, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_41680

TABLE 1

GROUNDWATER ELEVATION DATA

Table 1

Groundwater Elevation Survey Data

Waukegan Station, Waukegan, Illinois

Midwest Generation

21153.033

PATRICK ENGINEERING	Date	Water Elevation	Depth to Water Pre-Purge	Depth to Water Pre-Sampling	Water Elevation Pre-Sampling	Depth to Bottom of Well	Bottom of Well Elevation	Ground Elevation	Top of Riser Elevation
MONITORING WELLS									
MW-1	3/24/2011	581.725	21.41	21.41	581.725	32.18	570.955	603.462	603.135
	6/13/2011	583.335	19.80	19.81	583.325	32.18	570.955	603.462	603.135
	9/13/2011	581.135	22.00	22.00	581.135	32.18	570.955	603.462	603.135
	12/6/2011	581.145	21.99	21.99	581.145	32.18	570.955	603.462	603.135
MW-2	3/24/2011	581.663	21.38	21.32	581.723	29.56	573.483	603.283	603.043
	6/13/2011	583.313	19.73	19.73	583.313	29.56	573.483	603.283	603.043
	9/13/2011	581.193	21.85	21.85	581.193	29.56	573.483	603.283	603.043
	12/6/2011	581.223	21.82	21.82	581.223	29.56	573.483	603.283	603.043
MW-3	3/24/2011	581.746	21.15	21.16	581.736	29.84	573.056	603.178	602.896
	6/13/2011	583.336	19.56	19.56	583.336	29.84	573.056	603.178	602.896
	9/13/2011	581.176	21.72	21.72	581.176	29.84	573.056	603.178	602.896
	12/6/2011	581.216	21.68	21.68	581.216	29.84	573.056	603.178	602.896
MW-4	3/24/2011	581.831	21.32	21.38	581.771	29.85	573.301	603.525	603.151
	6/13/2011	583.351	19.80	19.80	583.351	29.85	573.301	603.525	603.151
	9/13/2011	581.191	21.96	21.96	581.191	29.85	573.301	603.525	603.151
	12/6/2011	581.231	21.92	21.92	581.231	29.85	573.301	603.525	603.151
MW-5	3/24/2011	583.430	21.41	21.41	583.430	31.92	572.920	601.526	604.840
	6/13/2011	584.550	20.29	20.28	584.560	31.92	572.920	601.526	604.840
	9/13/2011	582.660	22.18	22.20	582.640	31.92	572.920	601.526	604.840
	12/6/2011	582.820	22.02	22.02	582.820	31.92	572.920	601.526	604.840

Notes- Elevations are leveled from site control points per Commonwealth Edison Drawing "Coordinates & Elevations for Coal Monuments & Test Borings-Waukegan" revised 12/1/1999

- Elevations are shown in feet

TABLE 2

GROUNDWATER FIELD PARAMETER DATA

Table 2
Field Parameter Data
Waukegan Station, Waukegan, Illinois
Midwest Generation
21153.033

Monitoring Well	Date	Time	Temperature (°C)	Conductivity (ms/cm[c])	Turbidity (NTU)	pH	DO (mg/L)	ORP (mV)
			Field Parameter Data - Waukegan Station					
MW-1	3/24/2011	12:39	14.19	0.73	7.1	9.81	1.51	-37.9
	3/24/2011	12:41	14.50	0.73	5.1	9.93	0.65	-44.9
	3/24/2011	12:43	14.74	0.74	3.4	9.94	0.64	-47.6
	3/24/2011	12:45	14.85	0.74	5.0	9.92	0.31	-48.8
	3/24/2011	12:47	14.79	0.74	5.1	9.91	0.29	-50.4
	3/24/2011	12:49	14.81	0.74	2.7	9.92	0.33	-52.8
MW-1	6/13/2011	11:00	16.40	0.75	2.14	9.84	1.96	-60.3
	6/13/2011	11:02	16.28	0.75	2.14	9.93	1.03	-86.5
	6/13/2011	11:04	15.99	0.75	1.97	9.96	0.61	-98.4
	6/13/2011	11:06	15.95	0.74	1.96	9.95	0.36	-111.4
	6/13/2011	11:08	16.00	0.74	1.82	9.98	0.30	-120.6
	6/13/2011	11:10	15.98	0.74	1.79	9.97	0.24	-126.2
MW-1	9/13/2011	12:14	16.38	0.67	42.65	8.88	0.27	-282
	9/13/2011	12:16	16.04	0.67	3.89	8.81	0.14	-294
	9/13/2011	12:18	15.86	0.66	14.33	8.77	0.12	-300
	9/13/2011	12:20	15.82	0.66	23.35	8.81	0.11	-307
	9/13/2011	12:22	15.82	0.67	16.01	8.76	0.11	-309
	9/13/2011	12:24	15.82	0.67	25.87	8.78	0.10	-313
MW-1	12/6/2011	12:34	13.45	0.78	613.80	8.49	1.90	-260
	12/6/2011	12:36	13.94	0.78	1479.00	8.55	0.56	-269
	12/6/2011	12:38	14.14	0.78	1373.00	8.54	0.40	-270
	12/6/2011	12:40	14.25	0.79	2092.00	8.55	0.35	-271
	12/6/2011	12:42	14.21	0.79	2248.00	8.6	0.31	-273
	12/6/2011	12:44	14.18	0.79	963.90	8.62	0.30	-274
MW-2	3/24/2011	11:56	12.86	0.61	4.3	8.99	3.28	45.2
	3/24/2011	11:58	13.08	0.62	3.7	9.26	0.95	35.9
	3/24/2011	12:00	13.26	0.62	2.4	9.28	0.55	33.3
	3/24/2011	12:02	13.32	0.62	1.7	9.30	0.42	31.9
	3/24/2011	12:04	13.34	0.62	1.6	9.31	0.32	31
	3/24/2011	12:06	13.40	0.62	1.3	9.31	0.47	28.4
	3/24/2011	12:08	13.42	0.62	1.2	9.31	0.29	28.4
MW-2	6/13/2011	10:06	14.96	0.91	5.21	8.56	2.18	158.4
	6/13/2011	10:08	14.71	0.69	4.63	8.59	0.39	135.4
	6/13/2011	10:10	14.63	0.69	4.54	8.63	0.26	125.2
	6/13/2011	10:12	14.60	0.69	4.31	8.64	0.22	112.5
	6/13/2011	10:14	14.59	0.69	3.80	8.66	0.22	98.4
	6/13/2011	10:16	14.58	0.69	3.73	8.65	0.22	93
MW-2	9/13/2011	11:22	14.96	0.57	13.58	7.79	0.26	-102
	9/13/2011	11:24	14.63	0.57	34.95	7.73	0.18	-146
	9/13/2011	11:26	14.55	0.56	14.07	7.74	0.16	-170
	9/13/2011	11:28	14.59	0.56	11.62	7.79	0.15	-186
	9/13/2011	11:30	14.97	0.56	5.56	7.77	0.15	-195
	9/13/2011	11:32	14.46	0.56	10.21	7.82	0.14	-206
MW-2	12/6/2011	11:29	12.78	0.56	290.90	7.9	3.06	17
	12/6/2011	11:31	13.16	0.55	2083.00	7.82	0.58	-59
	12/6/2011	11:33	13.37	0.55	2332.00	7.81	0.37	-90
	12/6/2011	11:35	13.46	0.55	2332.00	7.78	0.30	-103
	12/6/2011	11:37	13.48	0.55	6826.00	7.78	0.26	-113
	12/6/2011	11:39	13.50	0.55	2332.00	7.77	0.24	-119

Table 2
Field Parameter Data
Waukegan Station, Waukegan, Illinois
Midwest Generation
21153.033

PATRICK ENGINEERING	Field Parameter Data - Waukegan Station							
Monitoring Well	**Date**	**Time**	**Temperature (°C)**	**Conductivity (ms/cm[c])**	**Turbidity (NTU)**	**pH**	**DO (mg/L)**	**ORP (mV)**
MW-3	3/24/2011	11:16	14.05	0.55	8.0	8.39	2.61	91.9
	3/24/2011	11:18	13.91	0.55	8.2	8.44	0.93	92
	3/24/2011	11:20	14.02	0.55	7.3	9.49	1.08	91.4
	3/24/2011	11:22	14.19	0.55	5.0	8.52	0.63	90
	3/24/2011	11:24	14.35	0.55	3.9	8.56	0.53	87.7
	3/24/2011	11:26	14.27	0.55	3.4	8.58	0.53	87
MW-3	6/13/2011	9:17	15.90	0.59	7.67	8.50	3.60	197.4
	6/13/2011	9:19	15.65	0.59	7.61	8.64	1.04	182.7
	6/13/2011	9:21	15.52	0.59	7.30	8.63	0.43	176.8
	6/13/2011	9:23	15.51	0.59	7.24	8.65	0.30	169.5
	6/13/2011	9:25	15.51	0.59	7.23	8.65	0.20	165.5
	6/13/2011	9:27	15.50	0.59	7.10	8.64	0.16	163.2
MW-3	9/13/2011	10:34	15.02	0.34	20.18	9.37	0.65	-20
	9/13/2011	10:36	14.68	0.34	29.54	9.27	0.13	-108
	9/13/2011	10:38	14.45	0.34	20.37	9.24	0.09	-153
	9/13/2011	10:40	14.36	0.34	18.88	9.25	0.07	-179
	9/13/2011	10:42	14.33	0.34	16.53	9.24	0.06	-192
	9/13/2011	10:44	14.32	0.34	19.87	9.20	0.06	-199
MW-3	12/6/2011	10:38	12.79	0.40	17.35	8.72	2.96	59
	12/6/2011	10:40	12.24	0.41	67.38	8.71	0.62	27
	12/6/2011	10:42	13.37	0.41	189.80	8.68	0.35	1
	12/6/2011	10:44	13.42	0.41	610.90	8.66	0.24	-20
	12/6/2011	10:46	13.57	0.41	430.50	8.63	0.20	-38
	12/6/2011	10:48	13.62	0.41	254.40	8.61	0.17	-52
MW-4	3/24/2011	10:30	12.71	0.65	15.0	8.34	1.32	49
	3/24/2011	10:32	12.87	0.63	12.0	8.41	0.68	21
	3/24/2011	10:34	13.03	0.62	8.2	8.44	0.66	9.6
	3/24/2011	10:36	13.12	0.62	8.3	8.46	0.42	9.1
	3/24/2011	10:38	13.13	0.62	7.6	8.48	0.62	1.2
	3/24/2011	10:40	13.14	0.62	5.6	8.54	0.30	-10.6
MW-4	6/13/2011	8:26	14.21	0.64	3.10	7.93	0.82	170.9
	6/13/2011	8:28	14.12	0.60	3.14	7.83	0.42	153.9
	6/13/2011	8:30	14.07	0.60	3.65	7.76	0.36	137.1
	6/13/2011	8:32	14.09	0.60	3.70	7.74	0.31	125
	6/13/2011	8:34	14.06	0.60	3.64	7.73	0.30	114.1
	6/13/2011	8:36	14.07	0.60	3.51	7.69	0.31	115.3
MW-4	9/13/2011	9:48	14.14	0.60	15.19	7.91	2.04	40
	9/13/2011	9:50	13.74	0.58	8.06	7.47	0.33	-18
	9/13/2011	9:52	13.55	0.57	9.23	7.42	0.25	-49
	9/13/2011	9:54	13.45	0.57	8.28	7.44	0.22	-69
	9/13/2011	9:56	13.40	0.56	1.43	7.45	0.22	-80
	9/13/2011	9:58	13.38	0.56	8.92	7.42	0.23	-85
MW-4	12/6/2011	9:48	11.99	0.52	155.80	7.45	1.40	51
	12/6/2011	9:50	12.38	0.52	649.40	7.39	0.67	46
	12/6/2011	9:52	12.40	0.52	1650.00	7.36	0.55	43
	12/6/2011	9:54	12.48	0.52	684.40	7.33	0.51	41
	12/6/2011	9:56	12.50	0.52	1349.00	7.35	0.48	40
	12/6/2011	9:58	12.35	0.52	877.40	7.35	0.45	38

Table 2
Field Parameter Data
Waukegan Station, Waukegan, Illinois
Midwest Generation
21153.033

PATRICK ENGINEERING	Field Parameter Data - Waukegan Station							
Monitoring Well	**Date**	**Time**	**Temperature (°C)**	**Conductivity (ms/cm[c])**	**Turbidity (NTU)**	**pH**	**DO (mg/L)**	**ORP (mV)**
MW-5	3/24/2011	9:44	11.72	2.13	6.6	7.56	2.33	-52.5
	3/24/2011	9:46	11.86	2.16	56.1	7.57	1.06	-60.2
	3/24/2011	9:48	11.88	2.16	79.9	7.56	0.75	-64.9
	3/24/2011	9:50	12.11	2.16	37.2	7.56	0.76	-67.7
	3/24/2011	9:52	12.14	2.16	157.2	7.56	0.50	-70.6
	3/24/2011	9:54	12.13	2.16	109.0	7.56	0.45	-72.1
MW-5	6/13/2011	7:37	13.52	4.34	10.11	7.23	2.32	104.4
	6/13/2011	7:39	13.40	4.34	12.58	6.9	0.92	93.8
	6/13/2011	7:41	13.38	4.34	12.32	6.77	0.67	90.1
	6/13/2011	7:43	13.39	4.34	12.10	6.73	0.65	87.3
	6/13/2011	7:45	13.40	4.34	11.54	6.72	0.56	83.6
	6/13/2011	7:47	13.41	4.34	11.09	6.72	0.49	81.8
MW-5	9/13/2011	9:02	18.63	2.38	49.10	6.86	1.55	49
	9/13/2011	9:04	13.50	2.35	42.17	6.85	0.15	14
	9/13/2011	9:06	13.43	2.33	440.10	6.85	0.07	-3
	9/13/2011	9:08	13.40	2.31	23.21	6.86	0.05	-15
	9/13/2011	9:10	13.35	2.29	672.30	6.85	0.04	-23
	9/13/2011	9:12	13.35	2.28	174.40	6.86	0.04	-32
	9/13/2011	9:14	13.37	2.26	620.20	6.87	0.04	-40
MW-5	12/6/2011	9:02	11.54	1.86	71.77	7.16	0.99	-59
	12/6/2011	9:04	11.70	1.85	102.70	7.15	0.76	-65
	12/6/2011	9:06	11.59	1.85	255.00	7.15	0.61	-70
	12/6/2011	9:08	11.58	1.85	1105.00	7.15	0.51	-74
	12/6/2011	9:10	11.62	1.86	922.00	7.15	0.43	-79
	12/6/2011	9:12	11.63	1.87	1316.00	7.15	0.35	-84

°C	degrees Celcius
ms/cm[c]	Microsiemens/Centimeters
NTU	Nephelometric Turbidity Units
mg/L	milligrams/Liter
mV	milliVolts

TABLE 3

GROUNDWATER ANALYTICAL DATA

Table 3
Groundwater Analytical Results
Waukegan Station, Illinois
Midwest Generation
21153.033

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L) Class I*	MW-1 (mg/L) 10/25/10	MW-1 (mg/L) 3/24/11	MW-1 (mg/L) 6/13/11	MW-1 (mg/L) 9/13/11	MW-1 (mg/L) 12/6/11	MW-2 (mg/L) 10/25/10	MW-2 (mg/L) 3/24/11	MW-2 (mg/L) 6/13/11	MW-2 (mg/L) 9/13/11	MW-2 (mg/L) 12/6/11
Antimony	Metals 6020	0.006	0.052	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	**0.054**	0.04	**0.17**	**0.077**	**0.057**	ND	0.016	0.012	0.0087	0.0094
Barium	Metals 6020	2.0	0.023	0.022	0.02	0.038	0.051	ND	0.014	0.024	0.02	0.023
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	0.02	0.013	ND	ND	ND	0.14	0.019	ND
Iron	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	ND	0.0027	0.0086	0.02	0.011	ND	0.018	0.032	0.038	0.035
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	Metals 6020	0.05	0.031	0.03	0.016	0.039	0.032	ND	0.0085	0.028	0.022	0.0086
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	**2.6**	**2**	**2.6**	**2.5**	**2.8**	ND	**2.2**	**2**	1.7	1.9
Sulfate	Dissolved 9038	400	350	230	260	280	330	230	160	150	200	180
Chloride	Dissolved 9251	200	39	48	52	41	32	42	45	46	45	50
Nitrogen/Nitrate	Nitrogen By calc	10	ND	ND	ND	0.52	0.32	ND	ND	0.23	0.12	ND
Total Dissolved Solids	Dissolved 2540C	1,200	460	470	460	570	750	410	400	410	460	490
Fluoride	Dissolved 4500 FC	4	0.45	0.59	0.71	0.33	0.46	0.35	0.53	0.8	0.56	0.67
Nitrogen/Nitrite	Dissolved 4500 NO2	NA	ND	ND	ND	ND	0.32	ND	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	NA	ND	ND	ND	0.52	ND	ND	ND	0.23	0.12	ND

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND- non detect
mg/L- milligrams per liter

Table 3
Groundwater Analytical Results
Waukegan Station, Illinois
Midwest Generation
21153.033

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L) Class I*	MW-3 (mg/L) 10/25/10	MW-3 (mg/L) 3/24/11	MW-3 (mg/L) 6/13/11	MW-3 (mg/L) 9/13/11	MW-3 (mg/L) 12/6/11	MW-4 (mg/L) 10/25/10	MW-4 (mg/L) 3/24/11	MW-4 (mg/L) 6/13/11	MW-4 (mg/L) 9/13/11	MW-4 (mg/L) 12/6/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	ND	0.0041	0.0049	0.0077	0.0049	ND	0.0077	0.0059	0.0058	0.0065
Barium	Metals 6020	2.0	ND	0.0086	0.018	0.0044	0.0058	ND	0.025	0.034	0.039	0.036
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	0.03	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	ND	0.0059	0.0044	ND	0.0054	ND	**0.035**	**0.028**	**0.36**	**0.025**
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	Metals 6020	0.05	ND	0.016	0.03	0.012	0.011	ND	ND	0.022	0.025	0.015
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	ND	**2.2**	**2.3**	1.6	1.6	ND	**2.1**	**2**	1.8	**2.1**
Sulfate	Dissolved 9038	400	120	130	130	97	110	250	170	160	160	160
Chloride	Dissolved 9251	200	53	49	53	49	51	39	47	45	59	60
Nitrogen/Nitrate	Nitrogen By calc	10	ND	ND	0.29	ND	ND	ND	ND	0.18	0.14	ND
Total Dissolved Solids	Dissolved 2540C	1,200	580	350	340	300	380	430	400	380	470	480
Fluoride	Dissolved 4500 FC	4	0.27	0.47	0.39	0.24	0.67	0.6	0.84	0.97	0.67	0.82
Nitrogen/Nitrite	Dissolved 4500 NO2	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	NA	ND	ND	0.29	ND	ND	ND	ND	0.18	0.14	ND

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND- non detect
mg/L- milligrams per liter

Table 3
Groundwater Analytical Results
Waukegan Station, Illinois
Midwest Generation
21153.033

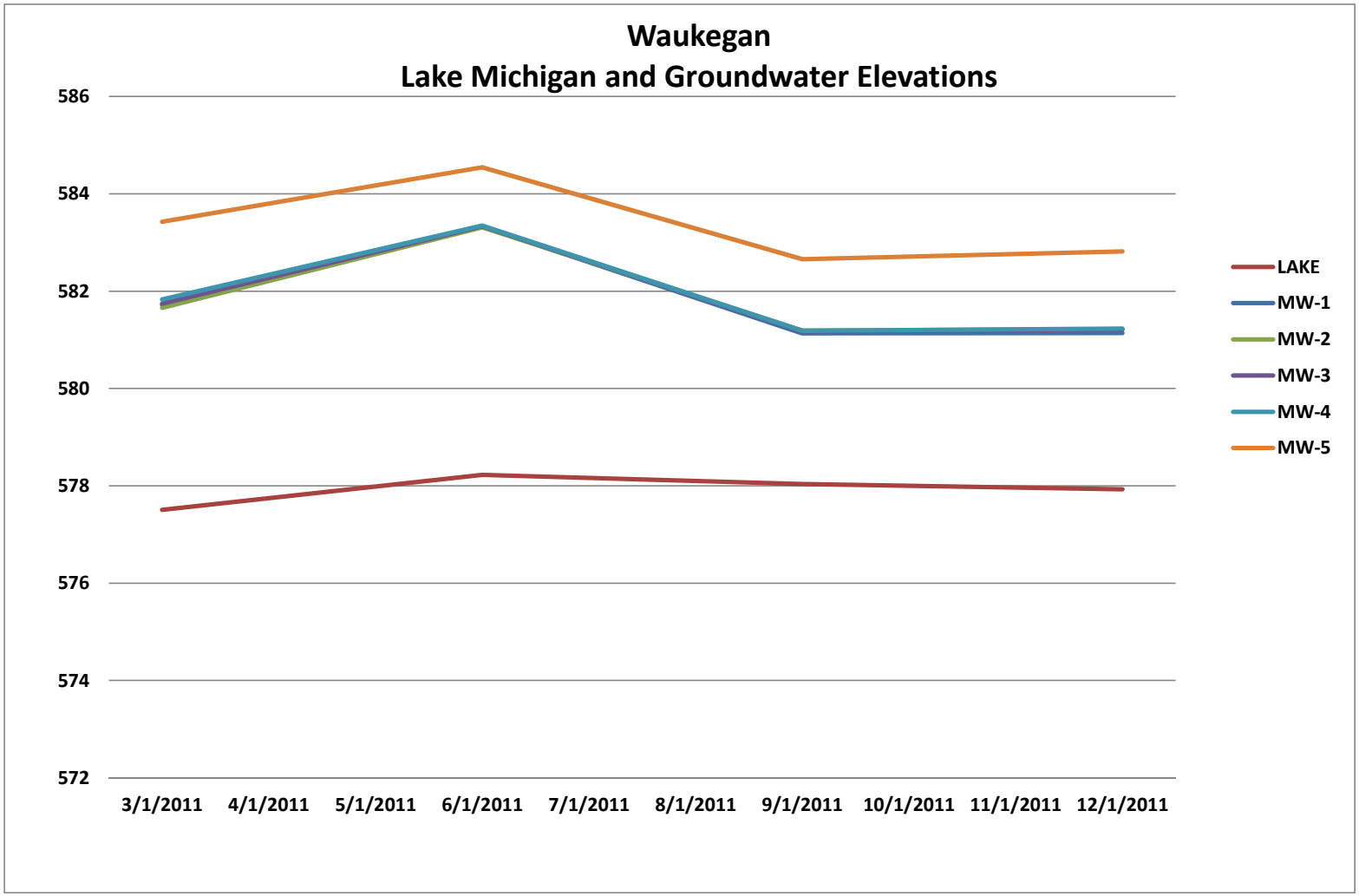
Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L) Class I*	MW-5 (mg/L) 10/25/10	MW-5 (mg/L) 3/24/11	MW-5 (mg/L) 6/13/11	MW-5 (mg/L) 9/13/11	MW-5 (mg/L) 12/6/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	ND	0.0082	0.0013	ND	0.01
Barium	Metals 6020	2.0	ND	0.066	0.057	0.041	0.073
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	2.8	0.95	0.42	**5.6**
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	ND	**0.6**	**0.28**	0.03	**0.99**
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	ND	ND	0.0026	ND	ND
Selenium	Metals 6020	0.05	ND	ND	0.0094	ND	ND
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND
Boron	Metals 6020	2	ND	**33**	**12**	**30**	**37**
Sulfate	Dissolved 9038	400	**920**	**780**	**1,100**	**810**	**1,100**
Chloride	Dissolved 9251	200	100	120	**540**	**220**	110
Nitrogen/Nitrate	Nitrogen By calc	10	ND	0.27	0.2	ND	ND
Total Dissolved Solids	Dissolved 2540C	1,200	**1,500**	**1,800**	**3,300**	**2,300**	**2,300**
Fluoride	Dissolved 4500 FC	4	0.29	0.34	0.24	0.18	0.29
Nitrogen/Nitrite	Dissolved 4500 NO2	NA	ND	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	NA	ND	0.27	0.2	ND	ND

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND- non detect
mg/L- milligrams per liter

ATTACHMENT A

GROUNDWATER AND LAKE MICHIGAN ELEVATIONS CHART

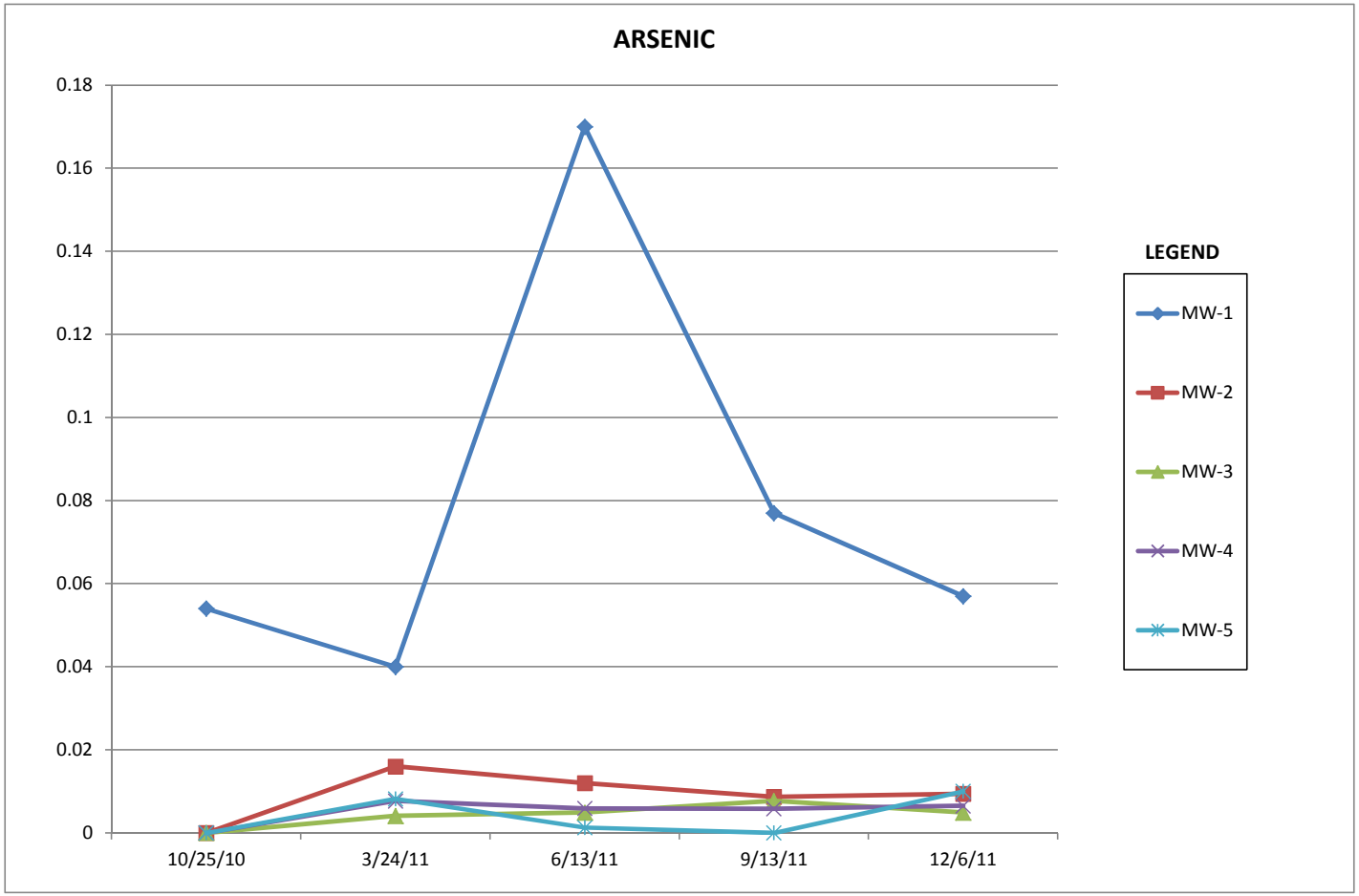
Waukegan
GROUNDWATER AND LAKE MICHIGAN ELEVATIONS
Waukegan Station, Waukegan, Illinois
Midwest Generation
21153.033



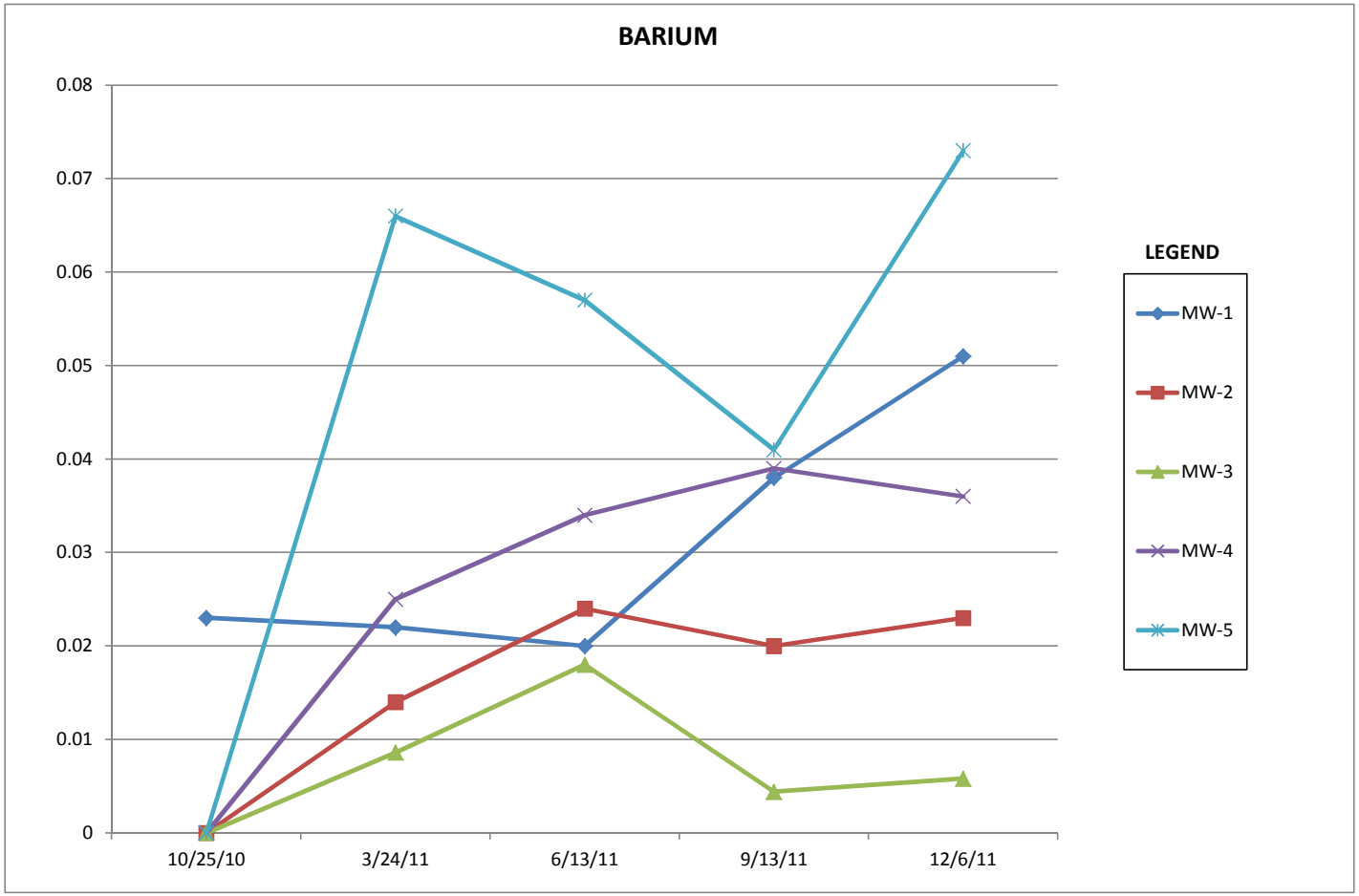
ATTACHMENT B

TREND ANALYSIS CHARTS

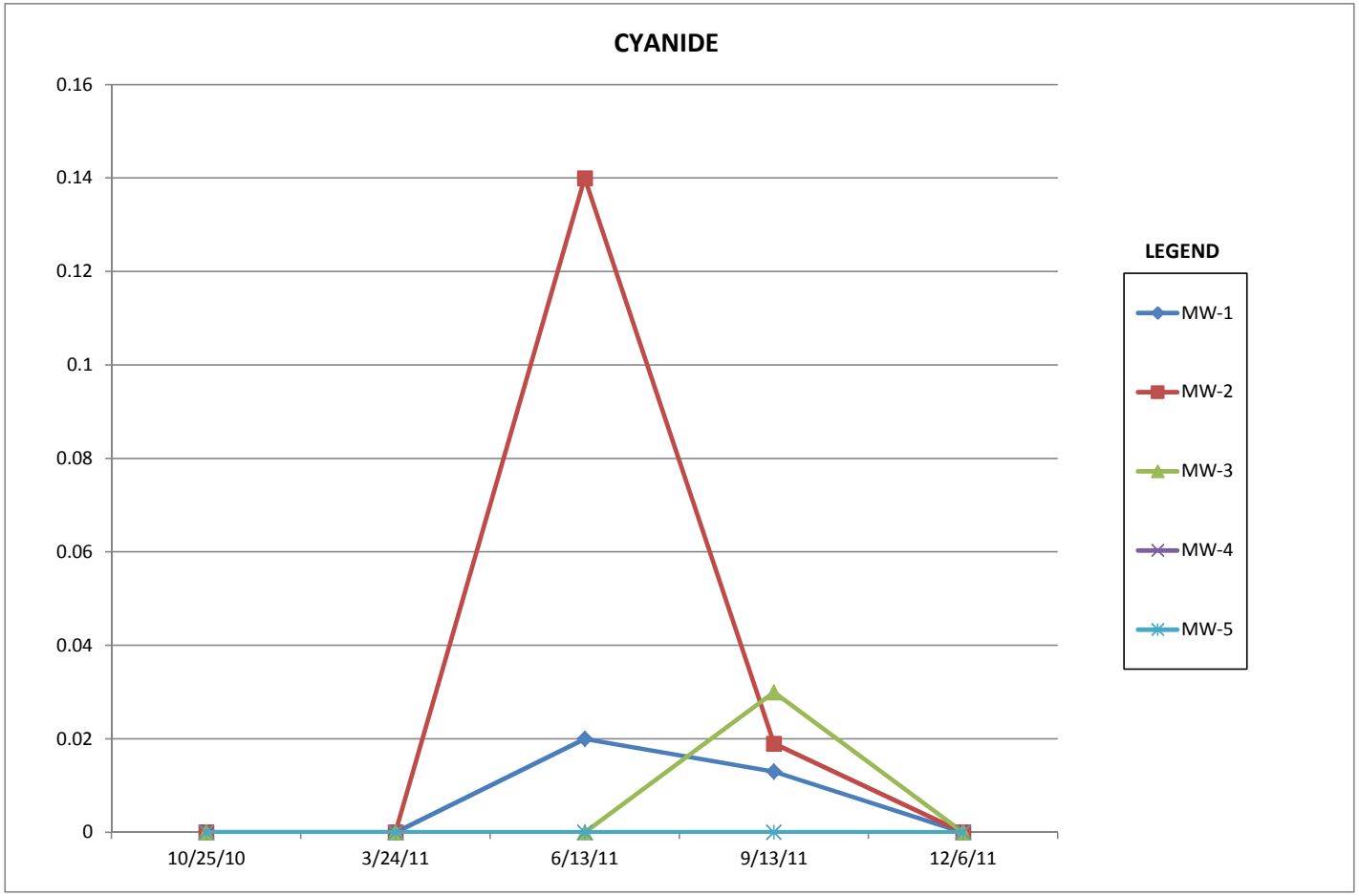
ARSENIC
TREND ANALYSIS CHART
Waukegan Station, Waukegan Illinois
Midwest Generation
21153.033



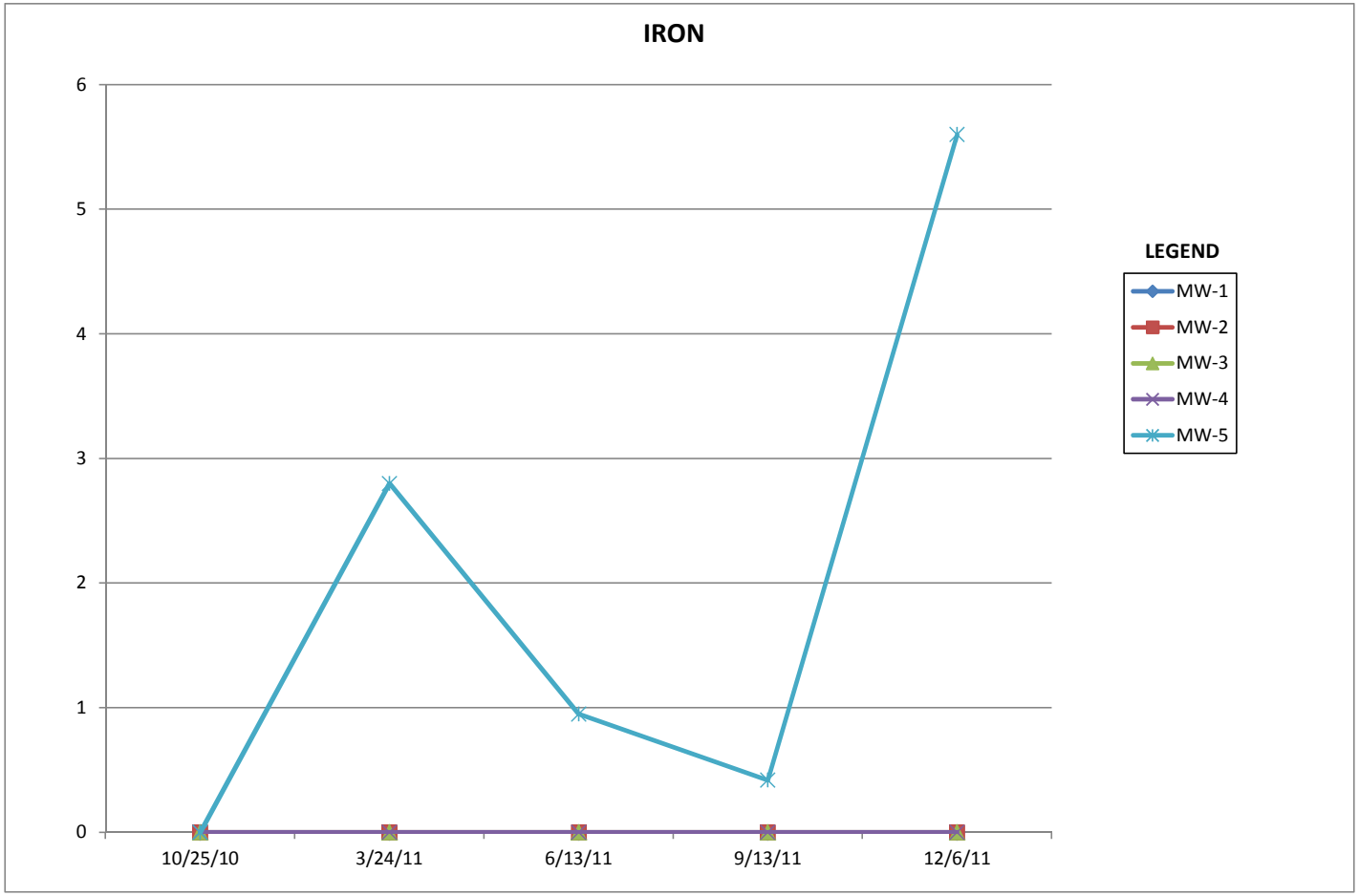
BARIUM
TREND ANALYSIS CHART
Waukegan Station, Waukegan Illinois
Midwest Generation
21153.033



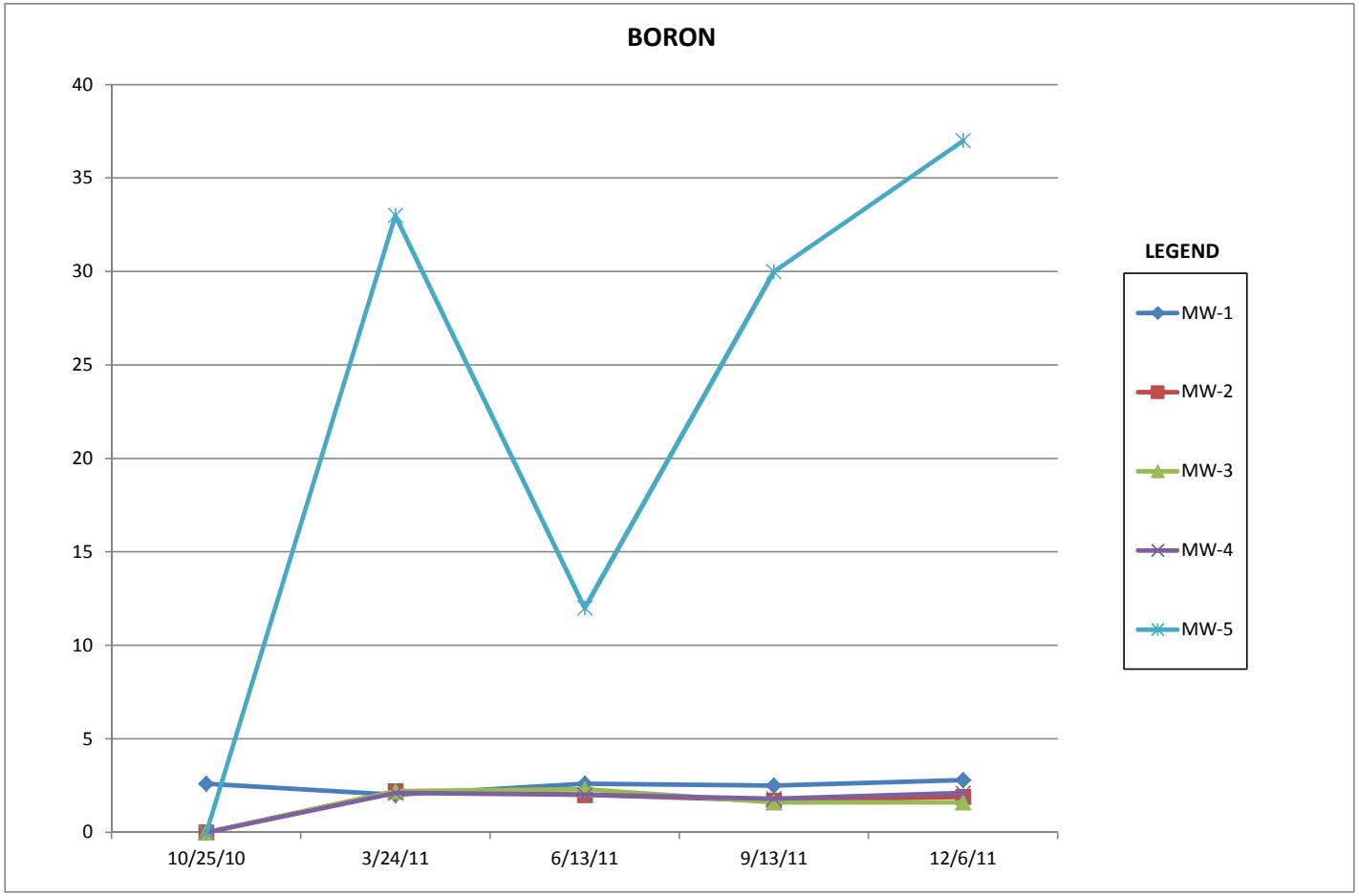
CYANIDE
TREND ANALYSIS CHART
Waukegan Station, Waukegan Illinois
Midwest Generation
21153.033



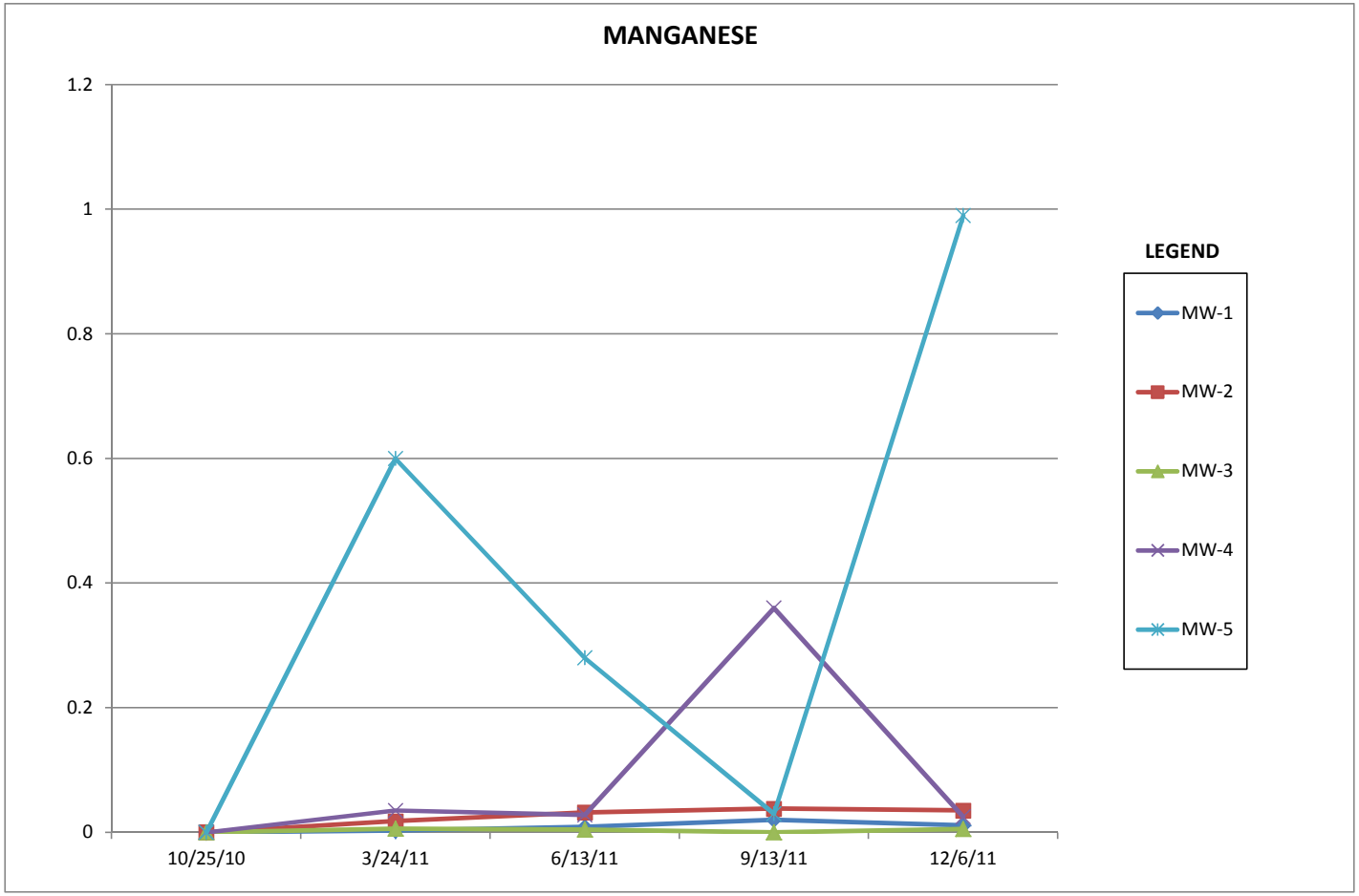
IRON
TREND ANALYSIS CHART
Waukegan Station, Waukegan Illinois
Midwest Generation
21153.033



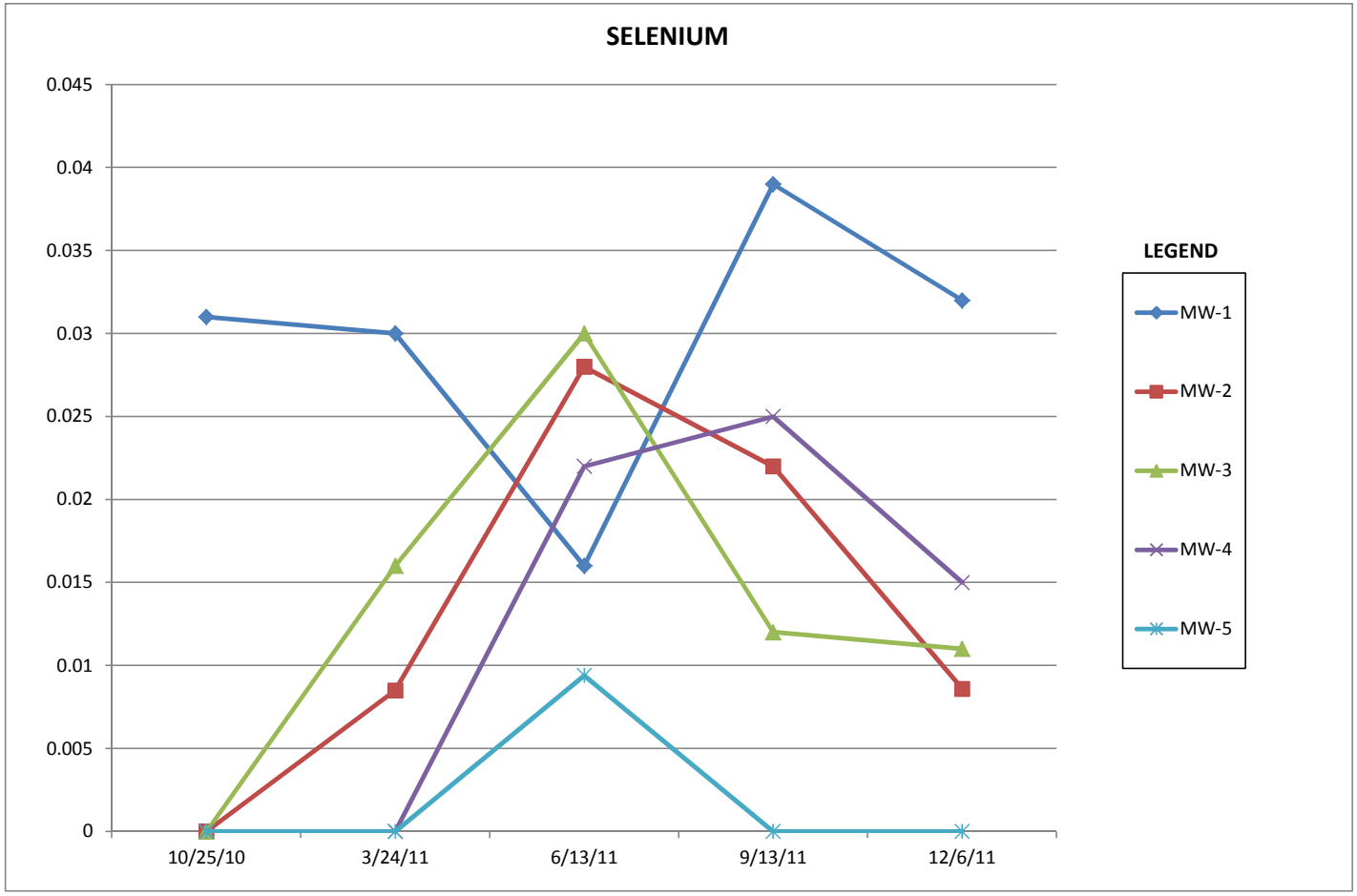
BORON
TREND ANALYSIS CHART
Waukegan Station, Waukegan Illinois
Midwest Generation
21153.033



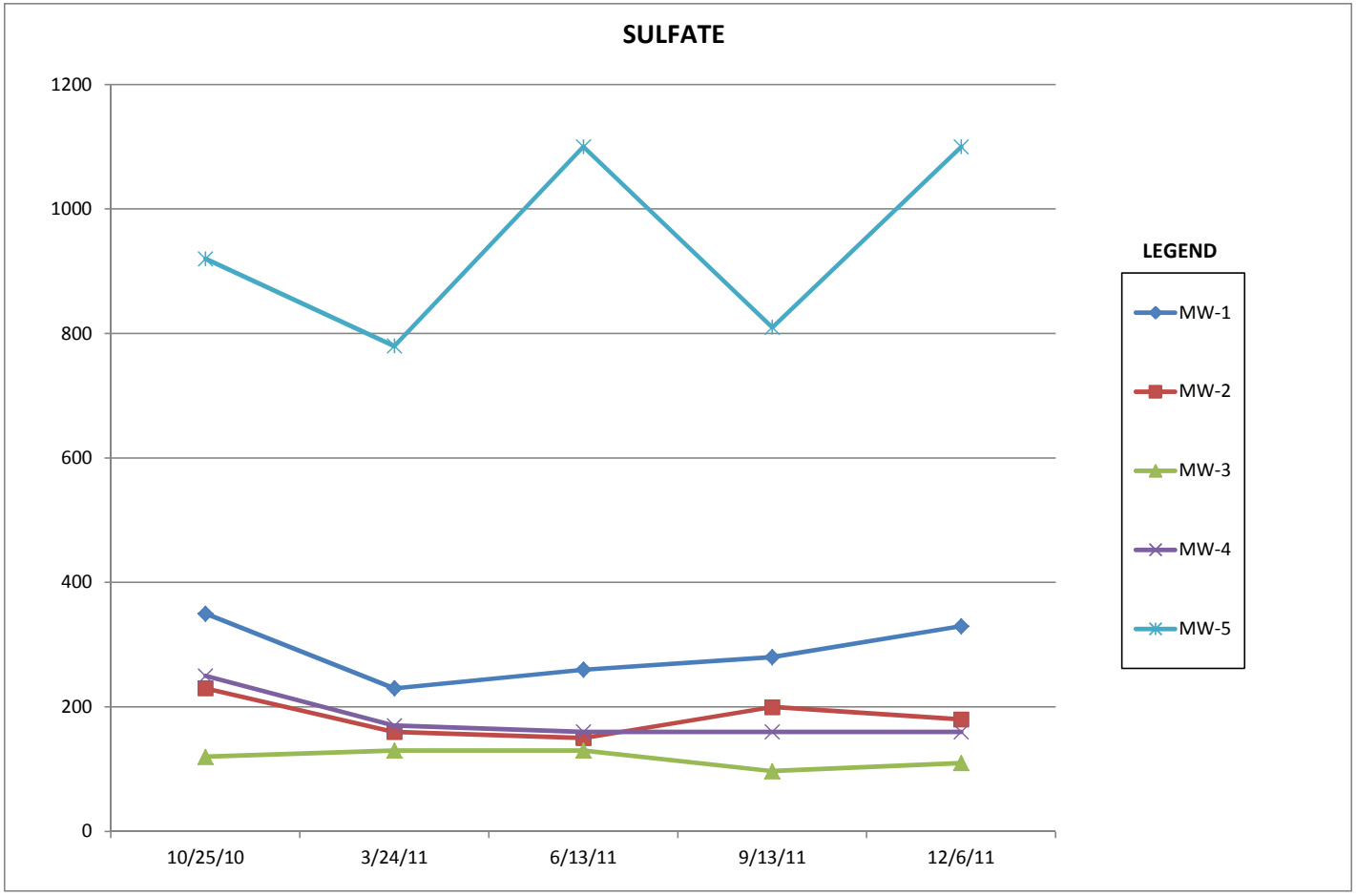
MANGANESE
TREND ANALYSIS CHART
Waukegan Station, Waukegan Illinois
Midwest Generation
21153.033



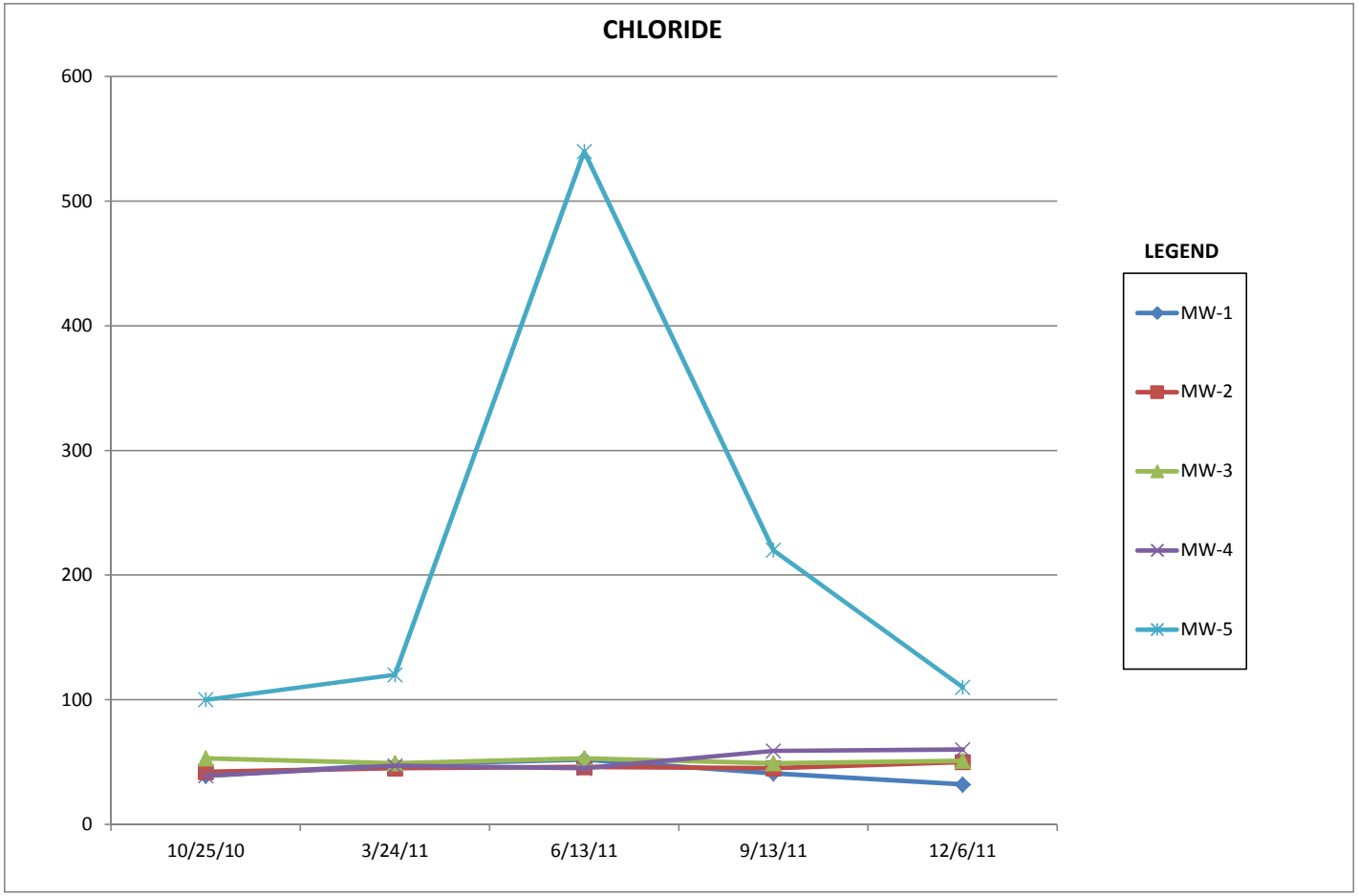
SELENIUM
TREND ANALYSIS CHART
Waukegan Station, Waukegan Illinois
Midwest Generation
21153.033



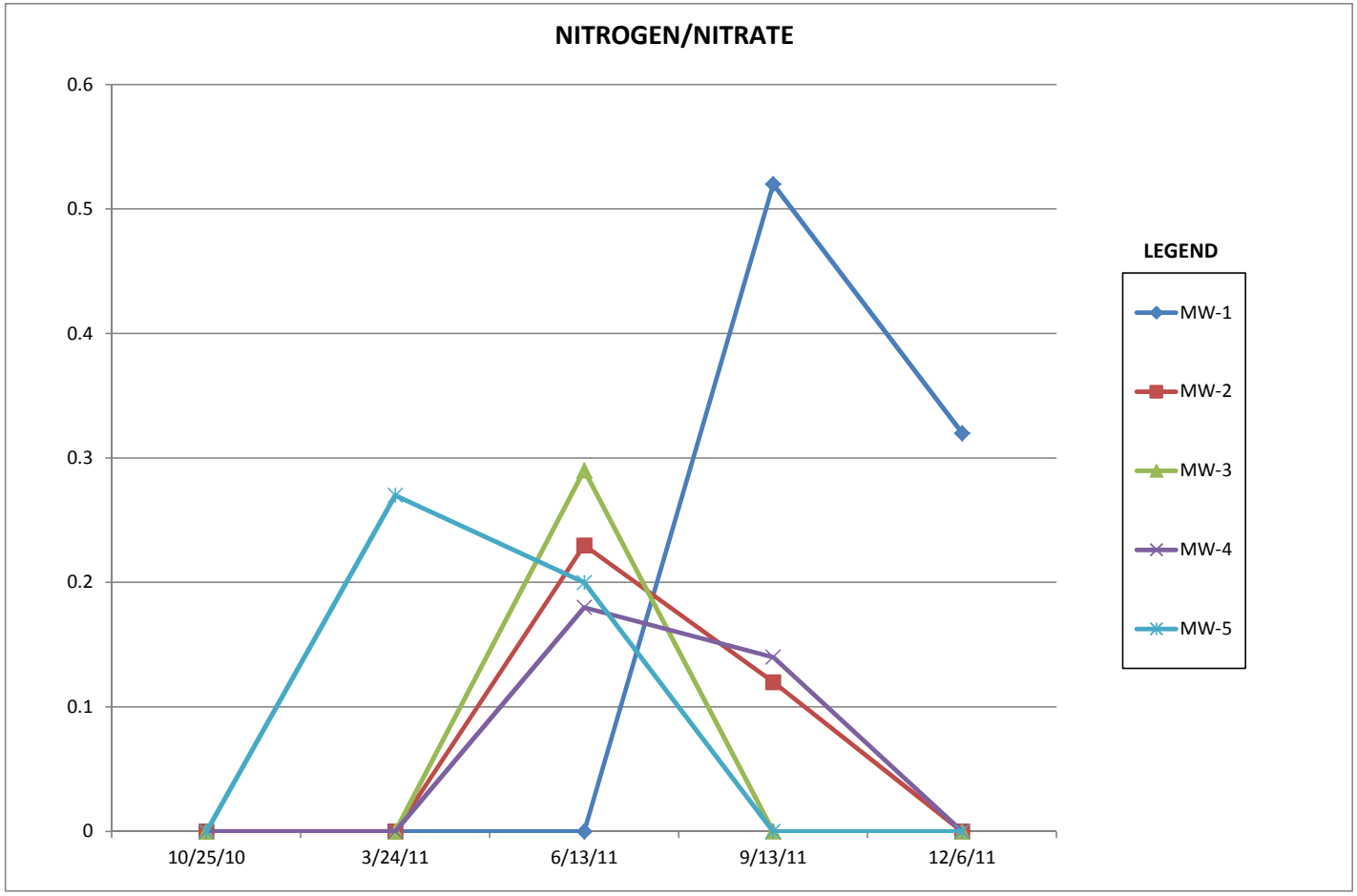
SULFATE
TREND ANALYSIS CHART
Waukegan Station, Waukegan Illinois
Midwest Generation
21153.033



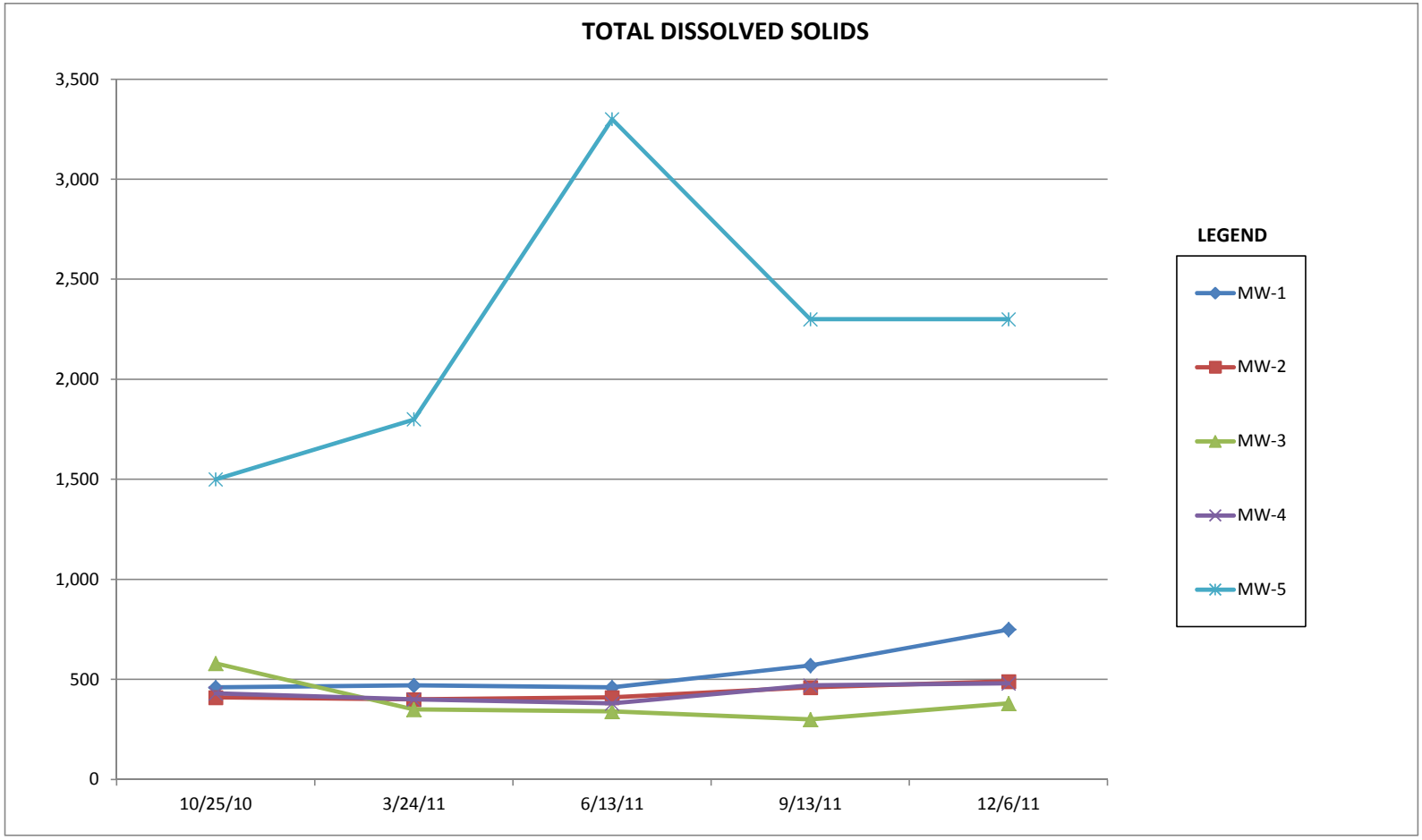
CHLORIDE
TREND ANALYSIS CHART
Waukegan Station, Waukegan Illinois
Midwest Generation
21153.033



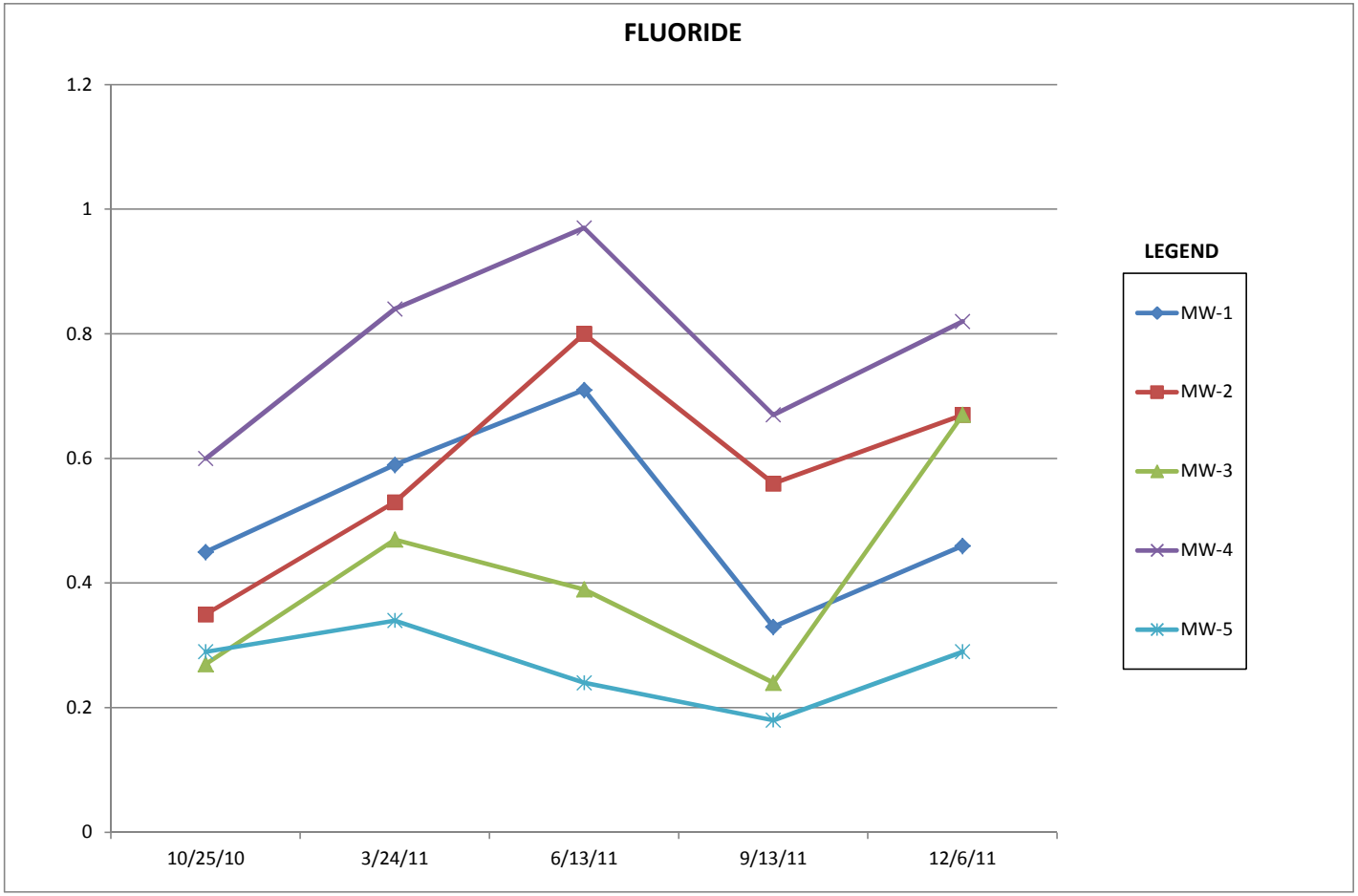
NITROGEN/NITRATE
TREND ANALYSIS CHART
Waukegan Station, Waukegan Illinois
Midwest Generation
21153.033



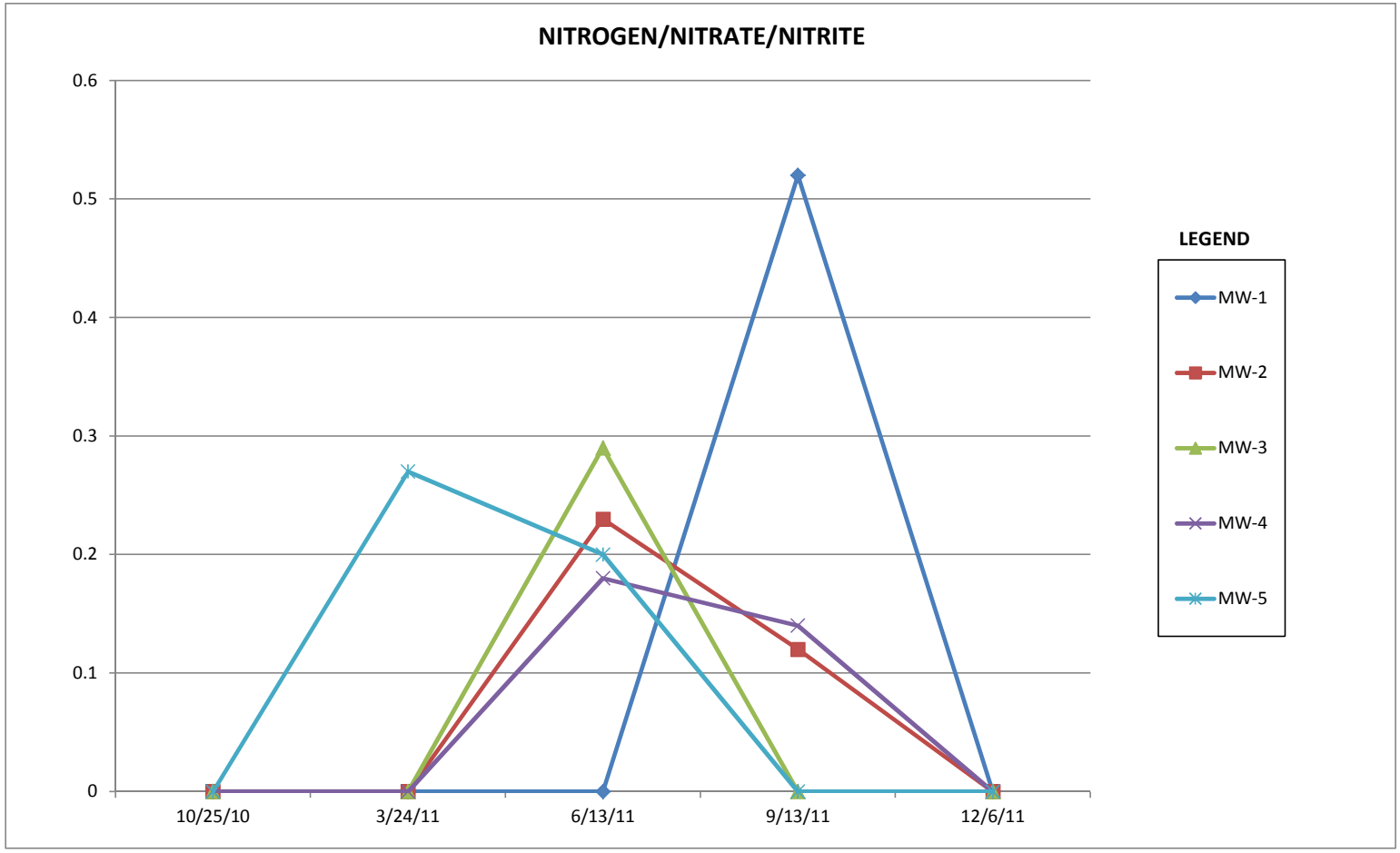
TOTAL DISSOLVED SOLIDS
TREND ANALYSIS CHART
Waukegan Station, Waukegan Illinois
Midwest Generation
21153.033



FLUORIDE
TREND ANALYSIS CHART
Waukegan Station, Waukegan Illinois
Midwest Generation
21153.033



NITROGEN/NITRATE/NITRITE
TREND ANALYSIS CHART
Waukegan Station, Waukegan Illinois
Midwest Generation
21153.033



ATTACHMENT C

LABORATORY ANALYTICAL REPORT



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-43000-1
Client Project/Site: Midwest Generation Waukegan Groundwater

For:
Midwest Generation EME LLC
401 E Greenwood Avenue
Waukegan, Illinois 60087-5197

Attn: Mr. Mark Wehling

Authorized for release by:
12/21/2011 4:40:45 PM

Bonnie Stadelmann
Project Manager II
bonnie.stadelmann@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Receipt Checklists 25
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Case Narrative

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Waukegan Groundwater

TestAmerica Job ID: 500-43000-1

Job ID: 500-43000-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-43000-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

Metals
No analytical or quality issues were noted.

Field Service / Mobile Lab
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Detection Summary

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Waukegan Groundwater

TestAmerica Job ID: 500-43000-1

Client Sample ID: MW-1 — Lab Sample ID: 500-43000-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.057		0.0010		mg/L	1		6020	Dissolved
Barium	0.051		0.0025		mg/L	1		6020	Dissolved
Boron	2.8		0.050		mg/L	1		6020	Dissolved
Manganese	0.011		0.0025		mg/L	1		6020	Dissolved
Selenium	0.032		0.0025		mg/L	1		6020	Dissolved
Nitrate Nitrite as N	0.32		0.10		mg/L	1		353.2	Dissolved
Sulfate	330		100		mg/L	20		9038	Dissolved
Chloride	32		2.0		mg/L	1		9251	Dissolved
Nitrogen, Nitrate	0.30		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	750		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.46		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrite	0.021		0.020		mg/L	1		SM 4500 NO2 B	Dissolved

Client Sample ID: MW-2 — Lab Sample ID: 500-43000-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0094		0.0010		mg/L	1		6020	Dissolved
Barium	0.023		0.0025		mg/L	1		6020	Dissolved
Boron	1.9		0.050		mg/L	1		6020	Dissolved
Manganese	0.035		0.0025		mg/L	1		6020	Dissolved
Selenium	0.0086		0.0025		mg/L	1		6020	Dissolved
Sulfate	180		50		mg/L	10		9038	Dissolved
Chloride	50		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	490		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.67		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-3 — Lab Sample ID: 500-43000-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0049		0.0010		mg/L	1		6020	Dissolved
Barium	0.0058		0.0025		mg/L	1		6020	Dissolved
Boron	1.6		0.050		mg/L	1		6020	Dissolved
Manganese	0.0054		0.0025		mg/L	1		6020	Dissolved
Selenium	0.011		0.0025		mg/L	1		6020	Dissolved
Sulfate	110		25		mg/L	5		9038	Dissolved
Chloride	51		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	380		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.67		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-4 — Lab Sample ID: 500-43000-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0065		0.0010		mg/L	1		6020	Dissolved
Barium	0.036		0.0025		mg/L	1		6020	Dissolved
Boron	2.1		0.050		mg/L	1		6020	Dissolved
Manganese	0.025		0.0025		mg/L	1		6020	Dissolved
Selenium	0.015		0.0025		mg/L	1		6020	Dissolved
Sulfate	160		50		mg/L	10		9038	Dissolved
Chloride	60		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	480		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.82		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-5 — Lab Sample ID: 500-43000-5

Detection Summary

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Waukegan Groundwater

TestAmerica Job ID: 500-43000-1

Client Sample ID: MW-5 (Continued) — **Lab Sample ID: 500-43000-5**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.010		0.0010		mg/L	1		6020	Dissolved
Barium	0.073		0.0025		mg/L	1		6020	Dissolved
Boron	37		1.0		mg/L	20		6020	Dissolved
Iron	5.6		0.10		mg/L	1		6020	Dissolved
Manganese	0.99		0.0025		mg/L	1		6020	Dissolved
Sulfate	1100		250		mg/L	50		9038	Dissolved
Chloride	110		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	2300		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.29		0.10		mg/L	1		SM 4500 F C	Dissolved

Method Summary

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Waukegan Groundwater

TestAmerica Job ID: 500-43000-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL WAT
9014	Cyanide	SW846	TAL CHI
9038	Sulfate, Turbidimetric	SW846	TAL CHI
9251	Chloride	SW846	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL WAT = TestAmerica Watertown, 1101 Industrial Drive, Watertown, WI 53094, TEL (920)261-1660

Sample Summary

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Waukegan Groundwater

TestAmerica Job ID: 500-43000-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-43000-1	MW-1	Water	12/06/11 12:45	12/07/11 14:02
500-43000-2	MW-2	Water	12/06/11 11:40	12/07/11 14:02
500-43000-3	MW-3	Water	12/06/11 10:50	12/07/11 14:02
500-43000-4	MW-4	Water	12/06/11 10:00	12/07/11 14:02
500-43000-5	MW-5	Water	12/06/11 09:15	12/07/11 14:02

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Waukegan Groundwater

TestAmerica Job ID: 500-43000-1

Client Sample ID: MW-1
Date Collected: 12/06/11 12:45
Date Received: 12/07/11 14:02

Lab Sample ID: 500-43000-1
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:26	12/14/11 15:13	1
Arsenic	**0.057**		0.0010		mg/L		12/14/11 12:26	12/14/11 15:13	1
Barium	**0.051**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:13	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/16/11 09:24	1
Boron	**2.8**		0.050		mg/L		12/14/11 12:26	12/16/11 09:24	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:13	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 15:13	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 15:13	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:13	1
Iron	<0.10		0.10		mg/L		12/14/11 12:26	12/14/11 15:13	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:13	1
Manganese	**0.011**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:13	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:13	1
Selenium	**0.032**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:13	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:13	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:13	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 15:13	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/14/11 16:30	12/15/11 12:33	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**0.32**		0.10		mg/L			12/19/11 11:02	1
Cyanide, Total	<0.010		0.010		mg/L		12/13/11 11:14	12/13/11 15:42	1
Sulfate	**330**		100		mg/L			12/16/11 23:54	20
Chloride	**32**		2.0		mg/L			12/17/11 12:00	1
Nitrogen, Nitrate	**0.30**		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**750**		10		mg/L			12/09/11 03:08	1
Fluoride	**0.46**		0.10		mg/L			12/13/11 12:54	1
Nitrogen, Nitrite	**0.021**		0.020		mg/L			12/07/11 16:16	1

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Waukegan Groundwater

TestAmerica Job ID: 500-43000-1

Client Sample ID: MW-2
Date Collected: 12/06/11 11:40
Date Received: 12/07/11 14:02

Lab Sample ID: 500-43000-2
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:26	12/14/11 15:16	1
Arsenic	**0.0094**		0.0010		mg/L		12/14/11 12:26	12/14/11 15:16	1
Barium	**0.023**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:16	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/16/11 09:25	1
Boron	**1.9**		0.050		mg/L		12/14/11 12:26	12/16/11 09:25	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:16	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 15:16	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 15:16	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:16	1
Iron	<0.10		0.10		mg/L		12/14/11 12:26	12/14/11 15:16	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:16	1
Manganese	**0.035**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:16	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:16	1
Selenium	**0.0086**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:16	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:16	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:16	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 15:16	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/14/11 16:30	12/15/11 12:36	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10		0.10		mg/L			12/19/11 11:03	1
Cyanide, Total	<0.010		0.010		mg/L		12/13/11 11:14	12/13/11 15:43	1
Sulfate	**180**		50		mg/L			12/16/11 23:55	10
Chloride	**50**		2.0		mg/L			12/17/11 12:01	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**490**		10		mg/L			12/09/11 03:11	1
Fluoride	**0.67**		0.10		mg/L			12/13/11 13:07	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/07/11 16:17	1

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Waukegan Groundwater

TestAmerica Job ID: 500-43000-1

Client Sample ID: MW-3
Date Collected: 12/06/11 10:50
Date Received: 12/07/11 14:02

Lab Sample ID: 500-43000-3
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:26	12/14/11 15:18	1
Arsenic	**0.0049**		0.0010		mg/L		12/14/11 12:26	12/14/11 15:18	1
Barium	**0.0058**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:18	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/16/11 09:26	1
Boron	**1.6**		0.050		mg/L		12/14/11 12:26	12/16/11 09:26	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:18	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 15:18	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 15:18	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:18	1
Iron	<0.10		0.10		mg/L		12/14/11 12:26	12/14/11 15:18	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:18	1
Manganese	**0.0054**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:18	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:18	1
Selenium	**0.011**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:18	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:18	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:18	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 15:18	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/14/11 16:30	12/15/11 12:39	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10		0.10		mg/L			12/19/11 11:04	1
Cyanide, Total	<0.010		0.010		mg/L		12/13/11 11:14	12/13/11 15:43	1
Sulfate	**110**		25		mg/L			12/20/11 00:02	5
Chloride	**51**		2.0		mg/L			12/17/11 12:03	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**380**		10		mg/L			12/09/11 03:13	1
Fluoride	**0.67**		0.10		mg/L			12/13/11 13:09	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/07/11 16:18	1

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Waukegan Groundwater

TestAmerica Job ID: 500-43000-1

Client Sample ID: MW-4
Date Collected: 12/06/11 10:00
Date Received: 12/07/11 14:02

Lab Sample ID: 500-43000-4
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:26	12/14/11 15:21	1
Arsenic	**0.0065**		0.0010		mg/L		12/14/11 12:26	12/14/11 15:21	1
Barium	**0.036**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:21	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/16/11 09:27	1
Boron	**2.1**		0.050		mg/L		12/14/11 12:26	12/16/11 09:27	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:21	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 15:21	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 15:21	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:21	1
Iron	<0.10		0.10		mg/L		12/14/11 12:26	12/14/11 15:21	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:21	1
Manganese	**0.025**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:21	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:21	1
Selenium	**0.015**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:21	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:21	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:21	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 15:21	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/14/11 16:30	12/15/11 12:41	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10		0.10		mg/L			12/19/11 11:05	1
Cyanide, Total	<0.010		0.010		mg/L		12/13/11 11:14	12/13/11 15:45	1
Sulfate	**160**		50		mg/L			12/20/11 00:03	10
Chloride	**60**		2.0		mg/L			12/17/11 12:04	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**480**		10		mg/L			12/09/11 03:16	1
Fluoride	**0.82**		0.10		mg/L			12/13/11 13:12	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/07/11 16:18	1

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Waukegan Groundwater

TestAmerica Job ID: 500-43000-1

Client Sample ID: MW-5
Date Collected: 12/06/11 09:15
Date Received: 12/07/11 14:02

Lab Sample ID: 500-43000-5
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:26	12/14/11 15:24	1
Arsenic	**0.010**		0.0010		mg/L		12/14/11 12:26	12/14/11 15:24	1
Barium	**0.073**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:24	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/16/11 09:28	1
Boron	**37**		1.0		mg/L		12/14/11 12:26	12/19/11 08:45	20
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:24	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 15:24	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 15:24	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:24	1
Iron	**5.6**		0.10		mg/L		12/14/11 12:26	12/14/11 15:24	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:24	1
Manganese	**0.99**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:24	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:24	1
Selenium	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 15:24	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:24	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:24	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 15:24	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/14/11 16:30	12/15/11 12:44	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10		0.10		mg/L			12/19/11 11:07	1
Cyanide, Total	<0.010		0.010		mg/L		12/13/11 11:14	12/13/11 15:46	1
Sulfate	**1100**		250		mg/L			12/20/11 00:04	50
Chloride	**110**		10		mg/L			12/17/11 12:30	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**2300**		10		mg/L			12/09/11 03:19	1
Fluoride	**0.29**		0.10		mg/L			12/13/11 13:21	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/07/11 16:19	1

Definitions/Glossary

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Waukegan Groundwater

TestAmerica Job ID: 500-43000-1

Qualifiers

General Chemistry

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Waukegan Groundwater

TestAmerica Job ID: 500-43000-1

Metals

Prep Batch: 135684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-1	MW-1	Dissolved	Water	Soluble Metals	
500-43000-2	MW-2	Dissolved	Water	Soluble Metals	
500-43000-3	MW-3	Dissolved	Water	Soluble Metals	
500-43000-4	MW-4	Dissolved	Water	Soluble Metals	
500-43000-5	MW-5	Dissolved	Water	Soluble Metals	
LCS 500-135684/2-A	Lab Control Sample	Soluble	Water	Soluble Metals	
MB 500-135684/1-A	Method Blank	Soluble	Water	Soluble Metals	

Prep Batch: 135722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-1	MW-1	Dissolved	Water	7470A	
500-43000-2	MW-2	Dissolved	Water	7470A	
500-43000-3	MW-3	Dissolved	Water	7470A	
500-43000-4	MW-4	Dissolved	Water	7470A	
500-43000-5	MW-5	Dissolved	Water	7470A	
LCS 500-135722/8-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-135722/7-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 135736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-1	MW-1	Dissolved	Water	6020	135684
500-43000-2	MW-2	Dissolved	Water	6020	135684
500-43000-3	MW-3	Dissolved	Water	6020	135684
500-43000-4	MW-4	Dissolved	Water	6020	135684
500-43000-5	MW-5	Dissolved	Water	6020	135684
LCS 500-135684/2-A	Lab Control Sample	Soluble	Water	6020	135684
MB 500-135684/1-A	Method Blank	Soluble	Water	6020	135684

Analysis Batch: 135862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-1	MW-1	Dissolved	Water	7470A	135722
500-43000-2	MW-2	Dissolved	Water	7470A	135722
500-43000-3	MW-3	Dissolved	Water	7470A	135722
500-43000-4	MW-4	Dissolved	Water	7470A	135722
500-43000-5	MW-5	Dissolved	Water	7470A	135722
LCS 500-135722/8-A	Lab Control Sample	Total/NA	Water	7470A	135722
MB 500-135722/7-A	Method Blank	Total/NA	Water	7470A	135722

Analysis Batch: 135985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-1	MW-1	Dissolved	Water	6020	135684
500-43000-2	MW-2	Dissolved	Water	6020	135684
500-43000-3	MW-3	Dissolved	Water	6020	135684
500-43000-4	MW-4	Dissolved	Water	6020	135684
500-43000-5	MW-5	Dissolved	Water	6020	135684
LCS 500-135684/2-A	Lab Control Sample	Soluble	Water	6020	135684
MB 500-135684/1-A	Method Blank	Soluble	Water	6020	135684

Analysis Batch: 136145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-5	MW-5	Dissolved	Water	6020	135684

General Chemistry

Analysis Batch: 1002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-1	MW-1	Dissolved	Water	353.2	
500-43000-2	MW-2	Dissolved	Water	353.2	
500-43000-3	MW-3	Dissolved	Water	353.2	
500-43000-4	MW-4	Dissolved	Water	353.2	
500-43000-5	MW-5	Dissolved	Water	353.2	
LCS 610-1002/41	Lab Control Sample	Total/NA	Water	353.2	
LCS 610-1002/69	Lab Control Sample	Total/NA	Water	353.2	
LCS 610-1002/9	Lab Control Sample	Total/NA	Water	353.2	
MB 610-1002/11	Method Blank	Total/NA	Water	353.2	
MB 610-1002/40	Method Blank	Total/NA	Water	353.2	
MB 610-1002/68	Method Blank	Total/NA	Water	353.2	
MB 610-1002/98	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 135013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-1	MW-1	Dissolved	Water	SM 4500 NO2 B	
500-43000-2	MW-2	Dissolved	Water	SM 4500 NO2 B	
500-43000-2 MS	MW-2	Dissolved	Water	SM 4500 NO2 B	
500-43000-2 MSD	MW-2	Dissolved	Water	SM 4500 NO2 B	
500-43000-3	MW-3	Dissolved	Water	SM 4500 NO2 B	
500-43000-4	MW-4	Dissolved	Water	SM 4500 NO2 B	
500-43000-5	MW-5	Dissolved	Water	SM 4500 NO2 B	
LCS 500-135013/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-135013/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 135139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-1	MW-1	Dissolved	Water	SM 2540C	
500-43000-2	MW-2	Dissolved	Water	SM 2540C	
500-43000-3	MW-3	Dissolved	Water	SM 2540C	
500-43000-4	MW-4	Dissolved	Water	SM 2540C	
500-43000-5	MW-5	Dissolved	Water	SM 2540C	
LCS 500-135139/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-135139/1	Method Blank	Total/NA	Water	SM 2540C	

Prep Batch: 135515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-1	MW-1	Dissolved	Water	9010B	
500-43000-2	MW-2	Dissolved	Water	9010B	
500-43000-3	MW-3	Dissolved	Water	9010B	
500-43000-4	MW-4	Dissolved	Water	9010B	
500-43000-5	MW-5	Dissolved	Water	9010B	
HLCS 500-135515/3-A	Lab Control Sample	Total/NA	Water	9010B	
LCS 500-135515/2-A	Lab Control Sample	Total/NA	Water	9010B	
LLCS 500-135515/4-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-135515/1-A	Method Blank	Total/NA	Water	9010B	

Analysis Batch: 135548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-1	MW-1	Dissolved	Water	SM 4500 F C	
500-43000-2	MW-2	Dissolved	Water	SM 4500 F C	
500-43000-3	MW-3	Dissolved	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 135548 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-4	MW-4	Dissolved	Water	SM 4500 F C	
500-43000-4 MS	MW-4	Dissolved	Water	SM 4500 F C	
500-43000-4 MSD	MW-4	Dissolved	Water	SM 4500 F C	
500-43000-5	MW-5	Dissolved	Water	SM 4500 F C	
LCS 500-135548/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-135548/3	Method Blank	Total/NA	Water	SM 4500 F C	

Analysis Batch: 135566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-1	MW-1	Dissolved	Water	9014	135515
500-43000-2	MW-2	Dissolved	Water	9014	135515
500-43000-3	MW-3	Dissolved	Water	9014	135515
500-43000-4	MW-4	Dissolved	Water	9014	135515
500-43000-5	MW-5	Dissolved	Water	9014	135515
HLCS 500-135515/3-A	Lab Control Sample	Total/NA	Water	9014	135515
LCS 500-135515/2-A	Lab Control Sample	Total/NA	Water	9014	135515
LLCS 500-135515/4-A	Lab Control Sample	Total/NA	Water	9014	135515
MB 500-135515/1-A	Method Blank	Total/NA	Water	9014	135515

Analysis Batch: 136079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-1	MW-1	Dissolved	Water	9251	
500-43000-2	MW-2	Dissolved	Water	9251	
500-43000-3	MW-3	Dissolved	Water	9251	
500-43000-4	MW-4	Dissolved	Water	9251	
500-43000-5	MW-5	Dissolved	Water	9251	
LCS 500-136079/12	Lab Control Sample	Total/NA	Water	9251	
MB 500-136079/11	Method Blank	Total/NA	Water	9251	

Analysis Batch: 136241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-1	MW-1	Dissolved	Water	9038	
500-43000-2	MW-2	Dissolved	Water	9038	
LCS 500-136241/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-136241/3	Method Blank	Total/NA	Water	9038	

Analysis Batch: 136345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-1	MW-1	Dissolved	Water	Nitrate by calc	
500-43000-2	MW-2	Dissolved	Water	Nitrate by calc	
500-43000-3	MW-3	Dissolved	Water	Nitrate by calc	
500-43000-4	MW-4	Dissolved	Water	Nitrate by calc	
500-43000-5	MW-5	Dissolved	Water	Nitrate by calc	

Analysis Batch: 136371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43000-3	MW-3	Dissolved	Water	9038	
500-43000-4	MW-4	Dissolved	Water	9038	
500-43000-5	MW-5	Dissolved	Water	9038	
LCS 500-136371/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-136371/3	Method Blank	Total/NA	Water	9038	

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Waukegan Groundwater

TestAmerica Job ID: 500-43000-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 500-135684/1-A
Matrix: Water
Analysis Batch: 135736

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 135684

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:26	12/14/11 14:45	1
Arsenic	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 14:45	1
Barium	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 14:45	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 14:45	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 14:45	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 14:45	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 14:45	1
Iron	<0.10		0.10		mg/L		12/14/11 12:26	12/14/11 14:45	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 14:45	1
Manganese	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 14:45	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 14:45	1
Selenium	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 14:45	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 14:45	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 14:45	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 14:45	1

Lab Sample ID: MB 500-135684/1-A
Matrix: Water
Analysis Batch: 135985

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 135684

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/16/11 09:20	1
Boron	<0.050		0.050		mg/L		12/14/11 12:26	12/16/11 09:20	1

Lab Sample ID: LCS 500-135684/2-A
Matrix: Water
Analysis Batch: 135736

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 135684

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.485		mg/L		97	80 - 120
Arsenic	0.100	0.104		mg/L		104	80 - 120
Barium	0.500	0.513		mg/L		103	80 - 120
Cadmium	0.0500	0.0575		mg/L		115	80 - 120
Chromium	0.200	0.213		mg/L		106	80 - 120
Cobalt	0.500	0.539		mg/L		108	80 - 120
Copper	0.250	0.258		mg/L		103	80 - 120
Iron	1.00	1.02		mg/L		102	80 - 120
Lead	0.100	0.110		mg/L		110	80 - 120
Manganese	0.500	0.530		mg/L		106	80 - 120
Nickel	0.500	0.563		mg/L		113	80 - 120
Selenium	0.100	0.110		mg/L		110	80 - 120
Silver	0.0500	0.0471		mg/L		94	80 - 120
Thallium	0.100	0.103		mg/L		103	80 - 120
Zinc	0.500	0.549		mg/L		110	80 - 120

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-135684/2-A
Matrix: Water
Analysis Batch: 135985

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 135684

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.0500	0.0583		mg/L		117	80 - 120
Boron	1.00	1.20		mg/L		120	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-135722/7-A
Matrix: Water
Analysis Batch: 135862

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 135722

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/14/11 16:30	12/15/11 12:05	1

Lab Sample ID: LCS 500-135722/8-A
Matrix: Water
Analysis Batch: 135862

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 135722

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00193		mg/L		97	80 - 120

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 610-1002/11
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10		0.10		mg/L			12/19/11 10:55	1

Lab Sample ID: MB 610-1002/40
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10		0.10		mg/L			12/19/11 11:29	1

Lab Sample ID: MB 610-1002/68
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10	^	0.10		mg/L			12/19/11 12:02	1

Lab Sample ID: MB 610-1002/98
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10	^	0.10		mg/L			12/19/11 12:37	1

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 610-1002/41
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	5.00	5.41		mg/L		108	77 - 131

Lab Sample ID: LCS 610-1002/69
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	5.00	5.39	^	mg/L		108	77 - 131

Lab Sample ID: LCS 610-1002/9
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	5.00	5.23		mg/L		105	77 - 131

Method: 9014 - Cyanide

Lab Sample ID: MB 500-135515/1-A
Matrix: Water
Analysis Batch: 135566

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 135515

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		12/13/11 11:14	12/13/11 15:31	1

Lab Sample ID: HLCS 500-135515/3-A
Matrix: Water
Analysis Batch: 135566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 135515

Analyte	Spike Added	HLCS Result	HLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.400	0.395		mg/L		99	90 - 110

Lab Sample ID: LCS 500-135515/2-A
Matrix: Water
Analysis Batch: 135566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 135515

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.109		mg/L		109	80 - 120

Lab Sample ID: LLCS 500-135515/4-A
Matrix: Water
Analysis Batch: 135566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 135515

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0400	0.0352		mg/L		88	75 - 125

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Waukegan Groundwater

TestAmerica Job ID: 500-43000-1

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 500-136241/3
Matrix: Water
Analysis Batch: 136241

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			12/16/11 23:34	1

Lab Sample ID: LCS 500-136241/4
Matrix: Water
Analysis Batch: 136241

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	18.8		mg/L		94	80 - 120

Lab Sample ID: MB 500-136371/3
Matrix: Water
Analysis Batch: 136371

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			12/20/11 00:00	1

Lab Sample ID: LCS 500-136371/4
Matrix: Water
Analysis Batch: 136371

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	18.5		mg/L		92	80 - 120

Method: 9251 - Chloride

Lab Sample ID: MB 500-136079/11
Matrix: Water
Analysis Batch: 136079

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			12/17/11 11:53	1

Lab Sample ID: LCS 500-136079/12
Matrix: Water
Analysis Batch: 136079

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	41.2		mg/L		82	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-135139/1
Matrix: Water
Analysis Batch: 135139

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			12/09/11 03:00	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 500-135139/2
Matrix: Water
Analysis Batch: 135139

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	266		mg/L		106	80 - 120

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-135548/3
Matrix: Water
Analysis Batch: 135548

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			12/13/11 12:29	1

Lab Sample ID: LCS 500-135548/4
Matrix: Water
Analysis Batch: 135548

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.4		mg/L		104	80 - 120

Lab Sample ID: 500-43000-4 MS
Matrix: Water
Analysis Batch: 135548

Client Sample ID: MW-4
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.82		5.00	6.09		mg/L		105	75 - 125

Lab Sample ID: 500-43000-4 MSD
Matrix: Water
Analysis Batch: 135548

Client Sample ID: MW-4
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.82		5.00	6.15		mg/L		107	75 - 125	1	20

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-135013/3
Matrix: Water
Analysis Batch: 135013

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/07/11 16:15	1

Lab Sample ID: LCS 500-135013/4
Matrix: Water
Analysis Batch: 135013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.102		mg/L		102	80 - 120

Method: SM 4500 NO2 B - Nitrogen, Nitrite (Continued)

Lab Sample ID: 500-43000-2 MS
Matrix: Water
Analysis Batch: 135013

Client Sample ID: MW-2
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	<0.020		0.100	0.107		mg/L		105	75 - 125

Lab Sample ID: 500-43000-2 MSD
Matrix: Water
Analysis Batch: 135013

Client Sample ID: MW-2
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	<0.020		0.100	0.108		mg/L		106	75 - 125	1	20

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

Chain of Custody Record

Lab Job #: 500-43000

Chain of Custody Number:

Page ____ of ____

Temperature °C of Cooler: 3.8

(optional) Report To		(optional) Bill To	
Contact:	Dave McCoy	Contact:	
Company:	Patrick Engineering	Company:	
Address:	4985 Varsity Dr.	Address:	
Address:	Lisle, IL 60532	Address:	
Phone:	(630) 427-7400	Phone:	
Fax:	(630) 434-8300	Fax:	
E-Mail:		PO#/Reference#:	

Client	Client Project #
Patrick Engineering	21153.033
Project Name	
MWG - Waukegan	
Project Location/State	**Lab Project #**
Waukegan, IL	
Sampler	**Lab PM**
JLT	

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	Parameter: 7470A - Mercury	6020 - (MOD) PP Metals Hg	1251 - Chloride 2540C - Total Dissolved Solids 9038 - Sulfate 4500 - F.C. - Ammonia	NO2 - B - Nitrogen, Nitrite	NO3 - F - Nitrogen, Nitrate-Nitrite	9014 - Cyanide	Comments
1		MW-1	12/6/11	1245		W		X		X	X	X	X	
2		MW-2		1140										
3		MW-3		1050										
4		MW-4		1000										
5		MW-5		0915										

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ✓ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	Patrick Eng.	12/7/11	1402	[signature]	TestAm	12/7/11	1402
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped
Hand Delivered

Matrix Key

WW – Wastewater	SE – Sediment
W – Water	SO – Soil
S – Soil	L – Leachate
SL – Sludge	WI – Wipe
MS – Miscellaneous	DW – Drinking Water
OL – Oil	O Other
A – Air	

Client Comments

Lab Comments:

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Stadelmann, Bonnie M	Carrier Tracking No(s):	COC No: 500-12507.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc				Job #: 500-43000-1
Address: 1101 Industrial Drive, ,	Due Date Requested: 12/19/2011			
City: Watertown	TAT Requested (days):			
State, Zip: WI, 53094				
Phone: 920-261-1660(Tel)	PO #:			
Email:	WO #:			
Project Name: Midwest Generation Waukegan Groundwater	Project #: 50004763			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	353.2_Pres/FIELD_FLTRD	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-1 (500-43000-1)	12/6/11	12:45 Central		Water			X	1	
MW-2 (500-43000-2)	12/6/11	11:40 Central		Water			X	1	
MW-3 (500-43000-3)	12/6/11	10:50 Central		Water			X	1	
MW-4 (500-43000-4)	12/6/11	10:00 Central		Water			X	1	
MW-5 (500-43000-5)	12/6/11	09:15 Central		Water			X	1	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: Fed Ex
Relinquished by: JLT	Date/Time: 12/15/11 1640	Company TA	Received by: Danica H
Relinquished by:	Date/Time:	Company	Received by:
Relinquished by:	Date/Time:	Company	Received by:

Date/Time: 12-16-11 1706	Company TA		
Date/Time:	Company		
Date/Time:	Company		

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: Ice

Login Sample Receipt Checklist

Client: Midwest Generation EME LLC

Job Number: 500-43000-1

Login Number: 43000
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.8 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Login Sample Receipt Checklist

Client: Midwest Generation EME LLC

Job Number: 500-43000-1

Login Number: 43000
List Number: 1
Creator: Herritz, Danica

List Source: TestAmerica Watertown
List Creation: 12/16/11 05:39 PM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	Received as a subcontract
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Waukegan Groundwater

TestAmerica Job ID: 500-43000-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Chicago	ACLASS	DoD ELAP		ADE-1429
TestAmerica Chicago	ACLASS	ISO/IEC 17025		AT-1428
TestAmerica Chicago	Alabama	State Program	4	40461
TestAmerica Chicago	California	NELAC	9	01132CA
TestAmerica Chicago	Florida	NELAC	4	E871072
TestAmerica Chicago	Georgia	Georgia EPD	4	N/A
TestAmerica Chicago	Georgia	State Program	4	939
TestAmerica Chicago	Hawaii	State Program	9	N/A
TestAmerica Chicago	Illinois	NELAC	5	100201
TestAmerica Chicago	Indiana	State Program	5	C-IL-02
TestAmerica Chicago	Iowa	State Program	7	82
TestAmerica Chicago	Kansas	NELAC	7	E-10161
TestAmerica Chicago	Kentucky	Kentucky UST	4	66
TestAmerica Chicago	Kentucky	State Program	4	90023
TestAmerica Chicago	Louisiana	NELAC	6	30720
TestAmerica Chicago	Massachusetts	State Program	1	M-IL035
TestAmerica Chicago	Mississippi	State Program	4	N/A
TestAmerica Chicago	North Carolina	North Carolina DENR	4	291
TestAmerica Chicago	Oklahoma	State Program	6	8908
TestAmerica Chicago	South Carolina	State Program	4	77001
TestAmerica Chicago	Texas	NELAC	6	T104704252-09-TX
TestAmerica Chicago	USDA	USDA		P330-09-00027
TestAmerica Chicago	Virginia	NELAC Secondary AB	3	460142
TestAmerica Chicago	Wisconsin	State Program	5	999580010
TestAmerica Chicago	Wyoming	State Program	8	8TMS-Q
TestAmerica Watertown		WI Dept of Agriculture (Micro)		105-266
TestAmerica Watertown	Illinois	NELAC	5	100453
TestAmerica Watertown	Minnesota	NELAC	5	055-999-366
TestAmerica Watertown	Wisconsin	State Program	5	128053530

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Exhibit A10

FOURTH QUARTER and ANNUAL GROUNDWATER MONITORING REPORT
WAUKEGAN GENERATING STATION

January 21, 2014

Ms. Andrea Rhodes
Illinois Environmental Protection Agency
Division of Public Water Supplies
MC#19
1021 North Grand Avenue East
Springfield, IL 62794-9276

VIA FEDERAL EXPRESS

KPRG Project No. 12313.2

Re: Quarterly Groundwater Monitoring Results – Fourth Quarter 2013 and Annual
Waukegan Generating Station – Ash Impoundments
Compliance Commitment Agreement VN W-2012-00056; ID# 6281

Dear Ms. Rhodes:

The fourth quarterly groundwater sampling for 2013 has been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Waukegan Generating Station in accordance with the signed Compliance Commitment Agreement (CCA) with Illinois Environmental Protection Agency (IEPA) dated October 24, 2012. This quarterly monitoring report is being submitted by KPRG and Associates, Inc. (KPRG), on behalf of Midwest Generation, summarizing the results of the monitoring event. This report is also intended to serve as the Annual Report and includes historical data analysis/summaries.

Well Inspection and Sampling Procedures

The groundwater monitoring network around the ash ponds at this facility consists of seven wells (MW-01 through MW-07) as shown on Figure 1. As part of sampling procedures, the integrity of all monitoring wells was inspected and water levels obtained using an electronic water level meter (see summary of water level discussion below). Wells MW-01 through MW-04 were completed as flush-mounts at ground surface. The concrete anchors, protector boxes and interior casings were in good condition. Wells MW-05 through MW-07 were completed with stick-up protector casings. These wells were found in good condition with locked protector casings and the concrete surface seals were intact.

MWG13-15_20459

Groundwater samples at well locations MW-01 through MW-07 were collected using the low-flow sampling technique. One duplicate sample (MW-07) was collected for quality assurance purposes. In addition, a deionized water trip blank was placed with the sample bottle shipment by the laboratory and accompanied the groundwater samples bottles from and back to the laboratory. The groundwater monitoring samples and the duplicate sample were analyzed for the inorganic compounds listed in Illinois Administrative Code (IAC) 620.410(a), 620.410(d) and 620.410(e), excluding radium 226/228. The trip blank was analyzed for the volatile organic compounds (VOCs) listed in IAC 620.410(d).

Groundwater Flow Evaluation

Water level data from the most recent round of sampling along with historical water levels obtained from each well are summarized in Table 1. The water levels from the most recent sampling were used to generate a groundwater flow map which is provided on Figure 2. The water elevation data indicates a general southeasterly flow of groundwater. The flow conditions observed during this sampling are consistent with historical conditions reported for the site.

Relative to an annual evaluation of groundwater levels, a historical hydrograph is presented in Attachment 1. The hydrograph indicates that after a groundwater elevation low noted in 4th quarter 2012 sampling, groundwater levels at all wells have recovered approximately 2 feet overall and that water levels have stabilized within the last two quarters of 2014.

Summary of Analytical Data

A copy of the analytical data package is provided in Attachment 2. The field parameter and analytical data from the most recent sampling, along with the previous eight quarters of data, are summarized in Table 2. The duplicate sample was collected from well MW-07. The data are generally consistent with previous data generated for the site. All wells for which the sampling data reports a value above one or more groundwater standards are located within the area of the approved Environmental Land Use Control (ELUC).

At this time a statistical evaluation of background water quality for comparing against downgradient wells has not been completed. The initial anticipated background well installation (MW-05) indicates impacts that are not associated with the ash ponds at the site and therefore, IEPA does not recognize the water quality data from this well as representative of background. A new potential background monitoring well (MW-06) has since been installed and is included within the quarterly sampling. An initial review of the data suggests that this location may provide a representative background water quality with which to perform a statistical evaluation. In general, a minimum of eight quarters of data are required to provide a meaningful statistical analysis of background water quality. The next Annual Report will include this analysis.

MWG13-15_20460

Relative to an annual evaluation of the water chemistry data, time versus concentration curves are provided in Attachment 3 for each parameter analyzed. The curves include the Class I drinking water standard for reference, where appropriate. The following noteworthy observations are made for 2013:

- Arsenic detections at well MW-01 are consistently higher than at the other well locations. The arsenic concentration at this well has been overall decreasing since the 2nd quarter 2011 sampling. Arsenic concentrations at the remaining wells have been overall stable.

- Boron concentrations at wells MW-05 and MW-07 are consistently higher than at the other locations. Well MW-05 is immediately upgradient of the ash ponds and MW-07 is slightly downgradient and to the south. This suggests that the elevated boron concentrations at these locations are not associated with the subject ash ponds.

- Chloride concentration curves are overall stable with the exception of well MW-05 where some temporal scatter is apparent. In 2013, there was spike in chloride concentrations at this well location which have subsequently diminished to below the Class I groundwater standard in the 4th quarter sampling.

- There was a spike of dissolved iron at well MW-06 during the 3rd quarter sampling and the concentration has subsequently shown a decrease to below the Class I groundwater standard. Well MW-07 consistently shows dissolved iron concentrations higher than the remaining wells.

- Well MW-05, MW-06 and MW-07 were the only wells with detections of dissolved manganese above the groundwater standard since the 3rd quarter 2011 sampling. Overall concentrations appear to be stabilized to decreasing in 2013.

- Wells MW-05 and MW-07 are the only wells historically with detections of dissolved sulfate above the groundwater standard. The remaining sulfate concentrations appear to be fairly stable over the last year.

- Wells MW-05 and MW-07 are the only wells historically with detections of Total Dissolved Solids (TDS) above the Class I groundwater standard. The concentrations at these wells and the remaining wells appear overall stable with the exception of a non-reproducible spike in TDS at well MW-05 in the 2nd quarter 2013.

As noted previously, all wells for which the sampling data reports a value above one or more applicable groundwater standards are located within the area of the approved ELUC.

MWG13-15_20461

If there are any questions, please contact either Maria Race of Midwest Generation at 630-771-7862 or Richard Gnat of KPRG at 262-781-0475.

Sincerely,
KPRG and Associates, Inc.

Richard R Gnat

Richard R. Gnat, P.G.
Principal

Attachments

cc: William Buscher, IEPA
Maria Race, Midwest Generation
Susan Franzetti, Nijman Franzetti, LLP

MWG13-15_20462

FIGURES



ENVIRONMENTAL CONSULTATION & REMEDIATION

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SITE MAP

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 550' | Date: January 14, 2013

KPRG Project No. 12313.2 | FIGURE 1

MWG13-15_20464



ENVIRONMENTAL CONSULTATION & REMEDIATION

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GROUNDWATER CONTOUR MAP 11/2013

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 500' | Date: December 26, 2013

KPRG Project No. 12313.2 | FIGURE 2

MWG13-15_20465

TABLES

Table 1. Groundwater Elevations - Midwest Generation, LLC, Waukegan Station, Waukegan, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-01	6/13/2011	603.14	603.46	583.34	583.33	570.96	19.80	19.81	32.18
	9/13/2011	603.14	603.46	581.14	581.14	570.96	22.00	22.00	32.18
	12/6/2011	603.14	603.46	581.15	581.15	570.96	21.99	21.99	32.18
	3/14/2012	603.14	603.46	581.18	581.18	570.96	21.96	21.96	32.18
	6/18/2012	603.14	603.46	580.86	580.86	570.96	22.28	22.28	32.18
	9/28/2012	603.14	603.46	579.65	579.65	570.96	23.49	23.49	32.18
	12/19/2012	603.14	603.46	579.42	579.42	570.96	23.72	23.72	32.18
	3/7/2013	603.14	603.46	580.35	580.35	570.96	22.79	22.79	32.18
	6/6/2013	603.14	603.46	582.38	582.31	571.30	20.76	20.83	31.84
	7/25/2013	603.14	603.46	581.40	581.36	571.30	21.74	21.78	31.84
	11/4/2013	603.14	603.46	581.32	581.31	571.30	21.82	21.83	31.84
MW-02	6/13/2011	603.04	603.28	583.31	583.31	573.48	19.73	19.73	29.56
	9/13/2011	603.04	603.28	581.19	581.19	573.48	21.85	21.85	29.56
	12/6/2011	603.04	603.28	581.22	581.22	573.48	21.82	21.82	29.56
	3/14/2012	603.04	603.28	581.23	581.21	573.48	21.81	21.83	29.56
	6/18/2012	603.04	603.28	580.89	580.89	573.48	22.15	22.15	29.56
	9/28/2012	603.04	603.28	579.73	579.73	573.48	23.31	23.31	29.56
	12/19/2012	603.04	603.28	579.27	579.27	573.48	23.77	23.77	29.56
	3/7/2013	603.04	603.28	580.50	580.50	573.48	22.54	22.54	29.56
	6/6/2013	603.04	603.28	582.34	582.34	573.48	20.70	20.70	29.56
	7/25/2013	603.04	603.28	581.34	581.33	573.48	21.70	21.71	29.56
	11/4/2013	603.04	603.28	581.23	581.23	573.48	21.81	21.81	29.56
MW-03	6/13/2011	602.90	603.18	583.34	583.34	573.06	19.56	19.56	29.84
	9/13/2011	602.90	603.18	581.18	581.18	573.06	21.72	21.72	29.84
	12/6/2011	602.90	603.18	581.22	581.22	573.06	21.68	21.68	29.84
	3/14/2012	602.90	603.18	581.22	581.22	573.06	21.68	21.68	29.84
	6/18/2012	602.90	603.18	580.92	580.92	573.06	21.98	21.98	29.84
	9/28/2012	602.90	603.18	579.68	579.68	573.06	23.22	23.22	29.84
	12/19/2012	602.90	603.18	579.45	579.45	573.06	23.45	23.45	29.84
	3/7/2013	602.90	603.18	580.49	580.49	573.06	22.41	22.41	29.84
	6/6/2013	602.90	603.18	582.38	582.36	573.10	20.52	20.54	29.80
	7/25/2013	602.90	603.18	581.41	581.39	573.10	21.49	21.51	29.80
	11/4/2013	602.90	603.18	581.29	581.29	573.10	21.61	21.61	29.80
MW-04	6/13/2011	603.15	603.53	583.35	583.35	573.30	19.80	19.80	29.85
	9/13/2011	603.15	603.53	581.19	581.19	573.30	21.96	21.96	29.85
	12/6/2011	603.15	603.53	581.23	581.23	573.30	21.92	21.92	29.85
	3/14/2012	603.15	603.53	581.20	581.20	573.30	21.95	21.95	29.85
	6/18/2012	603.15	603.53	580.88	580.88	573.30	22.27	22.27	29.85
	9/28/2012	603.15	603.53	579.55	579.55	573.30	23.60	23.60	29.85
	12/19/2012	603.15	603.53	579.34	579.34	573.30	23.81	23.81	29.85
	3/7/2013	603.15	603.53	580.36	580.36	573.30	22.79	22.79	29.85
	6/6/2013	603.15	603.53	582.38	582.30	573.57	20.77	20.85	29.58
	7/25/2013	603.15	603.53	581.33	581.27	573.57	21.82	21.88	29.58
	11/4/2013	603.15	603.53	581.13	581.13	573.57	22.02	22.02	29.58
MW-05	6/13/2011	604.84	601.53	584.55	584.56	572.92	20.29	20.28	31.92
	9/13/2011	604.84	601.53	582.66	582.64	572.92	22.18	22.20	31.92
	12/6/2011	604.84	601.53	582.82	582.82	572.92	22.02	22.02	31.92
	3/14/2012	604.84	601.53	582.98	582.98	572.92	21.86	21.86	31.92
	6/18/2012	604.84	601.53	582.22	582.22	572.92	22.62	22.62	31.92
	9/28/2012	604.84	601.53	581.13	581.13	572.92	23.71	23.71	31.92
	12/19/2012	604.84	601.53	580.65	580.65	572.92	24.19	24.19	31.92
	3/7/2013	604.84	601.53	582.18	582.18	572.92	22.66	22.66	31.92
	6/6/2013	604.84	601.53	583.44	583.44	572.92	21.40	21.40	31.92
	7/25/2013	604.84	601.53	582.60	582.59	572.92	22.24	22.25	31.92
	11/5/2013	604.84	601.53	582.03	582.04	572.92	22.81	22.80	31.92
MW-06	12/19/2012	589.73	586.75	580.89	580.89	572.03	8.84	8.84	17.70
	3/7/2013	589.73	586.75	582.63	582.63	572.03	7.10	7.10	17.70
	6/6/2013	589.73	586.75	583.58	583.54	572.03	6.15	6.19	17.70
	7/25/2013	589.73	586.75	582.71	582.71	572.03	7.02	7.02	17.70
	11/5/2013	589.73	586.75	582.71	582.71	572.03	7.02	7.02	17.70
MW-07	12/19/2012	598.29	595.87	579.57	579.57	570.33	18.72	18.72	27.96
	3/7/2013	598.29	595.87	580.83	580.83	570.33	17.46	17.46	27.96
	6/6/2013	598.29	595.87	582.61	582.60	570.39	15.68	15.69	27.90
	7/25/2013	598.29	595.87	581.28	581.27	570.39	17.01	17.02	27.90
	11/4/2013	598.29	595.87	580.80	580.80	570.39	17.49	17.49	27.90

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Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-01	Date	12/6/2011		3/14/2012		6/18/2012		9/28/2012		12/19/2012		3/7/2013		6/7/2013		7/25/2013		11/4/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	0.0056	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.057	0.0010	0.078	0.0010	0.070	0.0010	0.070	0.0010	0.091	0.0010	0.098	0.0010	0.036	0.0010	0.055	0.0010	0.046
Barium	2.0	0.0025	0.051	0.0025	0.034	0.0025	0.028	0.0025	0.013	0.0025	0.013	0.0025	0.033	0.0025	0.052	0.0025	0.040	0.0025	0.065
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	2.8	0.50	2.5	0.50	2.0	0.25	1.9	0.050	1.9	0.50	2.2	0.50	2.2	0.50	2.3	0.25	3.1
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	32	2.0	47	2.0	46	2.0	47	2.0	48	2.0	45	2.0	34	2.0	42	2.0	28
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0022	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	0.012	0.010	0.019	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.46	0.10	0.46	0.10	0.39	0.10	0.34	0.10	0.41 ^	0.10	0.50	0.10	0.41	0.10	0.45	0.10	0.28
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND ^	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.011	0.0025	0.0052 ^	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0047	0.0025	0.011	0.0025	0.011	0.0025	0.021
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	0.30	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	1.0	0.10	0.10	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	0.32	0.10	ND	0.10	ND	0.10	ND ^	0.10	ND	0.10	ND	0.10	1.1	0.10	0.10	0.10	ND
Nitrogen/Nitrite	NA	0.020	0.021	0.020	0.10	0.020	0.023	0.020	ND	0.020	0.055	0.020	ND	0.020	0.058	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	8.62	NA	9.54	NA	9.75	NA	10.78	NA	10.47	NA	9.85	NA	8.37	NA	8.81	NA	8.42
Selenium	0.05	0.0025	0.032	0.0025	0.037	0.0025	0.013	0.0025	0.0093	0.0025	ND	0.0025	0.056	0.0025	0.043	0.0025	0.031	0.0025	0.013
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	330	100	390	50	300	50	240	50	200	50	250	100	260	100	300	50	260
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	750	10	630	10	630	10	450	10	460	10	510	10	660	10	580	10	580
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	0.026	0.0050	0.018	0.0050	0.056	0.0050	0.042	0.0050	0.0067
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	14.18	NA	15.88	NA	18.27	NA	15.45	NA	14.17	NA	12.8	NA	12.94	NA	14.93	NA	13.41
Conductivity	NA	NA	0.79	NA	0.77	NA	0.72	NA	0.58	NA	0.53	NA	0.60	NA	0.655	NA	0.65	NA	0.51
Dissolved Oxygen	NA	NA	0.3	NA	0.16	NA	0.41	NA	0.06	NA	0.45	NA	0.36	NA	0.39	NA	0.28	NA	0.55
ORP	NA	NA	-274	NA	-173	NA	-198	NA	-179	NA	-205	NA	-98.2	NA	-109.4	NA	-133.6	NA	-213.3

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-02	Date	12/6/2011		3/14/2012		6/18/2012		9/28/2012		12/19/2012		3/7/2013		6/7/2013		7/25/2013		11/4/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0094	0.0010	0.0094	0.0010	0.011	0.0010	0.011	0.0010	0.0089	0.0010	0.012	0.0010	0.0090	0.0010	0.0087	0.0010	0.0091
Barium	2.0	0.0025	0.023	0.0025	0.017	0.0025	0.016	0.0025	0.019	0.0025	0.016	0.0025	0.020	0.0025	0.021	0.0025	0.026	0.0025	0.028
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	1.9	0.50	2.0	0.50	2.6	0.25	2.1	0.050	1.9	0.50	2.2	0.50	1.9	0.50	2.1	0.25	2.2
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	50	2.0	53	2.0	48	2.0	55	2.0	54	2.0	50	2.0	52	2.0	47	2.0	55
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.67	0.10	0.88	0.10	1.1	0.10	1.1	0.10	1.3 ^	0.10	1.2	0.10	1.3	0.10	0.93	0.10	0.60
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND ^	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.035	0.0025	0.028 ^	0.0025	0.031	0.0025	0.025	0.0025	0.023	0.0025	0.039	0.0025	0.051	0.0025	0.069	0.0025	0.034
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0025	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND ^	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.77	NA	7.82	NA	7.90	NA	8.24	NA	7.94	NA	8.95	NA	7.63	NA	7.61	NA	7.97
Selenium	0.05	0.0025	0.0086	0.0025	0.0046	0.0025	ND	0.0025	0.0027	0.0025	ND	0.0025	0.0084	0.0025	ND	0.0025	0.015	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	180	50	200	50	210	50	270	50	210	50	230	50	220	50	260	100	290
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	490	10	400	10	520	10	540	10	500	10	520	10	550	10	530	10	770
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	13.5	NA	14.79	NA	16.22	NA	14.24	NA	13.01	NA	12.2	NA	12.99	NA	14.79	NA	13.16
Conductivity	NA	NA	0.55	NA	0.55	NA	0.63	NA	0.66	NA	0.54	NA	0.62	NA	0.55	NA	0.59	NA	0.62
Dissolved Oxygen	NA	NA	0.24	NA	0.12	NA	0.17	NA	0.07	NA	0.33	NA	0.18	NA	0.32	NA	0.42	NA	0.60
ORP	NA	NA	-119	NA	-76	NA	-87	NA	-116	NA	-43	NA	-66.4	NA	-124.3	NA	-90.4	NA	-129.8

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_20469

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-03	Date	12/6/2011		3/14/2012		6/18/2012		9/28/2012		12/19/2012		3/7/2013		6/7/2013		7/25/2013		11/4/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0049	0.0010	0.0071	0.0010	0.0030	0.0010	0.0044	0.0010	0.0031	0.0010	0.0018	0.0010	0.0014	0.0010	0.0025	0.0010	0.0050
Barium	2.0	0.0025	0.0058	0.0025	0.0049	0.0025	0.0067	0.0025	0.010	0.0025	0.011	0.0025	0.015	0.0025	0.039	0.0025	0.017	0.0025	0.015
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	1.6	0.50	1.5	0.25	1.3	0.25	1.4	0.050	1.9	0.50	2.0	0.50	2.5	0.50	1.8	0.25	1.9
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	51	2.0	52	2.0	41	2.0	47	2.0	49	2.0	45	2.0	39	2.0	43	2.0	25
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.67	0.10	0.64	0.10	0.76	0.10	0.96	0.10	1.1 ^	0.10	0.99	0.10	0.48	0.10	0.83	0.10	0.63
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND ^	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.0054	0.0025	0.0036 ^	0.0025	0.0070	0.0025	0.0034	0.0025	0.0034	0.0025	0.015	0.0025	0.0062	0.0025	0.0031	0.0025	0.0082
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	0.17	0.10	0.42	0.10	ND	0.10	ND	0.10	13	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	0.17	0.10	0.50	0.10	ND	0.10	ND	0.50	13	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	0.076	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	8.61	NA	8.89	NA	7.58	NA	9.14	NA	8.22	NA	8.55	NA	7.13	NA	7.46	NA	7.26
Selenium	0.05	0.0025	0.011	0.0025	0.0064	0.0025	0.017	0.0025	0.0072	0.0025	ND	0.0025	0.011	0.0025	0.067	0.0025	0.0085	0.0025	0.0045
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	25	110	50	140	50	150	50	260	50	240	50	240	100	290	100	240	50	140
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	380	10	340	10	420	10	480	10	520	10	470	10	860	10	530	10	380
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	0.0055	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	13.62	NA	14.89	NA	16.32	NA	13.83	NA	13.02	NA	12.6	NA	12.87	NA	13.95	NA	15.35
Conductivity	NA	NA	0.41	NA	0.44	NA	0.53	NA	0.58	NA	0.55	NA	0.61	NA	0.86	NA	0.580	NA	0.40
Dissolved Oxygen	NA	NA	0.17	NA	0.13	NA	0.47	NA	0.07	NA	0.27	NA	0.4	NA	0.59	NA	0.31	NA	0.54
ORP	NA	NA	-52	NA	-47	NA	78	NA	2.0	NA	17	NA	40.8	NA	-84.1	NA	0.80	NA	-128.2

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-04	Date	12/6/2011		3/14/2012		6/18/2012		9/28/2012		12/19/2012		3/7/2013		6/6/2013		7/25/2013		11/4/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0065	0.0010	0.0068	0.0010	0.0091	0.0010	0.0079	0.0010	0.0080	0.0010	0.0081	0.0010	0.0032	0.0010	0.0044	0.0010	0.0055
Barium	2.0	0.0025	0.036	0.0025	0.038	0.0025	0.025	0.0025	0.024	0.0025	0.031	0.0025	0.031	0.0025	0.049	0.0025	0.049	0.0025	0.047
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	2.1	0.50	2.2	0.50	2.5	0.25	2.2	0.50	2.5	0.50	2.4	0.50	2.3	0.50	2.5	0.25	2.8
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	60	2.0	71	2.0	53	2.0	55	2.0	55	2.0	50	2.0	51	2.0	42	2.0	46
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.82	0.10	0.73	0.10	0.82	0.10	0.85	0.10	0.72 ^	0.10	0.73	0.10	0.67	0.10	0.60	0.10	0.48
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND ^	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.025	0.0025	0.038 ^	0.0025	0.041	0.0025	0.028	0.0025	0.031	0.0025	0.034	0.0025	0.016	0.0025	0.024	0.0025	0.036
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.31	0.10	ND	0.10	0.21	0.10	0.12	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND ^	0.10	0.31	0.10	ND	0.10	0.21	0.10	0.12	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.35	NA	7.25	NA	7.51	NA	8.63	NA	8.41	NA	8.93	NA	7.25	NA	7.18	NA	7.35
Selenium	0.05	0.0025	0.015	0.0025	0.0091	0.0025	ND	0.0025	0.0061	0.0025	ND	0.0025	0.0043	0.0025	0.028	0.0025	0.050	0.0025	0.011
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	160	50	280	50	250	50	210	50	220	50	230	50	260	100	300	50	270
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	480	10	490	10	540	10	440	10	510	10	460	10	660	10	610	10	630
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	12.35	NA	13.78	NA	15.78	NA	13.28	NA	13.11	NA	11.9	NA	12.91	NA	14.1	NA	13.17
Conductivity	NA	NA	0.52	NA	0.58	NA	0.61	NA	0.53	NA	0.57	NA	0.56	NA	0.666	NA	0.70	NA	0.59
Dissolved Oxygen	NA	NA	0.45	NA	0.33	NA	0.25	NA	0.49	NA	0.07	NA	0.14	NA	0.37	NA	0.35	NA	0.37
ORP	NA	NA	38	NA	43	NA	17	NA	-123	NA	-151	NA	-54.3	NA	-55.9	NA	13.7	NA	-166.2

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-05	Date	12/6/2011		3/14/2012		6/18/2012		9/28/2012		12/19/2012		3/7/2013		6/6/2013		7/25/2013		11/5/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.010	0.0010	0.010	0.0010	0.0098	0.0010	0.012	0.0010	0.011	0.0010	0.012	0.0010	ND	0.0010	0.0013	0.0010	0.0086
Barium	2.0	0.0025	0.073	0.0025	0.063	0.0025	0.051	0.0025	0.067	0.0025	0.070	0.0025	0.060	0.0025	0.045	0.0025	0.037	0.0025	0.054
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	1.0	37	5.0	44	5.0	47	5.0	41	5.0	27	5.0	33	5.0	12	5.0	29	1.0	32
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	110	2.0	50	2.0	50	10	170	10	220	2.0	68	50	600	10	210	2.0	49
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0021	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.29	0.10	0.29	0.10	0.31	0.10	0.32	0.10	0.36 ^	0.10	0.36	0.10	0.21	0.10	0.32	0.10	0.32
Iron	5.0	0.10	5.6	0.10	6.6	0.10	5.9	0.10	5.1 ^	0.10	3.9	0.10	4.0	0.10	0.41	0.10	1.1	0.10	4.6
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.99	0.0025	0.76 ^	0.0025	0.75	0.0025	0.57	0.0025	0.48	0.0025	0.51	0.0025	0.17	0.0025	0.44	0.0025	0.54
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0026	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.45	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND ^	0.10	ND	0.10	ND	0.10	0.45	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	0.033	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.15	NA	7.45	NA	6.97	NA	7.32	NA	7.36	NA	7.33	NA	6.61	NA	6.74	NA	7.20
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0037	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	250	1100	250	980	250	800	250	710	250	550	250	650	250	1200	250	890	250	870
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	2300	10	2000	10	2000	10	1900	10	1800	10	1600	17	3500	10	2000	10	1600
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	11.63	NA	14.23	NA	15.74	NA	13.17	NA	12.46	NA	12.5	NA	13.12	NA	15.7	NA	13.34
Conductivity	NA	NA	1.87	NA	0.52	NA	1.68	NA	1.76	NA	1.74	NA	1.48	NA	3.118	NA	2.18	NA	1.24
Dissolved Oxygen	NA	NA	0.35	NA	0.16	NA	0.12	NA	0.13	NA	0.10	NA	0.22	NA	0.63	NA	0.50	NA	0.47
ORP	NA	NA	-84	NA	-39	NA	-76	NA	-108	NA	-101	NA	-129.7	NA	18.4	NA	22.3	NA	-107

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_20472

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-06	Date	12/19/2012		3/7/2013		6/6/2013		7/25/2013		11/5/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0029	0.0010	0.0019	0.0010	0.0065	0.0010	0.0096	0.0010	0.0034
Barium	2.0	0.0025	0.11	0.0025	0.088	0.0025	0.077	0.0025	0.092	0.0025	0.13
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.25	1.1	0.50	2.8	0.50	6.7	2.5	4.3	0.25	2.4
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	110	2.0	61	2.0	48	2.0	69	10	85
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	0.0015	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.43 ^	0.10	0.27	0.10	0.30	0.10	0.34	0.10	0.30
Iron	5.0	0.10	2.6	0.10	2.0	0.10	6.2	0.10	16	0.10	4.1
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.21	0.0025	0.36	0.0025	0.75	0.0025	0.72	0.0025	0.44
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	0.0039	0.0020	0.0029	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	1.1	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	1.1	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.52	NA	7.42	NA	6.83	NA	6.88	NA	7.24
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	160	100	380	100	390	100	360	100	350
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	940	10	1100	10	1100	10	1100	10	1200
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	11.32	NA	7.1	NA	9.68	NA	12.92	NA	13.14
Conductivity	NA	NA	1.05	NA	1.01	NA	0.911	NA	1.18	NA	1.10
Dissolved Oxygen	NA	NA	0.07	NA	0.33	NA	0.40	NA	0.28	NA	0.22
ORP	NA	NA	-128	NA	-99.4	NA	-72.7	NA	-109.7	NA	-126.3

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

ATTACHMENT 1
Hydrograph of Water Level Elevations

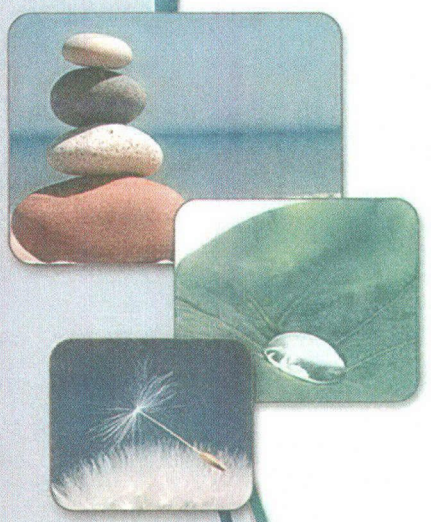
Midwest Generation Waukegan Station, Waukegan, IL

Groundwater Elevation vs Time



MWG13-15_20475

ATTACHMENT 2
Analytical Data Package



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-66210-1
Client Project/Site: Waukegan Station Ash Ponds

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Bonnie Stadelmann

Authorized for release by:
11/27/2013 3:38:50 PM

Bonnie Stadelmann, Senior Project Manager
(708)534-5200
bonnie.stadelmann@testamericainc.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 500-66210-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-66210-1

Comments
No additional comments.

Receipt
The samples were received on 11/5/2013 3:58 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.4° C and 3.6° C.

GC/MS VOA
No analytical or quality issues were noted.

Metals
Method(s) 6020A: The serial dilution performed for the following sample(s) associated with batch 212540 was outside control limits for managnese; however, the duplicate, matrix spike, matrix spike duplicate and all other batch QC were within control limits. data has been qualified and is being reported.: MW 1 (500-66210-1)

No other analytical or quality issues were noted.

Field Service / Mobile Lab
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

MWG13-15_20479

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-66210-1

Client Sample ID: MW 1 — Lab Sample ID: 500-66210-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.046		0.0010		mg/L	1		6020A	Dissolved
Barium	0.065		0.0025		mg/L	1		6020A	Dissolved
Boron	3.1		0.25		mg/L	5		6020A	Dissolved
Manganese	0.021		0.0025		mg/L	1		6020A	Dissolved
Selenium	0.013		0.0025		mg/L	1		6020A	Dissolved
Vanadium	0.0067		0.0050		mg/L	1		6020A	Dissolved
Sulfate	260		50		mg/L	10		9038	Dissolved
Chloride	28		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	580		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.28		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW 2 — Lab Sample ID: 500-66210-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0091		0.0010		mg/L	1		6020A	Dissolved
Barium	0.028		0.0025		mg/L	1		6020A	Dissolved
Boron	2.2		0.25		mg/L	5		6020A	Dissolved
Manganese	0.034		0.0025		mg/L	1		6020A	Dissolved
Sulfate	290		100		mg/L	20		9038	Dissolved
Chloride	55		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	770		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.60		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW 3 — Lab Sample ID: 500-66210-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0050		0.0010		mg/L	1		6020A	Dissolved
Barium	0.015		0.0025		mg/L	1		6020A	Dissolved
Boron	1.9		0.25		mg/L	5		6020A	Dissolved
Manganese	0.0082		0.0025		mg/L	1		6020A	Dissolved
Selenium	0.0045		0.0025		mg/L	1		6020A	Dissolved
Sulfate	140		50		mg/L	10		9038	Dissolved
Chloride	25		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	380		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.63		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW 4 — Lab Sample ID: 500-66210-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0055		0.0010		mg/L	1		6020A	Dissolved
Barium	0.047		0.0025		mg/L	1		6020A	Dissolved
Boron	2.8		0.25		mg/L	5		6020A	Dissolved
Manganese	0.036		0.0025		mg/L	1		6020A	Dissolved
Selenium	0.011		0.0025		mg/L	1		6020A	Dissolved
Sulfate	270		50		mg/L	10		9038	Dissolved
Chloride	46		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	630		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.48		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW 5 — Lab Sample ID: 500-66210-5

—

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW 5 (Continued)

Lab Sample ID: 500-66210-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0086		0.0010		mg/L	1		6020A	Dissolved
Barium	0.054		0.0025		mg/L	1		6020A	Dissolved
Boron	32		1.0		mg/L	20		6020A	Dissolved
Iron	4.6		0.10		mg/L	1		6020A	Dissolved
Manganese	0.54		0.0025		mg/L	1		6020A	Dissolved
Sulfate	870		250		mg/L	50		9038	Dissolved
Chloride	49		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	1600		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.32		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW 6

Lab Sample ID: 500-66210-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0034		0.0010		mg/L	1		6020A	Dissolved
Barium	0.13		0.0025		mg/L	1		6020A	Dissolved
Boron	2.4		0.25		mg/L	5		6020A	Dissolved
Iron	4.1		0.10		mg/L	1		6020A	Dissolved
Manganese	0.44		0.0025		mg/L	1		6020A	Dissolved
Sulfate	350		100		mg/L	20		9038	Dissolved
Chloride	85		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	1200		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.30		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW 7

Lab Sample ID: 500-66210-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.012		0.0010		mg/L	1		6020A	Dissolved
Barium	0.082		0.0025		mg/L	1		6020A	Dissolved
Boron	45		1.0		mg/L	20		6020A	Dissolved
Iron	13		0.10		mg/L	1		6020A	Dissolved
Manganese	0.46		0.0025		mg/L	1		6020A	Dissolved
Selenium	0.0025		0.0025		mg/L	1		6020A	Dissolved
Sulfate	770		250		mg/L	50		9038	Dissolved
Chloride	53		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	1800		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.44		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: Duplicate

Lab Sample ID: 500-66210-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.011		0.0010		mg/L	1		6020A	Dissolved
Barium	0.082		0.0025		mg/L	1		6020A	Dissolved
Boron	47		1.0		mg/L	20		6020A	Dissolved
Iron	13		0.10		mg/L	1		6020A	Dissolved
Manganese	0.45		0.0025		mg/L	1		6020A	Dissolved
Sulfate	780		250		mg/L	50		9038	Dissolved
Chloride	53		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	1800		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.45		0.10		mg/L	1		SM 4500 F C	Dissolved

This Detection Summary does not include radiochemical test results.

MWG13-15_20481

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-66210-1

Client Sample ID: Trip Blank **Lab Sample ID: 500-66210-9**

No Detections.

This Detection Summary does not include radiochemical test results.

MWG13-15_20482

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-66210-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
314.0	Perchlorate (IC)	EPA	TAL SAC
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
9014	Cyanide	SW846	TAL CHI
9038	Sulfate, Turbidimetric	SW846	TAL CHI
9251	Chloride	SW846	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-66210-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-66210-1	MW 1	Water	11/04/13 09:20	11/05/13 15:58
500-66210-2	MW 2	Water	11/04/13 11:10	11/05/13 15:58
500-66210-3	MW 3	Water	11/04/13 12:50	11/05/13 15:58
500-66210-4	MW 4	Water	11/04/13 14:30	11/05/13 15:58
500-66210-5	MW 5	Water	11/05/13 11:00	11/05/13 15:58
500-66210-6	MW 6	Water	11/05/13 09:40	11/05/13 15:58
500-66210-7	MW 7	Water	11/04/13 16:45	11/05/13 15:58
500-66210-8	Duplicate	Water	11/04/13 00:00	11/05/13 15:58
500-66210-9	Trip Blank	Water	11/04/13 00:00	11/05/13 15:58

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-66210-1

Client Sample ID: MW 1
Date Collected: 11/04/13 09:20
Date Received: 11/05/13 15:58

Lab Sample ID: 500-66210-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/09/13 03:39	1
Toluene	<0.00050		0.00050		mg/L			11/09/13 03:39	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/09/13 03:39	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/09/13 03:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 125*		*11/09/13 03:39*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*11/09/13 03:39*	*1*
4-Bromofluorobenzene (Surr)	*96*		*75 - 120*		*11/09/13 03:39*	*1*
Dibromofluoromethane	*91*		*75 - 120*		*11/09/13 03:39*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/14/13 21:08	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/18/13 15:55	11/18/13 19:14	1
Arsenic	**0.046**		0.0010		mg/L		11/18/13 15:55	11/19/13 12:38	1
Barium	**0.065**		0.0025		mg/L		11/18/13 15:55	11/18/13 19:14	1
Beryllium	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 19:14	1
Boron	**3.1**		0.25		mg/L		11/18/13 15:55	11/19/13 14:20	5
Cadmium	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 19:14	1
Chromium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/18/13 19:14	1
Cobalt	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 19:14	1
Copper	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:14	1
Iron	<0.10		0.10		mg/L		11/18/13 15:55	11/18/13 19:14	1
Lead	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 19:14	1
Manganese	**0.021**		0.0025		mg/L		11/18/13 15:55	11/18/13 19:14	1
Nickel	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:14	1
Selenium	**0.013**		0.0025		mg/L		11/18/13 15:55	11/19/13 12:38	1
Silver	<0.00050		0.00050		mg/L		11/18/13 15:55	11/19/13 12:38	1
Thallium	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:14	1
Vanadium	**0.0067**		0.0050		mg/L		11/18/13 15:55	11/19/13 12:38	1
Zinc	<0.020		0.020		mg/L		11/18/13 15:55	11/18/13 19:14	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/07/13 16:00	11/08/13 12:37	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/06/13 14:20	11/07/13 15:32	1
Sulfate	**260**		50		mg/L			11/20/13 06:56	10
Chloride	**28**		2.0		mg/L			11/07/13 22:03	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/07/13 00:00	1
Total Dissolved Solids	**580**		10		mg/L			11/07/13 00:37	1
Fluoride	**0.28**		0.10		mg/L			11/12/13 13:52	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/05/13 18:57	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/06/13 18:44	1

Client Sample ID: MW 2
Date Collected: 11/04/13 11:10
Date Received: 11/05/13 15:58

Lab Sample ID: 500-66210-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/09/13 04:06	1
Toluene	<0.00050		0.00050		mg/L			11/09/13 04:06	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/09/13 04:06	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/09/13 04:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 125*		*11/09/13 04:06*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/09/13 04:06*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*11/09/13 04:06*	*1*
Dibromofluoromethane	*90*		*75 - 120*		*11/09/13 04:06*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/14/13 21:23	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/18/13 15:55	11/18/13 19:32	1
Arsenic	**0.0091**		0.0010		mg/L		11/18/13 15:55	11/19/13 12:52	1
Barium	**0.028**		0.0025		mg/L		11/18/13 15:55	11/18/13 19:32	1
Beryllium	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 19:32	1
Boron	**2.2**		0.25		mg/L		11/18/13 15:55	11/19/13 14:46	5
Cadmium	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 19:32	1
Chromium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/18/13 19:32	1
Cobalt	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 19:32	1
Copper	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:32	1
Iron	<0.10		0.10		mg/L		11/18/13 15:55	11/18/13 19:32	1
Lead	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 19:32	1
Manganese	**0.034**		0.0025		mg/L		11/18/13 15:55	11/18/13 19:32	1
Nickel	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:32	1
Selenium	<0.0025		0.0025		mg/L		11/18/13 15:55	11/19/13 12:52	1
Silver	<0.00050		0.00050		mg/L		11/18/13 15:55	11/19/13 12:52	1
Thallium	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:32	1
Vanadium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/19/13 12:52	1
Zinc	<0.020		0.020		mg/L		11/18/13 15:55	11/18/13 19:32	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/07/13 16:00	11/08/13 12:49	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/06/13 14:20	11/07/13 15:32	1
Sulfate	**290**		100		mg/L			11/20/13 06:57	20
Chloride	**55**		2.0		mg/L			11/07/13 22:03	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/07/13 00:00	1
Total Dissolved Solids	**770**		10		mg/L			11/07/13 00:42	1
Fluoride	**0.60**		0.10		mg/L			11/12/13 13:55	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/05/13 18:58	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/06/13 18:44	1

Client Sample ID: MW 3
Date Collected: 11/04/13 12:50
Date Received: 11/05/13 15:58

Lab Sample ID: 500-66210-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/09/13 04:33	1
Toluene	<0.00050		0.00050		mg/L			11/09/13 04:33	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/09/13 04:33	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/09/13 04:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 125*		*11/09/13 04:33*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*11/09/13 04:33*	*1*
4-Bromofluorobenzene (Surr)	*96*		*75 - 120*		*11/09/13 04:33*	*1*
Dibromofluoromethane	*91*		*75 - 120*		*11/09/13 04:33*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/14/13 21:39	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/18/13 15:55	11/18/13 19:36	1
Arsenic	**0.0050**		0.0010		mg/L		11/18/13 15:55	11/19/13 12:54	1
Barium	**0.015**		0.0025		mg/L		11/18/13 15:55	11/18/13 19:36	1
Beryllium	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 19:36	1
Boron	**1.9**		0.25		mg/L		11/18/13 15:55	11/19/13 14:50	5
Cadmium	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 19:36	1
Chromium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/18/13 19:36	1
Cobalt	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 19:36	1
Copper	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:36	1
Iron	<0.10		0.10		mg/L		11/18/13 15:55	11/18/13 19:36	1
Lead	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 19:36	1
Manganese	**0.0082**		0.0025		mg/L		11/18/13 15:55	11/18/13 19:36	1
Nickel	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:36	1
Selenium	**0.0045**		0.0025		mg/L		11/18/13 15:55	11/19/13 12:54	1
Silver	<0.00050		0.00050		mg/L		11/18/13 15:55	11/19/13 12:54	1
Thallium	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:36	1
Vanadium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/19/13 12:54	1
Zinc	<0.020		0.020		mg/L		11/18/13 15:55	11/18/13 19:36	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/07/13 16:00	11/08/13 12:51	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/06/13 14:20	11/07/13 15:33	1
Sulfate	**140**		50		mg/L			11/20/13 06:58	10
Chloride	**25**		2.0		mg/L			11/07/13 22:04	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/07/13 00:00	1
Total Dissolved Solids	**380**		10		mg/L			11/07/13 00:45	1
Fluoride	**0.63**		0.10		mg/L			11/12/13 13:58	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/05/13 18:59	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/06/13 18:44	1

Client Sample ID: MW 4
Date Collected: 11/04/13 14:30
Date Received: 11/05/13 15:58

Lab Sample ID: 500-66210-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/09/13 05:00	1
Toluene	<0.00050		0.00050		mg/L			11/09/13 05:00	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/09/13 05:00	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/09/13 05:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 125*		*11/09/13 05:00*	*1*
Toluene-d8 (Surr)	*89*		*75 - 120*		*11/09/13 05:00*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*11/09/13 05:00*	*1*
Dibromofluoromethane	*93*		*75 - 120*		*11/09/13 05:00*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/14/13 21:54	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/18/13 15:55	11/18/13 19:39	1
Arsenic	**0.0055**		0.0010		mg/L		11/18/13 15:55	11/19/13 12:57	1
Barium	**0.047**		0.0025		mg/L		11/18/13 15:55	11/18/13 19:39	1
Beryllium	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 19:39	1
Boron	**2.8**		0.25		mg/L		11/18/13 15:55	11/19/13 14:54	5
Cadmium	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 19:39	1
Chromium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/18/13 19:39	1
Cobalt	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 19:39	1
Copper	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:39	1
Iron	<0.10		0.10		mg/L		11/18/13 15:55	11/18/13 19:39	1
Lead	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 19:39	1
Manganese	**0.036**		0.0025		mg/L		11/18/13 15:55	11/18/13 19:39	1
Nickel	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:39	1
Selenium	**0.011**		0.0025		mg/L		11/18/13 15:55	11/19/13 12:57	1
Silver	<0.00050		0.00050		mg/L		11/18/13 15:55	11/19/13 12:57	1
Thallium	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:39	1
Vanadium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/19/13 12:57	1
Zinc	<0.020		0.020		mg/L		11/18/13 15:55	11/18/13 19:39	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/07/13 16:00	11/08/13 12:53	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/06/13 14:20	11/07/13 15:33	1
Sulfate	**270**		50		mg/L			11/20/13 06:59	10
Chloride	**46**		2.0		mg/L			11/07/13 22:05	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/07/13 00:00	1
Total Dissolved Solids	**630**		10		mg/L			11/07/13 00:47	1
Fluoride	**0.48**		0.10		mg/L			11/12/13 14:02	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/05/13 19:00	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/06/13 18:44	1

Client Sample ID: MW 5

Lab Sample ID: 500-66210-5

Date Collected: 11/05/13 11:00

Matrix: Water

Date Received: 11/05/13 15:58

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/09/13 05:28	1
Toluene	<0.00050		0.00050		mg/L			11/09/13 05:28	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/09/13 05:28	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/09/13 05:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 125*		*11/09/13 05:28*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*11/09/13 05:28*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*11/09/13 05:28*	*1*
Dibromofluoromethane	*91*		*75 - 120*		*11/09/13 05:28*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/14/13 22:10	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/18/13 15:55	11/18/13 19:50	1
Arsenic	**0.0086**		0.0010		mg/L		11/18/13 15:55	11/19/13 13:05	1
Barium	**0.054**		0.0025		mg/L		11/18/13 15:55	11/18/13 19:50	1
Beryllium	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 19:50	1
Boron	**32**		1.0		mg/L		11/18/13 15:55	11/19/13 14:57	20
Cadmium	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 19:50	1
Chromium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/19/13 13:05	1
Cobalt	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 19:50	1
Copper	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:50	1
Iron	**4.6**		0.10		mg/L		11/18/13 15:55	11/18/13 19:50	1
Lead	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 19:50	1
Manganese	**0.54**		0.0025		mg/L		11/18/13 15:55	11/18/13 19:50	1
Nickel	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:50	1
Selenium	<0.0025		0.0025		mg/L		11/18/13 15:55	11/19/13 13:05	1
Silver	<0.00050		0.00050		mg/L		11/18/13 15:55	11/19/13 13:05	1
Thallium	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:50	1
Vanadium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/19/13 13:05	1
Zinc	<0.020		0.020		mg/L		11/18/13 15:55	11/18/13 19:50	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/07/13 16:00	11/08/13 12:55	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/06/13 14:20	11/07/13 15:34	1
Sulfate	**870**		250		mg/L			11/20/13 07:00	50
Chloride	**49**		2.0		mg/L			11/07/13 22:07	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/07/13 00:00	1
Total Dissolved Solids	**1600**		10		mg/L			11/07/13 00:50	1
Fluoride	**0.32**		0.10		mg/L			11/12/13 14:06	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/05/13 19:00	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/06/13 18:44	1

Client Sample ID: MW 6
Date Collected: 11/05/13 09:40
Date Received: 11/05/13 15:58

Lab Sample ID: 500-66210-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/09/13 05:55	1
Toluene	<0.00050		0.00050		mg/L			11/09/13 05:55	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/09/13 05:55	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/09/13 05:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 125*		*11/09/13 05:55*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/09/13 05:55*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*11/09/13 05:55*	*1*
Dibromofluoromethane	*92*		*75 - 120*		*11/09/13 05:55*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/14/13 22:56	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/18/13 15:55	11/18/13 19:54	1
Arsenic	**0.0034**		0.0010		mg/L		11/18/13 15:55	11/19/13 13:08	1
Barium	**0.13**		0.0025		mg/L		11/18/13 15:55	11/18/13 19:54	1
Beryllium	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 19:54	1
Boron	**2.4**		0.25		mg/L		11/18/13 15:55	11/19/13 15:01	5
Cadmium	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 19:54	1
Chromium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/19/13 13:08	1
Cobalt	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 19:54	1
Copper	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:54	1
Iron	**4.1**		0.10		mg/L		11/18/13 15:55	11/18/13 19:54	1
Lead	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 19:54	1
Manganese	**0.44**		0.0025		mg/L		11/18/13 15:55	11/18/13 19:54	1
Nickel	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:54	1
Selenium	<0.0025		0.0025		mg/L		11/18/13 15:55	11/19/13 13:08	1
Silver	<0.00050		0.00050		mg/L		11/18/13 15:55	11/19/13 13:08	1
Thallium	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:54	1
Vanadium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/19/13 13:08	1
Zinc	<0.020		0.020		mg/L		11/18/13 15:55	11/18/13 19:54	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/07/13 16:00	11/08/13 12:57	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/06/13 14:20	11/07/13 15:34	1
Sulfate	**350**		100		mg/L			11/20/13 07:03	20
Chloride	**85**		10		mg/L			11/07/13 22:26	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/21/13 10:39	1
Total Dissolved Solids	**1200**		10		mg/L			11/07/13 00:52	1
Fluoride	**0.30**		0.10		mg/L			11/12/13 14:09	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/05/13 19:02	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/15/13 19:37	1

Client Sample ID: MW 7

Lab Sample ID: 500-66210-7

Date Collected: 11/04/13 16:45

Matrix: Water

Date Received: 11/05/13 15:58

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/09/13 06:22	1
Toluene	<0.00050		0.00050		mg/L			11/09/13 06:22	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/09/13 06:22	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/09/13 06:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 125*		*11/09/13 06:22*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/09/13 06:22*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*11/09/13 06:22*	*1*
Dibromofluoromethane	*91*		*75 - 120*		*11/09/13 06:22*	*1*

Method: 314.[illegible] - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/14/13 23:11	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/18/13 15:55	11/18/13 19:58	1
Arsenic	**0.012**		0.0010		mg/L		11/18/13 15:55	11/19/13 13:10	1
Barium	**0.082**		0.0025		mg/L		11/18/13 15:55	11/18/13 19:58	1
Beryllium	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 19:58	1
Boron	**45**		1.0		mg/L		11/18/13 15:55	11/19/13 15:05	20
Cadmium	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 19:58	1
Chromium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/19/13 13:10	1
Cobalt	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 19:58	1
Copper	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:58	1
Iron	**13**		0.10		mg/L		11/18/13 15:55	11/18/13 19:58	1
Lead	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 19:58	1
Manganese	**0.46**		0.0025		mg/L		11/18/13 15:55	11/18/13 19:58	1
Nickel	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:58	1
Selenium	**0.0025**		0.0025		mg/L		11/18/13 15:55	11/19/13 13:10	1
Silver	<0.00050		0.00050		mg/L		11/18/13 15:55	11/19/13 13:10	1
Thallium	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:58	1
Vanadium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/19/13 13:10	1
Zinc	<0.020		0.020		mg/L		11/18/13 15:55	11/18/13 19:58	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/07/13 16:00	11/08/13 12:59	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/06/13 14:20	11/07/13 15:34	1
Sulfate	**770**		250		mg/L			11/20/13 07:04	50
Chloride	**53**		2.0		mg/L			11/07/13 22:08	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/21/13 10:39	1
Total Dissolved Solids	**1800**		10		mg/L			11/07/13 00:55	1
Fluoride	**0.44**		0.10		mg/L			11/12/13 14:13	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/05/13 19:02	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/15/13 19:40	1

Client Sample ID: Duplicate
Date Collected: 11/04/13 00:00
Date Received: 11/05/13 15:58

Lab Sample ID: 500-66210-8
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/09/13 06:49	1
Toluene	<0.00050		0.00050		mg/L			11/09/13 06:49	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/09/13 06:49	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/09/13 06:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 125*		*11/09/13 06:49*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*11/09/13 06:49*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/09/13 06:49*	*1*
Dibromofluoromethane	*93*		*75 - 120*		*11/09/13 06:49*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/14/13 23:27	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/18/13 15:55	11/18/13 20:01	1
Arsenic	**0.011**		0.0010		mg/L		11/18/13 15:55	11/19/13 13:13	1
Barium	**0.082**		0.0025		mg/L		11/18/13 15:55	11/18/13 20:01	1
Beryllium	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 20:01	1
Boron	**47**		1.0		mg/L		11/18/13 15:55	11/19/13 15:08	20
Cadmium	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 20:01	1
Chromium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/19/13 13:13	1
Cobalt	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 20:01	1
Copper	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 20:01	1
Iron	**13**		0.10		mg/L		11/18/13 15:55	11/18/13 20:01	1
Lead	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 20:01	1
Manganese	**0.45**		0.0025		mg/L		11/18/13 15:55	11/18/13 20:01	1
Nickel	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 20:01	1
Selenium	<0.0025		0.0025		mg/L		11/18/13 15:55	11/19/13 13:13	1
Silver	<0.00050		0.00050		mg/L		11/18/13 15:55	11/19/13 13:13	1
Thallium	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 20:01	1
Vanadium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/19/13 13:13	1
Zinc	<0.020		0.020		mg/L		11/18/13 15:55	11/18/13 20:01	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/07/13 16:00	11/08/13 13:01	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/06/13 14:20	11/07/13 15:34	1
Sulfate	**780**		250		mg/L			11/20/13 07:05	50
Chloride	**53**		2.0		mg/L			11/07/13 22:08	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/21/13 10:39	1
Total Dissolved Solids	**1800**		10		mg/L			11/07/13 00:57	1
Fluoride	**0.45**		0.10		mg/L			11/12/13 14:16	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/05/13 19:03	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/15/13 19:42	1

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-66210-1

Client Sample ID: Trip Blank
Date Collected: 11/04/13 00:00
Date Received: 11/05/13 15:58

Lab Sample ID: 500-66210-9
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/09/13 01:24	1
Toluene	<0.00050		0.00050		mg/L			11/09/13 01:24	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/09/13 01:24	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/09/13 01:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 125*		*11/09/13 01:24*	*1*
Toluene-d8 (Surr)	*89*		*75 - 120*		*11/09/13 01:24*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*11/09/13 01:24*	*1*
Dibromofluoromethane	*90*		*75 - 120*		*11/09/13 01:24*	*1*

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
F	MS/MSD Recovery and/or RPD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA

Analysis Batch: 210970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Total/NA	Water	8260B	
500-66210-2	MW 2	Total/NA	Water	8260B	
500-66210-3	MW 3	Total/NA	Water	8260B	
500-66210-4	MW 4	Total/NA	Water	8260B	
500-66210-5	MW 5	Total/NA	Water	8260B	
500-66210-6	MW 6	Total/NA	Water	8260B	
500-66210-7	MW 7	Total/NA	Water	8260B	
500-66210-8	Duplicate	Total/NA	Water	8260B	
500-66210-8 MS	Duplicate	Total/NA	Water	8260B	
500-66210-8 MSD	Duplicate	Total/NA	Water	8260B	
500-66210-9	Trip Blank	Total/NA	Water	8260B	
LCS 500-210970/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-210970/7	Method Blank	Total/NA	Water	8260B	

HPLC/IC

Analysis Batch: 30753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Total/NA	Water	314.0	
500-66210-2	MW 2	Total/NA	Water	314.0	
500-66210-3	MW 3	Total/NA	Water	314.0	
500-66210-4	MW 4	Total/NA	Water	314.0	
500-66210-5	MW 5	Total/NA	Water	314.0	
500-66210-6	MW 6	Total/NA	Water	314.0	
500-66210-7	MW 7	Total/NA	Water	314.0	
500-66210-8	Duplicate	Total/NA	Water	314.0	
LCS 320-30753/7	Lab Control Sample	Total/NA	Water	314.0	
MB 320-30753/6	Method Blank	Total/NA	Water	314.0	
MRL 320-30753/5 MRL	Lab Control Sample	Total/NA	Water	314.0	

Metals

Prep Batch: 210748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Dissolved	Water	7470A	
500-66210-1 DU	MW 1	Dissolved	Water	7470A	
500-66210-1 MS	MW 1	Dissolved	Water	7470A	
500-66210-1 MSD	MW 1	Dissolved	Water	7470A	
500-66210-2	MW 2	Dissolved	Water	7470A	
500-66210-3	MW 3	Dissolved	Water	7470A	
500-66210-4	MW 4	Dissolved	Water	7470A	
500-66210-5	MW 5	Dissolved	Water	7470A	
500-66210-6	MW 6	Dissolved	Water	7470A	
500-66210-7	MW 7	Dissolved	Water	7470A	
500-66210-8	Duplicate	Dissolved	Water	7470A	
LCS 500-210748/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-210748/12-A	Method Blank	Total/NA	Water	7470A	

Metals (Continued)

Analysis Batch: 210949

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Dissolved	Water	7470A	210748
500-66210-1 DU	MW 1	Dissolved	Water	7470A	210748
500-66210-1 MS	MW 1	Dissolved	Water	7470A	210748
500-66210-1 MSD	MW 1	Dissolved	Water	7470A	210748
500-66210-2	MW 2	Dissolved	Water	7470A	210748
500-66210-3	MW 3	Dissolved	Water	7470A	210748
500-66210-4	MW 4	Dissolved	Water	7470A	210748
500-66210-5	MW 5	Dissolved	Water	7470A	210748
500-66210-6	MW 6	Dissolved	Water	7470A	210748
500-66210-7	MW 7	Dissolved	Water	7470A	210748
500-66210-8	Duplicate	Dissolved	Water	7470A	210748
LCS 500-210748/13-A	Lab Control Sample	Total/NA	Water	7470A	210748
MB 500-210748/12-A	Method Blank	Total/NA	Water	7470A	210748

Prep Batch: 212441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Dissolved	Water	Soluble Metals	
500-66210-1 DU	MW 1	Dissolved	Water	Soluble Metals	
500-66210-1 MS	MW 1	Dissolved	Water	Soluble Metals	
500-66210-1 MSD	MW 1	Dissolved	Water	Soluble Metals	
500-66210-2	MW 2	Dissolved	Water	Soluble Metals	
500-66210-3	MW 3	Dissolved	Water	Soluble Metals	
500-66210-4	MW 4	Dissolved	Water	Soluble Metals	
500-66210-5	MW 5	Dissolved	Water	Soluble Metals	
500-66210-6	MW 6	Dissolved	Water	Soluble Metals	
500-66210-7	MW 7	Dissolved	Water	Soluble Metals	
500-66210-8	Duplicate	Dissolved	Water	Soluble Metals	
LCS 500-212441/2-A	Lab Control Sample	Soluble	Water	Soluble Metals	
MB 500-212441/1-A	Method Blank	Soluble	Water	Soluble Metals	

Analysis Batch: 212540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Dissolved	Water	6020A	212441
500-66210-1 DU	MW 1	Dissolved	Water	6020A	212441
500-66210-1 MS	MW 1	Dissolved	Water	6020A	212441
500-66210-1 MSD	MW 1	Dissolved	Water	6020A	212441
500-66210-2	MW 2	Dissolved	Water	6020A	212441
500-66210-3	MW 3	Dissolved	Water	6020A	212441
500-66210-4	MW 4	Dissolved	Water	6020A	212441
500-66210-5	MW 5	Dissolved	Water	6020A	212441
500-66210-6	MW 6	Dissolved	Water	6020A	212441
500-66210-7	MW 7	Dissolved	Water	6020A	212441
500-66210-8	Duplicate	Dissolved	Water	6020A	212441
LCS 500-212441/2-A	Lab Control Sample	Soluble	Water	6020A	212441
MB 500-212441/1-A	Method Blank	Soluble	Water	6020A	212441

Analysis Batch: 212648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Dissolved	Water	6020A	212441
500-66210-1 DU	MW 1	Dissolved	Water	6020A	212441
500-66210-1 MS	MW 1	Dissolved	Water	6020A	212441

Metals (Continued)

Analysis Batch: 212648 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1 MSD	MW 1	Dissolved	Water	6020A	212441
500-66210-2	MW 2	Dissolved	Water	6020A	212441
500-66210-3	MW 3	Dissolved	Water	6020A	212441
500-66210-4	MW 4	Dissolved	Water	6020A	212441
500-66210-5	MW 5	Dissolved	Water	6020A	212441
500-66210-6	MW 6	Dissolved	Water	6020A	212441
500-66210-7	MW 7	Dissolved	Water	6020A	212441
500-66210-8	Duplicate	Dissolved	Water	6020A	212441
LCS 500-212441/2-A	Lab Control Sample	Soluble	Water	6020A	212441
MB 500-212441/1-A	Method Blank	Soluble	Water	6020A	212441

Analysis Batch: 212684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Dissolved	Water	6020A	212441
500-66210-1 DU	MW 1	Dissolved	Water	6020A	212441
500-66210-1 MS	MW 1	Dissolved	Water	6020A	212441
500-66210-1 MSD	MW 1	Dissolved	Water	6020A	212441
500-66210-2	MW 2	Dissolved	Water	6020A	212441
500-66210-3	MW 3	Dissolved	Water	6020A	212441
500-66210-4	MW 4	Dissolved	Water	6020A	212441
500-66210-5	MW 5	Dissolved	Water	6020A	212441
500-66210-6	MW 6	Dissolved	Water	6020A	212441
500-66210-7	MW 7	Dissolved	Water	6020A	212441
500-66210-8	Duplicate	Dissolved	Water	6020A	212441
LCS 500-212441/2-A	Lab Control Sample	Soluble	Water	6020A	212441
MB 500-212441/1-A	Method Blank	Soluble	Water	6020A	212441

General Chemistry

Analysis Batch: 210405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Dissolved	Water	SM 4500 NO2 B	
500-66210-2	MW 2	Dissolved	Water	SM 4500 NO2 B	
500-66210-2 MS	MW 2	Dissolved	Water	SM 4500 NO2 B	
500-66210-2 MSD	MW 2	Dissolved	Water	SM 4500 NO2 B	
500-66210-3	MW 3	Dissolved	Water	SM 4500 NO2 B	
500-66210-4	MW 4	Dissolved	Water	SM 4500 NO2 B	
500-66210-5	MW 5	Dissolved	Water	SM 4500 NO2 B	
500-66210-6	MW 6	Dissolved	Water	SM 4500 NO2 B	
500-66210-7	MW 7	Dissolved	Water	SM 4500 NO2 B	
500-66210-8	Duplicate	Dissolved	Water	SM 4500 NO2 B	
LCS 500-210405/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-210405/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Prep Batch: 210513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Dissolved	Water	9010B	
500-66210-2	MW 2	Dissolved	Water	9010B	
500-66210-3	MW 3	Dissolved	Water	9010B	
500-66210-4	MW 4	Dissolved	Water	9010B	

General Chemistry (Continued)

Prep Batch: 210513 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-5	MW 5	Dissolved	Water	9010B	
500-66210-6	MW 6	Dissolved	Water	9010B	
500-66210-7	MW 7	Dissolved	Water	9010B	
500-66210-8	Duplicate	Dissolved	Water	9010B	
LCS 500-210513/2-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-210513/1-A	Method Blank	Total/NA	Water	9010B	

Analysis Batch: 210591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Dissolved	Water	SM 4500 NO3 F	
500-66210-2	MW 2	Dissolved	Water	SM 4500 NO3 F	
500-66210-3	MW 3	Dissolved	Water	SM 4500 NO3 F	
500-66210-4	MW 4	Dissolved	Water	SM 4500 NO3 F	
500-66210-5	MW 5	Dissolved	Water	SM 4500 NO3 F	
500-66210-5 MS	MW 5	Dissolved	Water	SM 4500 NO3 F	
500-66210-5 MSD	MW 5	Dissolved	Water	SM 4500 NO3 F	
LCS 500-210591/5	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-210591/4	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 210616

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Dissolved	Water	SM 2540C	
500-66210-1 DU	MW 1	Dissolved	Water	SM 2540C	
500-66210-2	MW 2	Dissolved	Water	SM 2540C	
500-66210-3	MW 3	Dissolved	Water	SM 2540C	
500-66210-4	MW 4	Dissolved	Water	SM 2540C	
500-66210-5	MW 5	Dissolved	Water	SM 2540C	
500-66210-6	MW 6	Dissolved	Water	SM 2540C	
500-66210-7	MW 7	Dissolved	Water	SM 2540C	
500-66210-8	Duplicate	Dissolved	Water	SM 2540C	
LCS 500-210616/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-210616/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 210654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Dissolved	Water	Nitrate by calc	
500-66210-2	MW 2	Dissolved	Water	Nitrate by calc	
500-66210-3	MW 3	Dissolved	Water	Nitrate by calc	
500-66210-4	MW 4	Dissolved	Water	Nitrate by calc	
500-66210-5	MW 5	Dissolved	Water	Nitrate by calc	
500-66210-6	MW 6	Dissolved	Water	Nitrate by calc	
500-66210-7	MW 7	Dissolved	Water	Nitrate by calc	
500-66210-8	Duplicate	Dissolved	Water	Nitrate by calc	

Analysis Batch: 210804

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Dissolved	Water	9014	210513
500-66210-2	MW 2	Dissolved	Water	9014	210513
500-66210-3	MW 3	Dissolved	Water	9014	210513
500-66210-4	MW 4	Dissolved	Water	9014	210513
500-66210-5	MW 5	Dissolved	Water	9014	210513

General Chemistry (Continued)

Analysis Batch: 210804 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-6	MW 6	Dissolved	Water	9014	210513
500-66210-7	MW 7	Dissolved	Water	9014	210513
500-66210-8	Duplicate	Dissolved	Water	9014	210513
LCS 500-210513/2-A	Lab Control Sample	Total/NA	Water	9014	210513
MB 500-210513/1-A	Method Blank	Total/NA	Water	9014	210513

Analysis Batch: 210951

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Dissolved	Water	9251	
500-66210-2	MW 2	Dissolved	Water	9251	
500-66210-3	MW 3	Dissolved	Water	9251	
500-66210-4	MW 4	Dissolved	Water	9251	
500-66210-5	MW 5	Dissolved	Water	9251	
500-66210-6	MW 6	Dissolved	Water	9251	
500-66210-7	MW 7	Dissolved	Water	9251	
500-66210-8	Duplicate	Dissolved	Water	9251	
LCS 500-210951/5	Lab Control Sample	Total/NA	Water	9251	
MB 500-210951/4	Method Blank	Total/NA	Water	9251	

Analysis Batch: 211452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Dissolved	Water	SM 4500 F C	
500-66210-2	MW 2	Dissolved	Water	SM 4500 F C	
500-66210-3	MW 3	Dissolved	Water	SM 4500 F C	
500-66210-4	MW 4	Dissolved	Water	SM 4500 F C	
500-66210-5	MW 5	Dissolved	Water	SM 4500 F C	
500-66210-6	MW 6	Dissolved	Water	SM 4500 F C	
500-66210-7	MW 7	Dissolved	Water	SM 4500 F C	
500-66210-8	Duplicate	Dissolved	Water	SM 4500 F C	
LCS 500-211452/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-211452/31	Method Blank	Total/NA	Water	SM 4500 F C	

Analysis Batch: 212546

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-6	MW 6	Dissolved	Water	SM 4500 NO3 F	
500-66210-7	MW 7	Dissolved	Water	SM 4500 NO3 F	
500-66210-8	Duplicate	Dissolved	Water	SM 4500 NO3 F	
LCS 500-212546/4	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-212546/3	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 212952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-66210-1	MW 1	Dissolved	Water	9038	
500-66210-2	MW 2	Dissolved	Water	9038	
500-66210-3	MW 3	Dissolved	Water	9038	
500-66210-4	MW 4	Dissolved	Water	9038	
500-66210-5	MW 5	Dissolved	Water	9038	
500-66210-6	MW 6	Dissolved	Water	9038	
500-66210-7	MW 7	Dissolved	Water	9038	
500-66210-8	Duplicate	Dissolved	Water	9038	
LCS 500-212952/4	Lab Control Sample	Total/NA	Water	9038	

General Chemistry (Continued)

Analysis Batch: 212952 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-212952/3	Method Blank	Total/NA	Water	9038	

Surrogate Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-66210-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	12DCE (75-125)	TOL (75-120)	BFB (75-120)	DBFM (75-120)
500-66210-1	MW 1	94	91	96	91
500-66210-2	MW 2	93	92	99	90
500-66210-3	MW 3	92	91	96	91
500-66210-4	MW 4	96	89	99	93
500-66210-5	MW 5	97	91	98	91
500-66210-6	MW 6	96	92	98	92
500-66210-7	MW 7	94	92	98	91
500-66210-8	Duplicate	96	91	94	93
500-66210-8 MS	Duplicate	96	92	100	99
500-66210-8 MSD	Duplicate	95	92	99	95
500-66210-9	Trip Blank	95	89	95	90
LCS 500-210970/4	Lab Control Sample	93	92	96	97
MB 500-210970/7	Method Blank	94	92	96	90

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-210970/7
Matrix: Water
Analysis Batch: 210970

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/09/13 00:29	1
Toluene	<0.00050		0.00050		mg/L			11/09/13 00:29	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/09/13 00:29	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/09/13 00:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 125*		*11/09/13 00:29*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/09/13 00:29*	*1*
4-Bromofluorobenzene (Surr)	*96*		*75 - 120*		*11/09/13 00:29*	*1*
Dibromofluoromethane	*90*		*75 - 120*		*11/09/13 00:29*	*1*

Lab Sample ID: LCS 500-210970/4
Matrix: Water
Analysis Batch: 210970

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0467		mg/L		93	70 - 120
Toluene	0.0500	0.0475		mg/L		95	70 - 120
Ethylbenzene	0.0500	0.0482		mg/L		96	75 - 120
Xylenes, Total	0.100	0.0950		mg/L		95	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 125*
Toluene-d8 (Surr)	*92*		*75 - 120*
4-Bromofluorobenzene (Surr)	*96*		*75 - 120*
Dibromofluoromethane	*97*		*75 - 120*

Lab Sample ID: 500-66210-8 MS
Matrix: Water
Analysis Batch: 210970

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00050		0.0500	0.0472		mg/L		94	70 - 120
Toluene	<0.00050		0.0500	0.0469		mg/L		94	70 - 120
Ethylbenzene	<0.00050		0.0500	0.0467		mg/L		93	75 - 120
Xylenes, Total	<0.0010		0.100	0.0934		mg/L		93	70 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 125*
Toluene-d8 (Surr)	*92*		*75 - 120*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*
Dibromofluoromethane	*99*		*75 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-66210-8 MSD
Matrix: Water
Analysis Batch: 210970

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00050		0.0500	0.0447		mg/L		89	70 - 120	6	20
Toluene	<0.00050		0.0500	0.0455		mg/L		91	70 - 120	3	20
Ethylbenzene	<0.00050		0.0500	0.0451		mg/L		90	75 - 120	3	20
Xylenes, Total	<0.0010		0.100	0.0889		mg/L		89	70 - 120	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 125*
Toluene-d8 (Surr)	*92*		*75 - 120*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*
Dibromofluoromethane	*95*		*75 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-30753/6
Matrix: Water
Analysis Batch: 30753

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/14/13 16:45	1

Lab Sample ID: LCS 320-30753/7
Matrix: Water
Analysis Batch: 30753

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	0.0500	0.0515		mg/L		103	85 - 115

Lab Sample ID: MRL 320-30753/5 MRL
Matrix: Water
Analysis Batch: 30753

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	<4.0		ug/L		99	75 - 125

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: 500-66210-1 MS
Matrix: Water
Analysis Batch: 212540

Client Sample ID: MW 1
Prep Type: Dissolved
Prep Batch: 212441

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.399		mg/L		79	75 - 125
Barium	0.065		0.500	0.581		mg/L		103	75 - 125
Beryllium	<0.0010		0.0500	0.0531		mg/L		106	75 - 125
Cadmium	<0.00050		0.0500	0.0508		mg/L		102	75 - 125
Chromium	<0.0050		0.200	0.185		mg/L		93	75 - 125
Cobalt	<0.0010		0.500	0.466		mg/L		93	75 - 125
Copper	<0.0020		0.250	0.243		mg/L		97	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-66210-1 MS
Matrix: Water
Analysis Batch: 212540

Client Sample ID: MW 1
Prep Type: Dissolved
Prep Batch: 212441

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	<0.10		1.00	0.890		mg/L		89	75 - 125
Lead	<0.00050		0.100	0.0993		mg/L		99	75 - 125
Manganese	0.021		0.500	0.486		mg/L		93	75 - 125
Nickel	<0.0020		0.500	0.477		mg/L		95	75 - 125
Thallium	<0.0020		0.100	0.0981		mg/L		98	75 - 125
Zinc	<0.020		0.500	0.512		mg/L		102	75 - 125

Lab Sample ID: 500-66210-1 MS
Matrix: Water
Analysis Batch: 212648

Client Sample ID: MW 1
Prep Type: Dissolved
Prep Batch: 212441

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.046		0.100	0.153		mg/L		107	75 - 125
Selenium	0.013		0.100	0.116		mg/L		102	75 - 125
Silver	<0.00050		0.0500	0.0388		mg/L		78	75 - 125
Vanadium	0.0067		0.500	0.535		mg/L		106	75 - 125

Lab Sample ID: 500-66210-1 MS
Matrix: Water
Analysis Batch: 212684

Client Sample ID: MW 1
Prep Type: Dissolved
Prep Batch: 212441

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	3.1		5.00	8.08		mg/L		99	75 - 125

Lab Sample ID: 500-66210-1 MSD
Matrix: Water
Analysis Batch: 212540

Client Sample ID: MW 1
Prep Type: Dissolved
Prep Batch: 212441

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.414		mg/L		82	75 - 125	4	20
Barium	0.065		0.500	0.584		mg/L		104	75 - 125	1	20
Beryllium	<0.0010		0.0500	0.0528		mg/L		106	75 - 125	0	20
Cadmium	<0.00050		0.0500	0.0513		mg/L		103	75 - 125	1	20
Chromium	<0.0050		0.200	0.186		mg/L		93	75 - 125	0	20
Cobalt	<0.0010		0.500	0.467		mg/L		93	75 - 125	0	20
Copper	<0.0020		0.250	0.243		mg/L		97	75 - 125	0	20
Iron	<0.10		1.00	0.914		mg/L		91	75 - 125	3	20
Lead	<0.00050		0.100	0.0995		mg/L		100	75 - 125	0	20
Manganese	0.021		0.500	0.486		mg/L		93	75 - 125	0	20
Nickel	<0.0020		0.500	0.478		mg/L		95	75 - 125	0	20
Thallium	<0.0020		0.100	0.0995		mg/L		100	75 - 125	1	20
Zinc	<0.020		0.500	0.508		mg/L		102	75 - 125	1	20

Lab Sample ID: 500-66210-1 MSD
Matrix: Water
Analysis Batch: 212648

Client Sample ID: MW 1
Prep Type: Dissolved
Prep Batch: 212441

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.046		0.100	0.156		mg/L		110	75 - 125	2	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-66210-1 MSD
Matrix: Water
Analysis Batch: 212648

Client Sample ID: MW 1
Prep Type: Dissolved
Prep Batch: 212441

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium	0.013		0.100	0.116		mg/L		103	75 - 125	0	20
Silver	<0.00050		0.0500	0.0380		mg/L		76	75 - 125	2	20
Vanadium	0.0067		0.500	0.537		mg/L		106	75 - 125	0	20

Lab Sample ID: 500-66210-1 MSD
Matrix: Water
Analysis Batch: 212684

Client Sample ID: MW 1
Prep Type: Dissolved
Prep Batch: 212441

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.041		2.50	2.21		mg/L		87	75 - 125	2	20
Barium	0.060		2.50	2.48		mg/L		97	75 - 125	2	20
Beryllium	<0.0050		0.250	0.240		mg/L		96	75 - 125	1	20
Boron	3.1		5.00	8.07		mg/L		99	75 - 125	0	20
Cadmium	<0.0025		0.250	0.248		mg/L		99	75 - 125	2	20
Chromium	<0.025		1.00	0.922		mg/L		92	75 - 125	3	20
Cobalt	<0.0050		2.50	2.39		mg/L		95	75 - 125	1	20
Copper	<0.010		1.25	1.22		mg/L		97	75 - 125	3	20
Iron	<0.50		5.00	5.27		mg/L		105	75 - 125	3	20
Lead	<0.0025		0.500	0.491		mg/L		98	75 - 125	1	20
Manganese	0.023		2.50	2.37		mg/L		94	75 - 125	2	20
Nickel	<0.010		2.50	2.39		mg/L		95	75 - 125	2	20
Selenium	0.016		0.500	0.512		mg/L		99	75 - 125	1	20
Silver	<0.0025		0.250	0.183	^ F	mg/L		73	75 - 125	1	20
Thallium	<0.010		0.500	0.489		mg/L		98	75 - 125	1	20
Vanadium	<0.025		2.50	2.47	^	mg/L		98	75 - 125	1	20
Zinc	0.17		2.50	2.51		mg/L		94	75 - 125	2	20

Lab Sample ID: 500-66210-1 DU
Matrix: Water
Analysis Batch: 212540

Client Sample ID: MW 1
Prep Type: Dissolved
Prep Batch: 212441

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0030		<0.0030		mg/L		NC	20
Barium	0.065		0.0649		mg/L		0.5	20
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Chromium	<0.0050		<0.0050		mg/L		NC	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20
Copper	<0.0020		<0.0020		mg/L		NC	20
Iron	<0.10		<0.10		mg/L		NC	20
Lead	<0.00050		<0.00050		mg/L		NC	20
Manganese	0.021		0.0205		mg/L		2	20
Nickel	<0.0020		<0.0020		mg/L		NC	20
Thallium	<0.0020		<0.0020		mg/L		NC	20
Zinc	<0.020		<0.020		mg/L		NC	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-66210-1 DU
Matrix: Water
Analysis Batch: 212648

Client Sample ID: MW 1
Prep Type: Dissolved
Prep Batch: 212441

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.046		0.0437		mg/L		6	20
Selenium	0.013		0.0115		mg/L		16	20
Silver	<0.00050		<0.00050		mg/L		NC	20
Vanadium	0.0067		0.00646		mg/L		4	20

Lab Sample ID: 500-66210-1 DU
Matrix: Water
Analysis Batch: 212684

Client Sample ID: MW 1
Prep Type: Dissolved
Prep Batch: 212441

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	3.1		3.24		mg/L		3	20

Lab Sample ID: MB 500-212441/1-A
Matrix: Water
Analysis Batch: 212540

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 212441

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/18/13 15:55	11/18/13 19:07	1
Barium	<0.0025		0.0025		mg/L		11/18/13 15:55	11/18/13 19:07	1
Beryllium	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 19:07	1
Cadmium	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 19:07	1
Chromium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/18/13 19:07	1
Cobalt	<0.0010		0.0010		mg/L		11/18/13 15:55	11/18/13 19:07	1
Copper	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:07	1
Iron	<0.10		0.10		mg/L		11/18/13 15:55	11/18/13 19:07	1
Lead	<0.00050		0.00050		mg/L		11/18/13 15:55	11/18/13 19:07	1
Manganese	<0.0025		0.0025		mg/L		11/18/13 15:55	11/18/13 19:07	1
Nickel	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:07	1
Thallium	<0.0020		0.0020		mg/L		11/18/13 15:55	11/18/13 19:07	1
Zinc	<0.020		0.020		mg/L		11/18/13 15:55	11/18/13 19:07	1

Lab Sample ID: MB 500-212441/1-A
Matrix: Water
Analysis Batch: 212648

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 212441

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0010		0.0010		mg/L		11/18/13 15:55	11/19/13 12:33	1
Selenium	<0.0025		0.0025		mg/L		11/18/13 15:55	11/19/13 12:33	1
Silver	<0.00050		0.00050		mg/L		11/18/13 15:55	11/19/13 12:33	1
Vanadium	<0.0050		0.0050		mg/L		11/18/13 15:55	11/19/13 12:33	1

Lab Sample ID: MB 500-212441/1-A
Matrix: Water
Analysis Batch: 212684

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 212441

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		11/18/13 15:55	11/19/13 14:13	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-212441/2-A
Matrix: Water
Analysis Batch: 212540

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 212441

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.484		mg/L		97	80 - 120
Barium	0.500	0.514		mg/L		103	80 - 120
Beryllium	0.0500	0.0549		mg/L		110	80 - 120
Boron	1.00	1.09	^	mg/L		109	80 - 120
Cadmium	0.0500	0.0502		mg/L		100	80 - 120
Chromium	0.200	0.196		mg/L		98	80 - 120
Cobalt	0.500	0.485		mg/L		97	80 - 120
Copper	0.250	0.257		mg/L		103	80 - 120
Iron	1.00	0.970		mg/L		97	80 - 120
Lead	0.100	0.102		mg/L		102	80 - 120
Manganese	0.500	0.481		mg/L		96	80 - 120
Nickel	0.500	0.504		mg/L		101	80 - 120
Selenium	0.100	0.103	^	mg/L		103	80 - 120
Silver	0.0500	0.0459	^	mg/L		92	80 - 120
Thallium	0.100	0.102		mg/L		102	80 - 120
Vanadium	0.500	0.529	^	mg/L		106	80 - 120
Zinc	0.500	0.506		mg/L		101	80 - 120

Lab Sample ID: LCS 500-212441/2-A
Matrix: Water
Analysis Batch: 212648

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 212441

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.104		mg/L		104	80 - 120
Selenium	0.100	0.102		mg/L		102	80 - 120
Silver	0.0500	0.0449		mg/L		90	80 - 120
Vanadium	0.500	0.509		mg/L		102	80 - 120

Lab Sample ID: LCS 500-212441/2-A
Matrix: Water
Analysis Batch: 212684

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 212441

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.994		mg/L		99	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-210748/12-A
Matrix: Water
Analysis Batch: 210949

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 210748

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/07/13 16:00	11/08/13 12:17	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 500-210748/13-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 210949 — **Prep Batch: 210748**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00203		mg/L		101	80 - 120

Lab Sample ID: 500-66210-1 MS — **Client Sample ID: MW 1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 210949 — **Prep Batch: 210748**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00020		0.00100	0.00118		mg/L		118	75 - 125

Lab Sample ID: 500-66210-1 MSD — **Client Sample ID: MW 1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 210949 — **Prep Batch: 210748**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.00020		0.00100	0.00107		mg/L		107	75 - 125	10	20

Lab Sample ID: 500-66210-1 DU — **Client Sample ID: MW 1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 210949 — **Prep Batch: 210748**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.00020		<0.00020		mg/L		NC	20

Method: 9014 - Cyanide

Lab Sample ID: MB 500-210513/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 210804 — **Prep Batch: 210513**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/06/13 14:20	11/07/13 15:30	1

Lab Sample ID: LCS 500-210513/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 210804 — **Prep Batch: 210513**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.112		mg/L		112	80 - 120

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 500-212952/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 212952

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/20/13 06:51	1

Method: 9038 - Sulfate, Turbidimetric (Continued)

Lab Sample ID: LCS 500-212952/4
Matrix: Water
Analysis Batch: 212952

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.5		mg/L		102	80 - 120

Method: 9251 - Chloride

Lab Sample ID: MB 500-210951/4
Matrix: Water
Analysis Batch: 210951

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/07/13 21:49	1

Lab Sample ID: LCS 500-210951/5
Matrix: Water
Analysis Batch: 210951

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.3		mg/L		99	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-210616/1
Matrix: Water
Analysis Batch: 210616

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/07/13 00:01	1

Lab Sample ID: LCS 500-210616/2
Matrix: Water
Analysis Batch: 210616

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	264		mg/L		106	80 - 120

Lab Sample ID: 500-66210-1 DU
Matrix: Water
Analysis Batch: 210616

Client Sample ID: MW 1
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	580		584		mg/L		0	5

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-211452/31
Matrix: Water
Analysis Batch: 211452

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			11/12/13 12:38	1

Lab Sample ID: LCS 500-211452/32
Matrix: Water
Analysis Batch: 211452

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	11.3		mg/L		113	80 - 120

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-210405/3
Matrix: Water
Analysis Batch: 210405

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/05/13 18:56	1

Lab Sample ID: LCS 500-210405/4
Matrix: Water
Analysis Batch: 210405

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.102		mg/L		102	80 - 120

Lab Sample ID: 500-66210-2 MS
Matrix: Water
Analysis Batch: 210405

Client Sample ID: MW 2
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	<0.020		0.100	0.0950		mg/L		95	75 - 125

Lab Sample ID: 500-66210-2 MSD
Matrix: Water
Analysis Batch: 210405

Client Sample ID: MW 2
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	<0.020		0.100	0.0941		mg/L		94	75 - 125	1	20

Method: SM 4500 NO3 F - Nitrogen, Nitrate

Lab Sample ID: MB 500-210591/4
Matrix: Water
Analysis Batch: 210591

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/06/13 18:44	1

Method: SM 4500 NO3 F - Nitrogen, Nitrate (Continued)

Lab Sample ID: LCS 500-210591/5
Matrix: Water
Analysis Batch: 210591

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	1.18		mg/L		118	80 - 120

Lab Sample ID: MB 500-212546/3
Matrix: Water
Analysis Batch: 212546

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/15/13 19:05	1

Lab Sample ID: LCS 500-212546/4
Matrix: Water
Analysis Batch: 212546

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	0.923		mg/L		92	80 - 120

Lab Sample ID: 500-66210-5 MS
Matrix: Water
Analysis Batch: 210591

Client Sample ID: MW 5
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	<0.10		1.00	0.926		mg/L		93	75 - 125

Lab Sample ID: 500-66210-5 MSD
Matrix: Water
Analysis Batch: 210591

Client Sample ID: MW 5
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrate Nitrite	<0.10		1.00	1.03		mg/L		103	75 - 125	11	20

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 604
Phone: 708.534.5200 Fax: 708.534.5

500-66210 COC

Chain of Custody Record

Lab Job #: 500-66210

Chain of Custody Number:

Page 1 of 1

Temperature °C of Cooler: 3.6, 3.4

Report To (optional)	Bill To (optional)
Contact: RICH GNAT	Contact:
Company: KPRG & ASSOCIATES INC.	Company:
Address: 14665 W. LISBON RD.	Address:
Address: BROOKFIELD, WI	Address:
Phone: 262-781-0475	Phone:
Fax:	Fax:
E-Mail:	PO#/Reference#

Client: KPRG & ASSOCIATES | Client Project #: 12313.2

Project Name: WAUKEGAN STATION ASH PONDS

Project Location/State: WAUKEGAN, IL | Lab Project #:

Sampler: IAN J. HOWIESON | Lab PM: B. STADELMANN

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	3	7	7	2	4	1	7			Comments
							Parameter	DISSOLVED MERCURY	TDS, Fl, SO4, Cl	NO2	NO3-NO2	CYANIDE	BTEX BENZENE	PERCHLORATE			
1		MW 1	11-4	09:20	9	W		X	X	X	X	X	X	X			
2		MW 2	11-4	11:10	9	W											
3		MW 3	11-4	12:50	9	W											
4		MW 4	11-4	14:30	9	W											
5		MW 5	11-5	11:00	9	W											
6		MW 6	11-5	09:40	9	W											
7		MW 7	11-4	16:45	9	W											
8		DUPLICATE	11-4	—	9	W		X	X	X	X	X	X	X			
9		TRIP BLANK	—	—	2	W											

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	KPRG	11-5-13	15:58		TA-Chicago	11/5/13	1558
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped
Hand Delivered

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

MWG13-15_20512

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler	Lab PM: Stadelmann, Bonnie M	Carrier Tracking No(s):	COC No: 500-42121.1
Client Contact: Shipping/Receiving	Phone	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 500-66210-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 11/18/2013			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #			
Email:	WO #:			
Project Name: Waukegan Station Ash Ponds	Project #: 50004763			
Site	SSOW#:			

Analysis Requested

500-66210 Chain of Custody

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:			X		
MW 1 (500-66210-1)	11/4/13	09.20 Central		Water		X	3	
MW 2 (500-66210-2)	11/4/13	11:10 Central		Water		X	3	
MW 3 (500-66210-3)	11/4/13	12.50 Central		Water		X	3	
MW 4 (500-66210-4)	11/4/13	14:30 Central		Water		X	3	
MW 5 (500-66210-5)	11/5/13	11:00 Central		Water		X	3	
MW 6 (500-66210-6)	11/5/13	09.40 Central		Water		X	3	
MW 7 (500-66210-7)	11/4/13	16:45 Central		Water		X	3	
Duplicate (500-66210-8)	11/4/13	Central		Water		X	3	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment: 11-7-13		
Relinquished by:	Date/Time: 11/6/13 1600	Company: TA	Received by: Kim Nilan	Date/Time: 11/7/13 910	Company: TAWS	
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company	
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company	

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.: 379798, 379797
Cooler Temperature(s) °C and Other Remarks: 0.1°C

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11/27/2013

MWG13-15_20513

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-66210-1

Login Number: 66210

List Number: 1

Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.6,3.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

MWG13-15_20514

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-66210-1

Login Number: 66210
List Number: 1
Creator: Hytrek, Cheryl

List Source: TestAmerica Sacramento
List Creation: 11/07/13 01:51 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

MWG13-15_20515

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-66210-1

Laboratory: TestAmerica Chicago

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40461	04-30-14
California	NELAP	9	01132CA	04-30-14
Georgia	State Program	4	N/A	04-30-14
Hawaii	State Program	9	N/A	04-30-14
Illinois	NELAP	5	100201	04-30-14
Indiana	State Program	5	C-IL-02	04-30-14
Iowa	State Program	7	82	05-01-14
Kansas	NELAP	7	E-10161	10-31-14 *
Kentucky	State Program	4	90023	12-31-13
Kentucky (UST)	State Program	4	66	04-30-14
Louisiana	NELAP	6	30720	06-30-14
Massachusetts	State Program	1	M-IL035	06-30-14
Mississippi	State Program	4	N/A	04-30-14
North Carolina DENR	State Program	4	291	12-31-13 *
North Dakota	State Program	8	R-194	04-30-14
Oklahoma	State Program	6	8908	08-31-14
South Carolina	State Program	4	77001	04-30-14
Texas	NELAP	6	T104704252-09-TX	02-28-14
USDA	Federal		P330-12-00038	02-06-15
Wisconsin	State Program	5	999580010	08-31-14
Wyoming	State Program	8	8TMS-Q	04-30-14

Laboratory: TestAmerica Sacramento

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NE-OS-22-13	01-31-14
A2LA	DoD ELAP		2928-01	01-31-14
Alaska (UST)	State Program	10	UST-055	12-18-13 *
Arizona	State Program	9	AZ0708	08-11-14
Arkansas DEQ	State Program	6	88-0691	06-17-14
California	NELAP	9	1119CA	01-31-14
Connecticut	State Program	1	PH-0691	06-30-15
Florida	NELAP	4	E87570	06-30-14
Guam	State Program	9	N/A	08-31-14
Hawaii	State Program	9	N/A	01-31-14
Illinois	NELAP	5	200060	03-17-14
Kansas	NELAP	7	E-10375	10-31-14
Louisiana	NELAP	6	30612	06-30-14
Michigan	State Program	5	9947	01-31-14
Nebraska	State Program	7	NE-OS-22-13	01-31-14
Nevada	State Program	9	CA44	07-31-14
New Jersey	NELAP	2	CA005	06-30-14
New York	NELAP	2	11666	04-01-14
Northern Mariana Islands	State Program	9	MP0007	02-01-14
Oregon	NELAP	10	CA200005	03-28-14
Pennsylvania	NELAP	3	68-01272	03-31-14
South Carolina	State Program	4	87014	06-30-14
Texas	NELAP	6	T104704399-08-TX	05-31-14
US Fish & Wildlife	Federal		LE148388-0	12-31-13

* Expired certification is currently pending renewal and is considered valid.

Laboratory: TestAmerica Sacramento (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

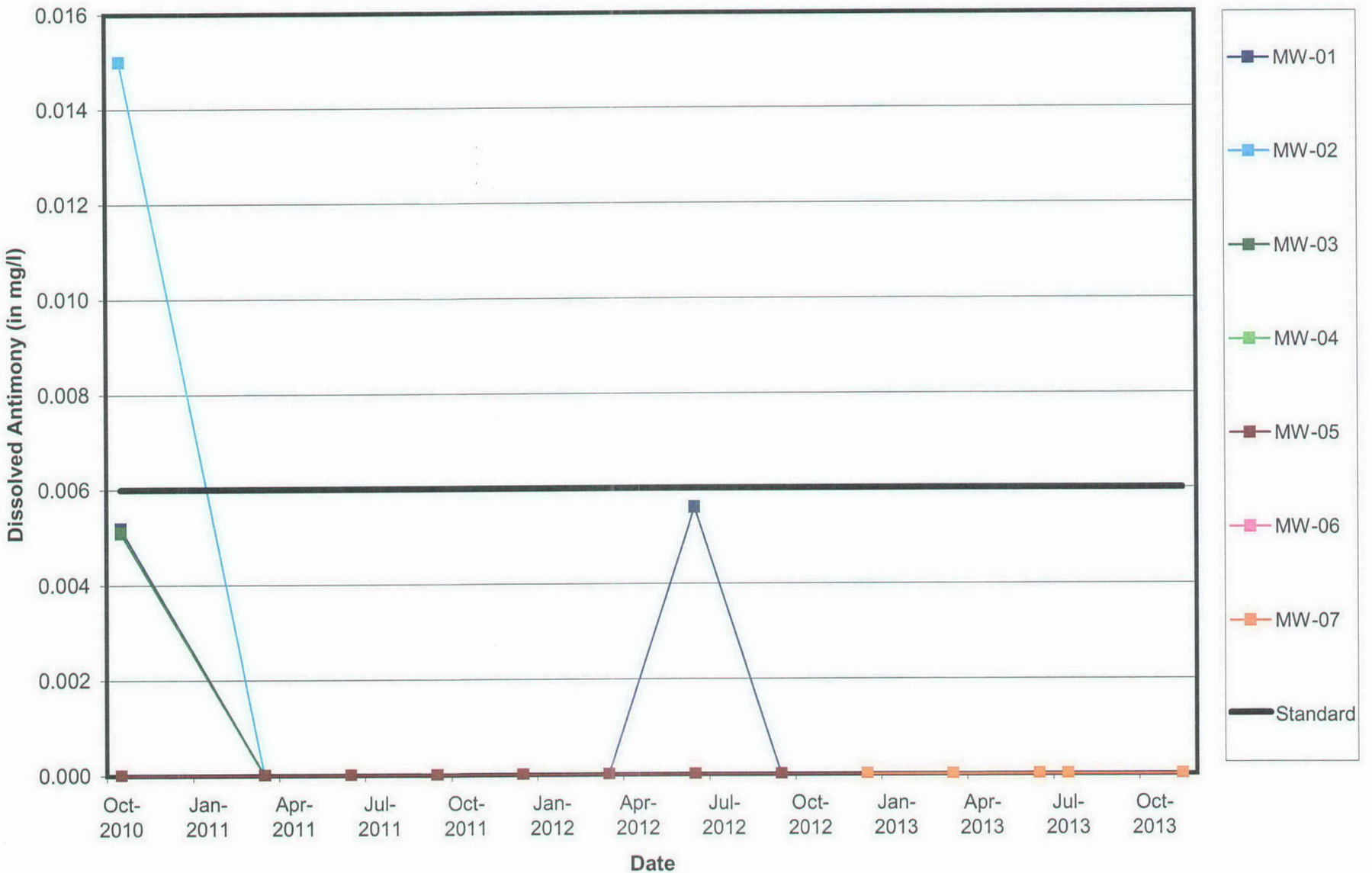
Authority	Program	EPA Region	Certification ID	Expiration Date
USDA	Federal		P330-11-00436	12-30-14
USEPA UCMR	Federal	1	CA00044	11-06-14
Utah	NELAP	8	QUAN1	01-31-14
Washington	State Program	10	C581	05-05-14
West Virginia	State Program	3	9930C	12-31-13
Wyoming	State Program	8	8TMS-Q	01-31-14

MWG13-15_20517

ATTACHMENT 3
Time Versus Concentration Curves

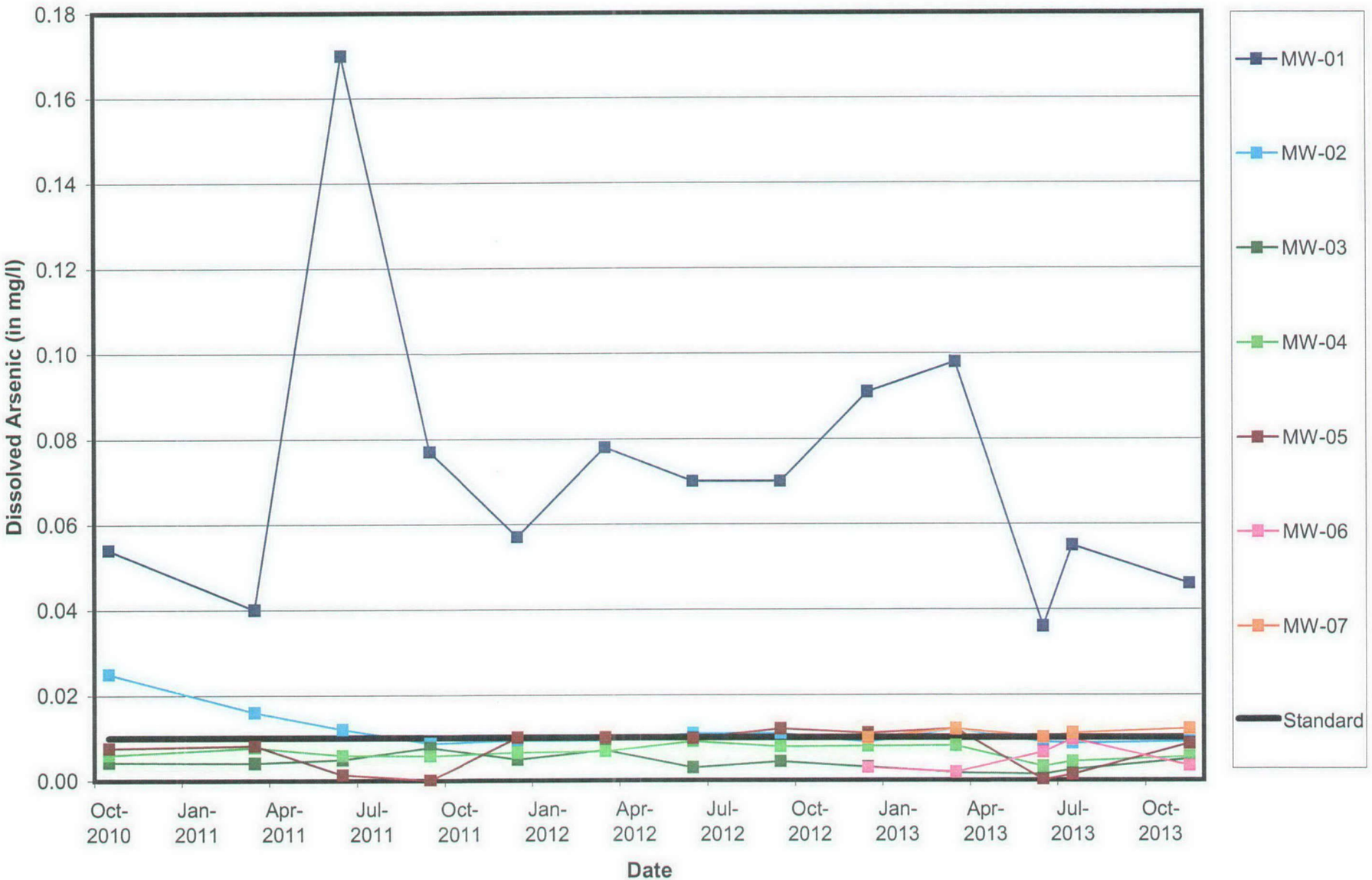
Midwest Generation Waukegan Station, Waukegan, IL

Dissolved Antimony vs. Time



Midwest Generation Waukegan Station, Waukegan, IL

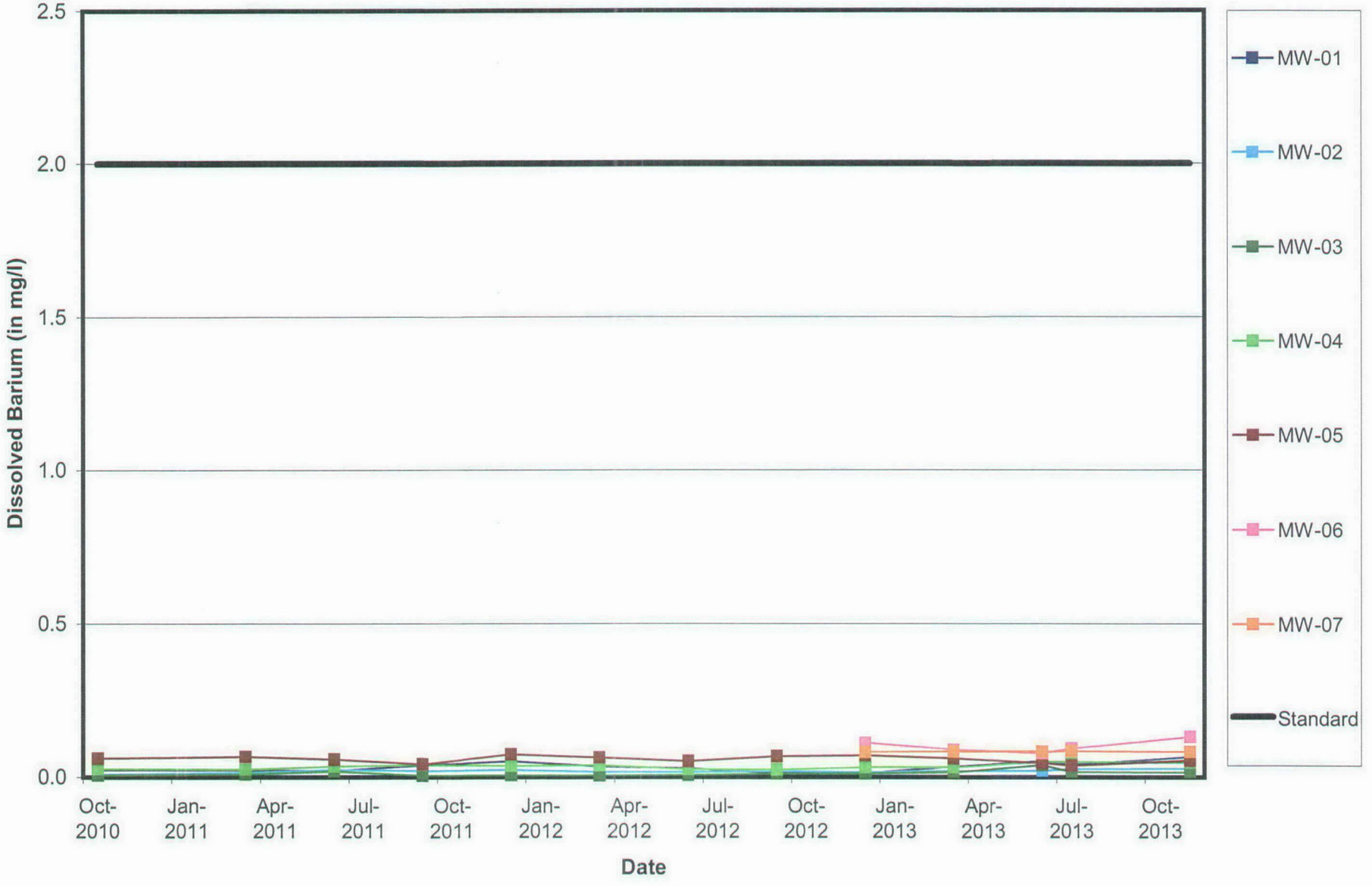
Dissolved Arsenic vs. Time



MWG13-15_20520

Midwest Generation Waukegan Station, Waukegan, IL

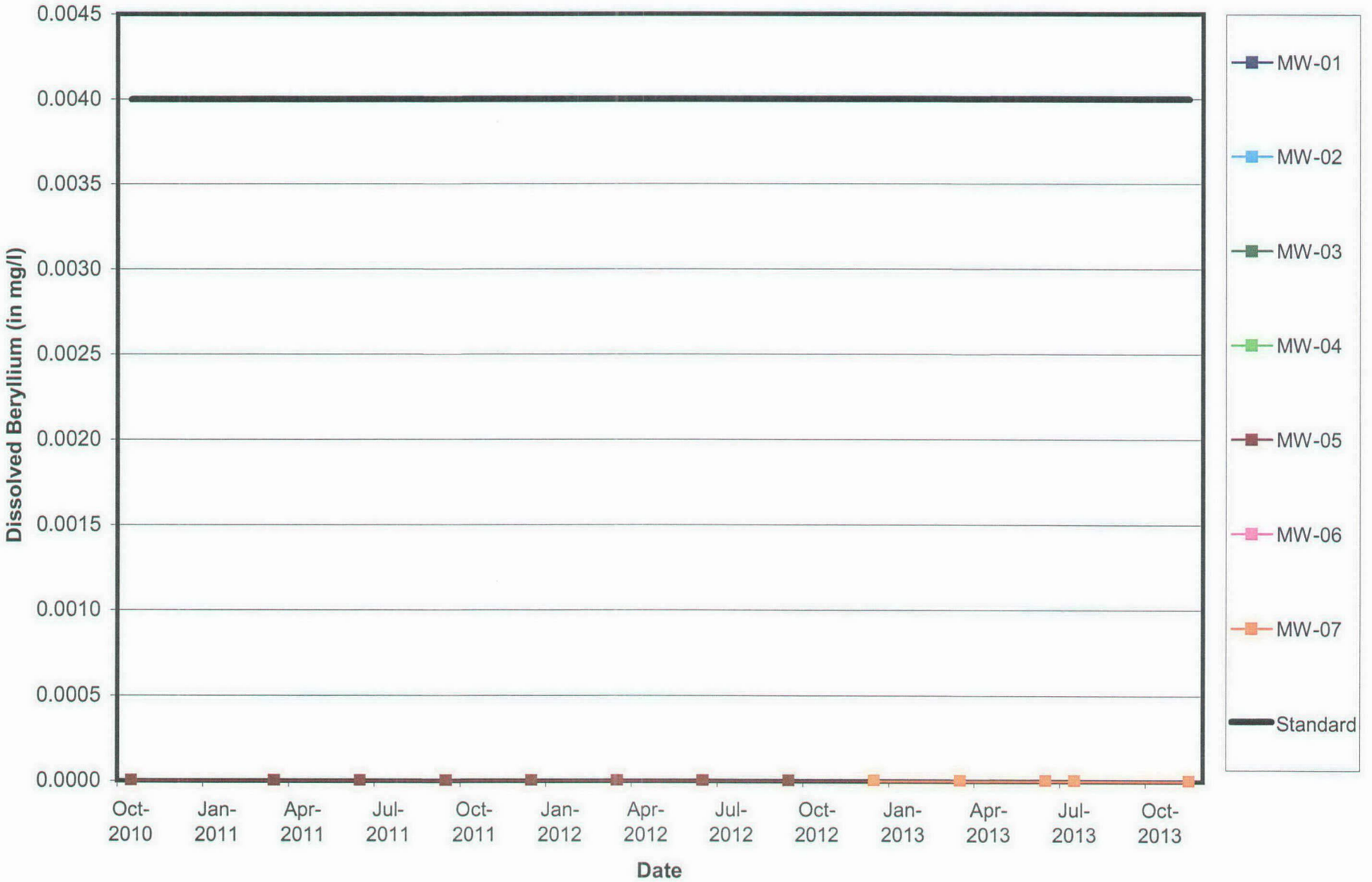
Dissolved Barium vs. Time



MWG13-15_20521

Midwest Generation Waukegan Station, Waukegan, IL

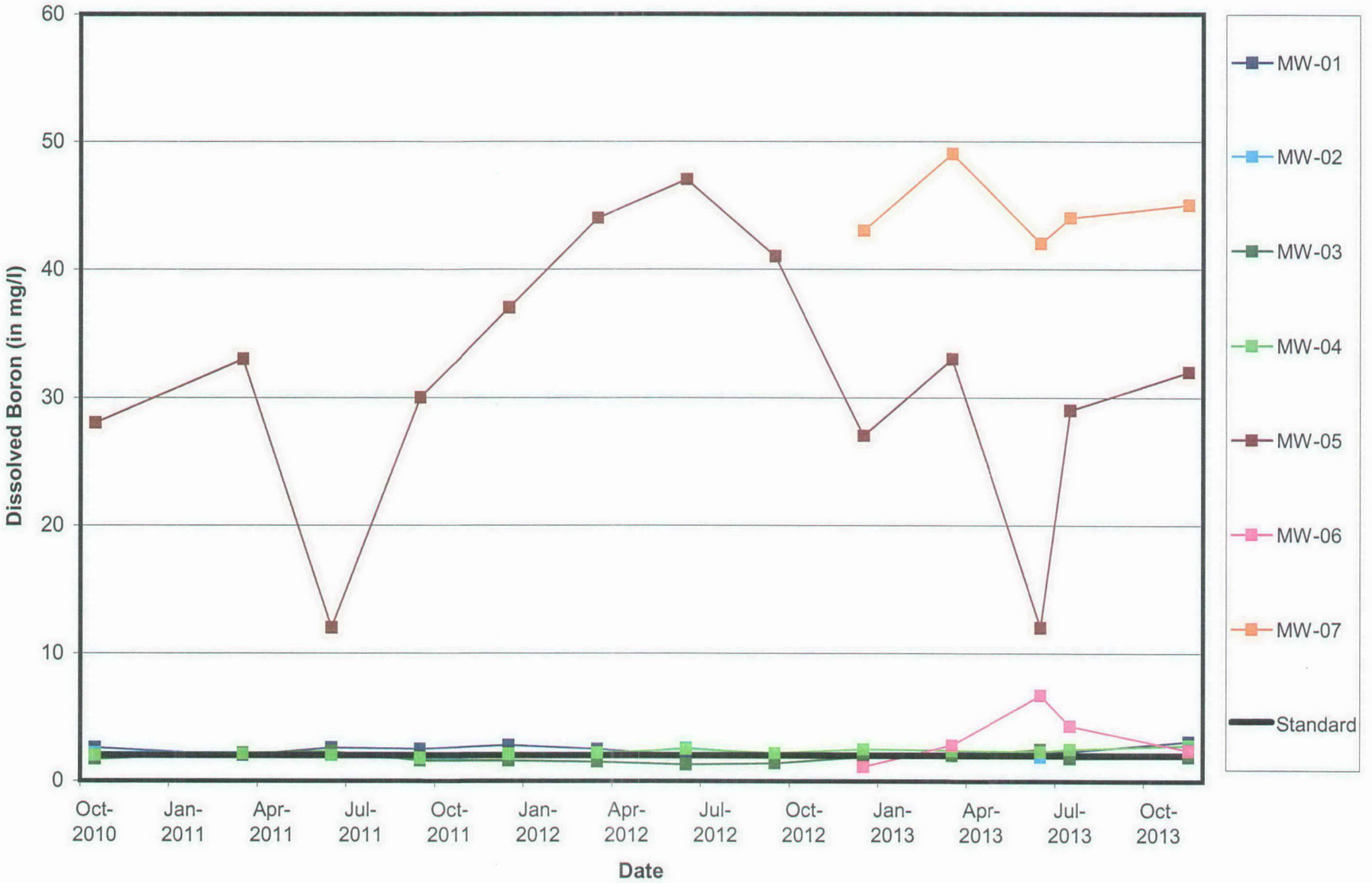
Dissolved Beryllium vs. Time



MWG13-15_20522

Midwest Generation Waukegan Station, Waukegan, IL

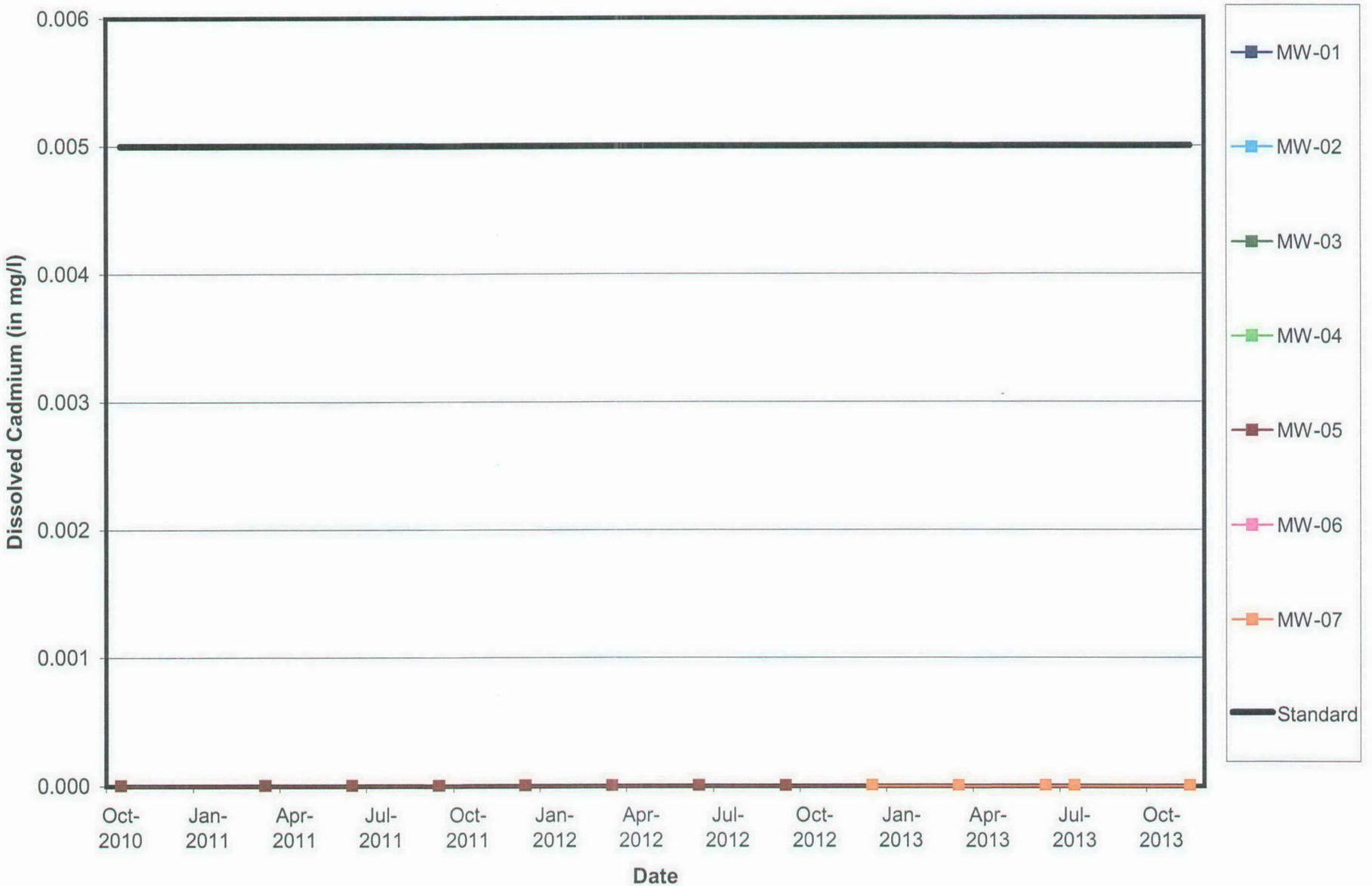
Dissolved Boron vs. Time



MWG13-15_20523

Midwest Generation Waukegan Station, Waukegan, IL

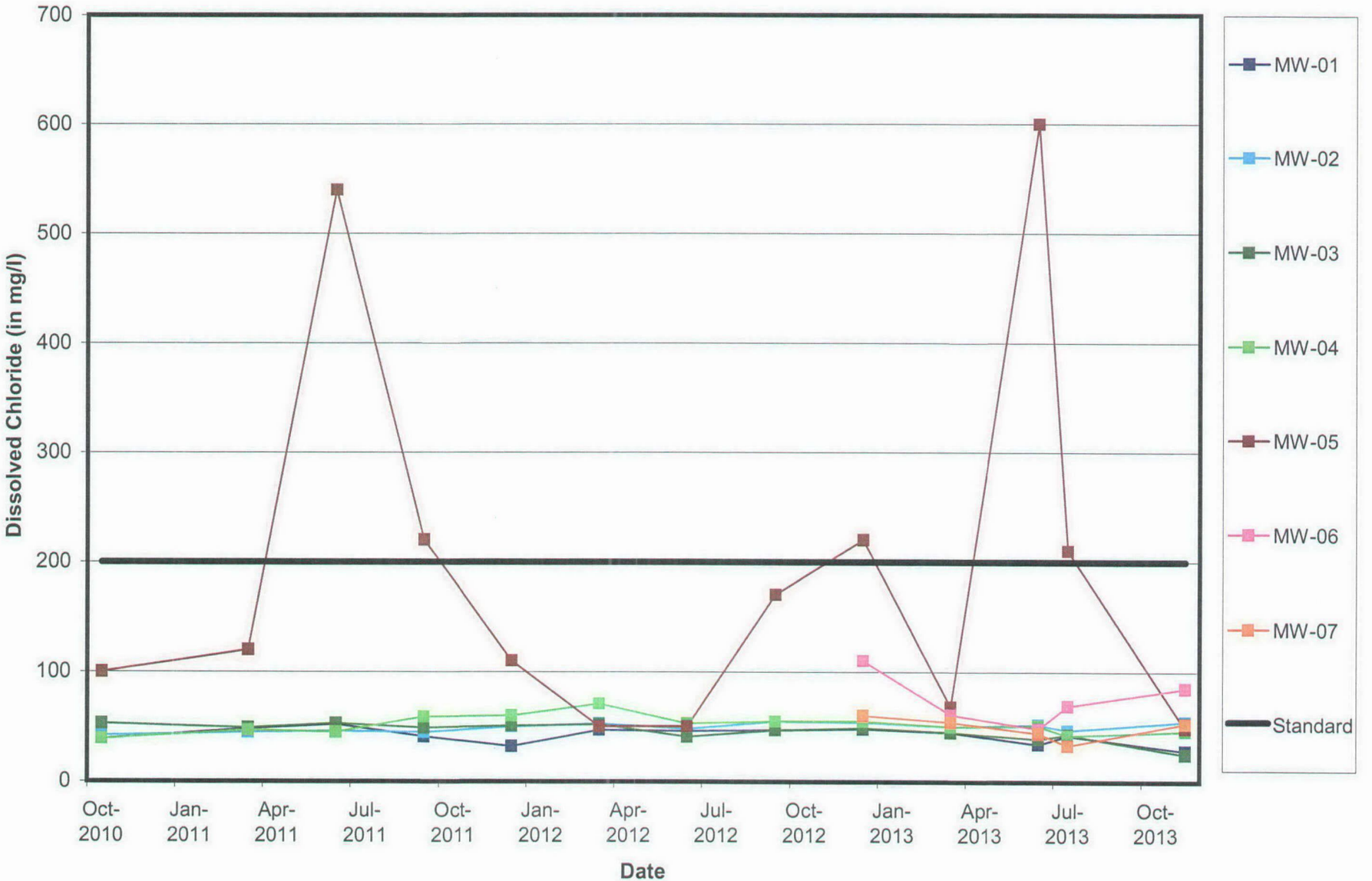
Dissolved Cadmium vs. Time



MWG13-15_20524

Midwest Generation Waukegan Station, Waukegan, IL

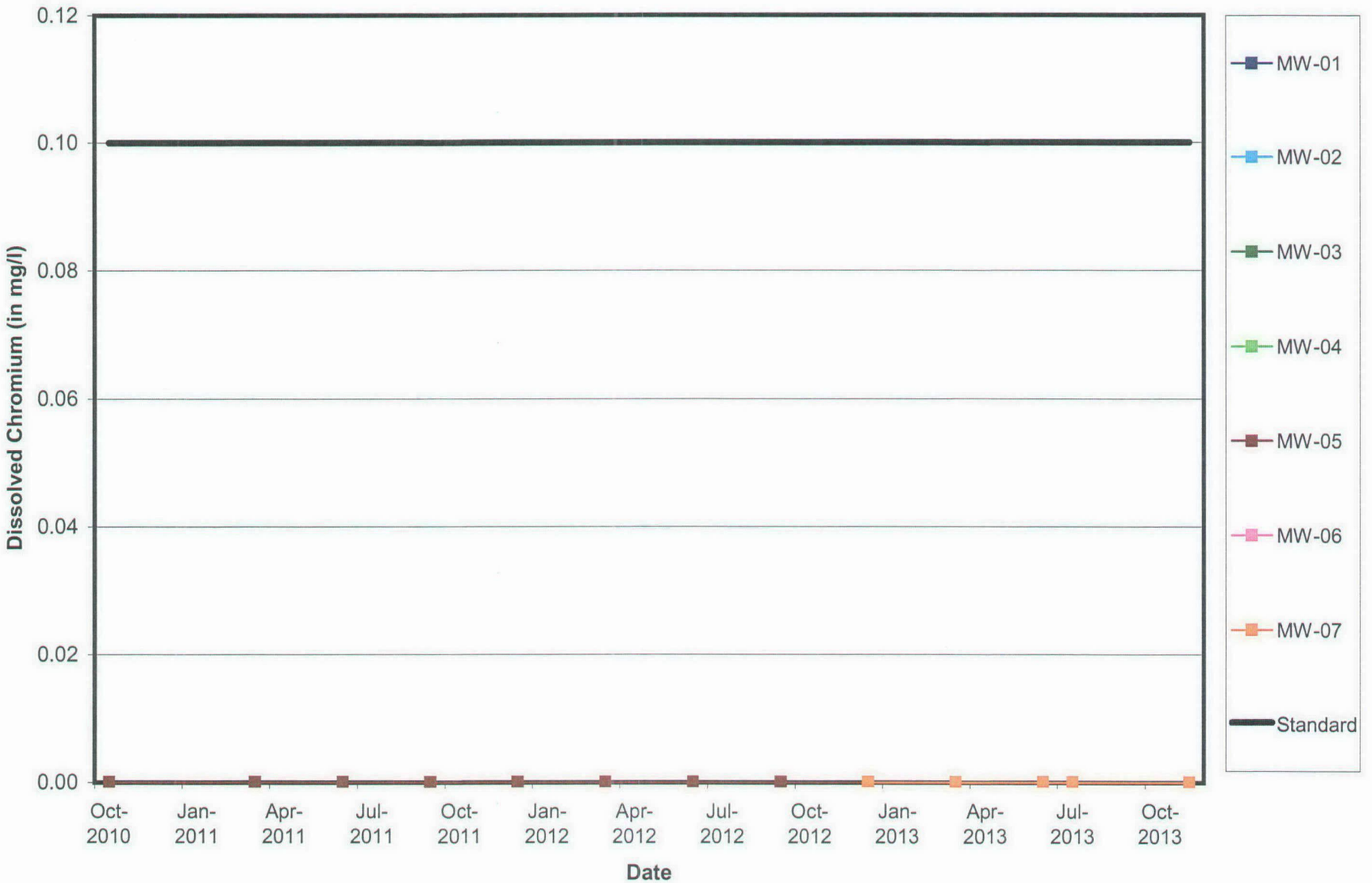
Dissolved Chloride vs. Time



MWG13-15_20525

Midwest Generation Waukegan Station, Waukegan, IL

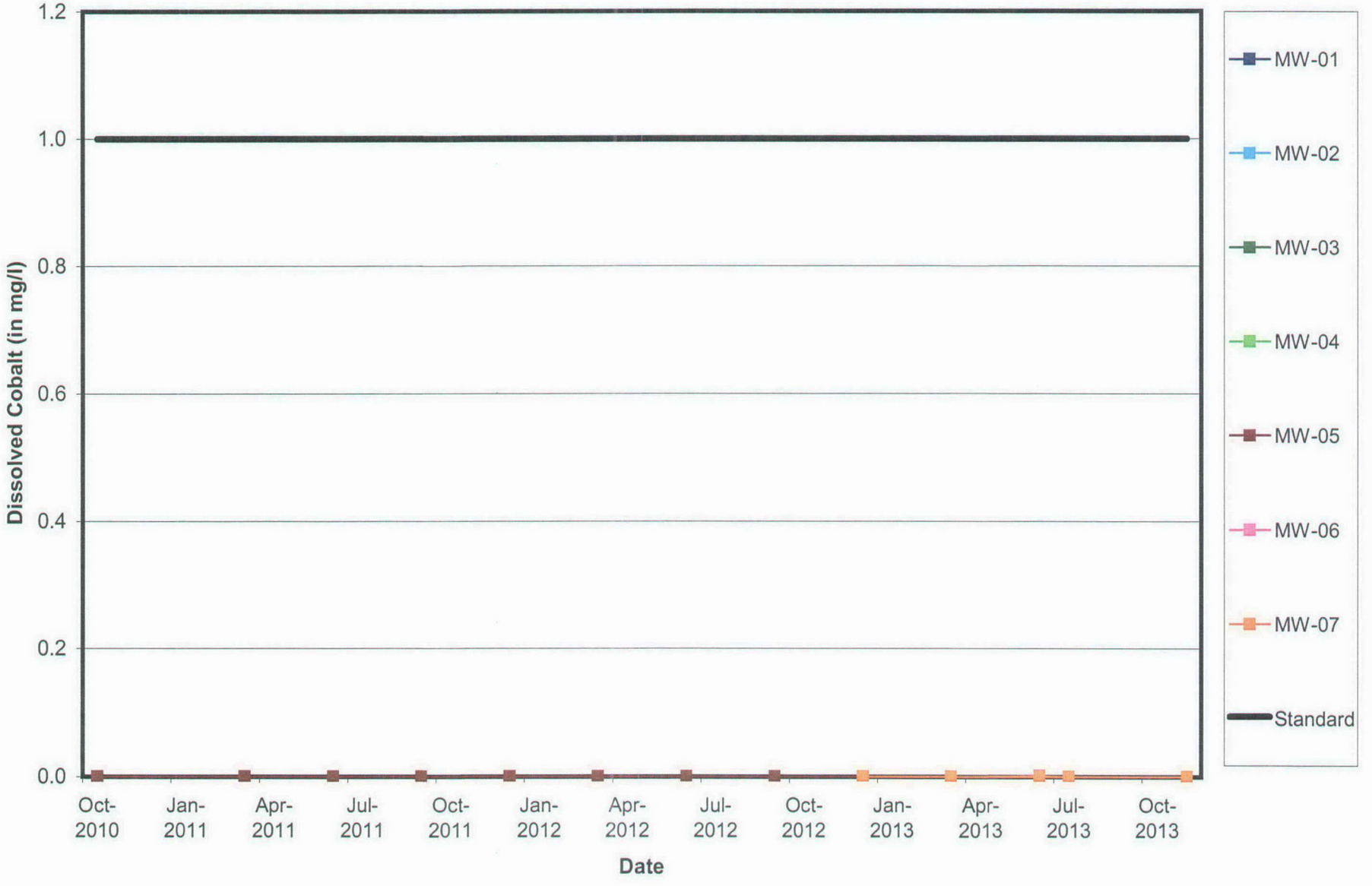
Dissolved Chromium vs. Time



MWG13-15_20526

Midwest Generation Waukegan Station, Waukegan, IL

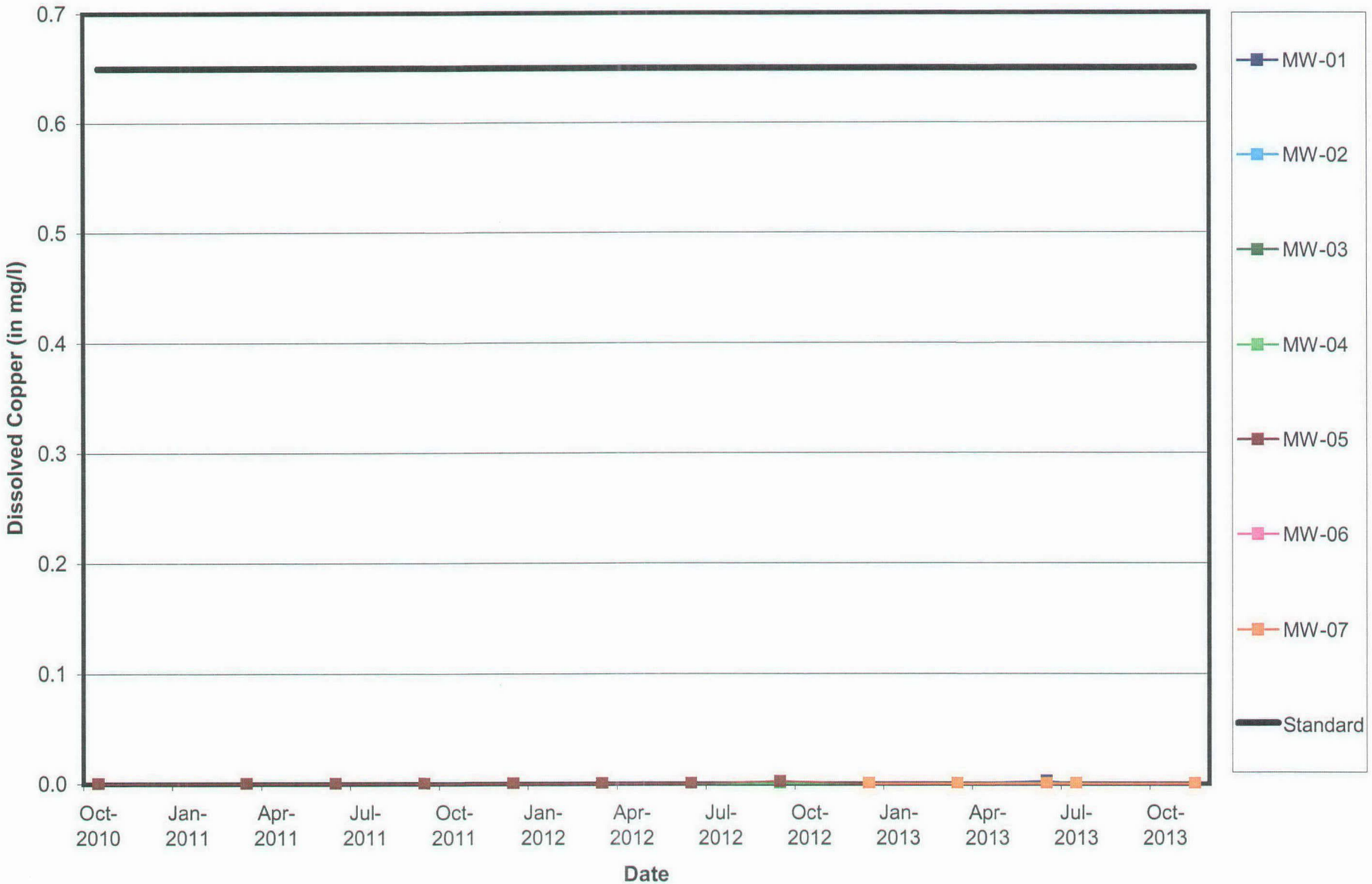
Dissolved Cobalt vs. Time



MWG13-15_20527

Midwest Generation Waukegan Station, Waukegan, IL

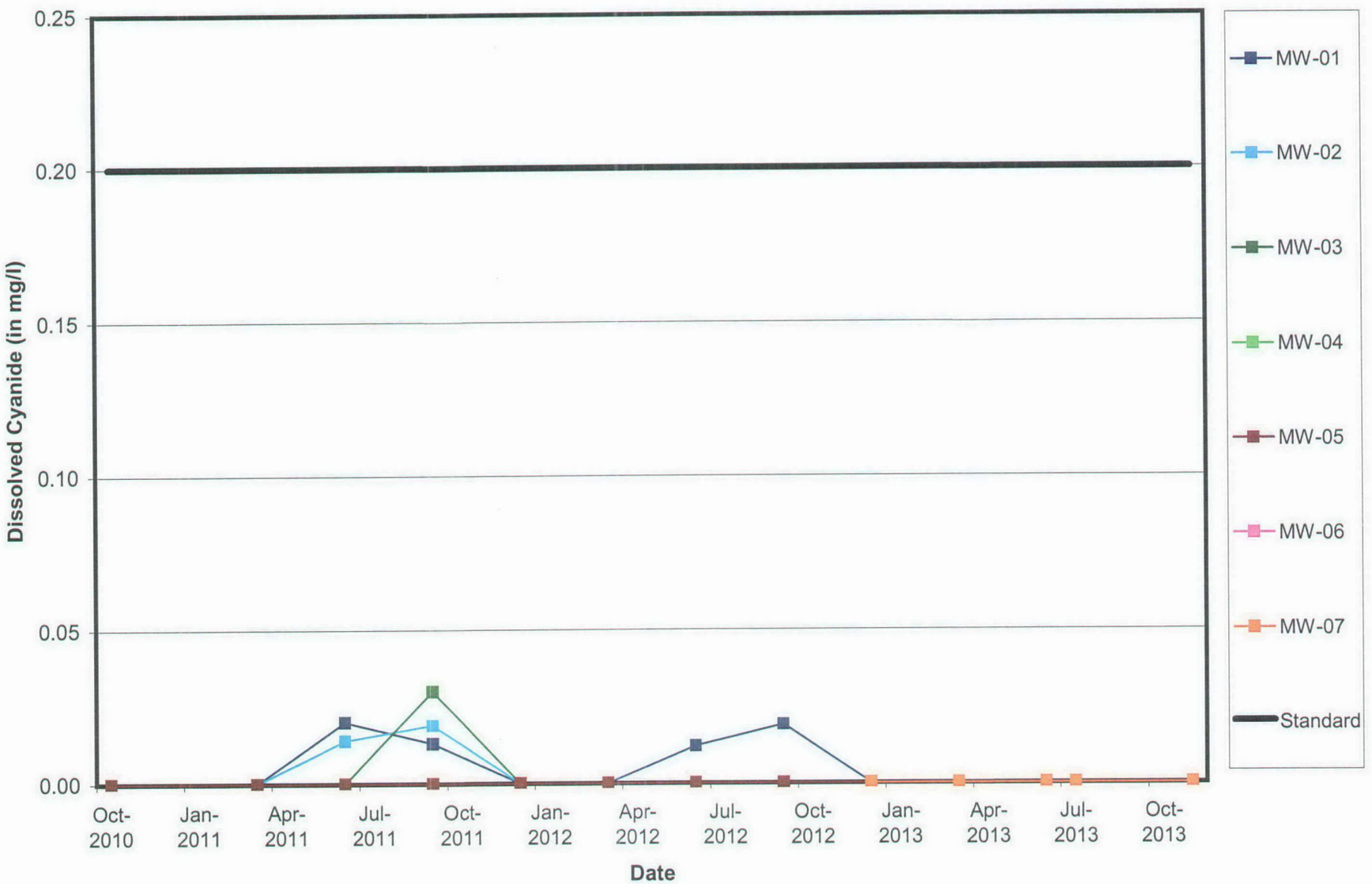
Dissolved Copper vs. Time



MWG13-15_20528

Midwest Generation Waukegan Station, Waukegan, IL

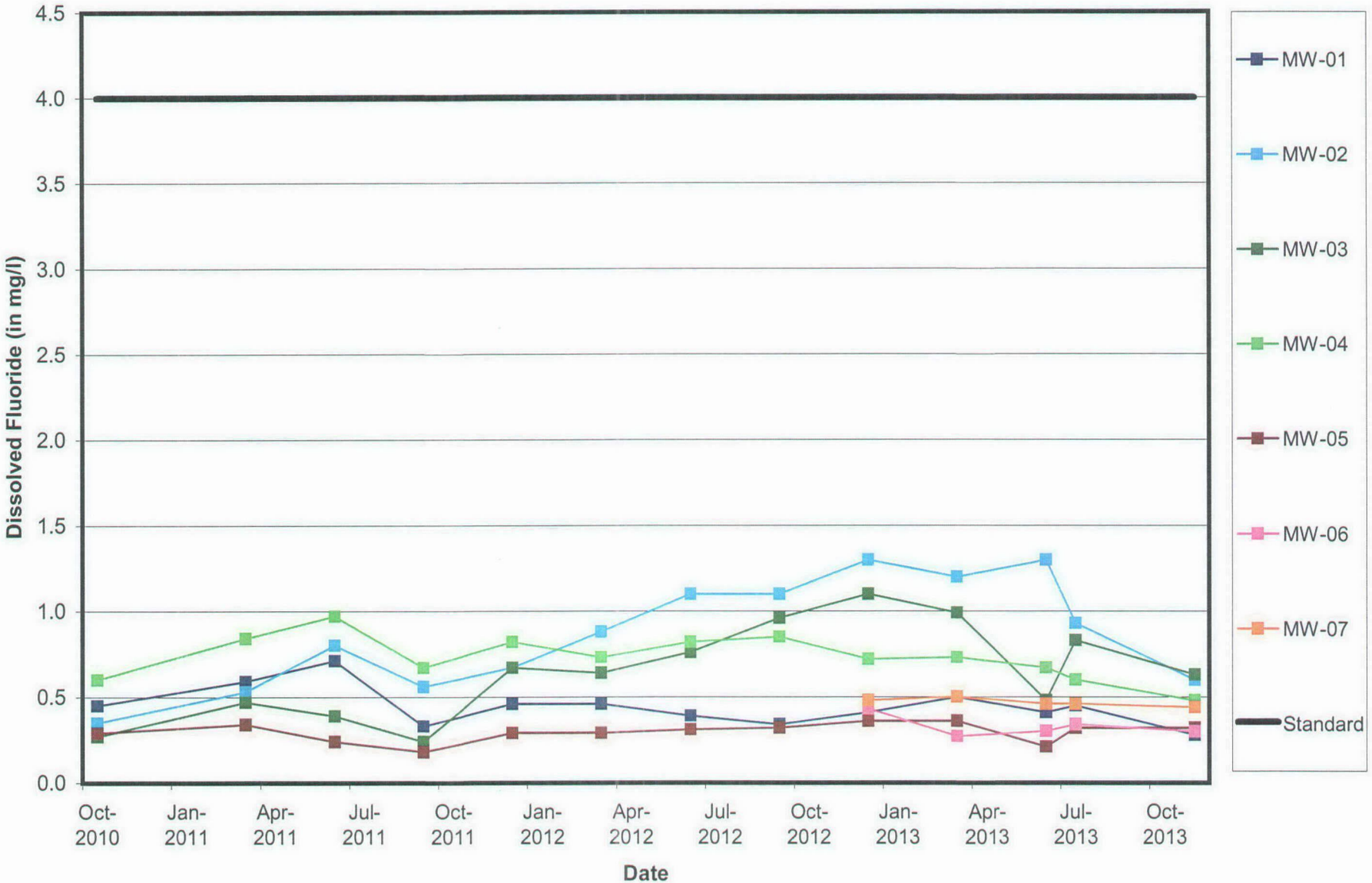
Dissolved Cyanide vs. Time



MWG13-15_20529

Midwest Generation Waukegan Station, Waukegan, IL

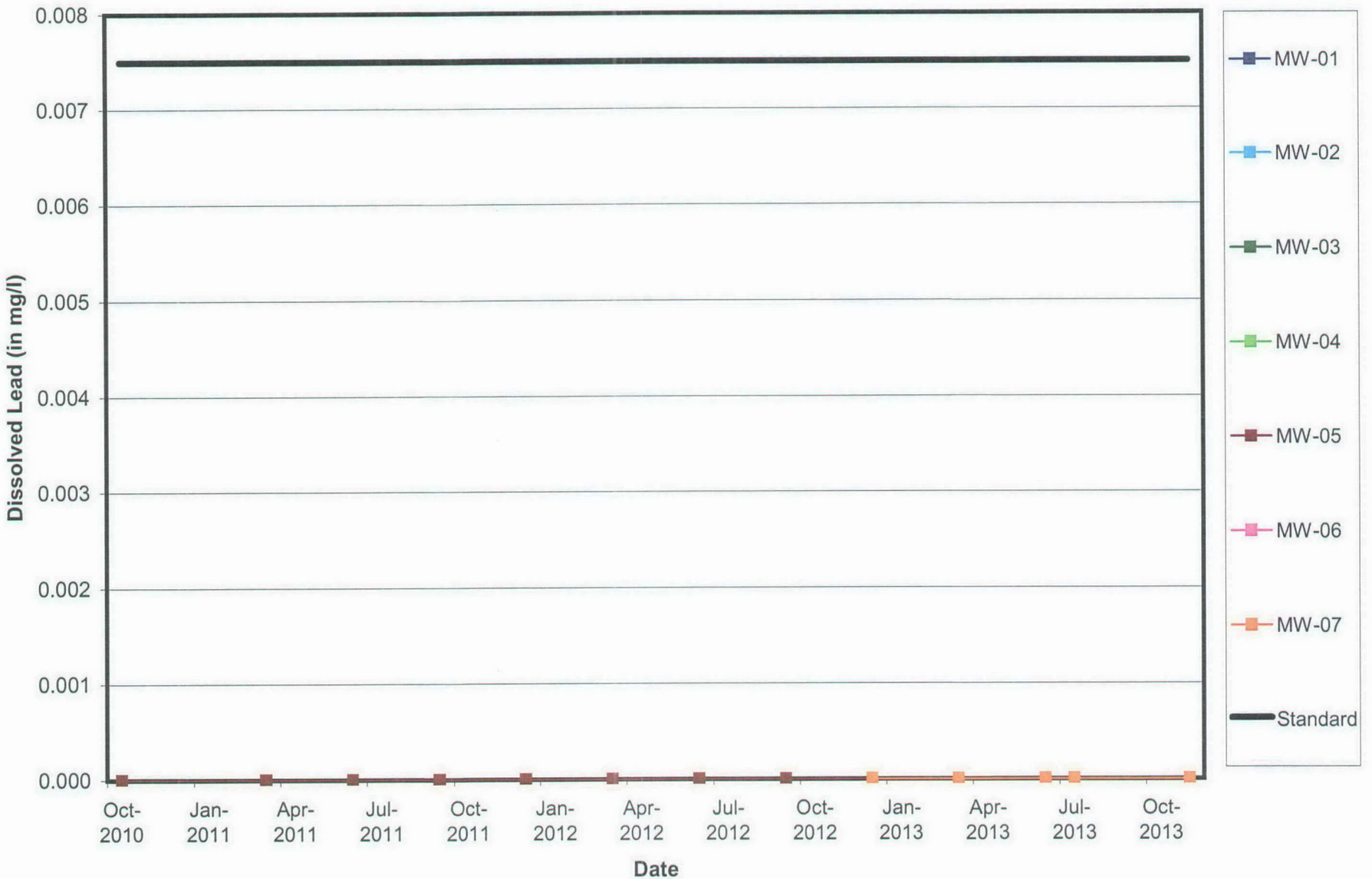
Dissolved Fluoride vs. Time



MWG13-15_20530

Midwest Generation Waukegan Station, Waukegan, IL

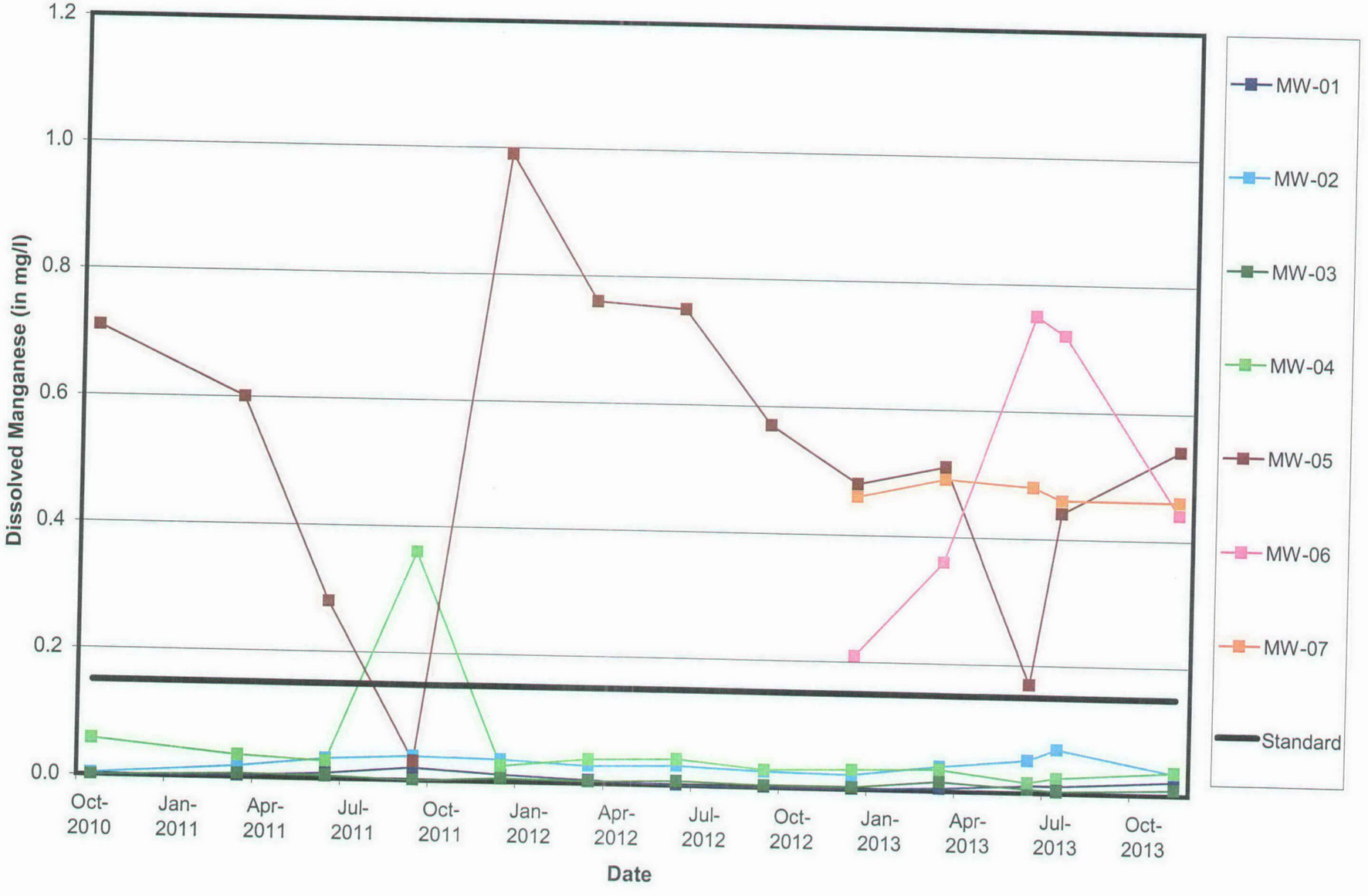
Dissolved Lead vs. Time



MWG13-15_20531

Midwest Generation Waukegan Station, Waukegan, IL

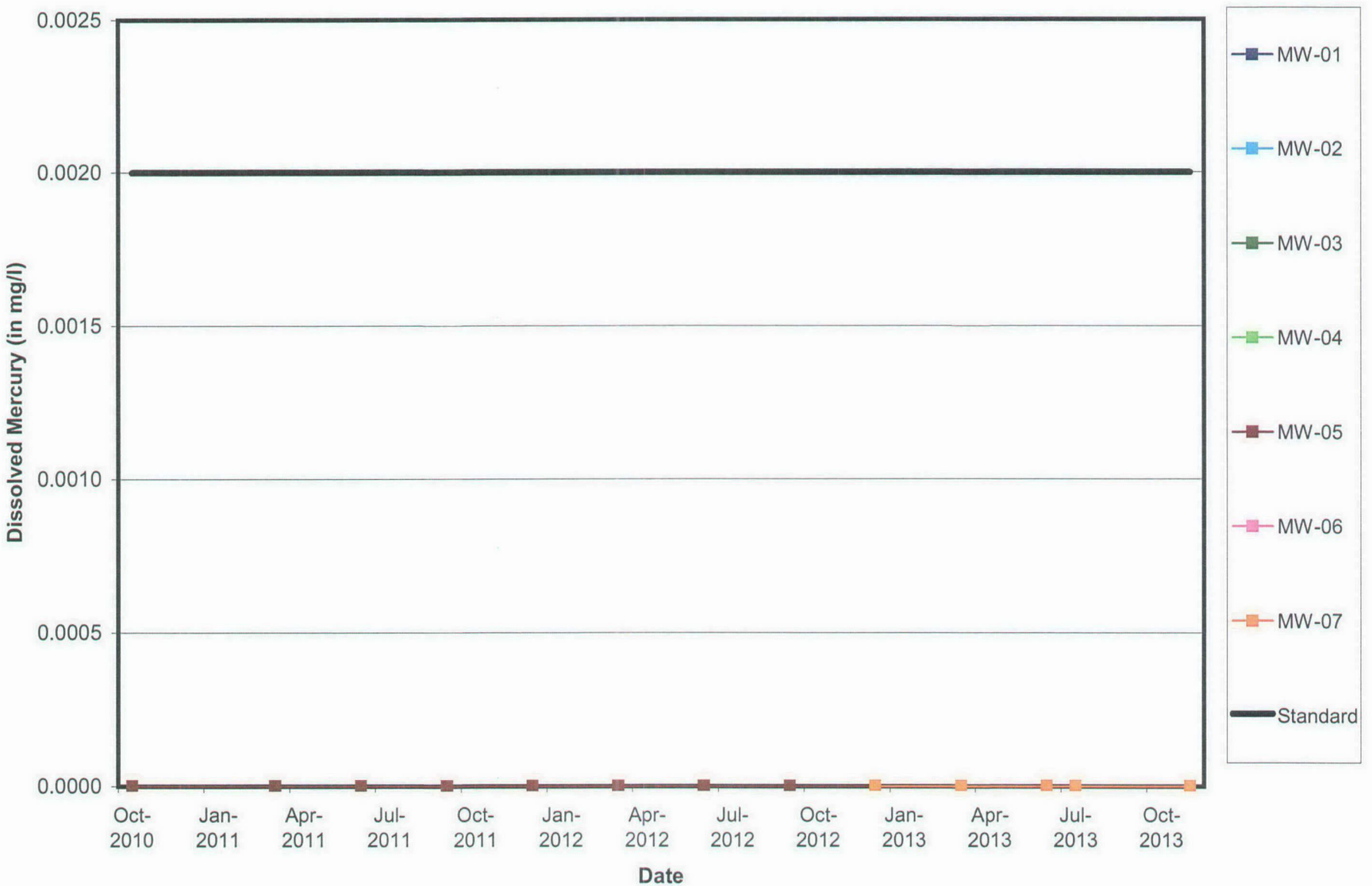
Dissolved Manganese vs. Time



MWG13-15_20532

Midwest Generation Waukegan Station, Waukegan, IL

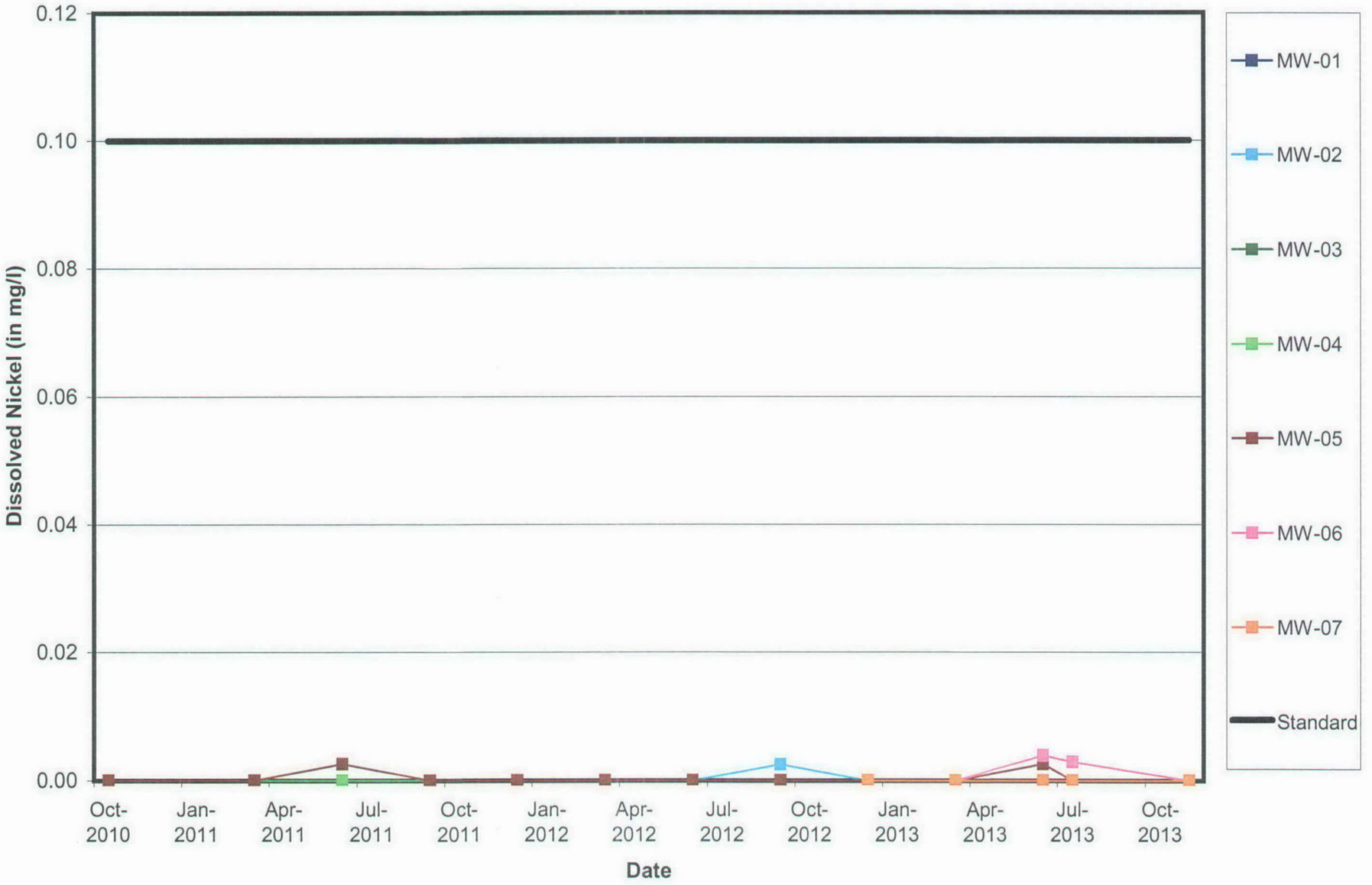
Dissolved Mercury vs. Time



MWG13-15_20533

Midwest Generation Waukegan Station, Waukegan, IL

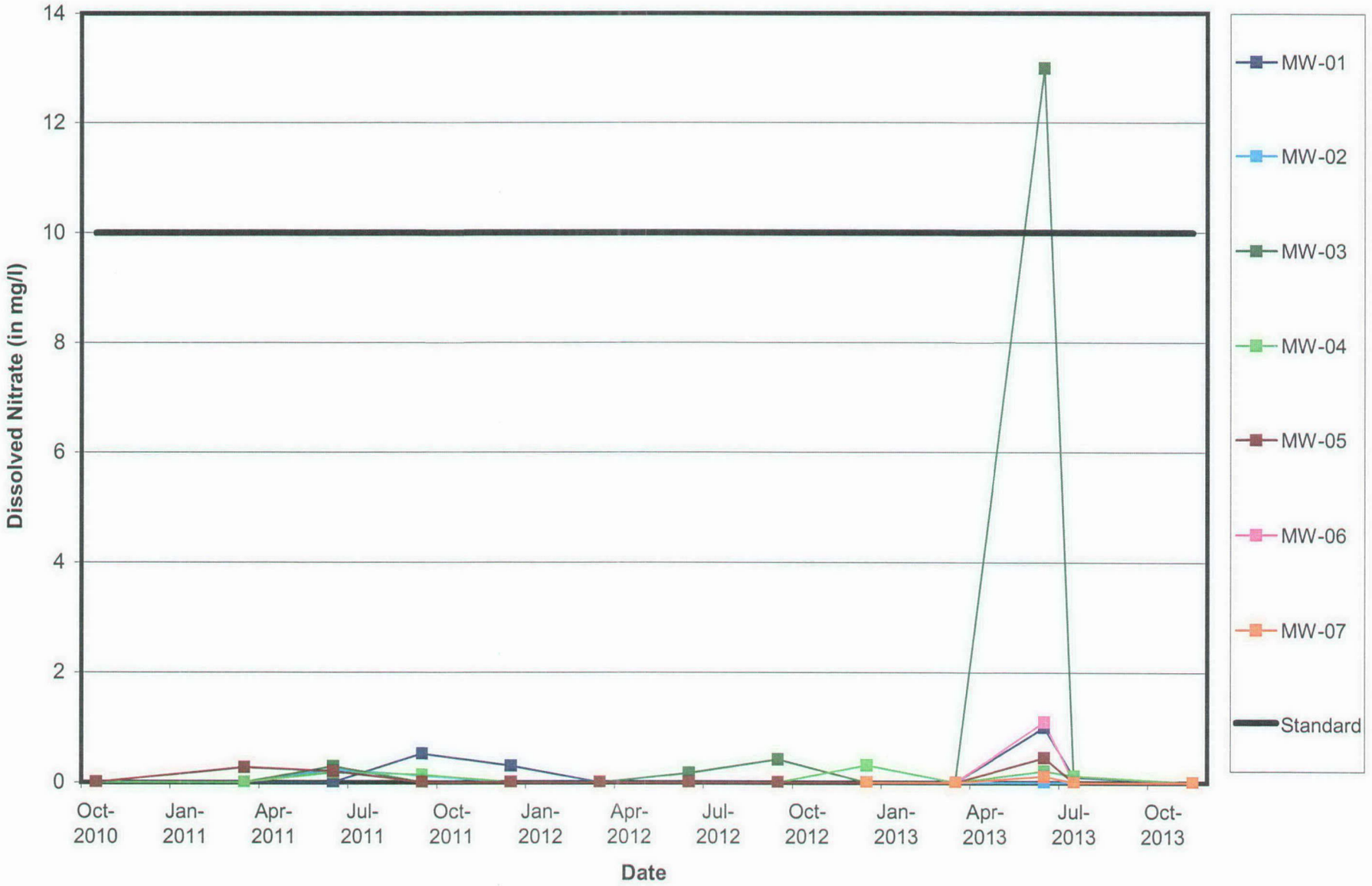
Dissolved Nickel vs. Time



MWG13-15_20534

Midwest Generation Waukegan Station, Waukegan, IL

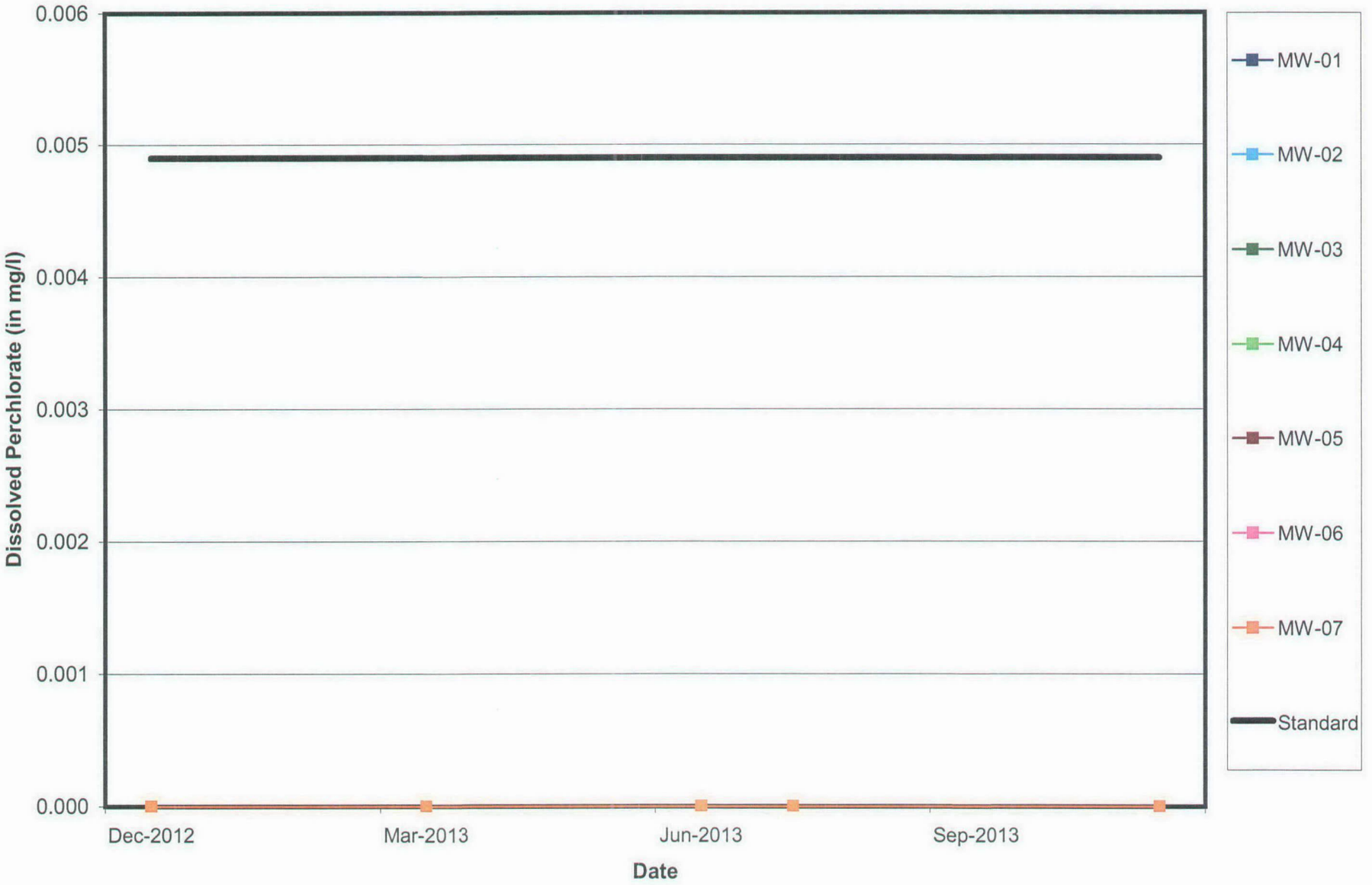
Dissolved Nitrate vs. Time



MWG13-15_20535

Midwest Generation Waukegan Station, Waukegan, IL

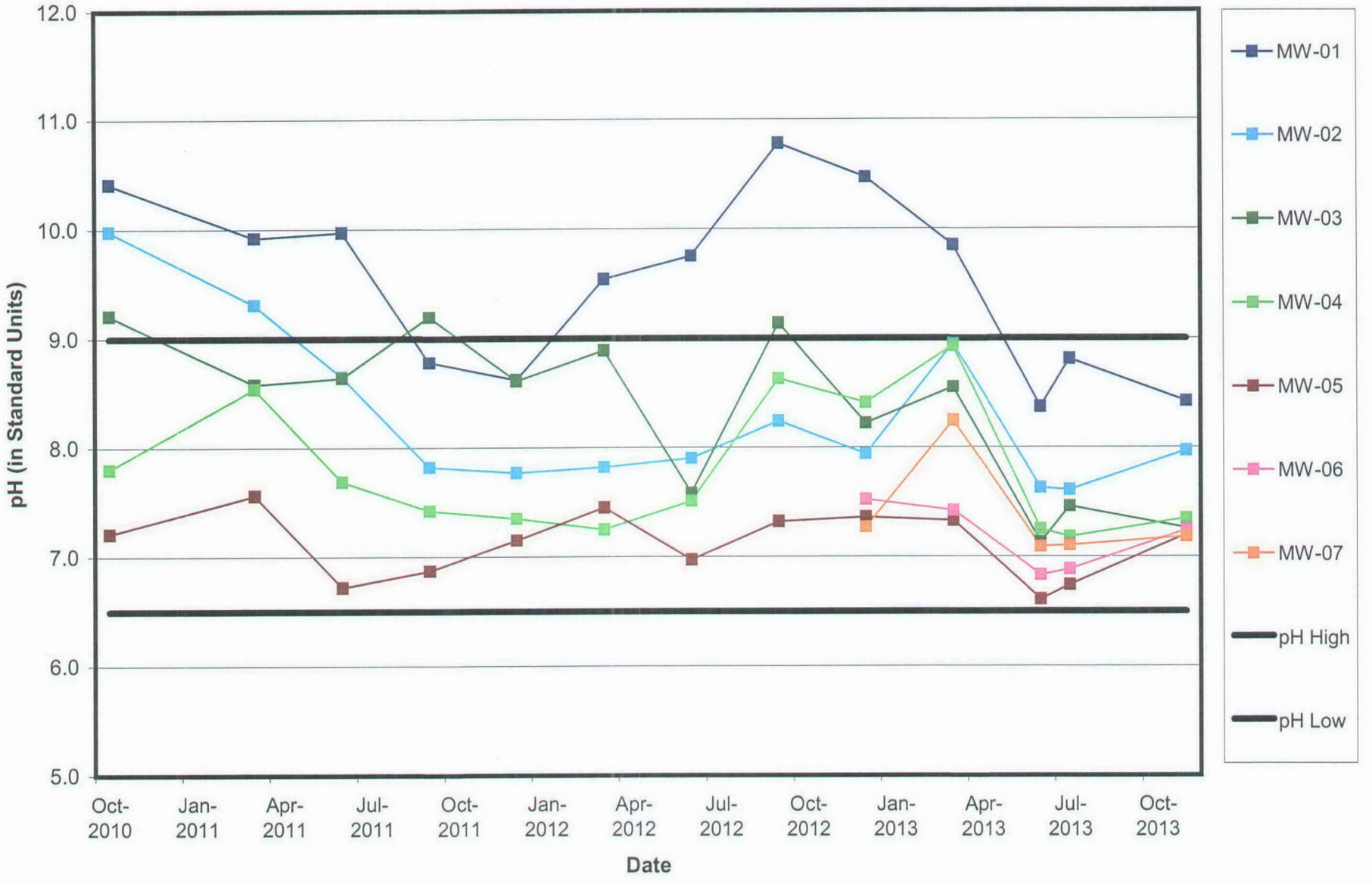
Dissolved Perchlorate vs. Time



MWG13-15_20536

Midwest Generation Waukegan Station, Waukegan, IL

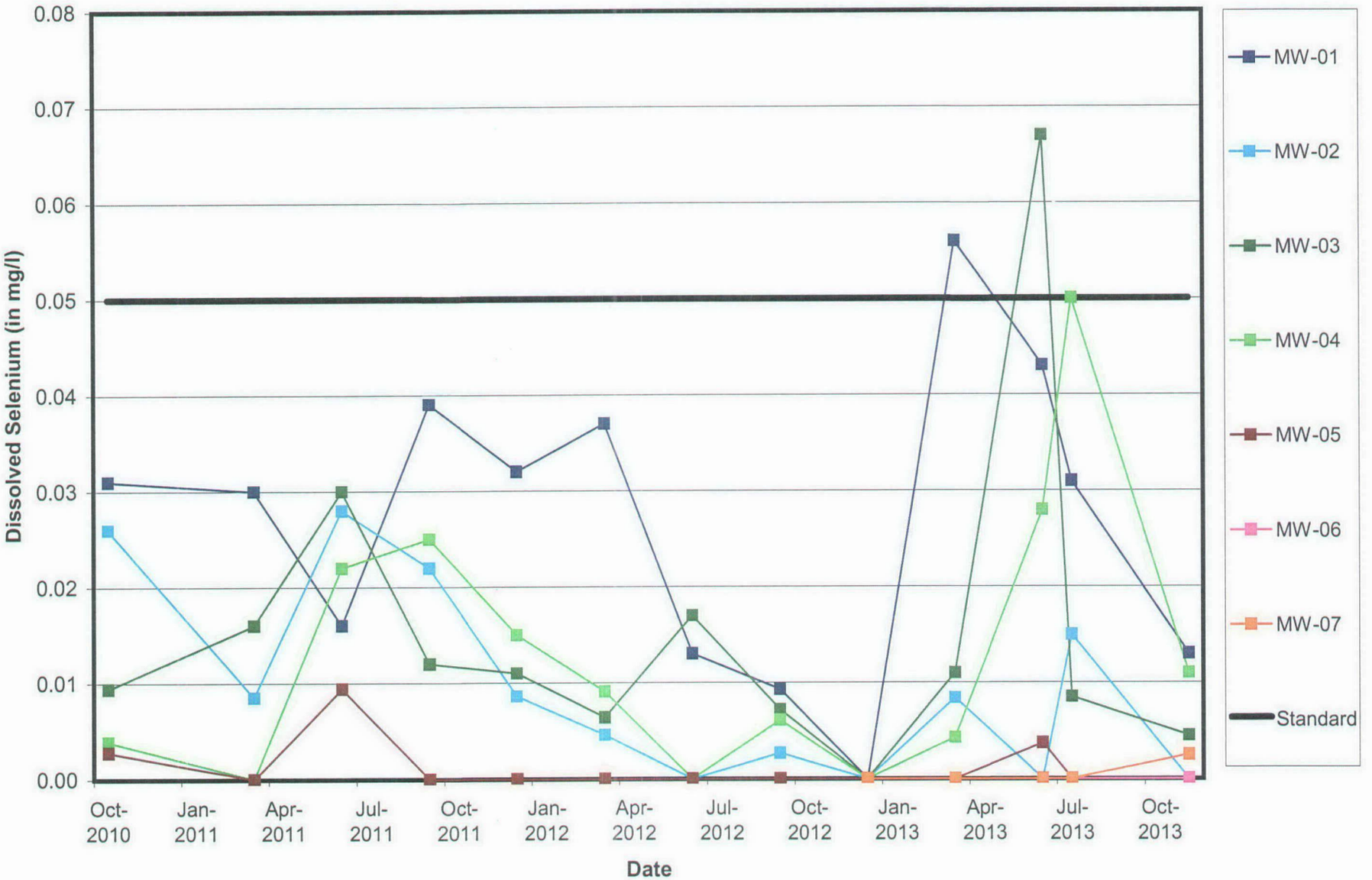
pH vs. Time



MWG13-15_20537

Midwest Generation Waukegan Station, Waukegan, IL

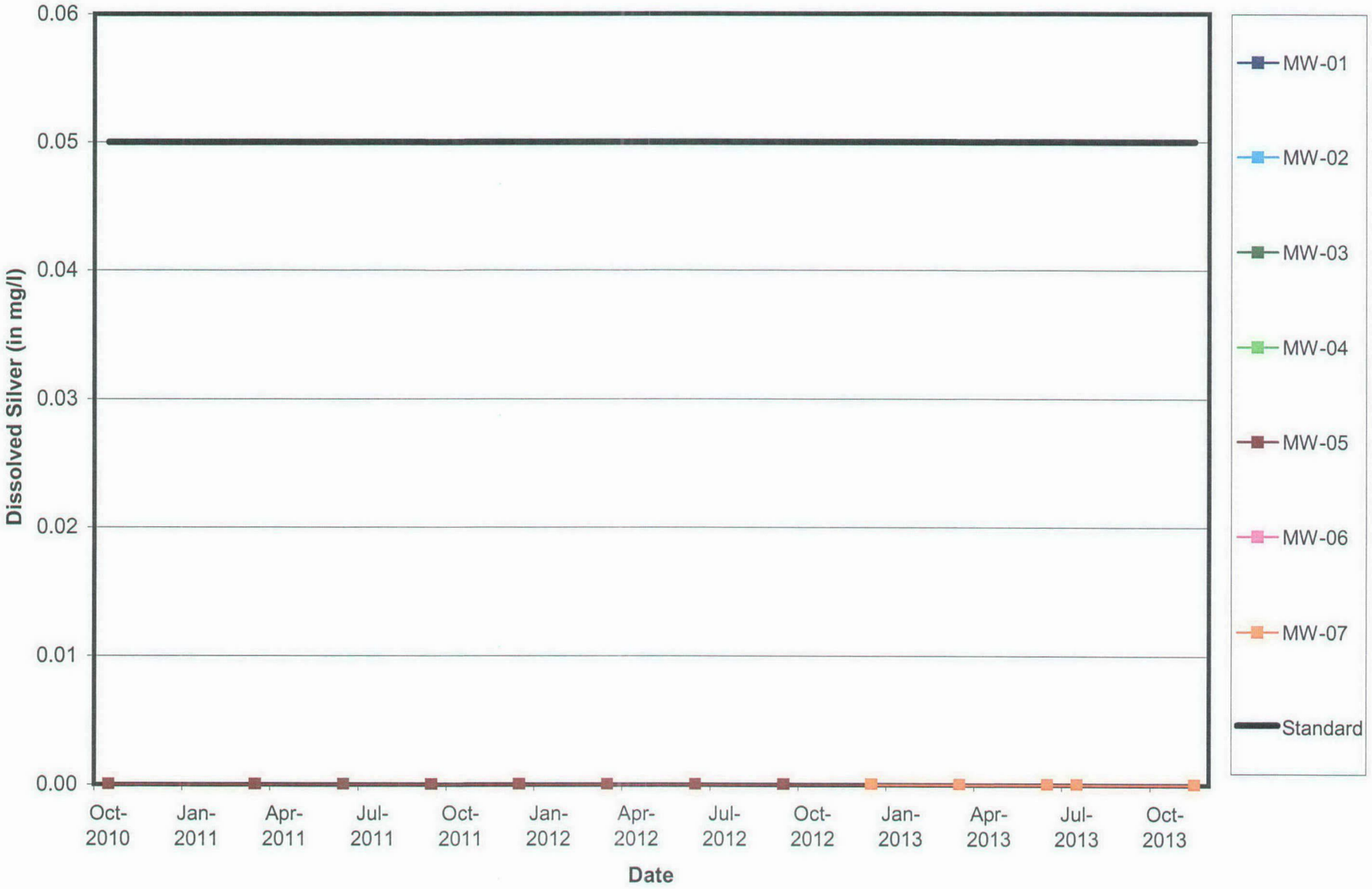
Dissolved Selenium vs. Time



MWG13-15_20538

Midwest Generation Waukegan Station, Waukegan, IL

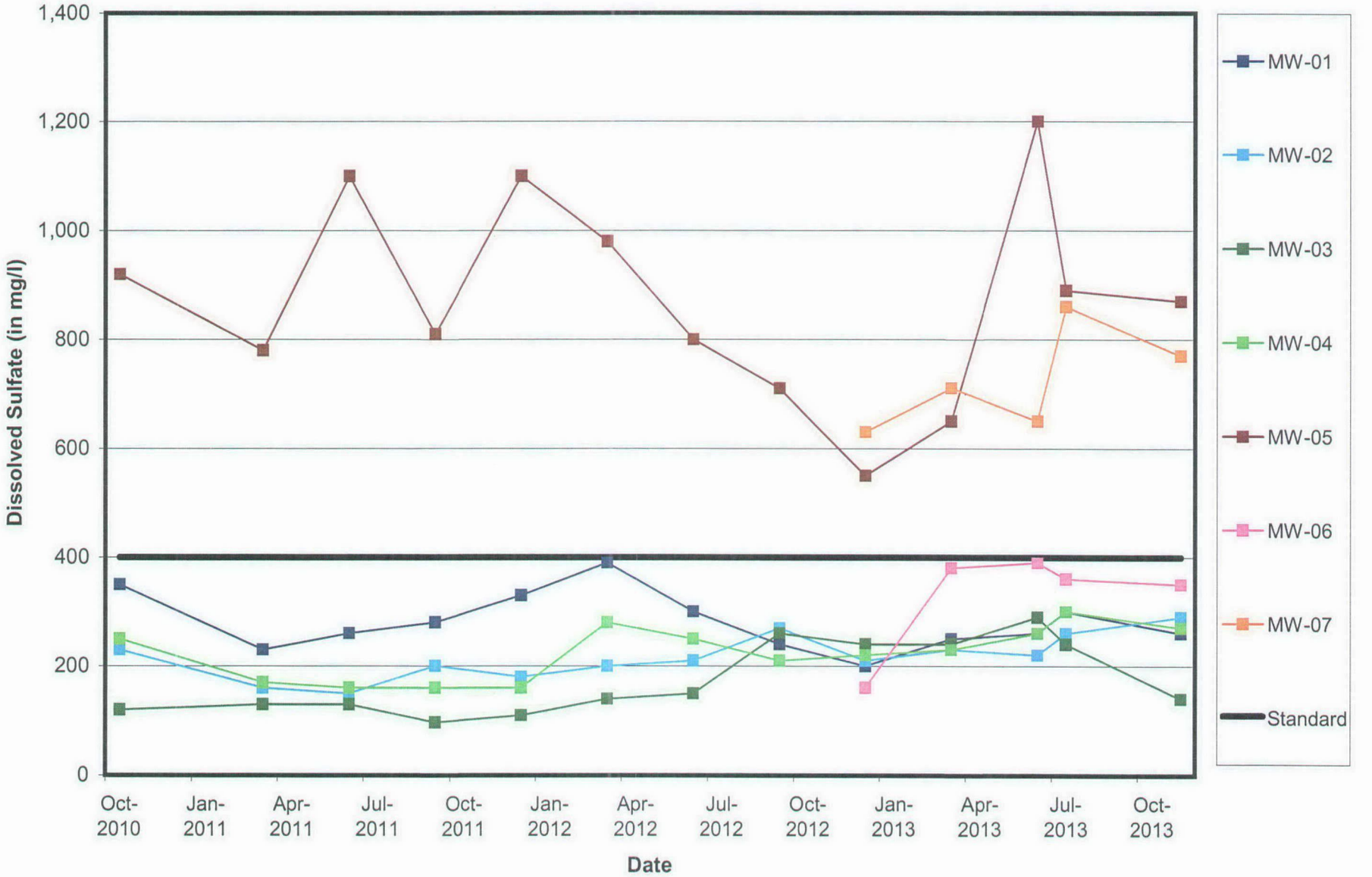
Dissolved Silver vs. Time



MWG13-15_20539

Midwest Generation Waukegan Station, Waukegan, IL

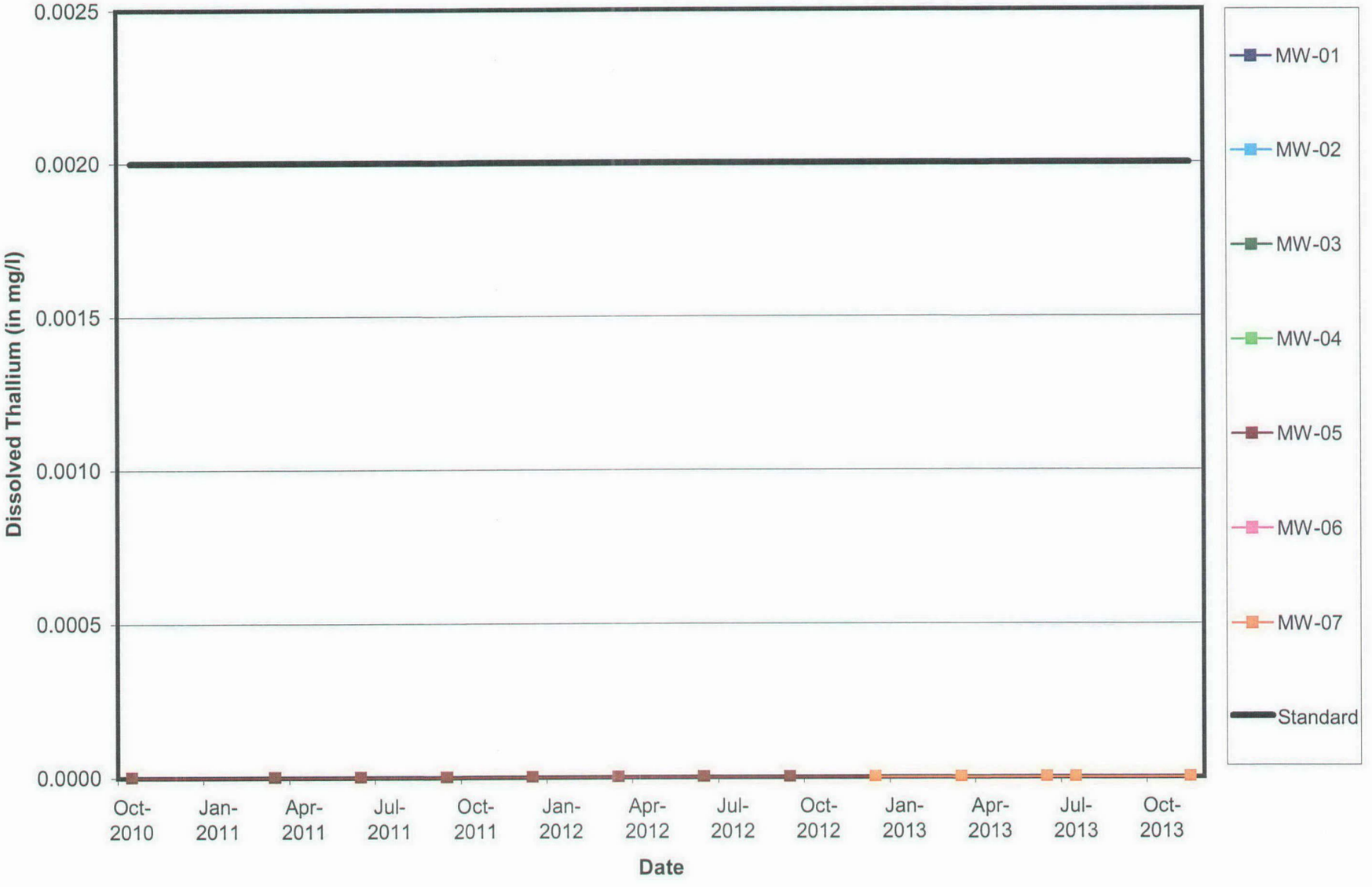
Dissolved Sulfate vs. Time



MWG13-15_20540

Midwest Generation Waukegan Station, Waukegan, IL

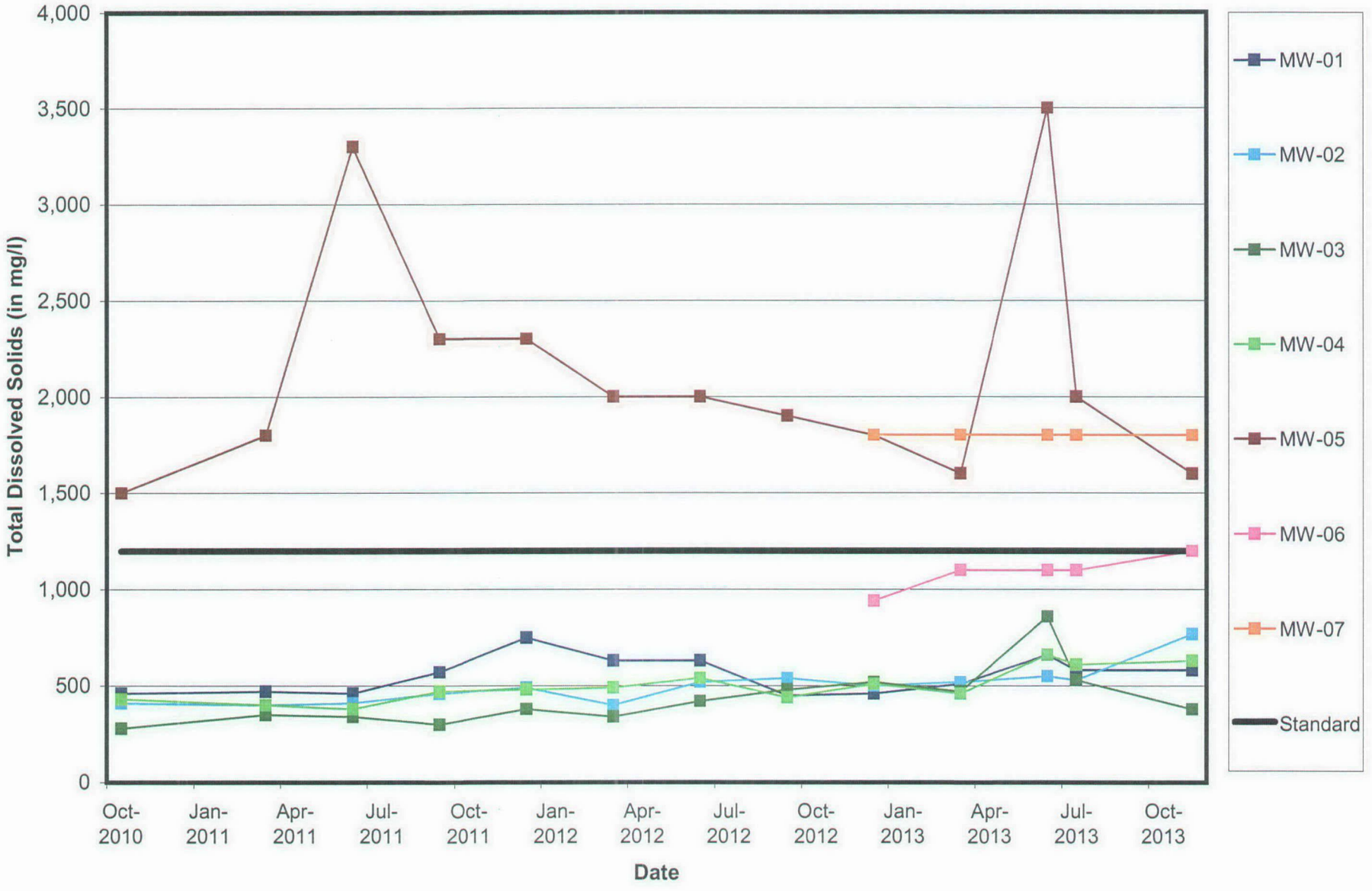
Dissolved Thallium vs. Time



MWG13-15_20541

Midwest Generation Waukegan Station, Waukegan, IL

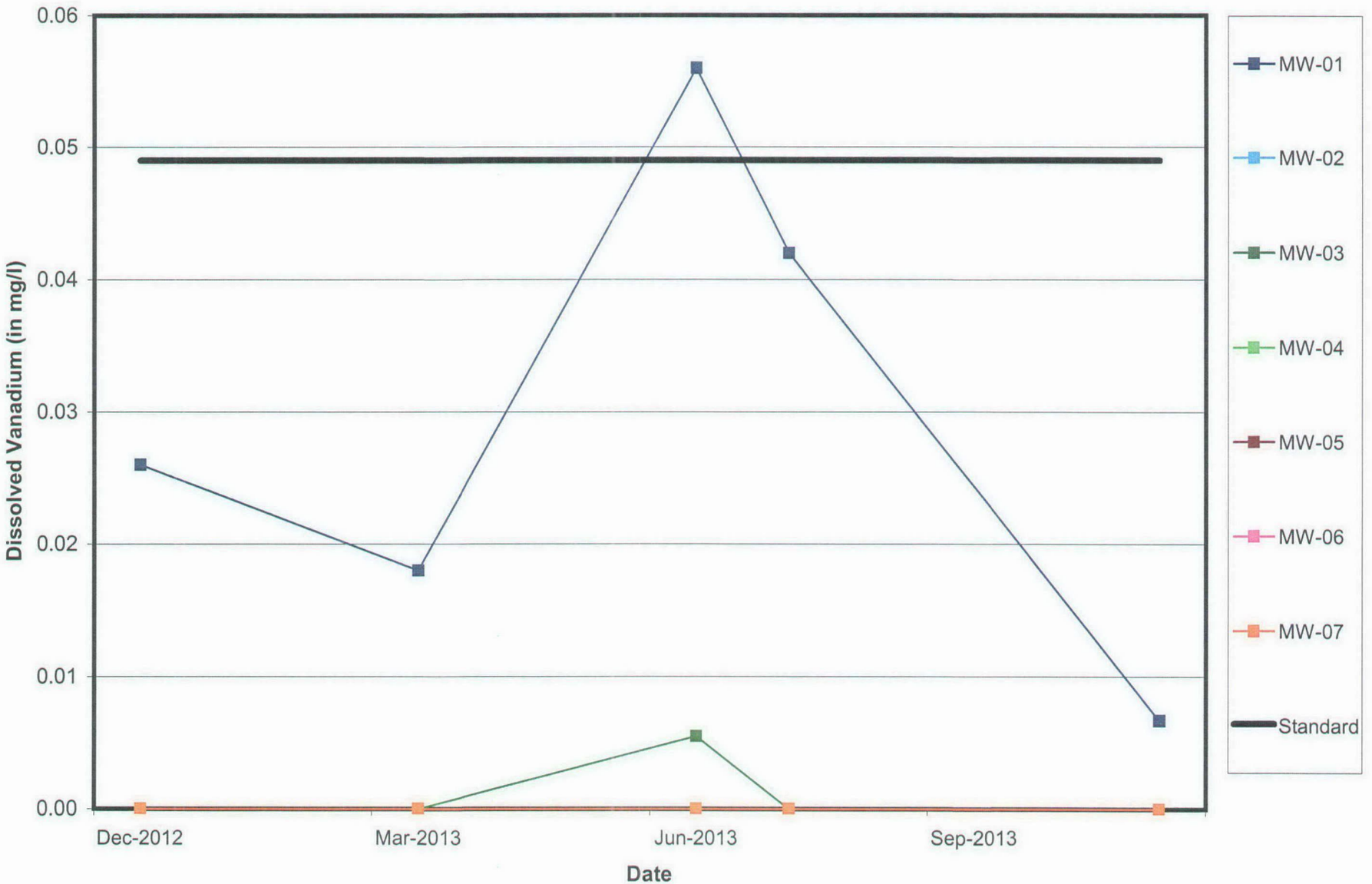
Total Dissolved Solids vs. Time



MWG13-15_20542

Midwest Generation Waukegan Station, Waukegan, IL

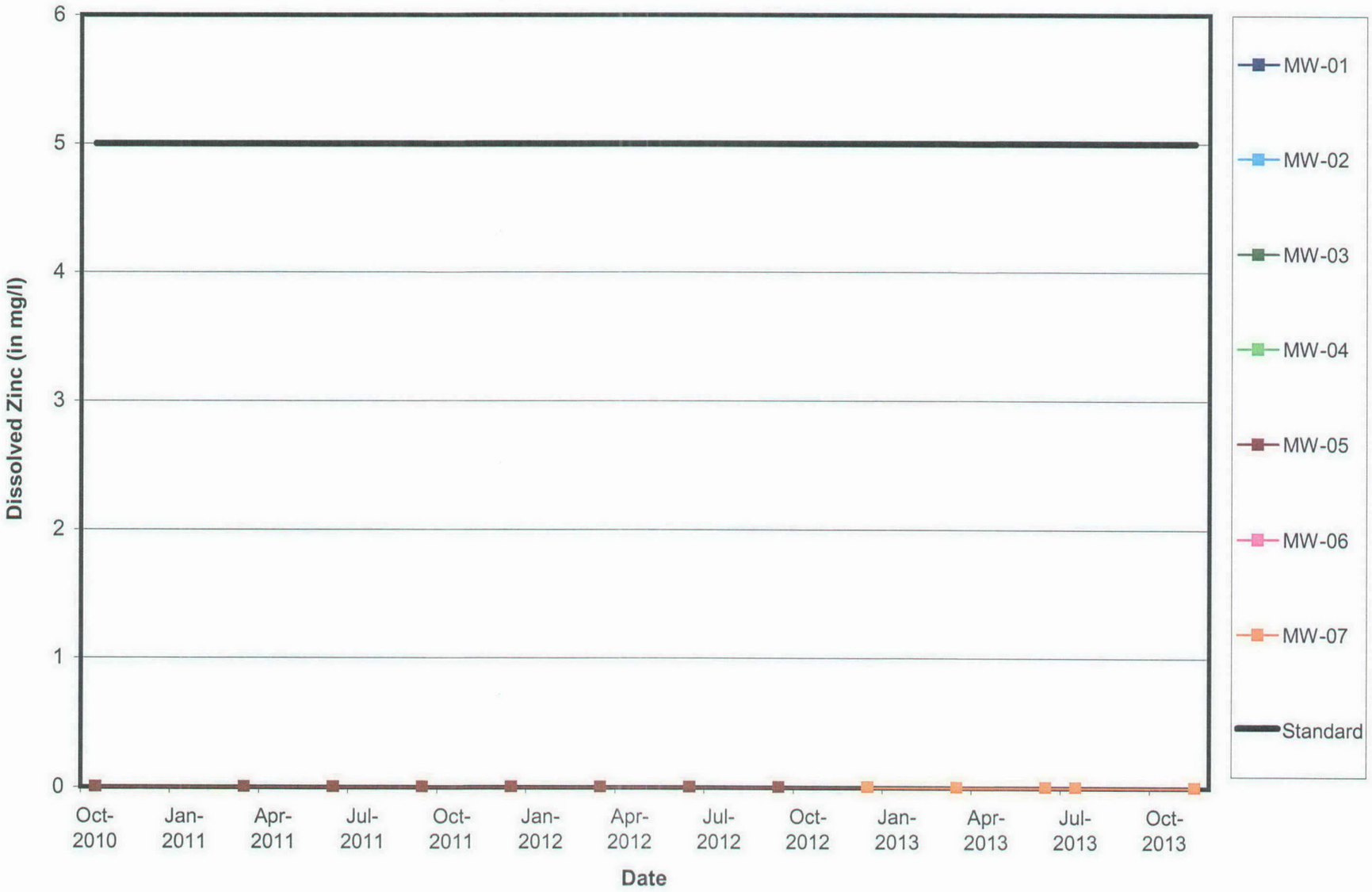
Dissolved Vanadium vs. Time



MWG13-15_20543

Midwest Generation Waukegan Station, Waukegan, IL

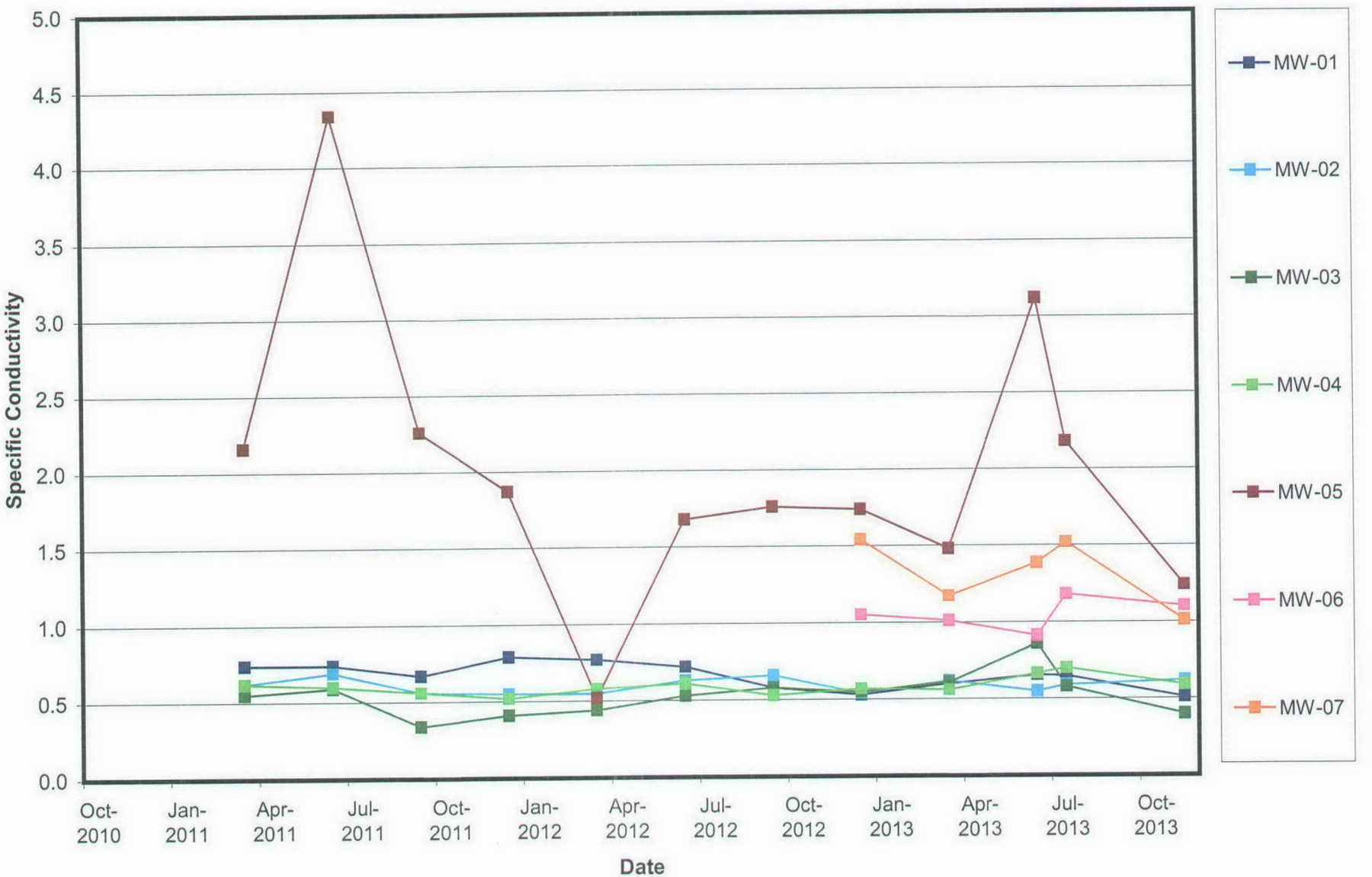
Dissolved Zinc vs. Time



MWG13-15_20544

Midwest Generation Waukegan Station, Waukegan, IL

Specific Conductivity vs. Time



MWG13-15_20545

Exhibit A11

NRG Energy
401 E. Greenwood Ave,
Waukegan, IL 60087

ANNUAL and QUARTERLY GROUNDWATER MONITORING REPORT WAUKEGAN GENERATING STATION

January 22, 2015

VIA FEDERAL EXPRESS

Ms. Andrea Rhodes
Illinois Environmental Protection Agency
Division of Public Water Supplies
MC#19
1021 North Grand Avenue East
Springfield, IL 62794-9276

Re: Annual and Quarterly Groundwater Monitoring Results – Fourth Quarter 2014
Waukegan Generating Station – Ash Impoundments
Compliance Commitment Agreement VN W-2012-00056; ID# 6281

Dear Ms. Rhodes:

The fourth quarterly groundwater sampling for 2014 has been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Waukegan Generating Station in accordance with the Compliance Commitment Agreement (CCA) with Illinois Environmental Protection Agency (IEPA) dated October 24, 2012. This quarterly monitoring report summarizes the results of the monitoring event and is also intended to serve as the Annual Report and includes historical data analysis/summaries.

Well Inspection and Sampling Procedures

The groundwater monitoring network around the ash ponds at this facility consists of seven wells (MW-01 through MW-07) as shown on Figure 1. As part of sampling procedures, the integrity of all monitoring wells was inspected and water levels were obtained using an electronic water level meter (see summary of water level discussion below). Wells MW-01 through MW-04 are completed as flush-mounts at ground surface. The concrete anchors, protector boxes and interior casings were in good condition. Wells MW-05 through MW-07 are completed with stick-up protector casings. The wells were found in good condition with locked protector casings and the concrete surface seals were intact. Well MW-05 has a slightly damaged hinge on the protective casing lid, but the hinge is still functional and the integrity of the protective casing is intact.

Groundwater samples at well locations MW-01 through MW-07 were collected using the low-flow sampling technique.

One duplicate sample (well MW-07) was collected for quality assurance purposes. In addition, a deionized water trip blank was placed with the sample bottle shipment by the laboratory and accompanied the groundwater sample bottles from and back to the laboratory. The groundwater monitoring samples and the duplicate sample were analyzed for the inorganic compounds listed in Illinois Administrative Code (IAC) 620.410(a), 620.410(d) and 620.410(e), excluding radium 226/228. The trip blank was analyzed for the volatile organic compounds (VOCs) listed in IAC 620.410(d).

Groundwater Flow Evaluation

Water level data from the most recent round of sampling along with historical water levels obtained from each well are summarized in Table 1. The water levels from the most recent sampling were used to generate a groundwater flow map which is provided on Figure 2. The water elevation data indicates a general southeasterly flow of groundwater. The flow conditions observed during this sampling are generally consistent with historical conditions reported for the site.

Relative to an annual evaluation of groundwater levels, a historical hydrograph is presented in Attachment 1. The hydrograph indicates that after a groundwater elevation low noted in 4th quarter 2012 sampling, groundwater levels at all wells have recovered approximately 2 feet overall and that water levels have stabilized. Highest water levels were associated with the spring sampling event (May 2014) and the lowest water levels were associated with the summer sampling event (August 2014) suggesting some seasonal variations on the order of 2 to 2.5 feet.

Summary of Analytical Data

A copy of the analytical data package is provided in Attachment 2. The field parameter and analytical data from the most recent sampling, along with the previous eight quarters of data, are summarized in Table 2. The duplicate sample was collected from well MW-07. The data are generally consistent with previous data generated for the site. Any exceptions are discussed in greater detail below. All wells for which the sampling data reports a value above one or more groundwater standards are located within the area of the approved Environmental Land Use Control (ELUC).

At this time a statistical evaluation of background water quality for comparing against downgradient wells has not been completed. Data from the initial anticipated background well installation (MW-05) indicated impacts that are not associated with the ash ponds at the site and therefore, IEPA does not recognize the water quality data from this well as representative of background. A new potential background monitoring well (MW-06) has been installed and is included within the quarterly sampling. An initial review of the MW-06 data suggests that this well location may provide a representative background water quality with which to perform a statistical evaluation, however there are some detections of boron above the Class I standard which may be originating from off-site. In general, a minimum of eight quarters of data are required to provide a meaningful statistical analysis of background water quality. The exact nature of the statistics that will be required by IEPA is still in the process of being finalized.

Relative to an annual evaluation of the water chemistry data, time versus concentration curves are provided in Attachment 3 for each parameter analyzed. The curves include the Class I drinking water standard for reference, where appropriate. The following noteworthy observations are made for 2014:

- Arsenic detections at well MW-01 are consistently higher than at the other well locations. The arsenic concentration at this well has been overall decreasing since the 2nd quarter 2011 sampling, however a spike in concentration is noted for the 4th quarter 2014. The nature of this spike will be evaluated as additional quarterly data is collected. Arsenic concentrations at the remaining wells have been overall stable.

- Boron concentrations at wells MW-05 and MW-07 are consistently higher than at the other locations. Well MW-05 is immediately upgradient of the ash ponds and MW-07 is slightly sidegradient and to the south. This suggests that the elevated boron concentrations at these locations are not associated with the subject ash ponds.

- Chloride concentration curves are overall stable with the exception of well MW-05 where some temporal scatter is apparent. In 2013, there was spike in chloride concentrations at this well location which have subsequently diminished to below the Class I groundwater standard in the 4th quarter 2013 sampling and throughout 2014.

- There was some variability in iron concentrations at wells MW-05 and MW-06 over 2014 with overall increasing trends at these locations. Both of these wells are upgradient of the ash ponds being monitored. Well MW-07 consistently shows dissolved iron concentrations higher than the remaining wells, however with an overall decreasing trend.

- Wells MW-05, MW-06 and MW-07 were the only wells with detections of dissolved manganese above the groundwater standard since the 3rd quarter 2011 sampling. Manganese concentrations at all other locations appear fairly stable and are generally below the comparison standard.

- Wells MW-05 and MW-07 are the only wells with historic detections of dissolved sulfate above the comparison groundwater standard. The remaining sulfate concentrations appear to be fairly stable over the last year.

- Wells MW-05 and MW-07 are the only wells with historic detections of Total Dissolved Solids (TDS) above the comparison groundwater standard. The concentrations at these wells and the remaining wells appear overall stable with the exception of a non-reproducible spike in TDS at well MW-05 in the 2nd quarter 2013.

- The 4th quarter sampling for vanadium at well MW-01 appears to show a spike in concentration that is not consistent with historical data. Subsequent quarterly sampling will determine the nature of this spike in concentration at this location.

As noted previously, all wells for which the sampling data reports a value above one or more applicable groundwater standards are located within the area of the approved ELUC.

If there are any questions, please contact either James DiCola of NRG Energy at 815-207-5968 or Richard Gnat of KPRG at 262-781-0475.

Sincerely,

Mark Nagel
Station Manager

Attachments

cc: William Buscher, IEPA
Fred Veenbaas, NRG Energy
James DiCola, NRG Energy
Elizabeth Quirk-Hendry, NRG Energy
Richard Gnat, KPRG and Associates, Inc.

FIGURES



ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

SITE MAP

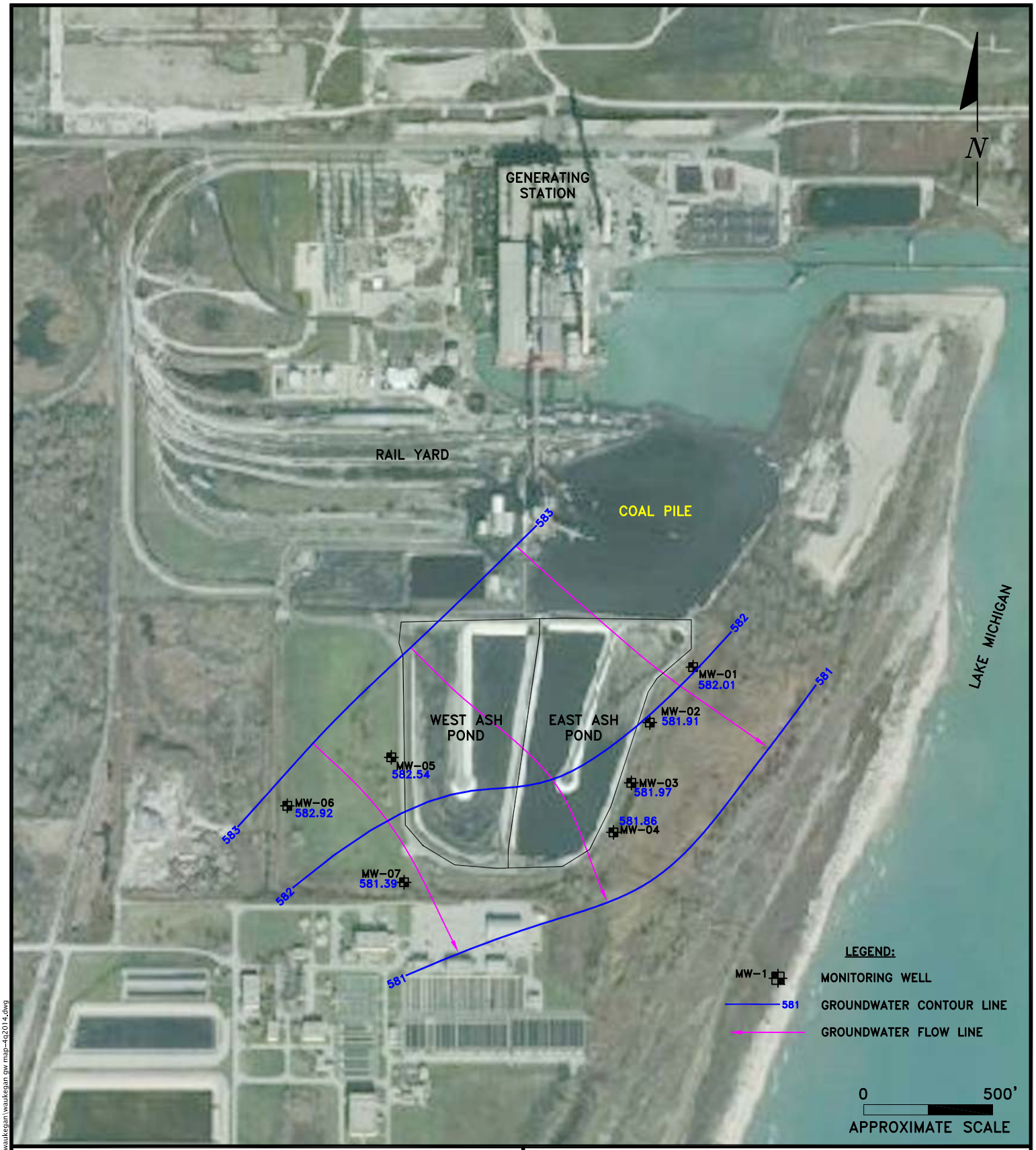
WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 500' | Date: January 23, 2015

KPRG Project No. 12313.2 | FIGURE 1

MWG13-15_45333

W:\c-p&p projects\midwest generation\ash pond issues\eluc & gmz\waukegan station eluc.dwg(site map)



ENVIRONMENTAL CONSULTATION & REMEDIATION

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14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

GROUNDWATER CONTOUR MAP 10/2014

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 500' | Date: January 23, 2015

KPRG Project No. 12313.2 | FIGURE 2

MW013-15_45334

W:\c\projects\midwest generation\12313\figures\waukegan\waukegan gw map-4q2014.dwg

TABLES

Table 1. Groundwater Elevations - Midwest Generation, LLC, Waukegan Station, Waukegan, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-01	6/13/2011	603.14	603.46	583.34	583.33	570.96	19.80	19.81	32.18
	9/13/2011	603.14	603.46	581.14	581.14	570.96	22.00	22.00	32.18
	12/6/2011	603.14	603.46	581.15	581.15	570.96	21.99	21.99	32.18
	3/14/2012	603.14	603.46	581.18	581.18	570.96	21.96	21.96	32.18
	6/18/2012	603.14	603.46	580.86	580.86	570.96	22.28	22.28	32.18
	9/28/2012	603.14	603.46	579.65	579.65	570.96	23.49	23.49	32.18
	12/19/2012	603.14	603.46	579.42	579.42	570.96	23.72	23.72	32.18
	3/7/2013	603.14	603.46	580.35	580.35	570.96	22.79	22.79	32.18
	6/6/2013	603.14	603.46	582.38	582.31	571.30	20.76	20.83	31.84
	7/25/2013	603.14	603.46	581.40	581.36	571.30	21.74	21.78	31.84
	11/4/2013	603.14	603.46	581.32	581.31	571.30	21.82	21.83	31.84
	3/10/2014	603.14	603.46	581.94	581.96	571.30	21.20	21.18	31.84
	5/16/2014	603.14	603.46	583.07	583.09	571.30	20.07	20.05	31.84
	8/21/2014	603.14	603.46	581.81	581.82	571.30	21.33	21.32	31.84
	11/6/2014	603.14	603.46	582.01	582.01	571.30	21.13	21.13	31.84
MW-02	6/13/2011	603.04	603.28	583.31	583.31	573.48	19.73	19.73	29.56
	9/13/2011	603.04	603.28	581.19	581.19	573.48	21.85	21.85	29.56
	12/6/2011	603.04	603.28	581.22	581.22	573.48	21.82	21.82	29.56
	3/14/2012	603.04	603.28	581.23	581.21	573.48	21.81	21.83	29.56
	6/18/2012	603.04	603.28	580.89	580.89	573.48	22.15	22.15	29.56
	9/28/2012	603.04	603.28	579.73	579.73	573.48	23.31	23.31	29.56
	12/19/2012	603.04	603.28	579.27	579.27	573.48	23.77	23.77	29.56
	3/7/2013	603.04	603.28	580.50	580.50	573.48	22.54	22.54	29.56
	6/6/2013	603.04	603.28	582.34	582.34	573.48	20.70	20.70	29.56
	7/25/2013	603.04	603.28	581.34	581.33	573.48	21.70	21.71	29.56
	11/4/2013	603.04	603.28	581.23	581.23	573.48	21.81	21.81	29.56
	3/10/2014	603.04	603.28	581.84	581.84	573.48	21.20	21.20	29.56
	5/15/2014	603.04	603.28	582.95	582.95	573.48	20.09	20.09	29.56
	8/21/2014	603.04	603.28	581.76	581.76	573.48	21.28	21.28	29.56
	11/6/2014	603.04	603.28	581.91	581.91	573.48	21.13	21.13	29.56
MW-03	6/13/2011	602.90	603.18	583.34	583.34	573.06	19.56	19.56	29.84
	9/13/2011	602.90	603.18	581.18	581.18	573.06	21.72	21.72	29.84
	12/6/2011	602.90	603.18	581.22	581.22	573.06	21.68	21.68	29.84
	3/14/2012	602.90	603.18	581.22	581.22	573.06	21.68	21.68	29.84
	6/18/2012	602.90	603.18	580.92	580.92	573.06	21.98	21.98	29.84
	9/28/2012	602.90	603.18	579.68	579.68	573.06	23.22	23.22	29.84
	12/19/2012	602.90	603.18	579.45	579.45	573.06	23.45	23.45	29.84
	3/7/2013	602.90	603.18	580.49	580.49	573.06	22.41	22.41	29.84
	6/6/2013	602.90	603.18	582.38	582.36	573.10	20.52	20.54	29.80
	7/25/2013	602.90	603.18	581.41	581.39	573.10	21.49	21.51	29.80
	11/4/2013	602.90	603.18	581.29	581.29	573.10	21.61	21.61	29.80
	3/10/2014	602.90	603.18	581.88	581.89	573.10	21.02	21.01	29.80
	5/16/2014	602.90	603.18	583.02	583.04	573.10	19.88	19.86	29.80
	8/21/2014	602.90	603.18	581.87	581.85	573.10	21.03	21.05	29.80
	11/6/2014	602.90	603.18	581.97	581.98	573.10	20.93	20.92	29.80
MW-04	6/13/2011	603.15	603.53	583.35	583.35	573.30	19.80	19.80	29.85
	9/13/2011	603.15	603.53	581.19	581.19	573.30	21.96	21.96	29.85
	12/6/2011	603.15	603.53	581.23	581.23	573.30	21.92	21.92	29.85
	3/14/2012	603.15	603.53	581.20	581.20	573.30	21.95	21.95	29.85
	6/18/2012	603.15	603.53	580.88	580.88	573.30	22.27	22.27	29.85
	9/28/2012	603.15	603.53	579.55	579.55	573.30	23.60	23.60	29.85
	12/19/2012	603.15	603.53	579.34	579.34	573.30	23.81	23.81	29.85
	3/7/2013	603.15	603.53	580.36	580.36	573.30	22.79	22.79	29.85
	6/6/2013	603.15	603.53	582.38	582.30	573.57	20.77	20.85	29.58
	7/25/2013	603.15	603.53	581.33	581.27	573.57	21.82	21.88	29.58
	11/4/2013	603.15	603.53	581.13	581.13	573.57	22.02	22.02	29.58
	3/11/2014	603.15	603.53	581.87	581.87	573.57	21.28	21.28	29.58
	5/16/2014	603.15	603.53	583.11	583.11	573.57	20.04	20.04	29.58
	8/21/2014	603.15	603.53	581.69	581.68	573.57	21.46	21.47	29.58
	11/6/2014	603.15	603.53	581.86	581.88	573.57	21.29	21.27	29.58
MW-05	6/13/2011	604.84	601.53	584.55	584.56	572.92	20.29	20.28	31.92
	9/13/2011	604.84	601.53	582.66	582.64	572.92	22.18	22.20	31.92
	12/6/2011	604.84	601.53	582.82	582.82	572.92	22.02	22.02	31.92
	3/14/2012	604.84	601.53	582.98	582.98	572.92	21.86	21.86	31.92
	6/18/2012	604.84	601.53	582.22	582.22	572.92	22.62	22.62	31.92
	9/28/2012	604.84	601.53	581.13	581.13	572.92	23.71	23.71	31.92
	12/19/2012	604.84	601.53	580.65	580.65	572.92	24.19	24.19	31.92
	3/7/2013	604.84	601.53	582.18	582.18	572.92	22.66	22.66	31.92
	6/6/2013	604.84	601.53	583.44	583.44	572.92	21.40	21.40	31.92
	7/25/2013	604.84	601.53	582.60	582.59	572.92	22.24	22.25	31.92
	11/5/2013	604.84	601.53	582.03	582.04	572.92	22.81	22.80	31.92
	3/11/2014	604.84	601.53	582.88	582.88	572.92	21.96	21.96	31.92
	5/16/2014	604.84	601.53	583.71	583.72	572.92	21.13	21.12	31.92
	8/21/2014	604.84	601.53	582.36	582.32	572.92	22.48	22.52	31.92
	11/5/2014	604.84	601.53	582.54	582.55	572.92	22.30	22.29	31.92

Table 1. Groundwater Elevations - Midwest Generation, LLC, Waukegan Station, Waukegan, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-06	12/19/2012	589.73	586.75	580.89	580.89	572.03	8.84	8.84	17.70
	3/7/2013	589.73	586.75	582.63	582.63	572.03	7.10	7.10	17.70
	6/6/2013	589.73	586.75	583.58	583.54	572.03	6.15	6.19	17.70
	7/25/2013	589.73	586.75	582.71	582.71	572.03	7.02	7.02	17.70
	11/5/2013	589.73	586.75	582.71	582.71	572.03	7.02	7.02	17.70
	3/10/2014	589.73	586.75	583.83	583.84	572.03	5.90	5.89	17.70
	5/15/2014	589.73	586.75	584.56	584.56	572.03	5.17	5.17	17.70
	8/21/2014	589.73	586.75	582.70	582.70	572.03	7.03	7.03	17.70
	11/5/2014	589.73	586.75	582.92	582.91	572.03	6.81	6.82	17.70
MW-07	12/19/2012	598.29	595.87	579.57	579.57	570.33	18.72	18.72	27.96
	3/7/2013	598.29	595.87	580.83	580.83	570.33	17.46	17.46	27.96
	6/6/2013	598.29	595.87	582.61	582.60	570.39	15.68	15.69	27.90
	7/25/2013	598.29	595.87	581.28	581.27	570.39	17.01	17.02	27.90
	11/4/2013	598.29	595.87	580.80	580.80	570.39	17.49	17.49	27.90
	3/10/2014	598.29	595.87	582.04	582.10	570.39	16.25	16.19	27.90
	5/15/2014	598.29	595.87	584.35	584.35	570.39	13.94	13.94	27.90
	8/21/2014	598.29	595.87	581.13	581.14	570.39	17.16	17.15	27.90
	11/5/2014	598.29	595.87	581.39	581.40	570.39	16.90	16.89	27.90

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-01	Date	12/19/2012		3/7/2013		6/7/2013		7/25/2013		11/4/2013		3/10/2014		5/16/2014		8/21/2014		11/6/2014	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^
Arsenic	0.010	0.0010	0.091	0.0010	0.098	0.0010	0.036	0.0010	0.055	0.0010	0.046	0.0010	0.031	0.0010	0.036	0.0010	0.019	0.0010	0.21
Barium	2.0	0.0025	0.013	0.0025	0.033	0.0025	0.052	0.0025	0.040	0.0025	0.065	0.0025	0.031	0.0025	0.025	0.0025	0.032	0.0025	0.0094
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	1.9	0.50	2.2	0.50	2.2	0.50	2.3	0.25	3.1	0.25	1.9	0.050	2.0	0.25	2.0	0.50	2.2
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	48	2.0	45	2.0	34	2.0	42	2.0	28	2.0	33	2.0	31	10	79	2.0	70
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	0.0022	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0024
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.013	0.010	0.029	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.41 ^	0.10	0.50	0.10	0.41	0.10	0.45	0.10	0.28	0.10	0.27	0.10	0.46	0.10	0.76	0.10	0.56
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	0.0047	0.0025	0.011	0.0025	0.011	0.0025	0.021	0.0025	0.0073	0.0025	ND	0.0025	0.026	0.0025	0.0054
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	1.0	0.10	0.10	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	1.1	0.10	0.10	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	0.055	0.020	ND	0.020	0.058	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	0.024	0.020	0.078
Perchlorate	0.0049	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	10.47	NA	9.85	NA	8.37	NA	8.81	NA	8.42	NA	8.99	NA	8.88	NA	7.92	NA	10.54
Selenium	0.05	0.0025	ND	0.0025	0.056	0.0025	0.043	0.0025	0.031	0.0025	0.013	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.035
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	200	50	250	100	260	100	300	50	260	50	130	50	170	50	130	50	270
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	460	10	510	10	660	10	580	10	580	10	290	10	300	10	460	10	450
Vanadium	0.049	0.0050	0.026	0.0050	0.018	0.0050	0.056	0.0050	0.042	0.0050	0.0067	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.49
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	14.17	NA	12.8	NA	12.94	NA	14.93	NA	13.41	NA	13.79	NA	9.41	NA	16.04	NA	11.91
Conductivity	NA	NA	0.53	NA	0.60	NA	0.655	NA	0.65	NA	0.51	NA	0.41	NA	0.36	NA	0.638	NA	0.616
Dissolved Oxygen	NA	NA	0.45	NA	0.36	NA	0.39	NA	0.28	NA	0.55	NA	1.21	NA	1.46	NA	0.43	NA	1.75
ORP	NA	NA	-205	NA	-98.2	NA	-109.4	NA	-133.6	NA	-213.3	NA	-98.4	NA	42.7	NA	22.7	NA	-37.2

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-02	Date	12/19/2012		3/7/2013		6/7/2013		7/25/2013		11/4/2013		3/10/2014		5/15/2014		8/21/2014		11/6/2014	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^
Arsenic	0.010	0.0010	0.0089	0.0010	0.012	0.0010	0.0090	0.0010	0.0087	0.0010	0.0091	0.0010	0.0085	0.0010	0.0062	0.0010	0.0081	0.0010	0.0095
Barium	2.0	0.0025	0.016	0.0025	0.020	0.0025	0.021	0.0025	0.026	0.0025	0.028	0.0025	0.046	0.0025	0.086	0.0025	0.029	0.0025	0.029
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	1.9	0.50	2.2	0.50	1.9	0.50	2.1	0.25	2.2	0.25	2.8	0.25	2.6	0.25	3.0	0.50	3.0
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	54	2.0	50	2.0	52	2.0	47	2.0	55	2.0	51	2.0	57	2.0	47	2.0	48
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	1.3 ^	0.10	1.2	0.10	1.3	0.10	0.93	0.10	0.60	0.10	0.60	0.10	0.70	0.10	0.76	0.10	0.61
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.16	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.023	0.0025	0.039	0.0025	0.051	0.0025	0.069	0.0025	0.034	0.0025	0.085	0.0025	0.16	0.0025	0.050	0.0025	0.041
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.94	NA	8.95	NA	7.63	NA	7.61	NA	7.97	NA	8.38	NA	7.65	NA	8.13	NA	8.61
Selenium	0.05	0.0025	ND	0.0025	0.0084	0.0025	ND	0.0025	0.015	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0060	0.0025	0.0045
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	210	50	230	50	220	50	260	100	290	50	370	100	280	50	210	50	350
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	500	10	520	10	550	10	530	10	770	10	670	10	710	10	550	10	510
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00077
Temperature	NA	NA	13.01	NA	12.2	NA	12.99	NA	14.79	NA	13.16	NA	12.72	NA	11.00	NA	15.15	NA	11.87
Conductivity	NA	NA	0.54	NA	0.62	NA	0.55	NA	0.59	NA	0.62	NA	0.72	NA	0.79	NA	0.684	NA	0.647
Dissolved Oxygen	NA	NA	0.33	NA	0.18	NA	0.32	NA	0.42	NA	0.60	NA	0.81	NA	0.79	NA	0.32	NA	0.47
ORP	NA	NA	-43	NA	-66.4	NA	-124.3	NA	-90.4	NA	-129.8	NA	-121.9	NA	-18.2	NA	-58.2	NA	-145.3

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-03	Date	12/19/2012		3/7/2013		6/7/2013		7/25/2013		11/4/2013		3/10/2014		5/15/2014		8/21/2014		11/6/2014	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^
Arsenic	0.010	0.0010	0.0031	0.0010	0.0018	0.0010	0.0014	0.0010	0.0025	0.0010	0.0050	0.0010	0.0013	0.0010	0.0020	0.0010	0.0041	0.0010	0.0029
Barium	2.0	0.0025	0.011	0.0025	0.015	0.0025	0.039	0.0025	0.017	0.0025	0.015	0.0025	0.012	0.0025	0.0061	0.0025	0.012	0.0025	0.013
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	1.9	0.50	2.0	0.50	2.5	0.50	1.8	0.25	1.9	0.25	1.1	0.050	1.2	0.25	2.3	0.50	2.3
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	49	2.0	45	2.0	39	2.0	43	2.0	25	2.0	37	2.0	37	10	89	2.0	64
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	1.1 ^	0.10	0.99	0.10	0.48	0.10	0.83	0.10	0.63	0.10	0.74	0.10	0.57	0.10	0.55	0.10	0.65
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0015
Manganese	0.15	0.0025	0.0034	0.0025	0.015	0.0025	0.0062	0.0025	0.0031	0.0025	0.0082	0.0025	0.0069	0.0025	0.0028	0.0025	0.0083	0.0025	0.0035
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	13	0.10	ND	0.10	ND	0.10	0.11	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.50	13	0.10	ND	0.10	ND	0.10	0.11	0.10	0.15	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	0.072	0.020	ND	0.020	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	8.22	NA	8.55	NA	7.13	NA	7.46	NA	7.26	NA	7.38	NA	8.47	NA	7.82	NA	6.95
Selenium	0.05	0.0025	ND	0.0025	0.011	0.0025	0.067	0.0025	0.0085	0.0025	0.0045	0.0025	0.0028	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	240	50	240	100	290	100	240	50	140	50	170	25	100	50	110	50	240
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	520	10	470	10	860	10	530	10	380	10	340	10	210	10	470	10	400
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	0.0055	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	13.02	NA	12.6	NA	12.87	NA	13.95	NA	15.35	NA	11.89	NA	8.47	NA	18.83	NA	13.28
Conductivity	NA	NA	0.55	NA	0.61	NA	0.86	NA	0.580	NA	0.40	NA	0.37	NA	0.27	NA	0.600	NA	0.513
Dissolved Oxygen	NA	NA	0.27	NA	0.4	NA	0.59	NA	0.31	NA	0.54	NA	0.78	NA	0.40	NA	1.05	NA	1.43
ORP	NA	NA	17	NA	40.8	NA	-84.1	NA	0.80	NA	-128.2	NA	-78.5	NA	90.5	NA	4.2	NA	13.2

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-04	Date	12/19/2012		3/7/2013		6/6/2013		7/25/2013		11/4/2013		3/11/2014		5/16/2014		8/21/2014		11/6/2014	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0080	0.0010	0.0081	0.0010	0.0032	0.0010	0.0044	0.0010	0.0055	0.0010	0.0062	0.0010	0.0061	0.0010	0.0064	0.0010	0.0080
Barium	2.0	0.0025	0.031	0.0025	0.031	0.0025	0.049	0.0025	0.049	0.0025	0.047	0.0025	0.071	0.0025	0.053	0.0025	0.029	0.0025	0.024
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.50	2.5	0.50	2.4	0.50	2.3	0.50	2.5	0.25	2.8	0.25	3.0	0.25	2.7	0.25	1.5	0.50	1.6
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	55	2.0	50	2.0	51	2.0	42	2.0	46	2.0	41	2.0	34	2.0	33	2.0	36
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.72 ^	0.10	0.73	0.10	0.67	0.10	0.60	0.10	0.48	0.10	0.28	0.10	0.27	0.10	0.26	0.10	0.23
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.031	0.0025	0.034	0.0025	0.016	0.0025	0.024	0.0025	0.036	0.0025	0.074	0.0025	0.052	0.0025	0.046	0.0025	0.035
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	0.31	0.10	ND	0.10	0.21	0.10	0.12	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	0.31	0.10	ND	0.10	0.21	0.10	0.12	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	8.41	NA	8.93	NA	7.25	NA	7.18	NA	7.35	NA	7.99	NA	7.76	NA	7.74	NA	7.53
Selenium	0.05	0.0025	ND	0.0025	0.0043	0.0025	0.028	0.0025	0.050	0.0025	0.011	0.0025	0.0034	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	220	50	230	50	260	100	300	50	270	100	360	50	140	25	130	50	200
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	510	10	460	10	660	10	610	10	630	10	680	10	470	10	370	10	280
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	13.11	NA	11.9	NA	12.91	NA	14.1	NA	13.17	NA	10.93	NA	10.27	NA	16.85	NA	10.41
Conductivity	NA	NA	0.57	NA	0.56	NA	0.666	NA	0.70	NA	0.59	NA	0.65	NA	0.59	NA	0.43	NA	0.374
Dissolved Oxygen	NA	NA	0.07	NA	0.14	NA	0.37	NA	0.35	NA	0.37	NA	1.28	NA	0.52	NA	0.43	NA	4.55
ORP	NA	NA	-151	NA	-54.3	NA	-55.9	NA	13.7	NA	-166.2	NA	-99.2	NA	13.8	NA	-48.2	NA	-56.8

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-05	Date	12/19/2012		3/7/2013		6/6/2013		7/25/2013		11/5/2013		3/11/2014		5/16/2014		8/21/2014		11/5/2014	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^
Arsenic	0.010	0.0010	0.011	0.0010	0.012	0.0010	ND	0.0010	0.0013	0.0010	0.0086	0.0010	0.0097	0.0010	0.0090	0.0010	0.0019	0.0010	0.0097
Barium	2.0	0.0025	0.070	0.0025	0.060	0.0025	0.045	0.0025	0.037	0.0025	0.054	0.0025	0.051	0.0025	0.036	0.0025	0.031	0.0025	0.046
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	5.0	27	5.0	33	5.0	12	5.0	29	1.0	32	2.5	31	5.0	36	5.0	35	5.0	36
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	220	2.0	68	50	600	10	210	2.0	49	2.0	45	2.0	47	2.0	47	2.0	42
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.36 ^	0.10	0.36	0.10	0.21	0.10	0.32	0.10	0.32	0.10	0.29	0.10	0.31	0.10	0.31	0.10	0.29
Iron	5.0	0.10	3.9	0.10	4.0	0.10	0.41	0.10	1.1	0.10	4.6	0.10	5.5	0.10	5.5	0.10	4.0	0.10	8.6
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.48	0.0025	0.51	0.0025	0.17	0.0025	0.44	0.0025	0.54	0.0025	0.62	0.0025	0.49	0.0025	0.65	0.0025	0.62
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	0.0026	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0020
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	0.45	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	0.45	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	0.033	0.020	ND	0.020	ND	0.020	ND	0.020	0.047	0.020	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.36	NA	7.33	NA	6.61	NA	6.74	NA	7.20	NA	7.64	NA	7.07	NA	7.06	NA	7.30
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	0.0037	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	250	550	250	650	250	1200	250	890	250	870	250	640	100	630	130	640	200	840
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1800	10	1600	17	3500	10	2000	10	1600	10	1400	10	1500	10	1600	10	1500
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	12.46	NA	12.5	NA	13.12	NA	15.7	NA	13.34	NA	10.19	NA	10.13	NA	19.08	NA	11.27
Conductivity	NA	NA	1.74	NA	1.48	NA	3.118	NA	2.18	NA	1.24	NA	0.86	NA	1.33	NA	1.509	NA	1.316
Dissolved Oxygen	NA	NA	0.10	NA	0.22	NA	0.63	NA	0.50	NA	0.47	NA	1.45	NA	0.59	NA	4.09	NA	1.61
ORP	NA	NA	-101	NA	-129.7	NA	18.4	NA	22.3	NA	-107.0	NA	-94.3	NA	-28.2	NA	-80	NA	-53

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-06	Date	12/19/2012		3/7/2013		6/6/2013		7/25/2013		11/5/2013		3/10/2014		5/15/2014		8/21/2014		11/5/2014	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^
Arsenic	0.010	0.0010	0.0029	0.0010	0.0019	0.0010	0.0065	0.0010	0.0096	0.0010	0.0034	0.0010	0.0017	0.0010	0.0043	0.0010	0.0083	0.0010	0.0045
Barium	2.0	0.0025	0.11	0.0025	0.088	0.0025	0.077	0.0025	0.092	0.0025	0.13	0.0025	0.012	0.0025	0.061	0.0025	0.089	0.0025	0.10
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.25	1.1	0.50	2.8	0.50	6.7	2.5	4.3	0.25	2.4	0.25	2.0	0.25	2.2	0.25	2.9	0.50	3.7
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	110	2.0	61	2.0	48	2.0	69	10	85	2.0	8.0	10	84	10	98	10	97
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	0.0015	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0025	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.43 ^	0.10	0.27	0.10	0.30	0.10	0.34	0.10	0.30	0.10	0.17	0.10	0.22	0.10	0.35	0.10	0.29
Iron	5.0	0.10	2.6	0.10	2.0	0.10	6.2	0.10	16	0.10	4.1	0.10	0.19	0.10	3.0	0.10	9.2	0.10	6.7
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.21	0.0025	0.36	0.0025	0.75	0.0025	0.72	0.0025	0.44	0.0025	0.0073	0.0025	0.17	0.0025	0.38	0.0025	0.44
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	0.0039	0.0020	0.0029	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	1.1	0.10	ND	0.10	ND	0.10	0.54	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	1.1	0.10	ND	0.10	ND	0.10	0.54	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.52	NA	7.42	NA	6.83	NA	6.88	NA	7.24	NA	7.94	NA	7.18	NA	7.11	NA	7.33
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.014	0.0025	ND	0.0025	0.0033	0.0025	0.0034
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	160	100	380	100	390	100	360	100	350	25	93	50	170	50	120	50	240
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	940	10	1100	10	1100	10	1100	10	1200	10	190	10	870	10	950	10	890
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.0050	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	11.32	NA	7.1	NA	9.68	NA	12.92	NA	13.14	NA	5.14	NA	8.91	NA	17.83	NA	12.69
Conductivity	NA	NA	1.05	NA	1.01	NA	0.911	NA	1.18	NA	1.10	NA	0.21	NA	0.9	NA	1.179	NA	1.092
Dissolved Oxygen	NA	NA	0.07	NA	0.33	NA	0.40	NA	0.28	NA	0.22	NA	7.07	NA	0.51	NA	0.97	NA	1.37
ORP	NA	NA	-128	NA	-99.4	NA	-72.7	NA	-109.7	NA	-126.3	NA	-9.90	NA	-36.7	NA	-116.9	NA	-94.1

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-07	Date	12/19/2012		3/7/2013		6/6/2013		7/25/2013		11/4/2013		3/10/2014		5/15/2014		8/21/2014		11/5/2014	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^
Arsenic	0.010	0.0010	0.0099	0.0010	0.012	0.0010	0.010	0.0010	0.011	0.0010	0.012	0.0010	0.0096	0.0010	0.0098	0.0010	0.011	0.0010	0.0095
Barium	2.0	0.0025	0.080	0.0025	0.082	0.0025	0.082	0.0025	0.083	0.0025	0.082	0.0025	0.073	0.0025	0.089	0.0025	0.072	0.0025	0.062
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	5.0	43	5.0	49	5.0	42	5.0	44	1.0	45	2.5	39	5.0	27	5.0	40	5.0	41
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	60	2.0	54	2.0	44	2.0	33	2.0	53	2.0	34	2.0	35	2.0	36	2.0	48
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.48	0.10	0.50	0.10	0.46	0.10	0.46	0.10	0.44	0.10	0.39	0.10	0.30	0.10	0.47	0.10	0.45
Iron	5.0	0.10	12	0.10	12	0.10	13	0.10	13	0.10	13	0.10	11	0.10	12	0.10	11	0.10	9.4
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.46	0.0025	0.49	0.0025	0.48	0.0025	0.46	0.0025	0.46	0.0025	0.46	0.0025	0.60	0.0025	0.40	0.0025	0.34
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	0.11	0.10	ND	0.10	ND	0.10	ND	0.10	0.11	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	0.11	0.10	ND	0.10	ND	0.10	ND	0.10	0.11	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.27	NA	8.24	NA	7.09	NA	7.10	NA	7.18	NA	7.67	NA	6.89	NA	7.25	NA	7.46
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0025	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	250	630	250	710	250	650	250	860	250	770	250	540	100	330	130	690	200	880
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1800	10	1800	10	1800	10	1800	10	1800	10	1600	10	1300	10	1600	10	1500
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	12.99	NA	1.5	NA	12.46	NA	13.99	NA	12.92	NA	12.33	NA	9.89	NA	18.25	NA	13.37
Conductivity	NA	NA	1.54	NA	1.17	NA	1.385	NA	1.52	NA	1.01	NA	0.98	NA	1.26	NA	1.607	NA	1.394
Dissolved Oxygen	NA	NA	0.05	NA	0.33	NA	0.80	NA	0.28	NA	0.54	NA	1.19	NA	0.62	NA	1.18	NA	2.35
ORP	NA	NA	-129	NA	-111.6	NA	-151.7	NA	-125.8	NA	-127.7	NA	-116.8	NA	-16.9	NA	-143.6	NA	-112.5

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

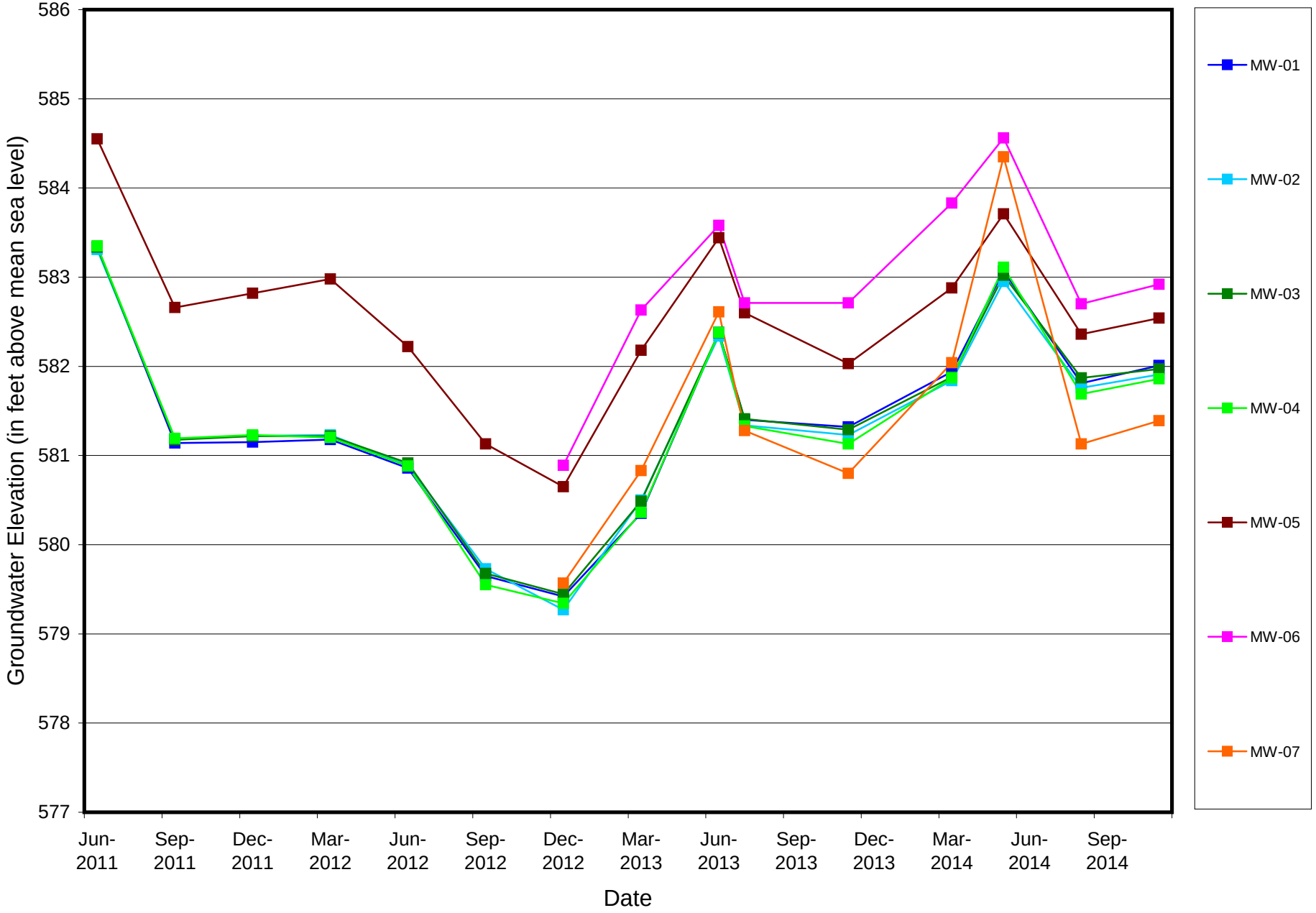
NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

ATTACHMENT 1
Hydrograph of Water Level Elevations

Midwest Generation Waukegan Station, Waukegan, IL

Groundwater Elevation vs Time



MWG13-15_45346

ATTACHMENT 2
Analytical Data Package

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-87368-1
Client Project/Site: Waukegan Station Ash Ponds

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
11/20/2014 4:25:49 PM

Bonnie Stadelmann, Senior Project Manager
(708)534-5200
bonnie.stadelmann@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 500-87368-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-87368-1

Comments
No additional comments.

Receipt
The samples were received on 11/6/2014 10:25 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 2.4º C, 2.8º C, 3.1º C and 4.1º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method(s) 6020A: The low level calibration check standard (CCVL) at lines 44 and 56 in AD batch 264940 were outside the acceptance criteria for Sb. The associated sample concentrations were non-detect and therefore not affected by a high bias in the CCVL: (500-87368-1 DU), (500-87368-1 MS), (500-87368-1 MSD), (500-87368-1 SD), Duplicate (500-87368-4), MW-01 (500-87368-8), MW-02 (500-87368-9), MW-03 (500-87368-10), MW-05 (500-87368-1), MW-06 (500-87368-2), MW-07 (500-87368-3)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-87368-1

Client Sample ID: MW-05 — Lab Sample ID: 500-87368-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0097		0.0010		mg/L	1		6020A	Dissolved
Barium	0.046		0.0025		mg/L	1		6020A	Dissolved
Boron	36		5.0		mg/L	100		6020A	Dissolved
Iron	8.6		0.10		mg/L	1		6020A	Dissolved
Manganese	0.62		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0020		0.0020		mg/L	1		6020A	Dissolved
Sulfate	840		200		mg/L	40		9038	Dissolved
Chloride	42		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	1500		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.29		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-06 — Lab Sample ID: 500-87368-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0045		0.0010		mg/L	1		6020A	Dissolved
Barium	0.10		0.0025		mg/L	1		6020A	Dissolved
Boron	3.7		0.50		mg/L	10		6020A	Dissolved
Iron	6.7		0.10		mg/L	1		6020A	Dissolved
Manganese	0.44		0.0025		mg/L	1		6020A	Dissolved
Selenium	0.0034		0.0025		mg/L	1		6020A	Dissolved
Sulfate	240		50		mg/L	10		9038	Dissolved
Chloride	97		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	890		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.29		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-07 — Lab Sample ID: 500-87368-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0095		0.0010		mg/L	1		6020A	Dissolved
Barium	0.062		0.0025		mg/L	1		6020A	Dissolved
Boron	41		5.0		mg/L	100		6020A	Dissolved
Iron	9.4		0.10		mg/L	1		6020A	Dissolved
Manganese	0.34		0.0025		mg/L	1		6020A	Dissolved
Sulfate	880		200		mg/L	40		9038	Dissolved
Chloride	48		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	1500		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.45		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: Duplicate — Lab Sample ID: 500-87368-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0097		0.0010		mg/L	1		6020A	Dissolved
Barium	0.061		0.0025		mg/L	1		6020A	Dissolved
Boron	40		5.0		mg/L	100		6020A	Dissolved
Iron	9.5		0.10		mg/L	1		6020A	Dissolved
Manganese	0.33		0.0025		mg/L	1		6020A	Dissolved
Sulfate	800		200		mg/L	40		9038	Dissolved
Chloride	48		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	1500		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.45		0.10		mg/L	1		SM 4500 F C	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-87368-1

Client Sample ID: MW-01 — Lab Sample ID: 500-87368-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.21		0.0010		mg/L	1		6020A	Dissolved
Barium	0.0094		0.0025		mg/L	1		6020A	Dissolved
Boron	2.2		0.50		mg/L	10		6020A	Dissolved
Copper	0.0024		0.0020		mg/L	1		6020A	Dissolved
Manganese	0.0054		0.0025		mg/L	1		6020A	Dissolved
Selenium	0.035		0.0025		mg/L	1		6020A	Dissolved
Vanadium	0.49		0.0050		mg/L	1		6020A	Dissolved
Sulfate	270		50		mg/L	10		9038	Dissolved
Chloride	70		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	450		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.56		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrite	0.078		0.020		mg/L	1		SM 4500 NO2 B	Dissolved

Client Sample ID: MW-02 — Lab Sample ID: 500-87368-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.00077		0.00050		mg/L	1		8260B	Total/NA
Arsenic	0.0095		0.0010		mg/L	1		6020A	Dissolved
Barium	0.029		0.0025		mg/L	1		6020A	Dissolved
Boron	3.0		0.50		mg/L	10		6020A	Dissolved
Manganese	0.041		0.0025		mg/L	1		6020A	Dissolved
Selenium	0.0045		0.0025		mg/L	1		6020A	Dissolved
Sulfate	350		50		mg/L	10		9038	Dissolved
Chloride	48		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	510		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.61		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-03 — Lab Sample ID: 500-87368-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0029		0.0010		mg/L	1		6020A	Dissolved
Barium	0.013		0.0025		mg/L	1		6020A	Dissolved
Boron	2.3		0.50		mg/L	10		6020A	Dissolved
Lead	0.0015		0.00050		mg/L	1		6020A	Dissolved
Manganese	0.0035		0.0025		mg/L	1		6020A	Dissolved
Sulfate	240		50		mg/L	10		9038	Dissolved
Chloride	64		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	400		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.65		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-04 — Lab Sample ID: 500-87368-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0080		0.0010		mg/L	1		6020A	Dissolved
Barium	0.024		0.0025		mg/L	1		6020A	Dissolved
Boron	1.6		0.50		mg/L	10		6020A	Dissolved
Manganese	0.035		0.0025		mg/L	1		6020A	Dissolved
Sulfate	200		50		mg/L	10		9038	Dissolved
Chloride	36		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	280		10		mg/L	1		SM 2540C	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-04 (Continued)

Lab Sample ID: 500-87368-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	0.23		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: TRIP BLANK

Lab Sample ID: 500-87368-12

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-87368-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
314.0	Perchlorate (IC)	EPA	TAL SAC
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
9014	Cyanide	SW846	TAL CHI
9038	Sulfate, Turbidimetric	SW846	TAL CHI
9251	Chloride	SW846	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-87368-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-87368-1	MW-05	Water	11/05/14 09:20	11/06/14 10:25
500-87368-2	MW-06	Water	11/05/14 12:15	11/06/14 10:25
500-87368-3	MW-07	Water	11/05/14 11:00	11/06/14 10:25
500-87368-4	Duplicate	Water	11/05/14 00:00	11/06/14 10:25
500-87368-8	MW-01	Water	11/06/14 09:10	11/07/14 12:28
500-87368-9	MW-02	Water	11/06/14 13:50	11/07/14 12:28
500-87368-10	MW-03	Water	11/06/14 12:10	11/07/14 12:28
500-87368-11	MW-04	Water	11/06/14 10:45	11/07/14 12:28
500-87368-12	TRIP BLANK	Water	11/06/14 00:00	11/07/14 12:28

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-87368-1

Client Sample ID: MW-05
Date Collected: 11/05/14 09:20
Date Received: 11/06/14 10:25

Lab Sample ID: 500-87368-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/13/14 19:27	1
Toluene	<0.00050		0.00050		mg/L			11/13/14 19:27	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/13/14 19:27	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/13/14 19:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 125*		*11/13/14 19:27*	*1*
Toluene-d8 (Surr)	*99*		*75 - 120*		*11/13/14 19:27*	*1*
4-Bromofluorobenzene (Surr)	*108*		*75 - 120*		*11/13/14 19:27*	*1*
Dibromofluoromethane	*89*		*75 - 120*		*11/13/14 19:27*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/20/14 01:43	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030	^	0.0030		mg/L		11/18/14 10:44	11/18/14 17:00	1
Arsenic	**0.0097**		0.0010		mg/L		11/18/14 10:44	11/19/14 11:48	1
Barium	**0.046**		0.0025		mg/L		11/18/14 10:44	11/18/14 17:00	1
Beryllium	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 17:00	1
Boron	**36**		5.0		mg/L		11/18/14 10:44	11/20/14 12:51	100
Cadmium	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 17:00	1
Chromium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/19/14 11:48	1
Cobalt	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 17:00	1
Copper	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 17:00	1
Iron	**8.6**		0.10		mg/L		11/18/14 10:44	11/18/14 17:00	1
Lead	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 17:00	1
Manganese	**0.62**		0.0025		mg/L		11/18/14 10:44	11/18/14 17:00	1
Nickel	**0.0020**		0.0020		mg/L		11/18/14 10:44	11/18/14 17:00	1
Selenium	<0.0025		0.0025		mg/L		11/18/14 10:44	11/18/14 17:00	1
Silver	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 17:00	1
Thallium	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 17:00	1
Vanadium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/18/14 17:00	1
Zinc	<0.020		0.020		mg/L		11/18/14 10:44	11/18/14 17:00	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/10/14 11:45	11/11/14 08:57	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/14 11:50	11/12/14 14:58	1
Sulfate	**840**		200		mg/L			11/18/14 09:21	40
Chloride	**42**		2.0		mg/L			11/12/14 23:10	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/14/14 08:59	1
Total Dissolved Solids	**1500**		10		mg/L			11/10/14 21:12	1
Fluoride	**0.29**		0.10		mg/L			11/14/14 14:47	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/06/14 12:57	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/11/14 14:33	1

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-87368-1

Client Sample ID: MW-06
Date Collected: 11/05/14 12:15
Date Received: 11/06/14 10:25

Lab Sample ID: 500-87368-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/13/14 19:53	1
Toluene	<0.00050		0.00050		mg/L			11/13/14 19:53	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/13/14 19:53	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/13/14 19:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 125*		*11/13/14 19:53*	*1*
Toluene-d8 (Surr)	*100*		*75 - 120*		*11/13/14 19:53*	*1*
4-Bromofluorobenzene (Surr)	*110*		*75 - 120*		*11/13/14 19:53*	*1*
Dibromofluoromethane	*87*		*75 - 120*		*11/13/14 19:53*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/20/14 02:29	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030	^	0.0030		mg/L		11/18/14 10:44	11/18/14 17:33	1
Arsenic	**0.0045**		0.0010		mg/L		11/18/14 10:44	11/19/14 12:06	1
Barium	**0.10**		0.0025		mg/L		11/18/14 10:44	11/18/14 17:33	1
Beryllium	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 17:33	1
Boron	**3.7**		0.50		mg/L		11/18/14 10:44	11/20/14 12:56	10
Cadmium	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 17:33	1
Chromium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/19/14 12:06	1
Cobalt	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 17:33	1
Copper	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 17:33	1
Iron	**6.7**		0.10		mg/L		11/18/14 10:44	11/18/14 17:33	1
Lead	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 17:33	1
Manganese	**0.44**		0.0025		mg/L		11/18/14 10:44	11/18/14 17:33	1
Nickel	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 17:33	1
Selenium	**0.0034**		0.0025		mg/L		11/18/14 10:44	11/18/14 17:33	1
Silver	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 17:33	1
Thallium	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 17:33	1
Vanadium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/18/14 17:33	1
Zinc	<0.020		0.020		mg/L		11/18/14 10:44	11/18/14 17:33	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/10/14 11:45	11/11/14 08:59	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/14 11:50	11/12/14 14:58	1
Sulfate	**240**		50		mg/L			11/18/14 09:21	10
Chloride	**97**		10		mg/L			11/12/14 23:49	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/14/14 08:59	1
Total Dissolved Solids	**890**		10		mg/L			11/10/14 21:19	1
Fluoride	**0.29**		0.10		mg/L			11/14/14 14:50	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/06/14 12:58	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/11/14 14:40	1

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-87368-1

Client Sample ID: MW-07

Date Collected: 11/05/14 11:00
Date Received: 11/06/14 10:25

Lab Sample ID: 500-87368-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/13/14 20:19	1
Toluene	<0.00050		0.00050		mg/L			11/13/14 20:19	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/13/14 20:19	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/13/14 20:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 125*		*11/13/14 20:19*	*1*
Toluene-d8 (Surr)	*100*		*75 - 120*		*11/13/14 20:19*	*1*
4-Bromofluorobenzene (Surr)	*109*		*75 - 120*		*11/13/14 20:19*	*1*
Dibromofluoromethane	*86*		*75 - 120*		*11/13/14 20:19*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/20/14 02:45	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030	^	0.0030		mg/L		11/18/14 10:44	11/18/14 17:37	1
Arsenic	**0.0095**		0.0010		mg/L		11/18/14 10:44	11/19/14 12:09	1
Barium	**0.062**		0.0025		mg/L		11/18/14 10:44	11/18/14 17:37	1
Beryllium	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 17:37	1
Boron	**41**		5.0		mg/L		11/18/14 10:44	11/20/14 12:57	100
Cadmium	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 17:37	1
Chromium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/19/14 12:09	1
Cobalt	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 17:37	1
Copper	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 17:37	1
Iron	**9.4**		0.10		mg/L		11/18/14 10:44	11/18/14 17:37	1
Lead	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 17:37	1
Manganese	**0.34**		0.0025		mg/L		11/18/14 10:44	11/18/14 17:37	1
Nickel	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 17:37	1
Selenium	<0.0025		0.0025		mg/L		11/18/14 10:44	11/18/14 17:37	1
Silver	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 17:37	1
Thallium	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 17:37	1
Vanadium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/18/14 17:37	1
Zinc	<0.020		0.020		mg/L		11/18/14 10:44	11/18/14 17:37	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/10/14 11:45	11/11/14 09:01	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/14 11:50	11/12/14 14:59	1
Sulfate	**880**		200		mg/L			11/18/14 09:21	40
Chloride	**48**		2.0		mg/L			11/12/14 23:12	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/14/14 08:59	1
Total Dissolved Solids	**1500**		10		mg/L			11/10/14 21:22	1
Fluoride	**0.45**		0.10		mg/L			11/14/14 14:53	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/06/14 12:58	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/11/14 14:42	1

Client Sample ID: Duplicate

Date Collected: 11/05/14 00:00
Date Received: 11/06/14 10:25

Lab Sample ID: 500-87368-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/13/14 20:46	1
Toluene	<0.00050		0.00050		mg/L			11/13/14 20:46	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/13/14 20:46	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/13/14 20:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 125*		*11/13/14 20:46*	*1*
Toluene-d8 (Surr)	*100*		*75 - 120*		*11/13/14 20:46*	*1*
4-Bromofluorobenzene (Surr)	*108*		*75 - 120*		*11/13/14 20:46*	*1*
Dibromofluoromethane	*85*		*75 - 120*		*11/13/14 20:46*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/20/14 03:00	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030	^	0.0030		mg/L		11/18/14 10:44	11/18/14 17:41	1
Arsenic	**0.0097**		0.0010		mg/L		11/18/14 10:44	11/19/14 12:12	1
Barium	**0.061**		0.0025		mg/L		11/18/14 10:44	11/18/14 17:41	1
Beryllium	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 17:41	1
Boron	**40**		5.0		mg/L		11/18/14 10:44	11/20/14 12:58	100
Cadmium	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 17:41	1
Chromium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/19/14 12:12	1
Cobalt	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 17:41	1
Copper	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 17:41	1
Iron	**9.5**		0.10		mg/L		11/18/14 10:44	11/18/14 17:41	1
Lead	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 17:41	1
Manganese	**0.33**		0.0025		mg/L		11/18/14 10:44	11/18/14 17:41	1
Nickel	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 17:41	1
Selenium	<0.0025		0.0025		mg/L		11/18/14 10:44	11/18/14 17:41	1
Silver	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 17:41	1
Thallium	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 17:41	1
Vanadium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/18/14 17:41	1
Zinc	<0.020		0.020		mg/L		11/18/14 10:44	11/18/14 17:41	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/10/14 11:45	11/11/14 09:03	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/14 11:50	11/12/14 14:59	1
Sulfate	**800**		200		mg/L			11/18/14 09:21	40
Chloride	**48**		2.0		mg/L			11/12/14 23:13	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/14/14 08:59	1
Total Dissolved Solids	**1500**		10		mg/L			11/10/14 21:24	1
Fluoride	**0.45**		0.10		mg/L			11/14/14 14:56	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/06/14 12:59	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/11/14 14:44	1

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-87368-1

Client Sample ID: MW-01
Date Collected: 11/06/14 09:10
Date Received: 11/07/14 12:28

Lab Sample ID: 500-87368-8
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/13/14 23:50	1
Toluene	<0.00050		0.00050		mg/L			11/13/14 23:50	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/13/14 23:50	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/13/14 23:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*75 - 125*		*11/13/14 23:50*	*1*
Toluene-d8 (Surr)	*96*		*75 - 120*		*11/13/14 23:50*	*1*
4-Bromofluorobenzene (Surr)	*107*		*75 - 120*		*11/13/14 23:50*	*1*
Dibromofluoromethane	*92*		*75 - 120*		*11/13/14 23:50*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/20/14 04:02	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030	^	0.0030		mg/L		11/18/14 10:44	11/18/14 17:58	1
Arsenic	**0.21**		0.0010		mg/L		11/18/14 10:44	11/19/14 12:23	1
Barium	**0.0094**		0.0025		mg/L		11/18/14 10:44	11/18/14 17:58	1
Beryllium	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 17:58	1
Boron	**2.2**		0.50		mg/L		11/18/14 10:44	11/20/14 13:05	10
Cadmium	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 17:58	1
Chromium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/19/14 12:23	1
Cobalt	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 17:58	1
Copper	**0.0024**		0.0020		mg/L		11/18/14 10:44	11/18/14 17:58	1
Iron	<0.10		0.10		mg/L		11/18/14 10:44	11/18/14 17:58	1
Lead	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 17:58	1
Manganese	**0.0054**		0.0025		mg/L		11/18/14 10:44	11/18/14 17:58	1
Nickel	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 17:58	1
Selenium	**0.035**		0.0025		mg/L		11/18/14 10:44	11/18/14 17:58	1
Silver	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 17:58	1
Thallium	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 17:58	1
Vanadium	**0.49**		0.0050		mg/L		11/18/14 10:44	11/18/14 17:58	1
Zinc	<0.020		0.020		mg/L		11/18/14 10:44	11/18/14 17:58	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/10/14 11:45	11/11/14 09:10	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/14 11:50	11/12/14 15:01	1
Sulfate	**270**		50		mg/L			11/18/14 09:21	10
Chloride	**70**		2.0		mg/L			11/12/14 23:20	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/14/14 08:59	1
Total Dissolved Solids	**450**		10		mg/L			11/10/14 21:34	1
Fluoride	**0.56**		0.10		mg/L			11/14/14 15:18	1
Nitrogen, Nitrite	**0.078**		0.020		mg/L			11/07/14 14:21	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/11/14 14:52	1

Client Sample ID: MW-02

Date Collected: 11/06/14 13:50
Date Received: 11/07/14 12:28

Lab Sample ID: 500-87368-9

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/14/14 12:48	1
Toluene	**0.00077**		0.00050		mg/L			11/14/14 12:48	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/14/14 12:48	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/14/14 12:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 125*		*11/14/14 12:48*	*1*
Toluene-d8 (Surr)	*99*		*75 - 120*		*11/14/14 12:48*	*1*
4-Bromofluorobenzene (Surr)	*108*		*75 - 120*		*11/14/14 12:48*	*1*
Dibromofluoromethane	*88*		*75 - 120*		*11/14/14 12:48*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/20/14 04:48	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030	^	0.0030		mg/L		11/18/14 10:44	11/18/14 18:02	1
Arsenic	**0.0095**		0.0010		mg/L		11/18/14 10:44	11/19/14 12:25	1
Barium	**0.029**		0.0025		mg/L		11/18/14 10:44	11/18/14 18:02	1
Beryllium	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 18:02	1
Boron	**3.0**		0.50		mg/L		11/18/14 10:44	11/20/14 13:06	10
Cadmium	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 18:02	1
Chromium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/19/14 12:25	1
Cobalt	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 18:02	1
Copper	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 18:02	1
Iron	<0.10		0.10		mg/L		11/18/14 10:44	11/18/14 18:02	1
Lead	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 18:02	1
Manganese	**0.041**		0.0025		mg/L		11/18/14 10:44	11/18/14 18:02	1
Nickel	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 18:02	1
Selenium	**0.0045**		0.0025		mg/L		11/18/14 10:44	11/18/14 18:02	1
Silver	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 18:02	1
Thallium	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 18:02	1
Vanadium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/18/14 18:02	1
Zinc	<0.020		0.020		mg/L		11/18/14 10:44	11/18/14 18:02	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/10/14 11:45	11/11/14 09:12	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/14 11:50	11/12/14 15:02	1
Sulfate	**350**		50		mg/L			11/18/14 09:21	10
Chloride	**48**		2.0		mg/L			11/12/14 23:21	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/14/14 08:59	1
Total Dissolved Solids	**510**		10		mg/L			11/10/14 21:37	1
Fluoride	**0.61**		0.10		mg/L			11/14/14 15:21	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/07/14 14:21	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/11/14 14:55	1

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-87368-1

Client Sample ID: MW-03

Date Collected: 11/06/14 12:10
Date Received: 11/07/14 12:28

Lab Sample ID: 500-87368-10

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/14/14 13:14	1
Toluene	<0.00050		0.00050		mg/L			11/14/14 13:14	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/14/14 13:14	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/14/14 13:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 125*		*11/14/14 13:14*	*1*
Toluene-d8 (Surr)	*98*		*75 - 120*		*11/14/14 13:14*	*1*
4-Bromofluorobenzene (Surr)	*107*		*75 - 120*		*11/14/14 13:14*	*1*
Dibromofluoromethane	*89*		*75 - 120*		*11/14/14 13:14*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/20/14 05:04	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030	^	0.0030		mg/L		11/18/14 10:44	11/18/14 18:06	1
Arsenic	**0.0029**		0.0010		mg/L		11/18/14 10:44	11/19/14 12:28	1
Barium	**0.013**		0.0025		mg/L		11/18/14 10:44	11/18/14 18:06	1
Beryllium	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 18:06	1
Boron	**2.3**		0.50		mg/L		11/18/14 10:44	11/20/14 13:07	10
Cadmium	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 18:06	1
Chromium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/19/14 12:28	1
Cobalt	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 18:06	1
Copper	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 18:06	1
Iron	<0.10		0.10		mg/L		11/18/14 10:44	11/18/14 18:06	1
Lead	**0.0015**		0.00050		mg/L		11/18/14 10:44	11/18/14 18:06	1
Manganese	**0.0035**		0.0025		mg/L		11/18/14 10:44	11/18/14 18:06	1
Nickel	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 18:06	1
Selenium	<0.0025		0.0025		mg/L		11/18/14 10:44	11/18/14 18:06	1
Silver	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 18:06	1
Thallium	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 18:06	1
Vanadium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/18/14 18:06	1
Zinc	<0.020		0.020		mg/L		11/18/14 10:44	11/18/14 18:06	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/10/14 11:45	11/11/14 09:14	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/14 11:50	11/12/14 15:02	1
Sulfate	**240**		50		mg/L			11/18/14 09:21	10
Chloride	**64**		2.0		mg/L			11/12/14 23:21	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/14/14 08:59	1
Total Dissolved Solids	**400**		10		mg/L			11/10/14 21:39	1
Fluoride	**0.65**		0.10		mg/L			11/14/14 15:24	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/07/14 14:21	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/11/14 14:55	1

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-87368-1

Client Sample ID: MW-04
Date Collected: 11/06/14 10:45
Date Received: 11/07/14 12:28

Lab Sample ID: 500-87368-11
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/14/14 13:40	1
Toluene	<0.00050		0.00050		mg/L			11/14/14 13:40	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/14/14 13:40	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/14/14 13:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 125*		*11/14/14 13:40*	*1*
Toluene-d8 (Surr)	*102*		*75 - 120*		*11/14/14 13:40*	*1*
4-Bromofluorobenzene (Surr)	*105*		*75 - 120*		*11/14/14 13:40*	*1*
Dibromofluoromethane	*86*		*75 - 120*		*11/14/14 13:40*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/20/14 05:19	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/18/14 10:44	11/18/14 18:22	1
Arsenic	**0.0080**		0.0010		mg/L		11/18/14 10:44	11/19/14 12:39	1
Barium	**0.024**		0.0025		mg/L		11/18/14 10:44	11/18/14 18:22	1
Beryllium	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 18:22	1
Boron	**1.6**		0.50		mg/L		11/18/14 10:44	11/20/14 13:08	10
Cadmium	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 18:22	1
Chromium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/19/14 12:39	1
Cobalt	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 18:22	1
Copper	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 18:22	1
Iron	<0.10		0.10		mg/L		11/18/14 10:44	11/18/14 18:22	1
Lead	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 18:22	1
Manganese	**0.035**		0.0025		mg/L		11/18/14 10:44	11/18/14 18:22	1
Nickel	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 18:22	1
Selenium	<0.0025		0.0025		mg/L		11/18/14 10:44	11/18/14 18:22	1
Silver	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 18:22	1
Thallium	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 18:22	1
Vanadium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/18/14 18:22	1
Zinc	<0.020		0.020		mg/L		11/18/14 10:44	11/18/14 18:22	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/10/14 11:45	11/11/14 09:20	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/14 11:50	11/12/14 15:03	1
Sulfate	**200**		50		mg/L			11/18/14 09:21	10
Chloride	**36**		2.0		mg/L			11/12/14 23:22	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/14/14 08:59	1
Total Dissolved Solids	**280**		10		mg/L			11/10/14 21:42	1
Fluoride	**0.23**		0.10		mg/L			11/14/14 15:26	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/07/14 14:22	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/11/14 14:56	1

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-87368-1

Client Sample ID: TRIP BLANK
Date Collected: 11/06/14 00:00
Date Received: 11/07/14 12:28

Lab Sample ID: 500-87368-12
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/14/14 14:07	1
Toluene	<0.00050		0.00050		mg/L			11/14/14 14:07	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/14/14 14:07	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/14/14 14:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 125*		*11/14/14 14:07*	*1*
Toluene-d8 (Surr)	*101*		*75 - 120*		*11/14/14 14:07*	*1*
4-Bromofluorobenzene (Surr)	*105*		*75 - 120*		*11/14/14 14:07*	*1*
Dibromofluoromethane	*86*		*75 - 120*		*11/14/14 14:07*	*1*

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery exceeds the control limits

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA

Analysis Batch: 264055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Total/NA	Water	8260B	
500-87368-2	MW-06	Total/NA	Water	8260B	
500-87368-3	MW-07	Total/NA	Water	8260B	
500-87368-4	Duplicate	Total/NA	Water	8260B	
500-87368-8	MW-01	Total/NA	Water	8260B	
LCS 500-264055/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-264055/6	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 264177

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-9	MW-02	Total/NA	Water	8260B	
500-87368-10	MW-03	Total/NA	Water	8260B	
500-87368-10 MS	MW-03	Total/NA	Water	8260B	
500-87368-10 MSD	MW-03	Total/NA	Water	8260B	
500-87368-11	MW-04	Total/NA	Water	8260B	
500-87368-12	TRIP BLANK	Total/NA	Water	8260B	
LCS 500-264177/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-264177/6	Method Blank	Total/NA	Water	8260B	

HPLC/IC

Analysis Batch: 58510

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Total/NA	Water	314.0	
500-87368-1 MS	MW-05	Total/NA	Water	314.0	
500-87368-1 MSD	MW-05	Total/NA	Water	314.0	
500-87368-2	MW-06	Total/NA	Water	314.0	
500-87368-3	MW-07	Total/NA	Water	314.0	
500-87368-4	Duplicate	Total/NA	Water	314.0	
500-87368-8	MW-01	Total/NA	Water	314.0	
500-87368-9	MW-02	Total/NA	Water	314.0	
500-87368-10	MW-03	Total/NA	Water	314.0	
500-87368-11	MW-04	Total/NA	Water	314.0	
LCS 320-58510/7	Lab Control Sample	Total/NA	Water	314.0	
MB 320-58510/6	Method Blank	Total/NA	Water	314.0	
MRL 320-58510/5	Lab Control Sample	Total/NA	Water	314.0	

Metals

Prep Batch: 263414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Dissolved	Water	7470A	
500-87368-2	MW-06	Dissolved	Water	7470A	
500-87368-3	MW-07	Dissolved	Water	7470A	
500-87368-4	Duplicate	Dissolved	Water	7470A	
500-87368-8	MW-01	Dissolved	Water	7470A	
500-87368-9	MW-02	Dissolved	Water	7470A	
500-87368-10	MW-03	Dissolved	Water	7470A	
500-87368-11	MW-04	Dissolved	Water	7470A	
LCS 500-263414/13-A	Lab Control Sample	Total/NA	Water	7470A	

Metals (Continued)

Prep Batch: 263414 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-263414/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 263657

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Dissolved	Water	7470A	263414
500-87368-2	MW-06	Dissolved	Water	7470A	263414
500-87368-3	MW-07	Dissolved	Water	7470A	263414
500-87368-4	Duplicate	Dissolved	Water	7470A	263414
500-87368-8	MW-01	Dissolved	Water	7470A	263414
500-87368-9	MW-02	Dissolved	Water	7470A	263414
500-87368-10	MW-03	Dissolved	Water	7470A	263414
500-87368-11	MW-04	Dissolved	Water	7470A	263414
LCS 500-263414/13-A	Lab Control Sample	Total/NA	Water	7470A	263414
MB 500-263414/12-A	Method Blank	Total/NA	Water	7470A	263414

Prep Batch: 264760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Dissolved	Water	Soluble Metals	
500-87368-1 DU	MW-05	Dissolved	Water	Soluble Metals	
500-87368-1 MS	MW-05	Dissolved	Water	Soluble Metals	
500-87368-1 MSD	MW-05	Dissolved	Water	Soluble Metals	
500-87368-2	MW-06	Dissolved	Water	Soluble Metals	
500-87368-3	MW-07	Dissolved	Water	Soluble Metals	
500-87368-4	Duplicate	Dissolved	Water	Soluble Metals	
500-87368-8	MW-01	Dissolved	Water	Soluble Metals	
500-87368-9	MW-02	Dissolved	Water	Soluble Metals	
500-87368-10	MW-03	Dissolved	Water	Soluble Metals	
500-87368-11	MW-04	Dissolved	Water	Soluble Metals	
LCS 500-264760/2-A	Lab Control Sample	Soluble	Water	Soluble Metals	
MB 500-264760/1-A	Method Blank	Soluble	Water	Soluble Metals	

Analysis Batch: 264940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Dissolved	Water	6020A	264760
500-87368-1 DU	MW-05	Dissolved	Water	6020A	264760
500-87368-1 MS	MW-05	Dissolved	Water	6020A	264760
500-87368-1 MSD	MW-05	Dissolved	Water	6020A	264760
500-87368-2	MW-06	Dissolved	Water	6020A	264760
500-87368-3	MW-07	Dissolved	Water	6020A	264760
500-87368-4	Duplicate	Dissolved	Water	6020A	264760
500-87368-8	MW-01	Dissolved	Water	6020A	264760
500-87368-9	MW-02	Dissolved	Water	6020A	264760
500-87368-10	MW-03	Dissolved	Water	6020A	264760
500-87368-11	MW-04	Dissolved	Water	6020A	264760
LCS 500-264760/2-A	Lab Control Sample	Soluble	Water	6020A	264760
MB 500-264760/1-A	Method Blank	Soluble	Water	6020A	264760

Analysis Batch: 265037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Dissolved	Water	6020A	264760
500-87368-1 DU	MW-05	Dissolved	Water	6020A	264760

Metals (Continued)

Analysis Batch: 265037 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1 MS	MW-05	Dissolved	Water	6020A	264760
500-87368-1 MSD	MW-05	Dissolved	Water	6020A	264760
500-87368-2	MW-06	Dissolved	Water	6020A	264760
500-87368-3	MW-07	Dissolved	Water	6020A	264760
500-87368-4	Duplicate	Dissolved	Water	6020A	264760
500-87368-8	MW-01	Dissolved	Water	6020A	264760
500-87368-9	MW-02	Dissolved	Water	6020A	264760
500-87368-10	MW-03	Dissolved	Water	6020A	264760
500-87368-11	MW-04	Dissolved	Water	6020A	264760
LCS 500-264760/2-A	Lab Control Sample	Soluble	Water	6020A	264760
MB 500-264760/1-A	Method Blank	Soluble	Water	6020A	264760

Analysis Batch: 265239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Dissolved	Water	6020A	264760
500-87368-1 DU	MW-05	Dissolved	Water	6020A	264760
500-87368-1 MS	MW-05	Dissolved	Water	6020A	264760
500-87368-1 MSD	MW-05	Dissolved	Water	6020A	264760
500-87368-2	MW-06	Dissolved	Water	6020A	264760
500-87368-3	MW-07	Dissolved	Water	6020A	264760
500-87368-4	Duplicate	Dissolved	Water	6020A	264760
500-87368-8	MW-01	Dissolved	Water	6020A	264760
500-87368-9	MW-02	Dissolved	Water	6020A	264760
500-87368-10	MW-03	Dissolved	Water	6020A	264760
500-87368-11	MW-04	Dissolved	Water	6020A	264760
LCS 500-264760/2-A	Lab Control Sample	Soluble	Water	6020A	264760
MB 500-264760/1-A	Method Blank	Soluble	Water	6020A	264760

General Chemistry

Analysis Batch: 263001

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Dissolved	Water	SM 4500 NO2 B	
500-87368-2	MW-06	Dissolved	Water	SM 4500 NO2 B	
500-87368-3	MW-07	Dissolved	Water	SM 4500 NO2 B	
500-87368-4	Duplicate	Dissolved	Water	SM 4500 NO2 B	
LCS 500-263001/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-263001/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 263248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-8	MW-01	Dissolved	Water	SM 4500 NO2 B	
500-87368-9	MW-02	Dissolved	Water	SM 4500 NO2 B	
500-87368-10	MW-03	Dissolved	Water	SM 4500 NO2 B	
500-87368-11	MW-04	Dissolved	Water	SM 4500 NO2 B	
LCS 500-263248/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-263248/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

General Chemistry (Continued)

Analysis Batch: 263521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Dissolved	Water	SM 2540C	
500-87368-1 DU	MW-05	Dissolved	Water	SM 2540C	
500-87368-1 MS	MW-05	Dissolved	Water	SM 2540C	
500-87368-2	MW-06	Dissolved	Water	SM 2540C	
500-87368-3	MW-07	Dissolved	Water	SM 2540C	
500-87368-4	Duplicate	Dissolved	Water	SM 2540C	
500-87368-8	MW-01	Dissolved	Water	SM 2540C	
500-87368-9	MW-02	Dissolved	Water	SM 2540C	
500-87368-10	MW-03	Dissolved	Water	SM 2540C	
500-87368-11	MW-04	Dissolved	Water	SM 2540C	
LCS 500-263521/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-263521/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 263687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Dissolved	Water	SM 4500 NO3 F	
500-87368-2	MW-06	Dissolved	Water	SM 4500 NO3 F	
500-87368-3	MW-07	Dissolved	Water	SM 4500 NO3 F	
500-87368-4	Duplicate	Dissolved	Water	SM 4500 NO3 F	
500-87368-8	MW-01	Dissolved	Water	SM 4500 NO3 F	
500-87368-9	MW-02	Dissolved	Water	SM 4500 NO3 F	
500-87368-10	MW-03	Dissolved	Water	SM 4500 NO3 F	
500-87368-11	MW-04	Dissolved	Water	SM 4500 NO3 F	
LCS 500-263687/4	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-263687/3	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Prep Batch: 263824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Dissolved	Water	9010B	
500-87368-2	MW-06	Dissolved	Water	9010B	
500-87368-3	MW-07	Dissolved	Water	9010B	
500-87368-4	Duplicate	Dissolved	Water	9010B	
500-87368-8	MW-01	Dissolved	Water	9010B	
500-87368-9	MW-02	Dissolved	Water	9010B	
500-87368-10	MW-03	Dissolved	Water	9010B	
500-87368-11	MW-04	Dissolved	Water	9010B	
LCS 500-263824/2-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-263824/1-A	Method Blank	Total/NA	Water	9010B	

Analysis Batch: 263880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Dissolved	Water	9014	263824
500-87368-2	MW-06	Dissolved	Water	9014	263824
500-87368-3	MW-07	Dissolved	Water	9014	263824
500-87368-4	Duplicate	Dissolved	Water	9014	263824
500-87368-8	MW-01	Dissolved	Water	9014	263824
500-87368-9	MW-02	Dissolved	Water	9014	263824
500-87368-10	MW-03	Dissolved	Water	9014	263824
500-87368-11	MW-04	Dissolved	Water	9014	263824
LCS 500-263824/2-A	Lab Control Sample	Total/NA	Water	9014	263824
MB 500-263824/1-A	Method Blank	Total/NA	Water	9014	263824

General Chemistry (Continued)

Analysis Batch: 263938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Dissolved	Water	9251	
500-87368-2	MW-06	Dissolved	Water	9251	
500-87368-3	MW-07	Dissolved	Water	9251	
500-87368-4	Duplicate	Dissolved	Water	9251	
500-87368-8	MW-01	Dissolved	Water	9251	
500-87368-9	MW-02	Dissolved	Water	9251	
500-87368-10	MW-03	Dissolved	Water	9251	
500-87368-11	MW-04	Dissolved	Water	9251	
LCS 500-263938/5	Lab Control Sample	Total/NA	Water	9251	
MB 500-263938/4	Method Blank	Total/NA	Water	9251	

Analysis Batch: 264200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Dissolved	Water	Nitrate by calc	
500-87368-2	MW-06	Dissolved	Water	Nitrate by calc	
500-87368-3	MW-07	Dissolved	Water	Nitrate by calc	
500-87368-4	Duplicate	Dissolved	Water	Nitrate by calc	
500-87368-8	MW-01	Dissolved	Water	Nitrate by calc	
500-87368-9	MW-02	Dissolved	Water	Nitrate by calc	
500-87368-10	MW-03	Dissolved	Water	Nitrate by calc	
500-87368-11	MW-04	Dissolved	Water	Nitrate by calc	

Analysis Batch: 264378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Dissolved	Water	SM 4500 F C	
500-87368-2	MW-06	Dissolved	Water	SM 4500 F C	
500-87368-3	MW-07	Dissolved	Water	SM 4500 F C	
500-87368-4	Duplicate	Dissolved	Water	SM 4500 F C	
500-87368-8	MW-01	Dissolved	Water	SM 4500 F C	
500-87368-9	MW-02	Dissolved	Water	SM 4500 F C	
500-87368-10	MW-03	Dissolved	Water	SM 4500 F C	
500-87368-11	MW-04	Dissolved	Water	SM 4500 F C	
LCS 500-264378/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-264378/31	Method Blank	Total/NA	Water	SM 4500 F C	

Analysis Batch: 264746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-87368-1	MW-05	Dissolved	Water	9038	
500-87368-2	MW-06	Dissolved	Water	9038	
500-87368-3	MW-07	Dissolved	Water	9038	
500-87368-4	Duplicate	Dissolved	Water	9038	
500-87368-8	MW-01	Dissolved	Water	9038	
500-87368-9	MW-02	Dissolved	Water	9038	
500-87368-10	MW-03	Dissolved	Water	9038	
500-87368-11	MW-04	Dissolved	Water	9038	
LCS 500-264746/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-264746/3	Method Blank	Total/NA	Water	9038	

Surrogate Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-87368-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(75-125)	(75-120)	(75-120)	(75-120)
500-87368-1	MW-05	104	99	108	89
500-87368-2	MW-06	95	100	110	87
500-87368-3	MW-07	95	100	109	86
500-87368-4	Duplicate	93	100	108	85
500-87368-8	MW-01	107	96	107	92
500-87368-9	MW-02	94	99	108	88
500-87368-10	MW-03	96	98	107	89
500-87368-10 MS	MW-03	98	99	110	95
500-87368-10 MSD	MW-03	104	97	111	98
500-87368-11	MW-04	95	102	105	86
500-87368-12	TRIP BLANK	94	101	105	86
LCS 500-264055/4	Lab Control Sample	94	100	107	90
LCS 500-264177/4	Lab Control Sample	94	99	108	91
MB 500-264055/6	Method Blank	95	101	108	87
MB 500-264177/6	Method Blank	96	98	107	89

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-264055/6
Matrix: Water
Analysis Batch: 264055

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/13/14 15:03	1
Toluene	<0.00050		0.00050		mg/L			11/13/14 15:03	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/13/14 15:03	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/13/14 15:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 125*		*11/13/14 15:03*	*1*
Toluene-d8 (Surr)	*101*		*75 - 120*		*11/13/14 15:03*	*1*
4-Bromofluorobenzene (Surr)	*108*		*75 - 120*		*11/13/14 15:03*	*1*
Dibromofluoromethane	*87*		*75 - 120*		*11/13/14 15:03*	*1*

Lab Sample ID: LCS 500-264055/4
Matrix: Water
Analysis Batch: 264055

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0467		mg/L		93	75 - 120
Toluene	0.0500	0.0508		mg/L		102	75 - 120
Ethylbenzene	0.0500	0.0470		mg/L		94	75 - 120
Xylenes, Total	0.100	0.0992		mg/L		99	75 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 125*
Toluene-d8 (Surr)	*100*		*75 - 120*
4-Bromofluorobenzene (Surr)	*107*		*75 - 120*
Dibromofluoromethane	*90*		*75 - 120*

Lab Sample ID: MB 500-264177/6
Matrix: Water
Analysis Batch: 264177

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/14/14 12:21	1
Toluene	<0.00050		0.00050		mg/L			11/14/14 12:21	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/14/14 12:21	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/14/14 12:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 125*		*11/14/14 12:21*	*1*
Toluene-d8 (Surr)	*98*		*75 - 120*		*11/14/14 12:21*	*1*
4-Bromofluorobenzene (Surr)	*107*		*75 - 120*		*11/14/14 12:21*	*1*
Dibromofluoromethane	*89*		*75 - 120*		*11/14/14 12:21*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-264177/4
Matrix: Water
Analysis Batch: 264177

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.0500	0.0473		mg/L		95	75 - 120		
Toluene			0.0500	0.0512		mg/L		102	75 - 120		
Ethylbenzene			0.0500	0.0490		mg/L		98	75 - 120		
Xylenes, Total			0.100	0.102		mg/L		102	75 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 125*
Toluene-d8 (Surr)	*99*		*75 - 120*
4-Bromofluorobenzene (Surr)	*108*		*75 - 120*
Dibromofluoromethane	*91*		*75 - 120*

Lab Sample ID: 500-87368-10 MS
Matrix: Water
Analysis Batch: 264177

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00050		0.0500	0.0436		mg/L		87	75 - 120		
Toluene	<0.00050		0.0500	0.0456		mg/L		91	75 - 120		
Ethylbenzene	<0.00050		0.0500	0.0427		mg/L		85	75 - 120		
Xylenes, Total	<0.0010		0.100	0.0902		mg/L		90	75 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 125*
Toluene-d8 (Surr)	*99*		*75 - 120*
4-Bromofluorobenzene (Surr)	*110*		*75 - 120*
Dibromofluoromethane	*95*		*75 - 120*

Lab Sample ID: 500-87368-10 MSD
Matrix: Water
Analysis Batch: 264177

Client Sample ID: MW-03
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00050		0.0500	0.0468		mg/L		94	75 - 120	7	20
Toluene	<0.00050		0.0500	0.0487		mg/L		97	75 - 120	7	20
Ethylbenzene	<0.00050		0.0500	0.0456		mg/L		91	75 - 120	7	20
Xylenes, Total	<0.0010		0.100	0.0959		mg/L		96	75 - 120	6	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 125*
Toluene-d8 (Surr)	*97*		*75 - 120*
4-Bromofluorobenzene (Surr)	*111*		*75 - 120*
Dibromofluoromethane	*98*		*75 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-58510/6
Matrix: Water
Analysis Batch: 58510

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/19/14 23:09	1

Lab Sample ID: LCS 320-58510/7
Matrix: Water
Analysis Batch: 58510

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	0.0500	0.0487		mg/L		97	85 - 115

Lab Sample ID: MRL 320-58510/5
Matrix: Water
Analysis Batch: 58510

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.24		ug/L		106	75 - 125

Lab Sample ID: 500-87368-1 MS
Matrix: Water
Analysis Batch: 58510

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	<0.0040		0.0500	0.0421		mg/L		84	80 - 120

Lab Sample ID: 500-87368-1 MSD
Matrix: Water
Analysis Batch: 58510

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	<0.0040		0.0500	0.0431		mg/L		86	80 - 120	2	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: 500-87368-1 MS
Matrix: Water
Analysis Batch: 264940

Client Sample ID: MW-05
Prep Type: Dissolved
Prep Batch: 264760

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030	^	0.500	0.385	^	mg/L		77	75 - 125
Barium	0.046		0.500	0.509		mg/L		93	75 - 125
Beryllium	<0.0010		0.0500	0.0419		mg/L		84	75 - 125
Cadmium	<0.00050		0.0500	0.0517		mg/L		103	75 - 125
Cobalt	<0.0010		0.500	0.433		mg/L		87	75 - 125
Copper	<0.0020		0.250	0.220		mg/L		88	75 - 125
Iron	8.6		1.00	9.13	4	mg/L		49	75 - 125
Lead	<0.00050		0.100	0.0999		mg/L		100	75 - 125
Manganese	0.62		0.500	1.02		mg/L		81	75 - 125
Nickel	0.0020		0.500	0.434		mg/L		86	75 - 125
Selenium	<0.0025		0.100	0.115		mg/L		115	75 - 125
Silver	<0.00050		0.0500	0.0441		mg/L		88	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-87368-1 MS — **Client Sample ID: MW-05**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 264940 — **Prep Batch: 264760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Thallium	<0.0020		0.100	0.102		mg/L		102	75 - 125
Vanadium	<0.0050		0.500	0.438		mg/L		88	75 - 125
Zinc	<0.020		0.500	0.467		mg/L		93	75 - 125

Lab Sample ID: 500-87368-1 MS — **Client Sample ID: MW-05**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 265037 — **Prep Batch: 264760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0097		0.100	0.139	F1	mg/L		129	75 - 125
Chromium	<0.0050		0.200	0.217		mg/L		108	75 - 125

Lab Sample ID: 500-87368-1 MS — **Client Sample ID: MW-05**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 265239 — **Prep Batch: 264760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	36		1.00	139	4	mg/L		10238	75 - 125

Lab Sample ID: 500-87368-1 MSD — **Client Sample ID: MW-05**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 264940 — **Prep Batch: 264760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030	^	0.500	0.384	^	mg/L		77	75 - 125	0	20
Barium	0.046		0.500	0.500		mg/L		91	75 - 125	2	20
Beryllium	<0.0010		0.0500	0.0407		mg/L		81	75 - 125	3	20
Cadmium	<0.00050		0.0500	0.0515		mg/L		103	75 - 125	0	20
Cobalt	<0.0010		0.500	0.431		mg/L		86	75 - 125	1	20
Copper	<0.0020		0.250	0.221		mg/L		88	75 - 125	1	20
Iron	8.6		1.00	9.21	4	mg/L		57	75 - 125	1	20
Lead	<0.00050		0.100	0.0991		mg/L		99	75 - 125	1	20
Manganese	0.62		0.500	1.04		mg/L		84	75 - 125	1	20
Nickel	0.0020		0.500	0.434		mg/L		86	75 - 125	0	20
Selenium	<0.0025		0.100	0.116		mg/L		116	75 - 125	1	20
Silver	<0.00050		0.0500	0.0434		mg/L		87	75 - 125	2	20
Thallium	<0.0020		0.100	0.102		mg/L		102	75 - 125	1	20
Vanadium	<0.0050		0.500	0.429		mg/L		86	75 - 125	2	20
Zinc	<0.020		0.500	0.461		mg/L		92	75 - 125	1	20

Lab Sample ID: 500-87368-1 MSD — **Client Sample ID: MW-05**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 265037 — **Prep Batch: 264760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0097		0.100	0.141	F1	mg/L		131	75 - 125	1	20
Chromium	<0.0050		0.200	0.217		mg/L		108	75 - 125	0	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-87368-1 MSD — **Client Sample ID: MW-05**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 265239 — **Prep Batch: 264760**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	36		1.00	141	4	mg/L		10418	75 - 125	1	20

Lab Sample ID: 500-87368-1 DU — **Client Sample ID: MW-05**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 264940 — **Prep Batch: 264760**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0030	^	<0.0030		mg/L		NC	20
Barium	0.046		0.0462		mg/L		0.5	20
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20
Copper	<0.0020		<0.0020		mg/L		NC	20
Iron	8.6		8.58		mg/L		0.7	20
Lead	<0.00050		<0.00050		mg/L		NC	20
Manganese	0.62		0.612		mg/L		1	20
Nickel	0.0020		<0.0020		mg/L		NC	20
Selenium	<0.0025		<0.0025		mg/L		NC	20
Silver	<0.00050		<0.00050		mg/L		NC	20
Thallium	<0.0020		<0.0020		mg/L		NC	20
Vanadium	<0.0050		<0.0050		mg/L		NC	20
Zinc	<0.020		<0.020		mg/L		NC	20

Lab Sample ID: 500-87368-1 DU — **Client Sample ID: MW-05**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 265037 — **Prep Batch: 264760**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.0097		0.00929		mg/L		4	20
Chromium	<0.0050		<0.0050		mg/L		NC	20

Lab Sample ID: 500-87368-1 DU — **Client Sample ID: MW-05**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 265239 — **Prep Batch: 264760**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	36		35.2		mg/L		4	20

Lab Sample ID: MB 500-264760/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Soluble**
Analysis Batch: 264940 — **Prep Batch: 264760**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030	^	0.0030		mg/L		11/18/14 10:44	11/18/14 16:52	1
Barium	<0.0025		0.0025		mg/L		11/18/14 10:44	11/18/14 16:52	1
Beryllium	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 16:52	1
Cadmium	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 16:52	1
Cobalt	<0.0010		0.0010		mg/L		11/18/14 10:44	11/18/14 16:52	1
Copper	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 16:52	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 500-264760/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Soluble**
Analysis Batch: 264940 — **Prep Batch: 264760**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.10		0.10		mg/L		11/18/14 10:44	11/18/14 16:52	1
Lead	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 16:52	1
Manganese	<0.0025		0.0025		mg/L		11/18/14 10:44	11/18/14 16:52	1
Nickel	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 16:52	1
Selenium	<0.0025		0.0025		mg/L		11/18/14 10:44	11/18/14 16:52	1
Silver	<0.00050		0.00050		mg/L		11/18/14 10:44	11/18/14 16:52	1
Thallium	<0.0020		0.0020		mg/L		11/18/14 10:44	11/18/14 16:52	1
Vanadium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/18/14 16:52	1
Zinc	<0.020		0.020		mg/L		11/18/14 10:44	11/18/14 16:52	1

Lab Sample ID: MB 500-264760/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Soluble**
Analysis Batch: 265037 — **Prep Batch: 264760**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0010		0.0010		mg/L		11/18/14 10:44	11/19/14 11:42	1
Chromium	<0.0050		0.0050		mg/L		11/18/14 10:44	11/19/14 11:42	1

Lab Sample ID: MB 500-264760/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Soluble**
Analysis Batch: 265239 — **Prep Batch: 264760**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		11/18/14 10:44	11/20/14 12:48	1

Lab Sample ID: LCS 500-264760/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Soluble**
Analysis Batch: 264940 — **Prep Batch: 264760**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.441	^	mg/L		88	80 - 120
Barium	0.500	0.477		mg/L		95	80 - 120
Beryllium	0.0500	0.0445		mg/L		89	80 - 120
Cadmium	0.0500	0.0511		mg/L		102	80 - 120
Cobalt	0.500	0.448		mg/L		90	80 - 120
Copper	0.250	0.233		mg/L		93	80 - 120
Iron	1.00	1.06		mg/L		106	80 - 120
Lead	0.100	0.102		mg/L		102	80 - 120
Manganese	0.500	0.459		mg/L		92	80 - 120
Nickel	0.500	0.453		mg/L		91	80 - 120
Selenium	0.100	0.0966		mg/L		97	80 - 120
Silver	0.0500	0.0491		mg/L		98	80 - 120
Thallium	0.100	0.104		mg/L		104	80 - 120
Vanadium	0.500	0.452		mg/L		90	80 - 120
Zinc	0.500	0.477		mg/L		95	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-264760/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Soluble**
Analysis Batch: 265037 — **Prep Batch: 264760**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.119		mg/L		119	80 - 120
Chromium	0.200	0.237		mg/L		119	80 - 120

Lab Sample ID: LCS 500-264760/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Soluble**
Analysis Batch: 265239 — **Prep Batch: 264760**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.19		mg/L		119	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-263414/12-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 263657 — **Prep Batch: 263414**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/10/14 11:45	11/11/14 08:35	1

Lab Sample ID: LCS 500-263414/13-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 263657 — **Prep Batch: 263414**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00211		mg/L		106	80 - 120

Method: 9014 - Cyanide

Lab Sample ID: MB 500-263824/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 263880 — **Prep Batch: 263824**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/14 11:50	11/12/14 14:55	1

Lab Sample ID: LCS 500-263824/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 263880 — **Prep Batch: 263824**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.106		mg/L		106	80 - 120

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 500-264746/3
Matrix: Water
Analysis Batch: 264746

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/18/14 09:21	1

Lab Sample ID: LCS 500-264746/4
Matrix: Water
Analysis Batch: 264746

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	18.9		mg/L		94	80 - 120

Method: 9251 - Chloride

Lab Sample ID: MB 500-263938/4
Matrix: Water
Analysis Batch: 263938

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/12/14 23:08	1

Lab Sample ID: LCS 500-263938/5
Matrix: Water
Analysis Batch: 263938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	53.3		mg/L		107	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-263521/1
Matrix: Water
Analysis Batch: 263521

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/10/14 21:07	1

Lab Sample ID: LCS 500-263521/2
Matrix: Water
Analysis Batch: 263521

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	258		mg/L		103	80 - 120

Lab Sample ID: 500-87368-1 MS
Matrix: Water
Analysis Batch: 263521

Client Sample ID: MW-05
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1500		250	1810	4	mg/L		140	75 - 125

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 500-87368-1 DU
Matrix: Water
Analysis Batch: 263521

Client Sample ID: MW-05
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1500			1450		mg/L				0.3	5

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-264378/31
Matrix: Water
Analysis Batch: 264378

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			11/14/14 14:10	1

Lab Sample ID: LCS 500-264378/32
Matrix: Water
Analysis Batch: 264378

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	11.4		mg/L		114	80 - 120		

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-263001/3
Matrix: Water
Analysis Batch: 263001

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/06/14 12:55	1

Lab Sample ID: LCS 500-263001/4
Matrix: Water
Analysis Batch: 263001

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Nitrite			0.100	0.101		mg/L		101	80 - 120		

Lab Sample ID: MB 500-263248/3
Matrix: Water
Analysis Batch: 263248

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/07/14 14:20	1

Lab Sample ID: LCS 500-263248/4
Matrix: Water
Analysis Batch: 263248

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Nitrite			0.100	0.0960		mg/L		96	80 - 120		

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-87368-1

Method: SM 4500 NO3 F - Nitrogen, Nitrate

Lab Sample ID: MB 500-263687/3
Matrix: Water
Analysis Batch: 263687

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/11/14 14:14	1

Lab Sample ID: LCS 500-263687/4
Matrix: Water
Analysis Batch: 263687

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	1.03		mg/L		103	80 - 120

TestAmerica
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University Park, IL 60484
708-534-5200
Fax. 708-534-5211

500-87368 COC

Report To:		Bill To:
Contact:	Rich Gnat	Contact:
Company:	KPRG & Associates Inc.	Company:
Address:	14665 W. Llisbon Rd. Suite 2B	Address:
	Brookfield, WI	
Phone:	262-781-0475	Phone:
Fax:		Fax:
Email:		PO #:

Lab Lot # 500- 87368

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No N/A
Temperature °C of Cooler 4.1	
Within Hold Time	**Preserv. Indicated**
Yes No	Yes No N/A
pH Check OK	**Res CL_2 Check OK**
Yes No	Yes No N/A
Sample Labels and COC Agree	
Yes No	COC not present

Sampler Name: Ian John Howieson
Client Project # 12313.2
Project Name: Waukegan Station Ash Ponds
TestAmerica Project Number: 50004763
Project Location: Waukegan, IL
Date Required
Hard Copy: ____/____/____
Fax: ____/____/____
Lab PM: Bonnie Stadelmann

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Containers	18 Metals + Hg, dissolved	Cl, TDS, SO4, Fl, dissolved	NO2, dissolved	NO3+NO2, dissolved	Cyanide, dissolved	BTEX	Perchlorate	Additional Analyses / Remarks
1		MW-05	11/5/2014	9:20	W				X					
2		MW-06	11/5/2014	12:15	W				X					
3		MW-07	11/5/2014	11:00	W				X					
4		Duplicate	11/5/2014	...	W				X					

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
	KPRG	11-05-14	18:15	FEDEX			
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
					TAL	11/6/14	1025

Matrix Key
WW = Wastewater, SE = Sediment
W = Water, SO = Solid
S = Soil, DL = Drum Liquid
SL = Sludge, DS = Drum Solid
MS = Miscellaneous, L = Leachate
OL = Oil, W = Wipe
A = Air, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other
_____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 11, 6, 14
Courier: FX
Hand Delivered
Bill of Lading:

PAGE 3 of 3

STL-8208 (0600)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Rich Gnat	Contact:	
Company:	KPRG & Associates Inc.	Company:	
Address:	14665 W. Llisbon Rd. Suite 2B	Address:	
	Brookfield, WI		
Phone:	262-781-0475	Phone:	
Fax:		Fax:	
Email:		PO #:	

500-87368 COC

Lab Lot # 500-87368

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No N/A

Temperature °C of Cooler: 2.4, 3.1, 2.8

Within Hold Time	Preserv. Indicated
Yes No	Yes No N/A
pH Check OK	**Res Cl_2 Check OK**
Yes No	Yes No N/A

Sample Labels and COC Agree: Yes No — COC not present

Sampler Name: Ian John Howieson	**Client Project #** 12313.2	**Refrg #**	
		# / Cont.	
Project Name: Waukegan Station Ash Ponds	**TestAmerica Project Number:** 50004763	**Volume**	
		Preserv.	
Project Location: Waukegan, IL	**Date Required** Hard Copy: ____/____/____		
Lab PM: Bonnie Stadelmann	Fax: ____/____/____		

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Containers	18 Metals + Hg, dissolved	Cl, TDS, SO4, Fl, dissolved	NO2, dissolved	NO3+NO2, dissolved	Cyanide, dissolved	BTEX	Perchlorate	Additional Analyses / Remarks
8		MW-01	11/6/2014	9:10	W	9	X	X	X	X	X	X	X	
9		MW-02	11/6/2014	13:50	W	9	X	X	X	X	X	X	X	
10		MW-03	11/6/2014	12:10	W	9	X	X	X	X	X	X	X	
11		MW-04	11/6/2014	10:45	W	9	X	X	X	X	X	X	X	
1		MW-05	11/5/2014	8:33	W	8	X	X		X	X	X	X	
2		MW-06	11/5/2014	12:15	W	8	X	X		X	X	X	X	
3		MW-07	11/5/2014	11:00	W	8	X	X		X	X	X	X	
4		DUPLICATE	11/5/2014	...	W	8	X	X		X	X	X	X	
12		TRIP BLANK	...		W	2								

	Company	Date	Time		Company	Date	Time
RELINQUISHED BY:	KPRG	11-07-14	12:28	RECEIVED BY:	TA	11-7-14	1228
RELINQUISHED BY:				RECEIVED BY:			

Matrix Key
WW = Wastewater, W = Water, S = Soil, SL = Sludge, MS = Miscellaneous, OL = Oil, A = Air, SE = Sediment, SO = Solid, DL = Drum Liquid, DS = Drum Solid, L = Leachate, W = Wipe, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ____/____/____
Courier:
Hand Delivered ☐
Bill of Lading:

PAGE 3 of 3

STL-8208 (0600)

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler	Lab PM: Stadelmann, Bonnie M	Carrier Tracking No(s)	COC No: 500-56041.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 500-87368-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 11/18/2014			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #			
Email	WO #:			
Project Name: Waukegan Station Ash Ponds	Project #: 50004763			
Site: Ian John Howieson	SSOW#			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate											Total Number of containers	Special Instructions/Note:
Preservation Code:																			
MW-05 (500-87368-1)	11/5/14	09 20 Central		Water			X											1	
MW-06 (500-87368-2)	11/5/14	12.15 Central		Water			X											1	
MW-07 (500-87368-3)	11/5/14	11:00 Central		Water			X											1	
Duplicate (500-87368-4)	11/5/14	Central		Water			X											1	
MW-01 (500-87368-8)	11/6/14	09 10 Central		Water			X											1	
MW-02 (500-87368-9)	11/6/14	13 50 Central		Water			X											1	
MW-03 (500-87368-10)	11/6/14	12 10 Central		Water			X											1	
MW-04 (500-87368-11)	11/6/14	10.45 Central		Water			X											1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	11/7/14 1600	TAL	[signature]	11-8-14 930	TAL
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No..	Cooler Temperature(s) °C and Other Remarks	1.7 (COC/11.10.14 -temp on airbill form)

MWG13-15_45384
11/20/2014

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-87368-1

Login Number: 87368

List Source: TestAmerica Chicago

List Number: 1

Creator: Kelsey, Shawn M

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.1,2.4,3.1,2.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-87368-1

Login Number: 87368
List Number: 2
Creator: Hytrek, Cheryl

List Source: TestAmerica Sacramento
List Creation: 11/08/14 11:29 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-87368-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-15

Laboratory: TestAmerica Sacramento

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

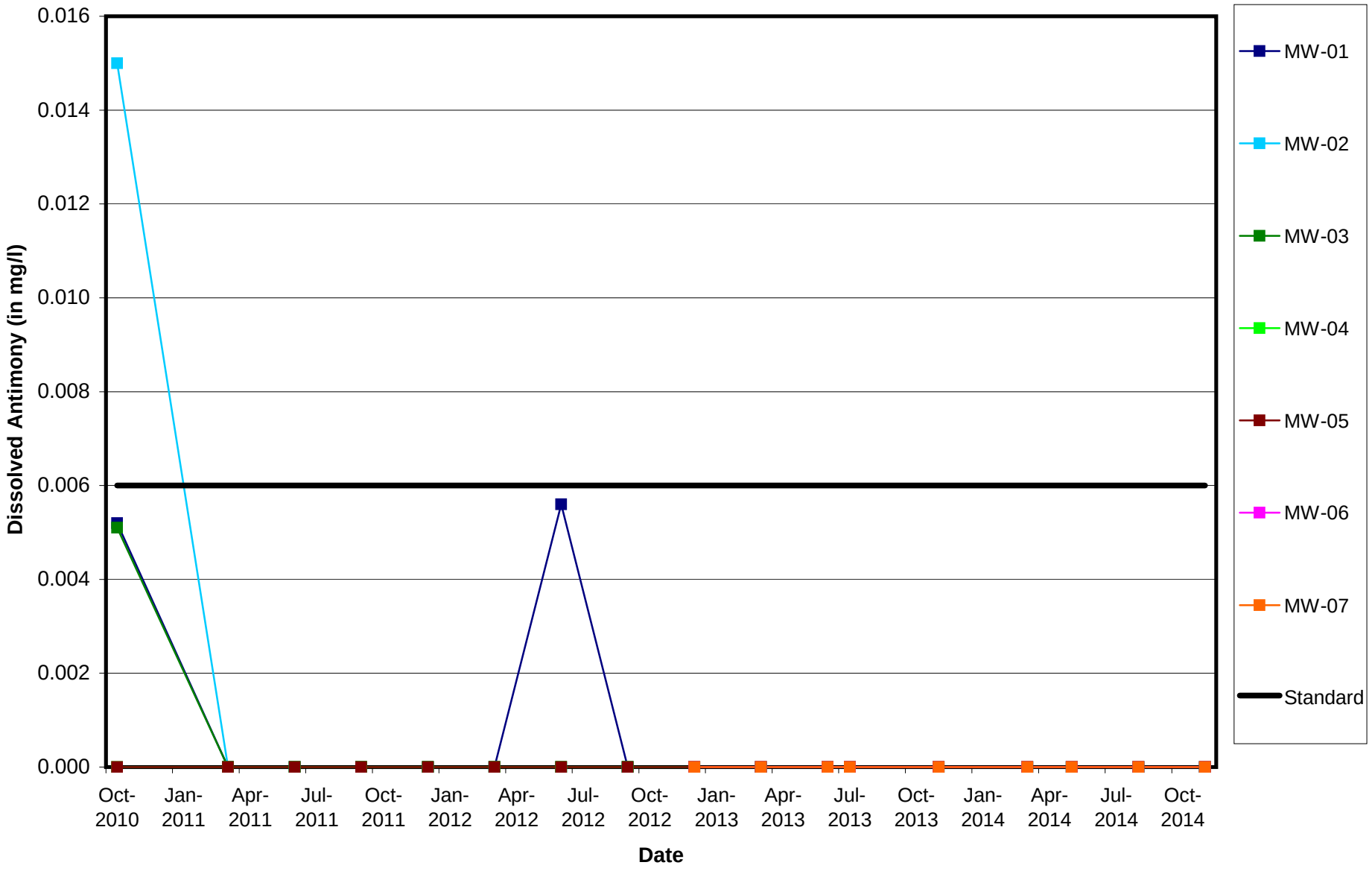
Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-16
Alaska (UST)	State Program	10	UST-055	12-18-14
Arizona	State Program	9	AZ0708	08-11-15
Arkansas DEQ	State Program	6	88-0691	06-17-15
California	State Program	9	2897	01-31-15
Colorado	State Program	8	N/A	08-31-15
Connecticut	State Program	1	PH-0691	06-30-15
Florida	NELAP	4	E87570	06-30-15
Hawaii	State Program	9	N/A	01-29-15
Illinois	NELAP	5	200060	03-17-15
Kansas	NELAP	7	E-10375	10-31-14 *
Louisiana	NELAP	6	30612	06-30-15
Michigan	State Program	5	9947	01-31-15
Nebraska	State Program	7	NE-OS-22-13	01-29-15
Nevada	State Program	9	CA44	07-31-15
New Jersey	NELAP	2	CA005	06-30-15
New York	NELAP	2	11666	04-01-15
Oregon	NELAP	10	CA200005	01-29-15
Oregon	NELAP Secondary AB	10	E87570	06-30-15
Pennsylvania	NELAP	3	9947	03-31-15
Texas	NELAP	6	T104704399-08-TX	05-31-15
US Fish & Wildlife	Federal		LE148388-0	12-31-14
USDA	Federal		P330-11-00436	12-30-14
USEPA UCMR	Federal	1	CA00044	11-06-16
Utah	NELAP	8	QUAN1	02-28-15
Washington	State Program	10	C581	05-05-15
West Virginia (DW)	State Program	3	9930C	12-31-14
Wyoming	State Program	8	8TMS-Q	01-29-15

* Certification renewal pending - certification considered valid.

ATTACHMENT 3
Time Versus Concentration Curves

Midwest Generation Waukegan Station, Waukegan, IL

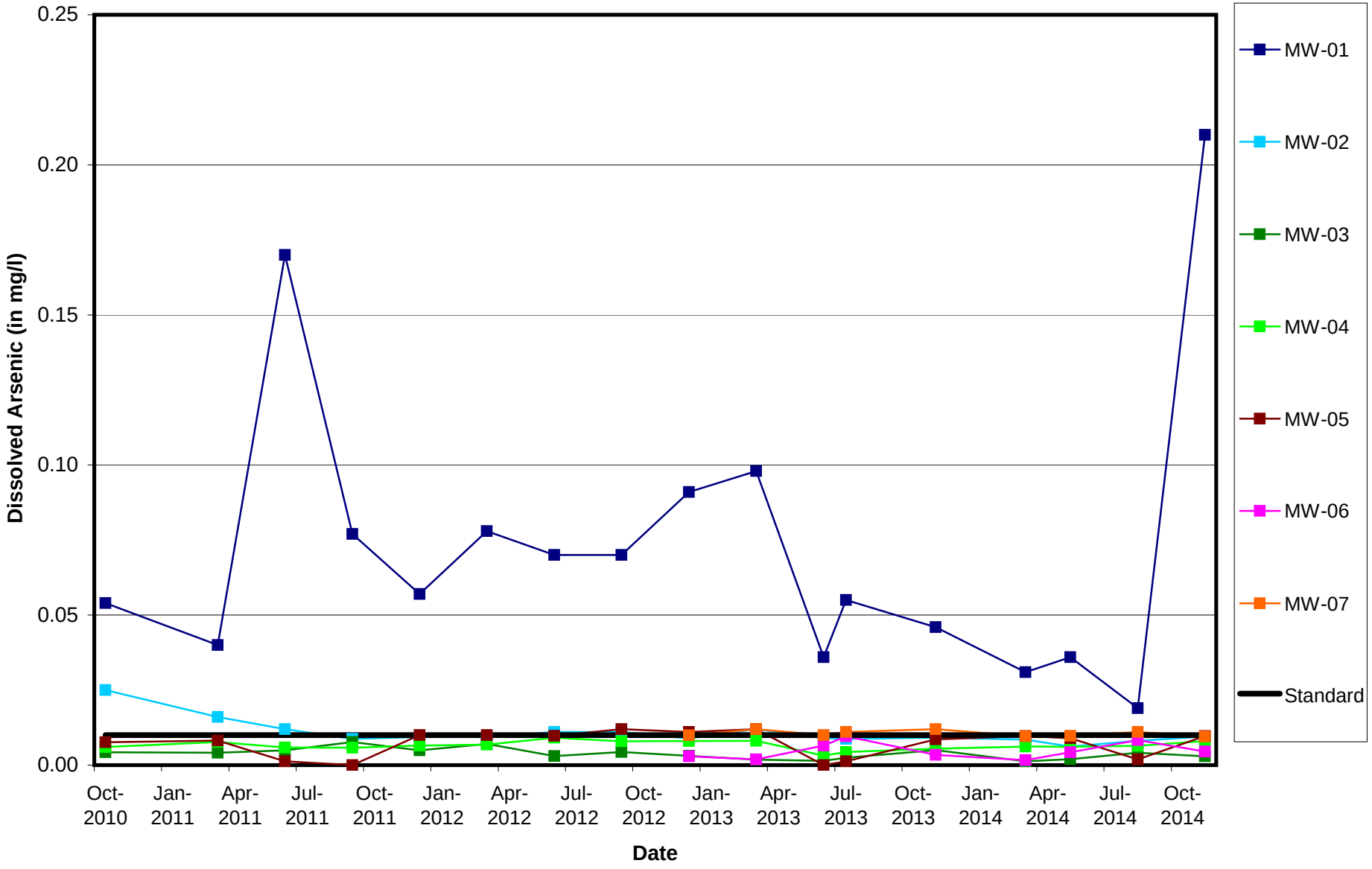
Dissolved Antimony vs. Time



MWG13-15_45389

Midwest Generation Waukegan Station, Waukegan, IL

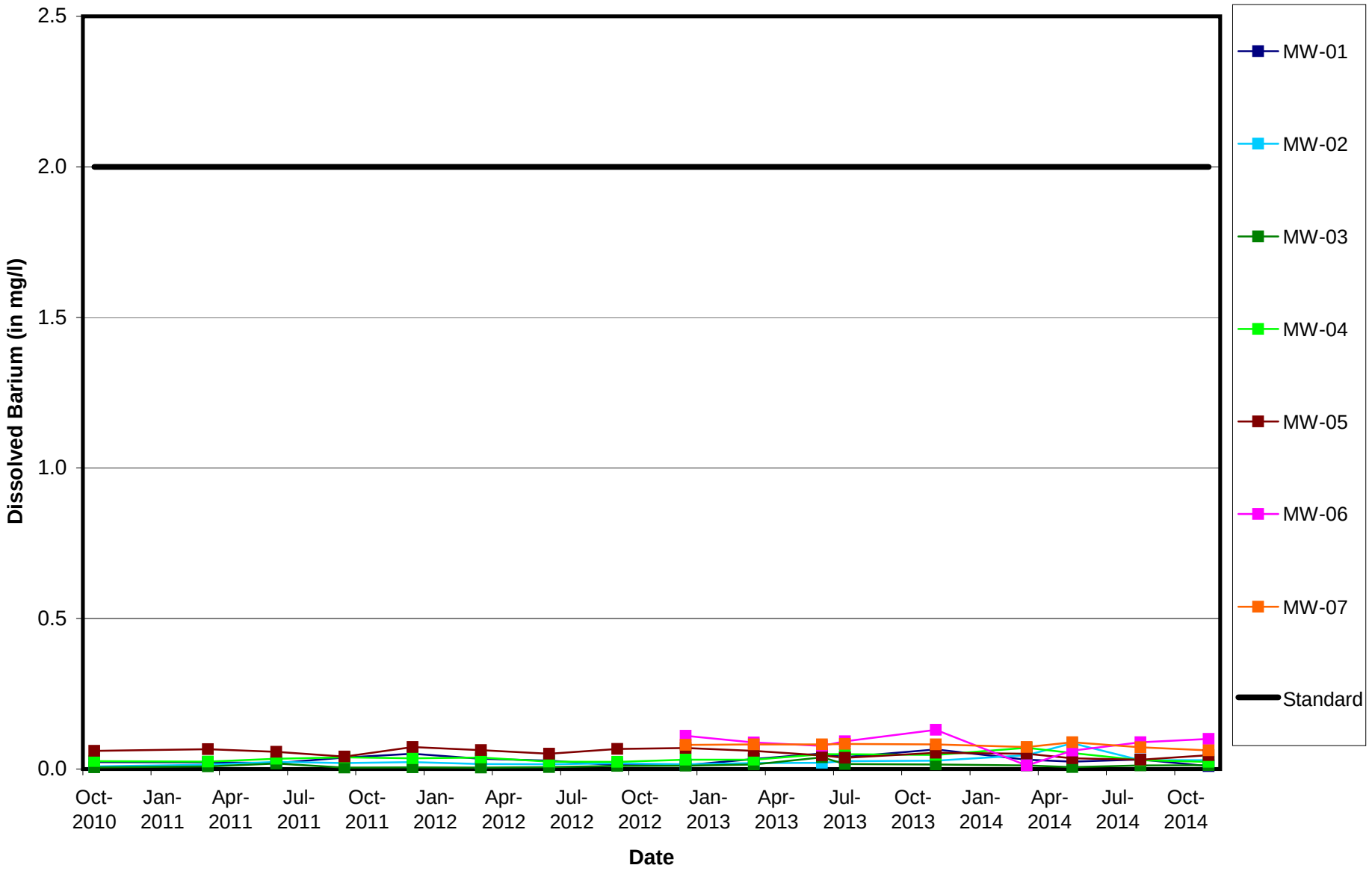
Dissolved Arsenic vs. Time



MWG13-15_45390

Midwest Generation Waukegan Station, Waukegan, IL

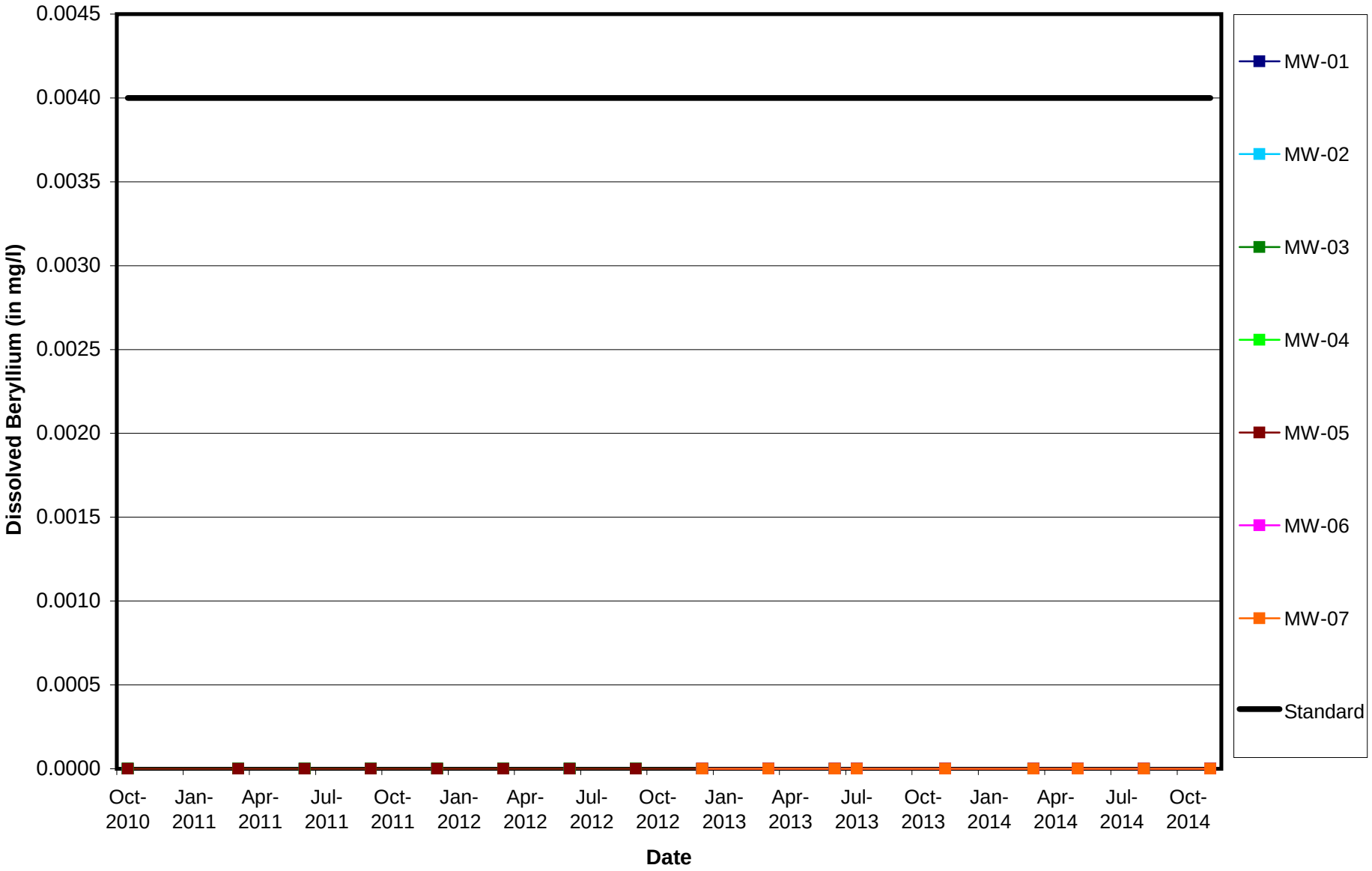
Dissolved Barium vs. Time



MWG13-15_45391

Midwest Generation Waukegan Station, Waukegan, IL

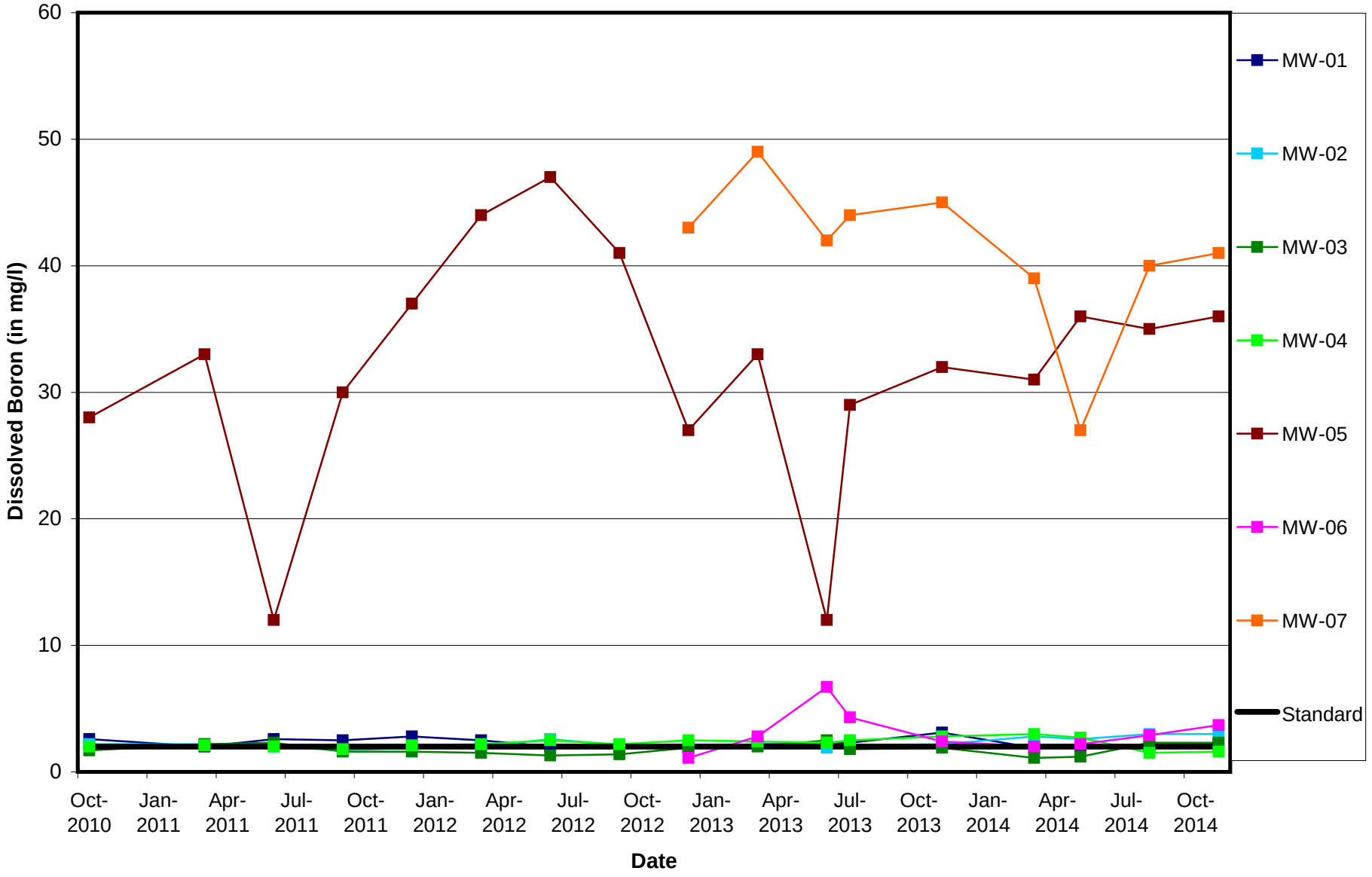
Dissolved Beryllium vs. Time



MWG13-15_45392

Midwest Generation Waukegan Station, Waukegan, IL

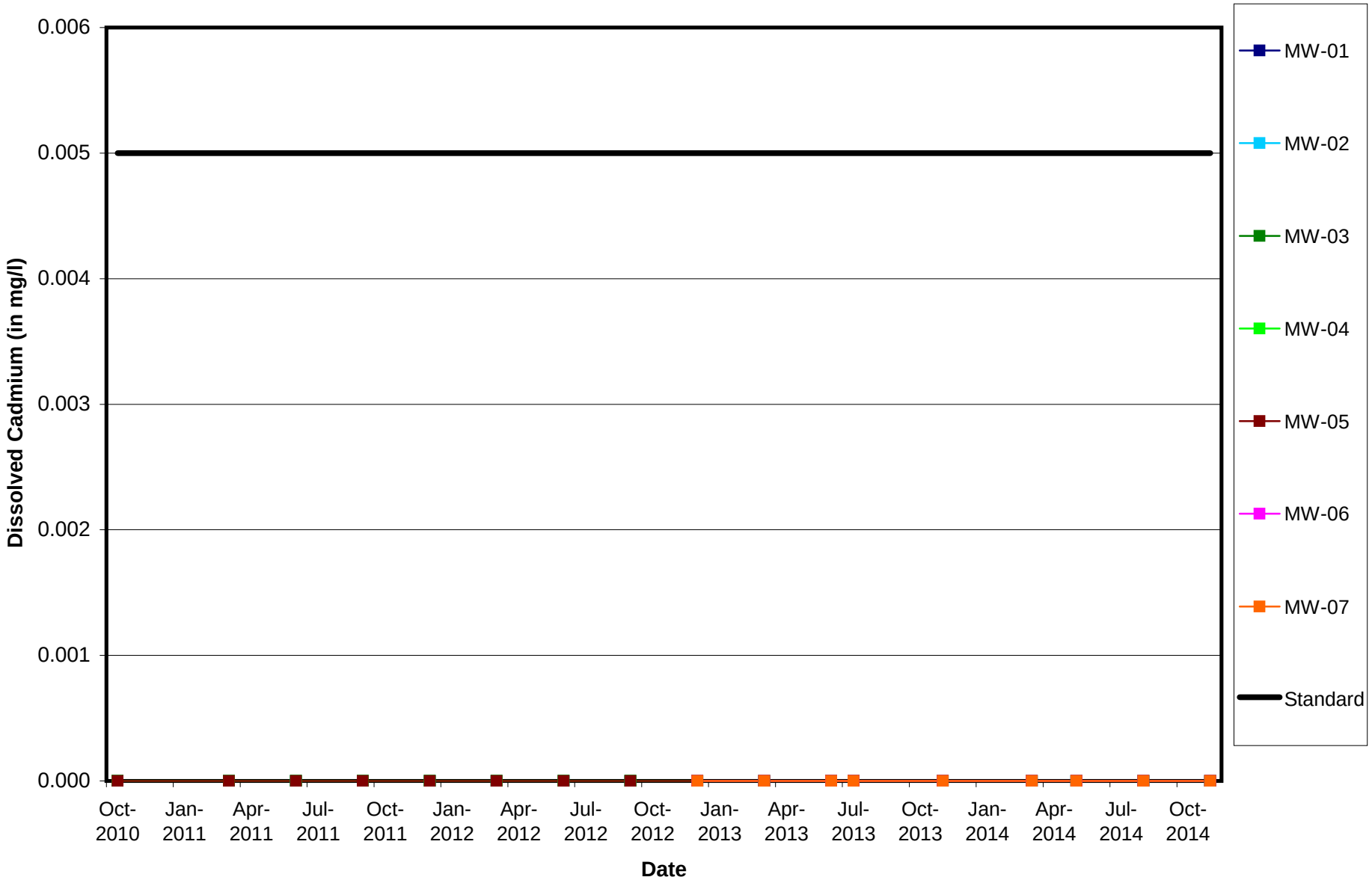
Dissolved Boron vs. Time



MWG13-15_45393

Midwest Generation Waukegan Station, Waukegan, IL

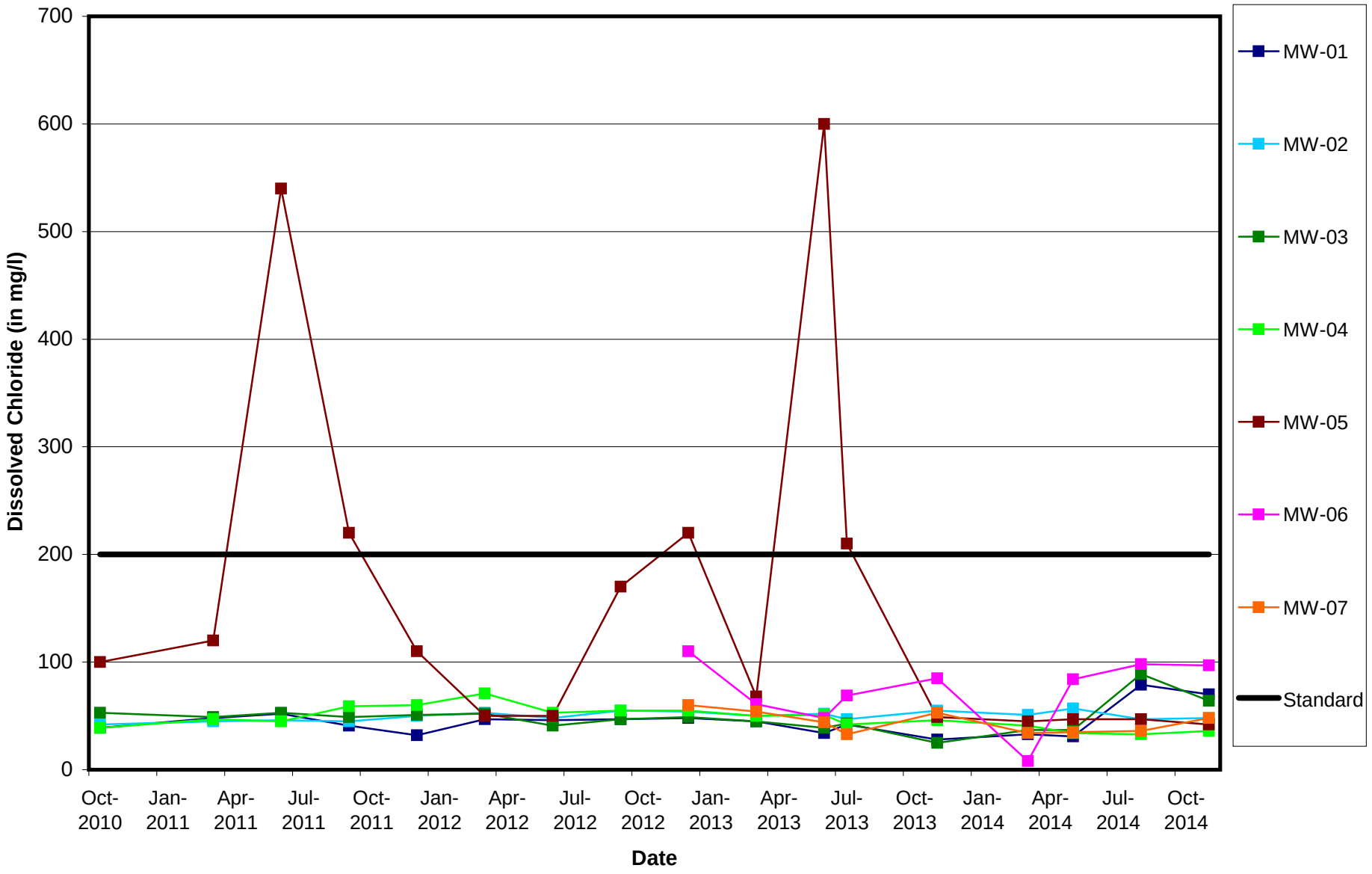
Dissolved Cadmium vs. Time



MWG13-15_45394

Midwest Generation Waukegan Station, Waukegan, IL

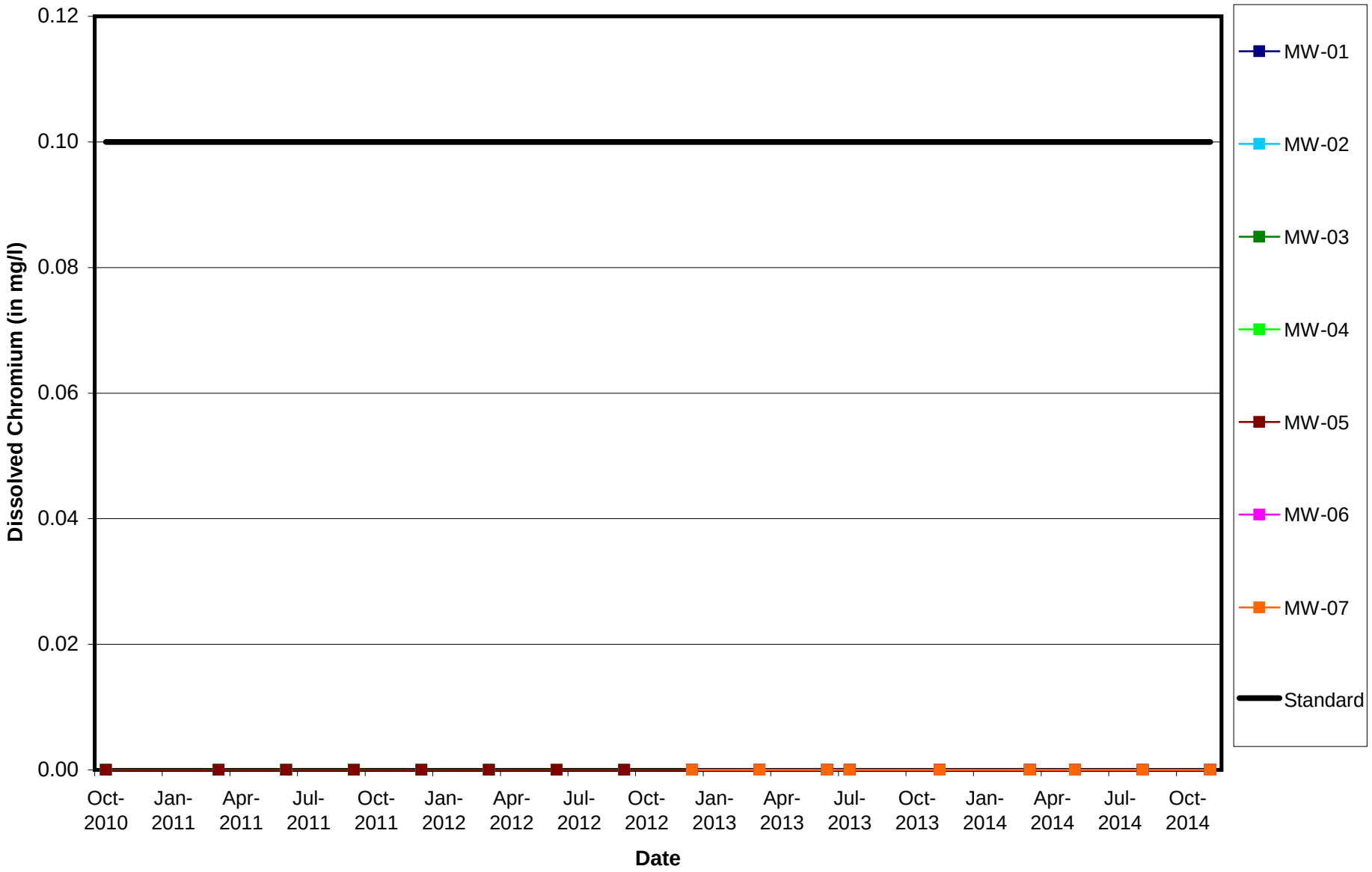
Dissolved Chloride vs. Time



MWG13-15_45395

Midwest Generation Waukegan Station, Waukegan, IL

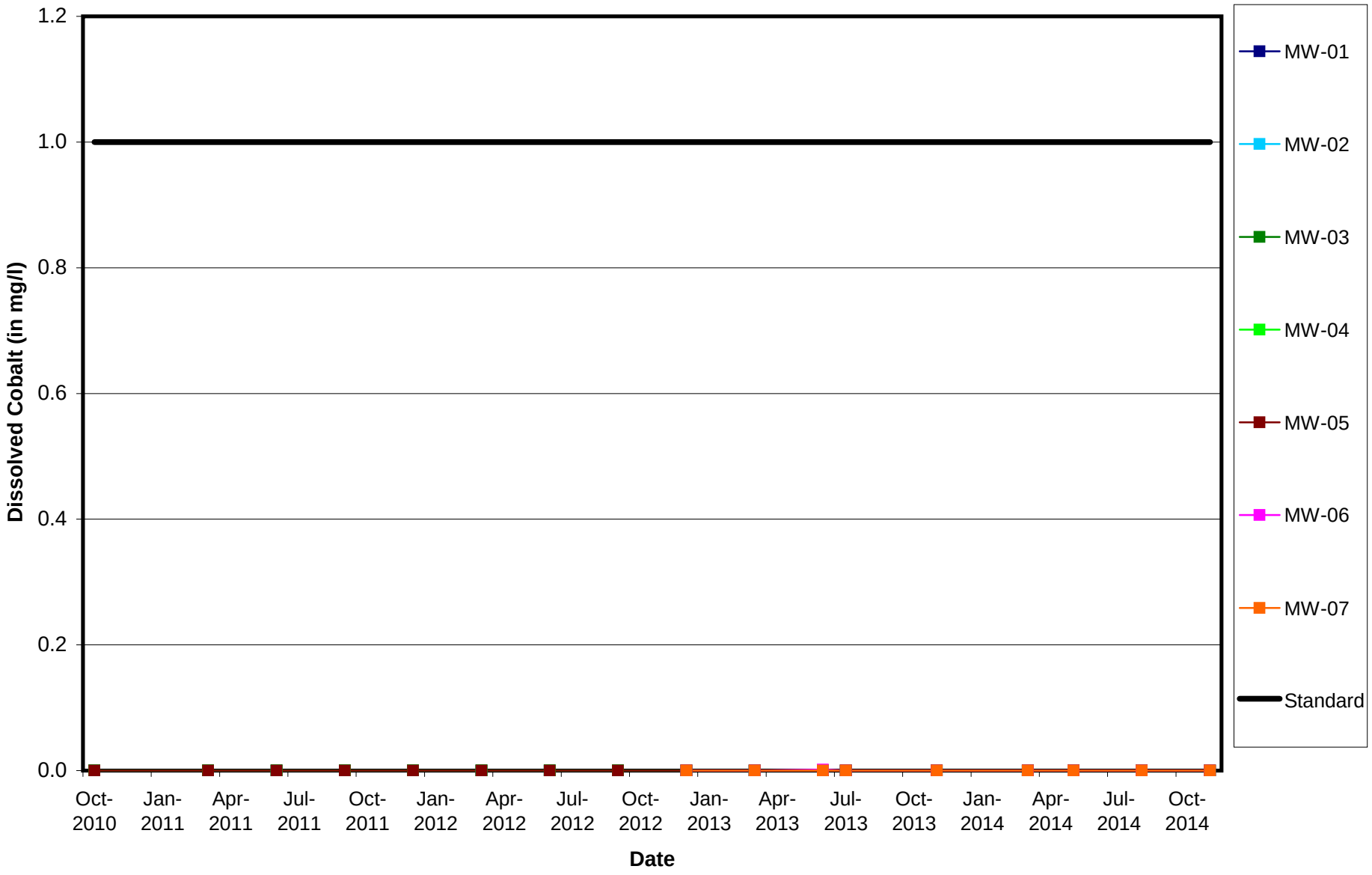
Dissolved Chromium vs. Time



MWG13-15_45396

Midwest Generation Waukegan Station, Waukegan, IL

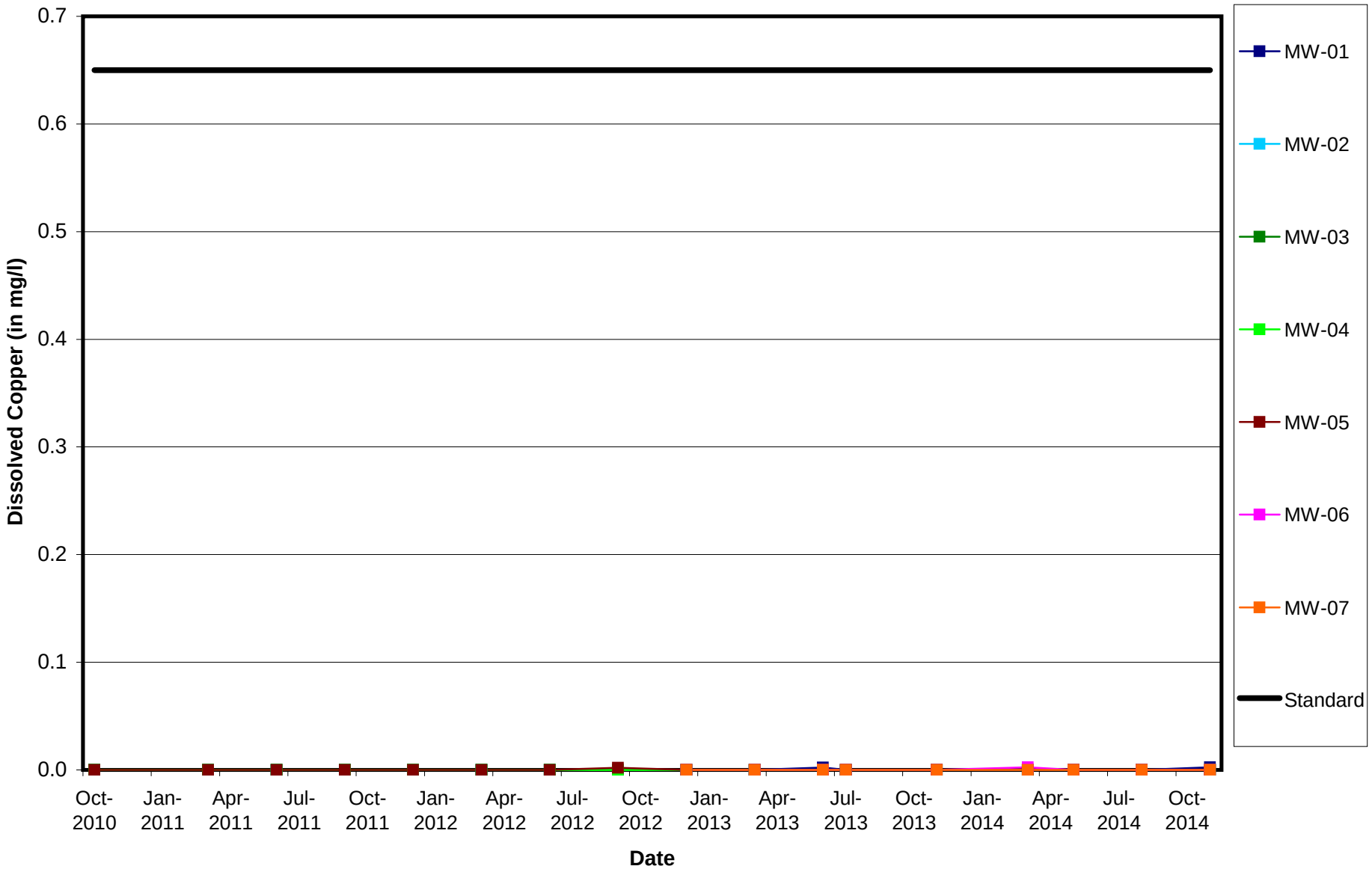
Dissolved Cobalt vs. Time



MWG13-15_45397

Midwest Generation Waukegan Station, Waukegan, IL

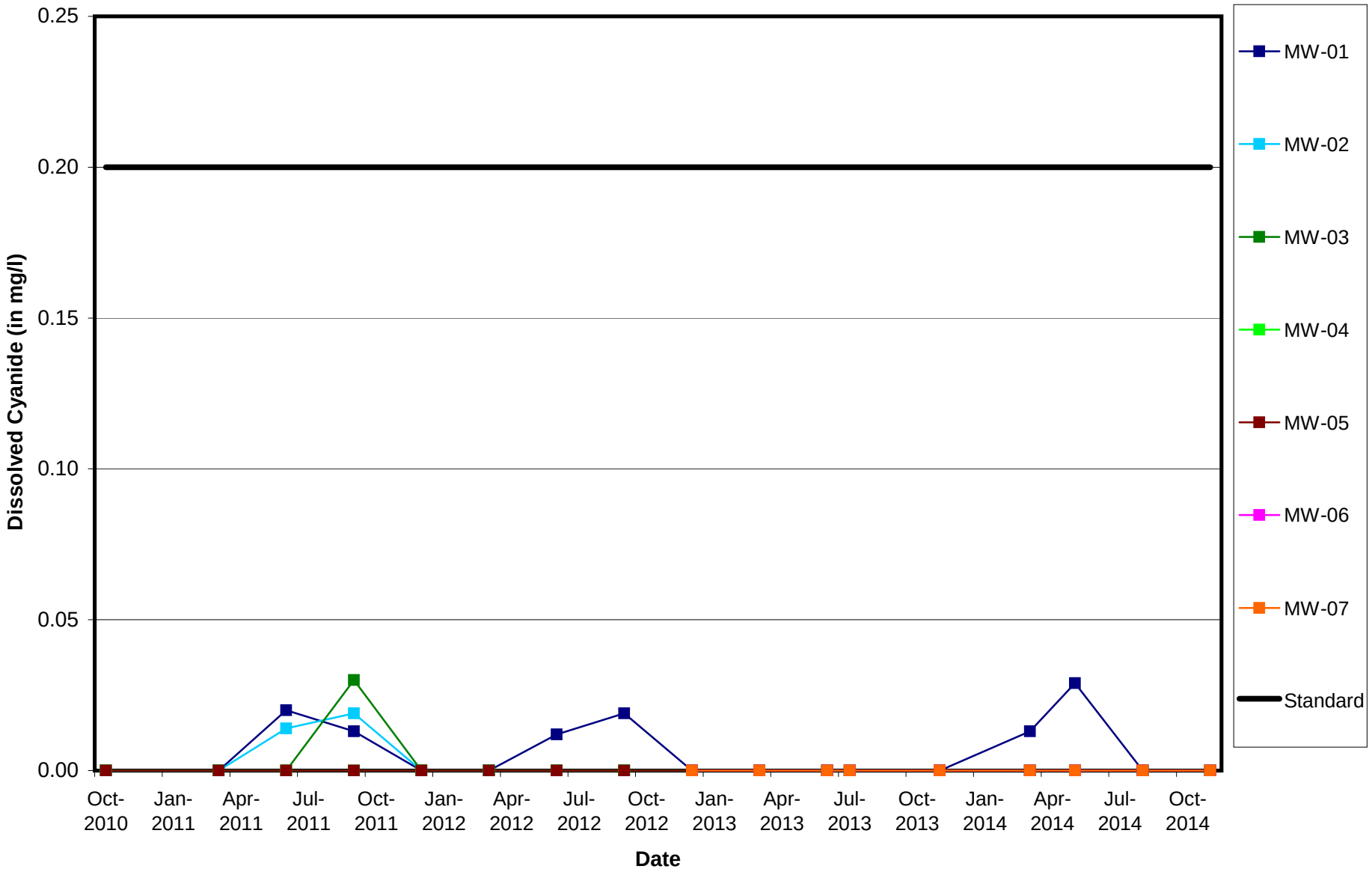
Dissolved Copper vs. Time



MWG13-15_45398

Midwest Generation Waukegan Station, Waukegan, IL

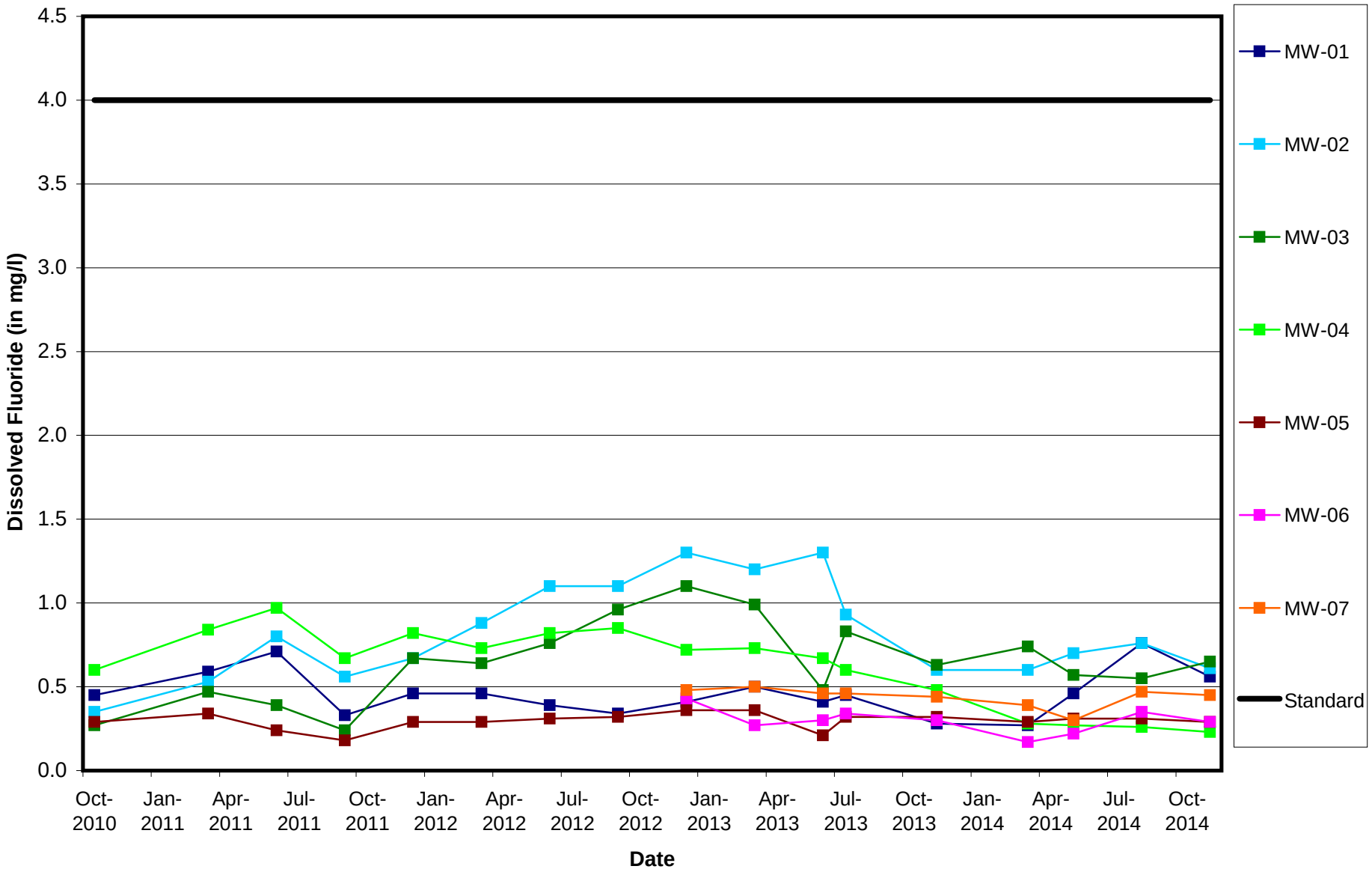
Dissolved Cyanide vs. Time



MWG13-15_45399

Midwest Generation Waukegan Station, Waukegan, IL

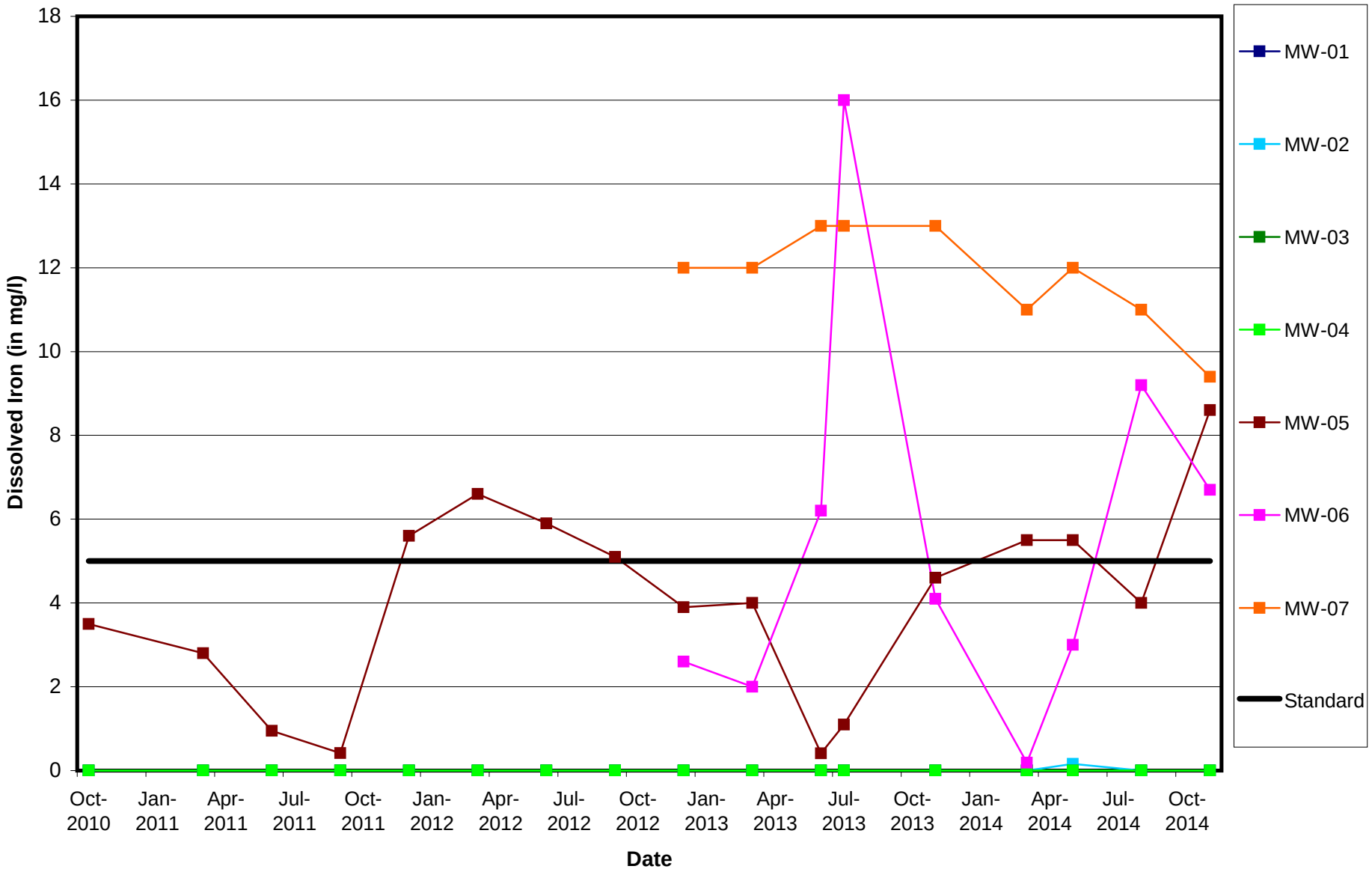
Dissolved Fluoride vs. Time



MWG13-15_45400

Midwest Generation Waukegan Station, Waukegan, IL

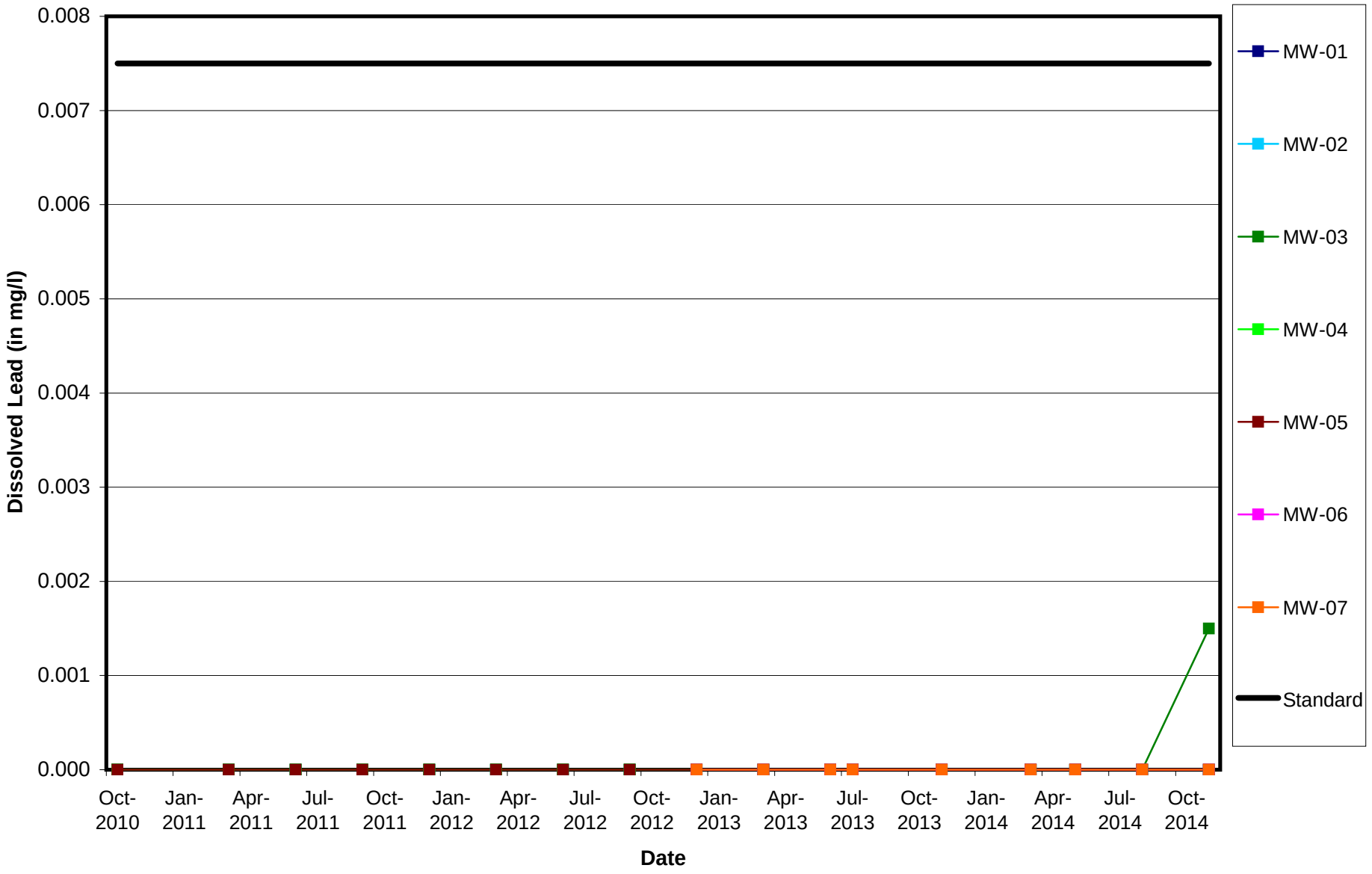
Dissolved Iron vs. Time



MWG13-15_45401

Midwest Generation Waukegan Station, Waukegan, IL

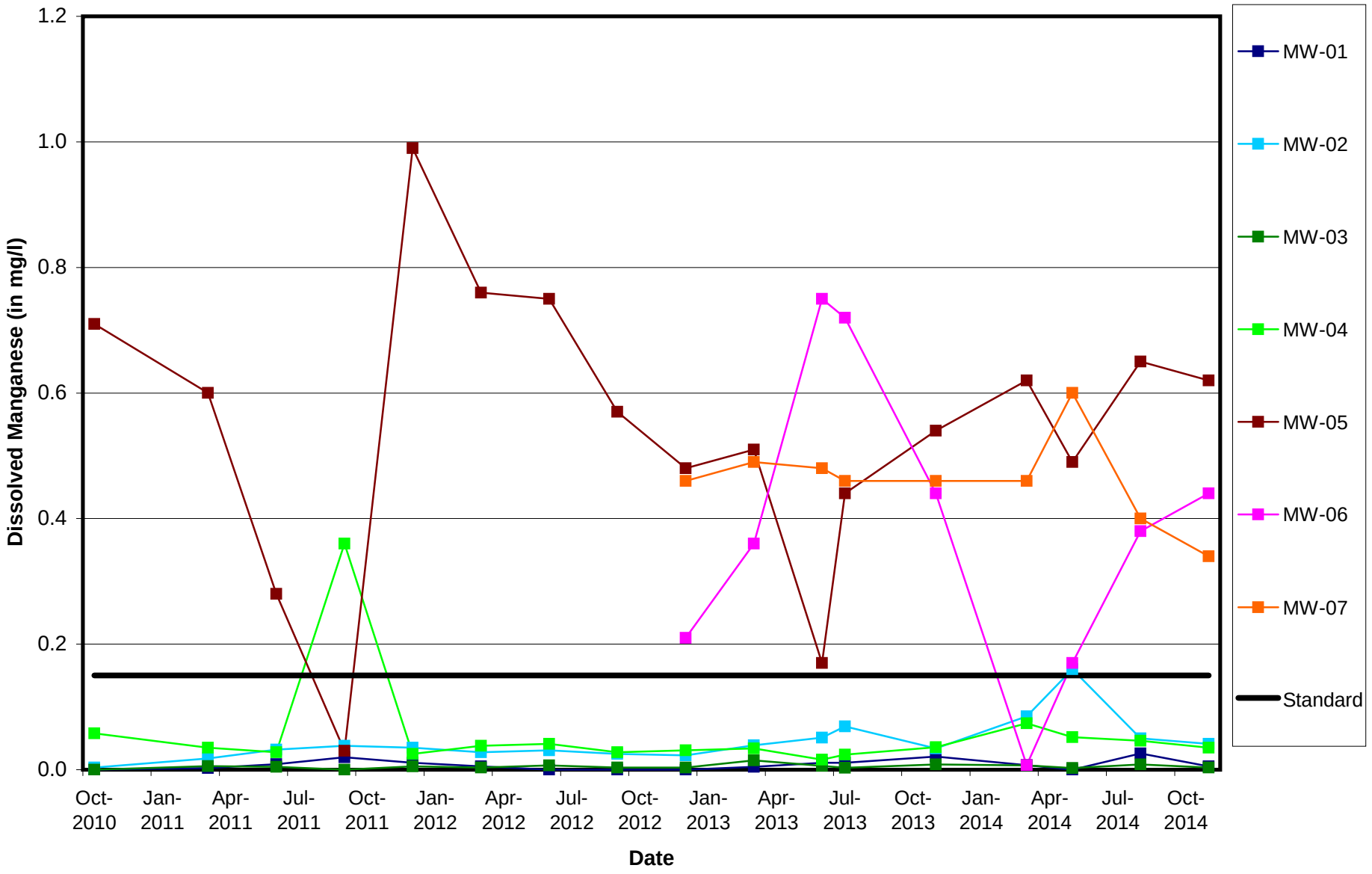
Dissolved Lead vs. Time



MWG13-15_45402

Midwest Generation Waukegan Station, Waukegan, IL

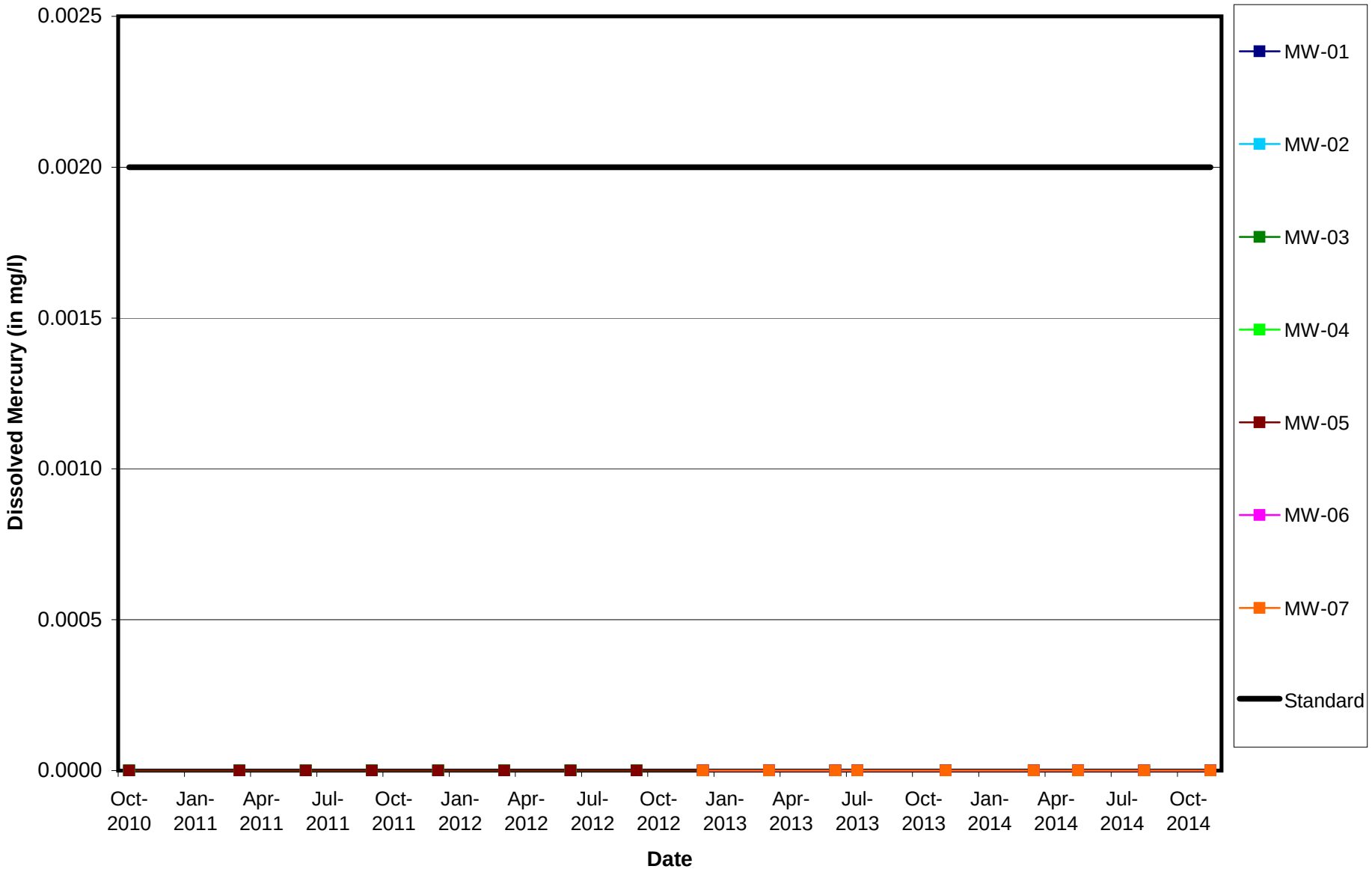
Dissolved Manganese vs. Time



MWG13-15_45403

Midwest Generation Waukegan Station, Waukegan, IL

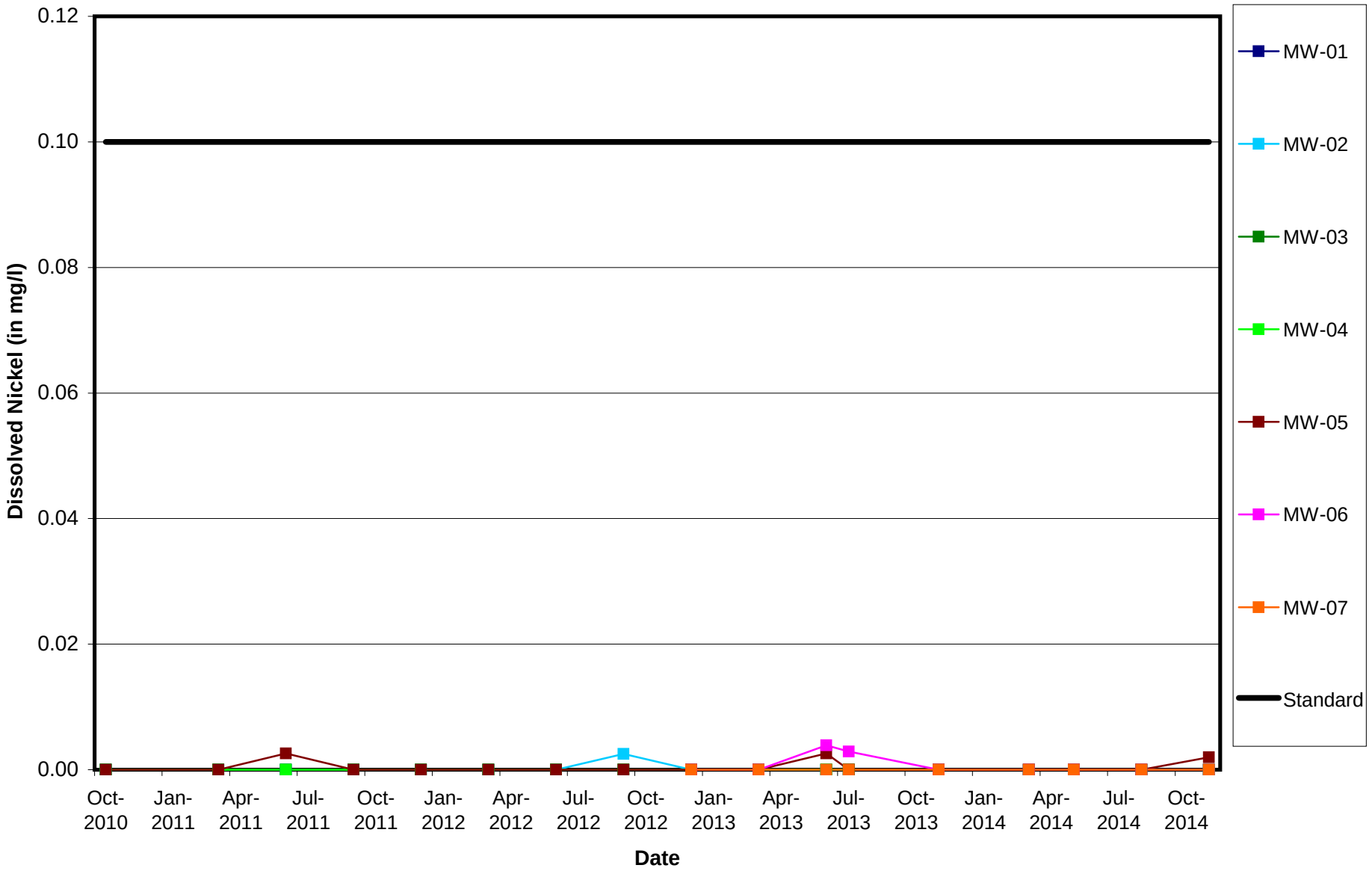
Dissolved Mercury vs. Time



MWG13-15_45404

Midwest Generation Waukegan Station, Waukegan, IL

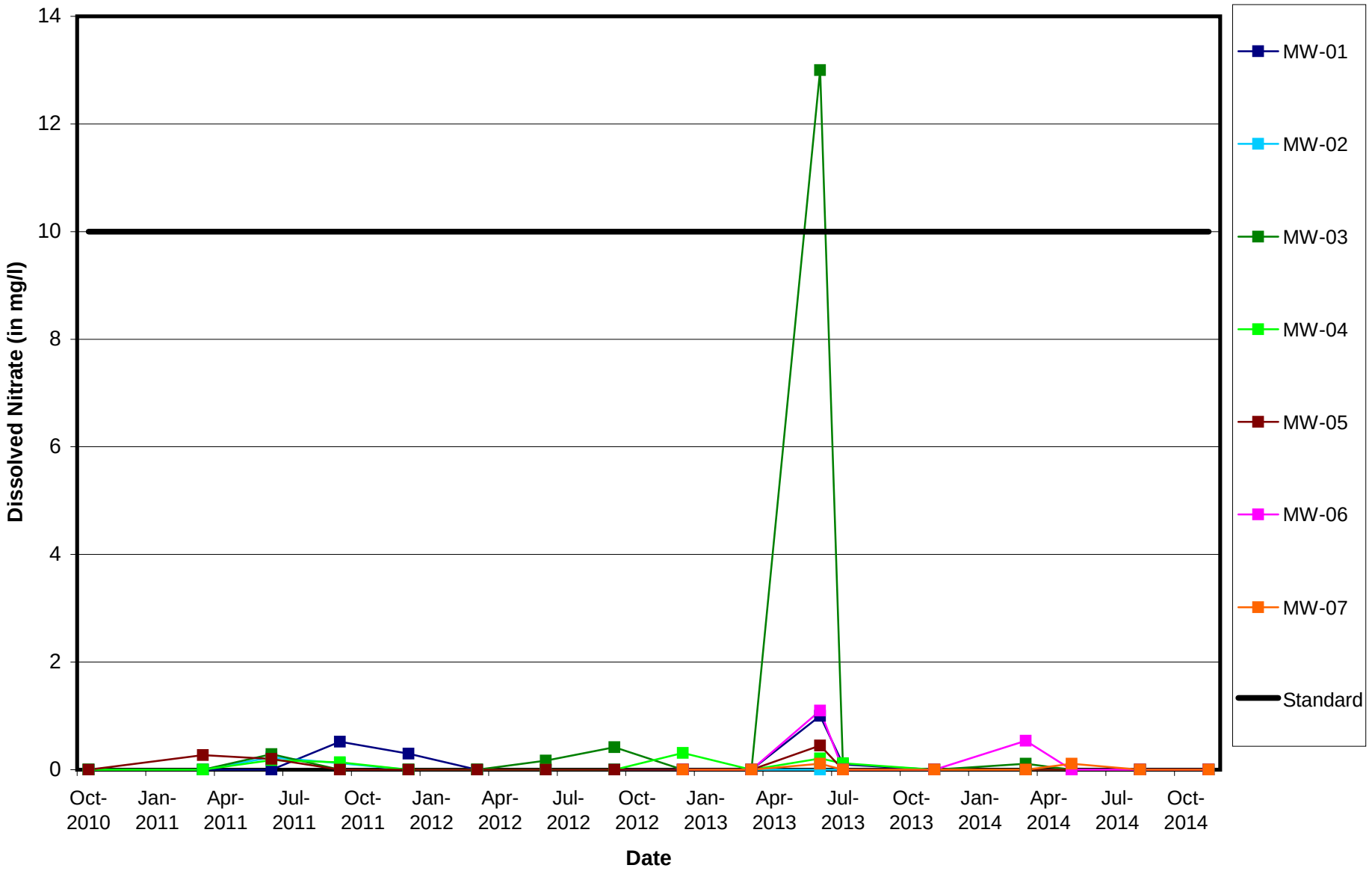
Dissolved Nickel vs. Time



MWG13-15_45405

Midwest Generation Waukegan Station, Waukegan, IL

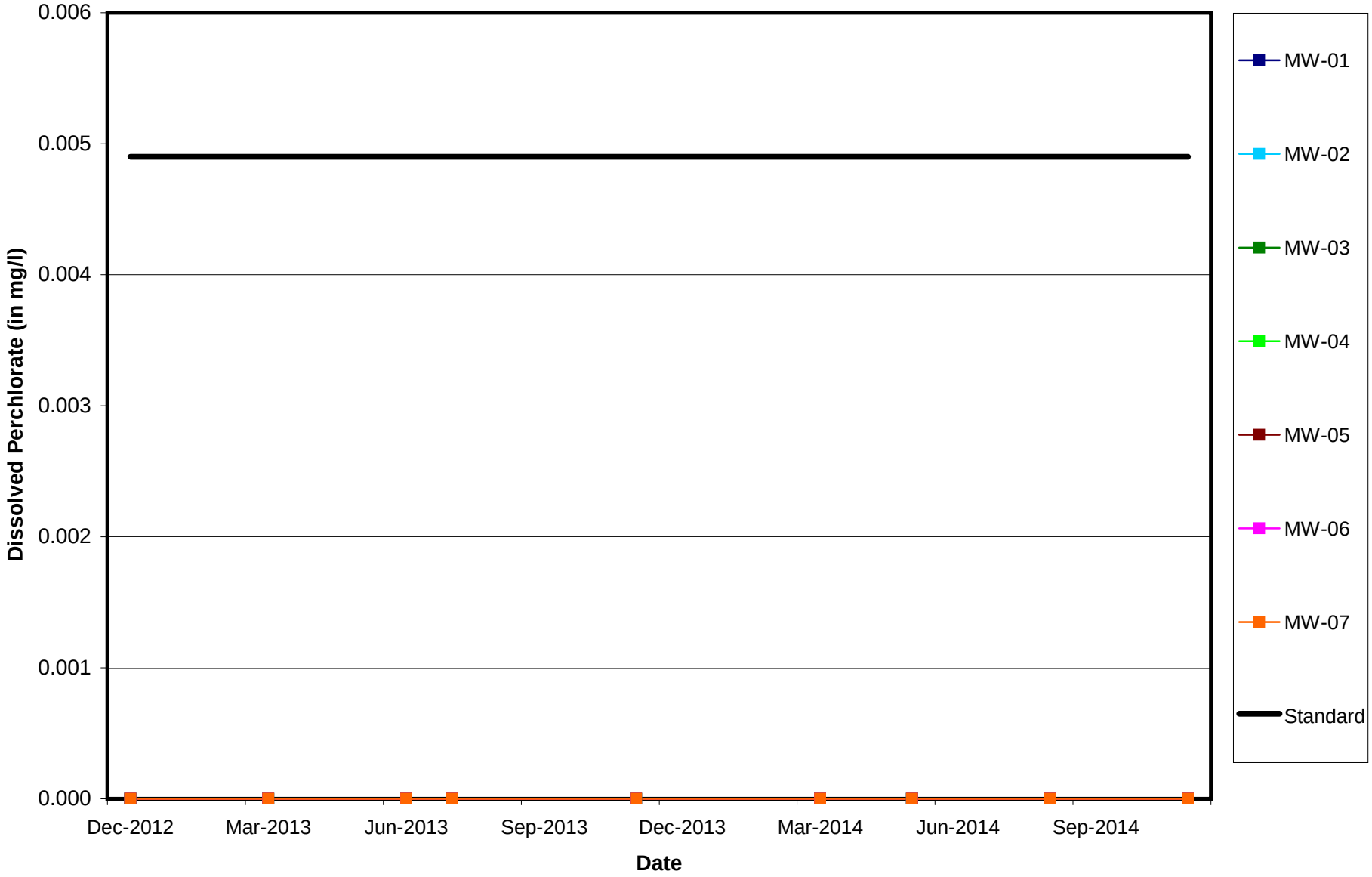
Dissolved Nitrate vs. Time



MWG13-15_45406

Midwest Generation Waukegan Station, Waukegan, IL

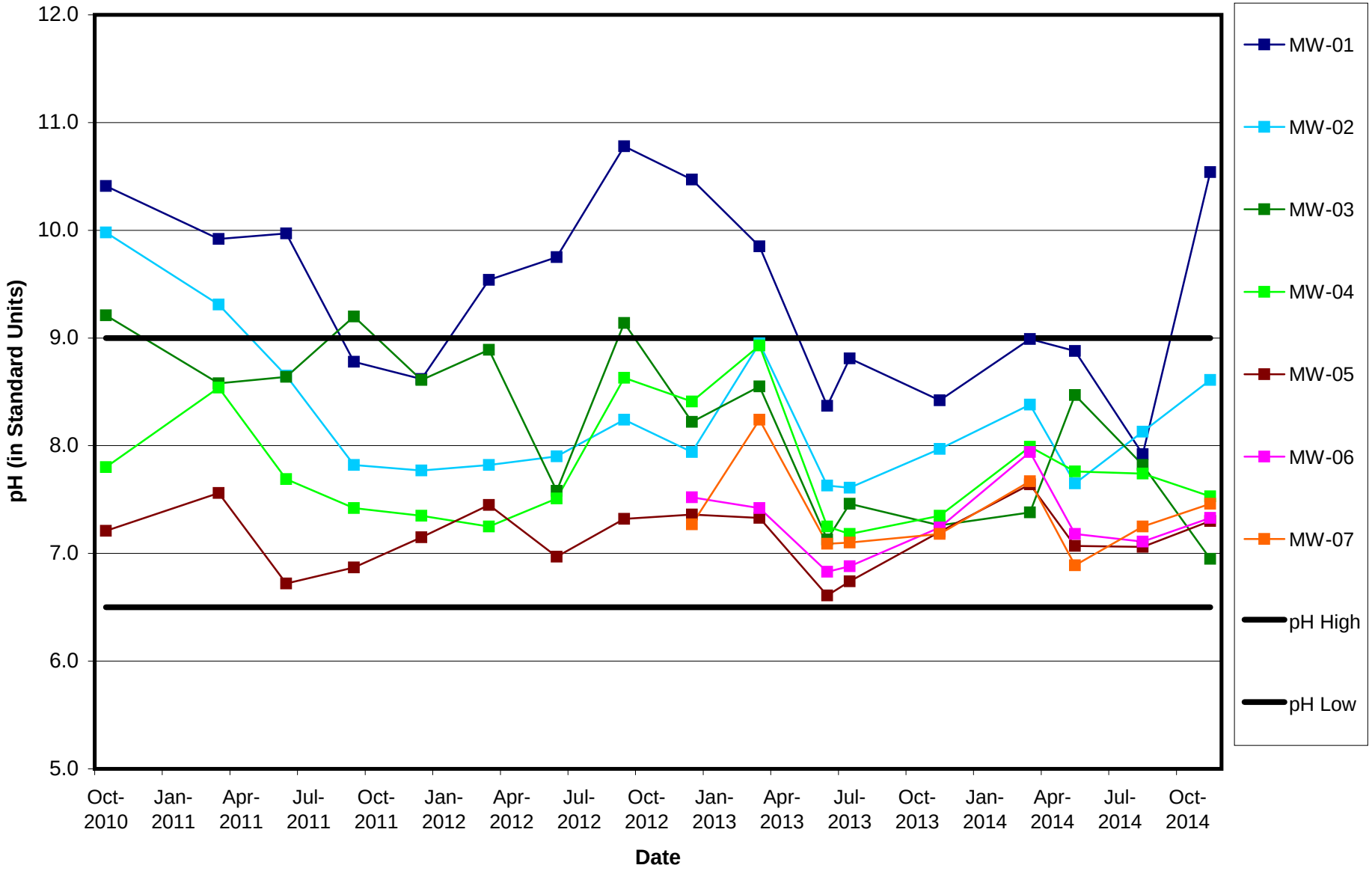
Dissolved Perchlorate vs. Time



MWG13-15_45407

Midwest Generation Waukegan Station, Waukegan, IL

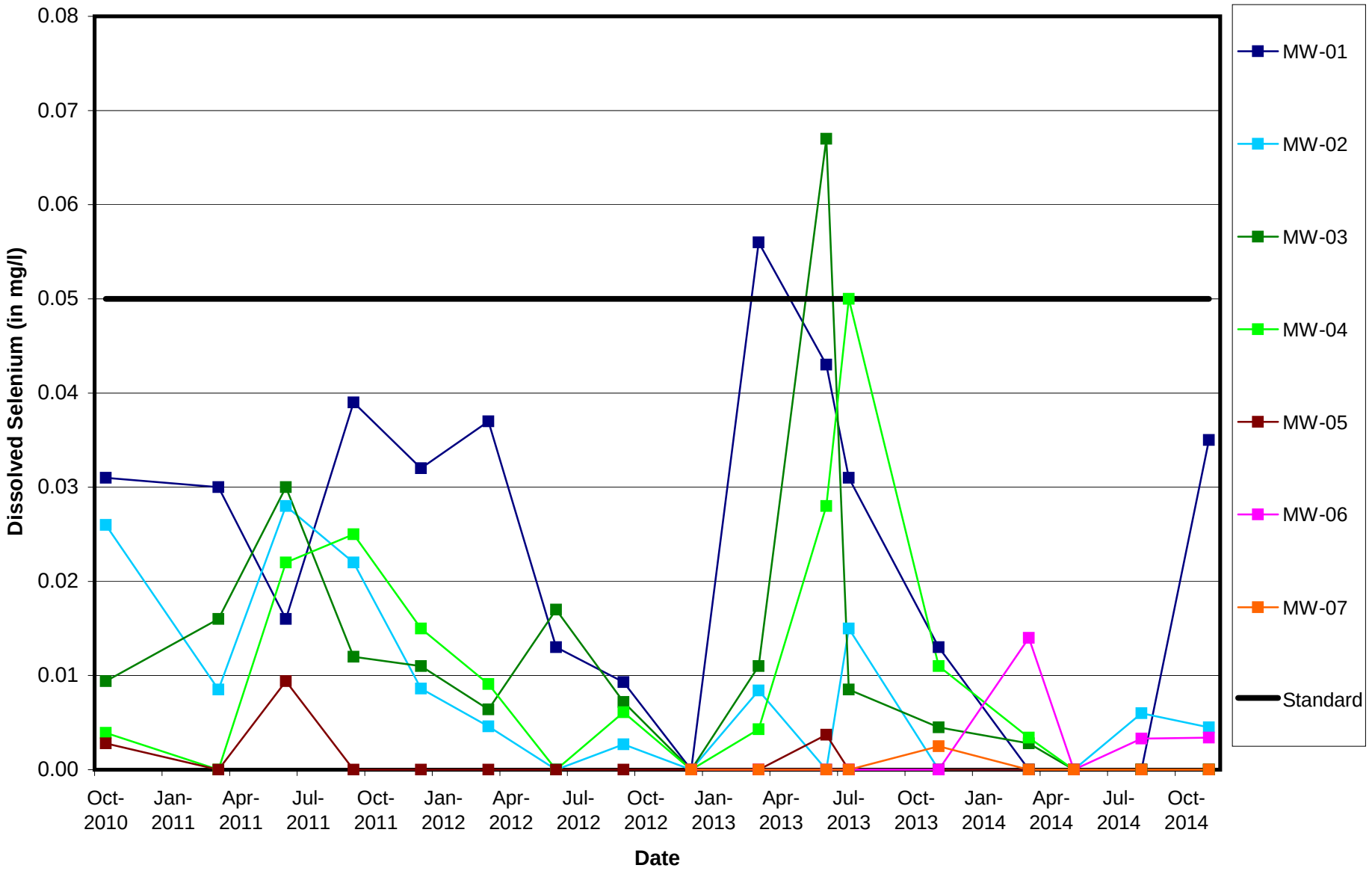
pH vs. Time



MWG13-15_45408

Midwest Generation Waukegan Station, Waukegan, IL

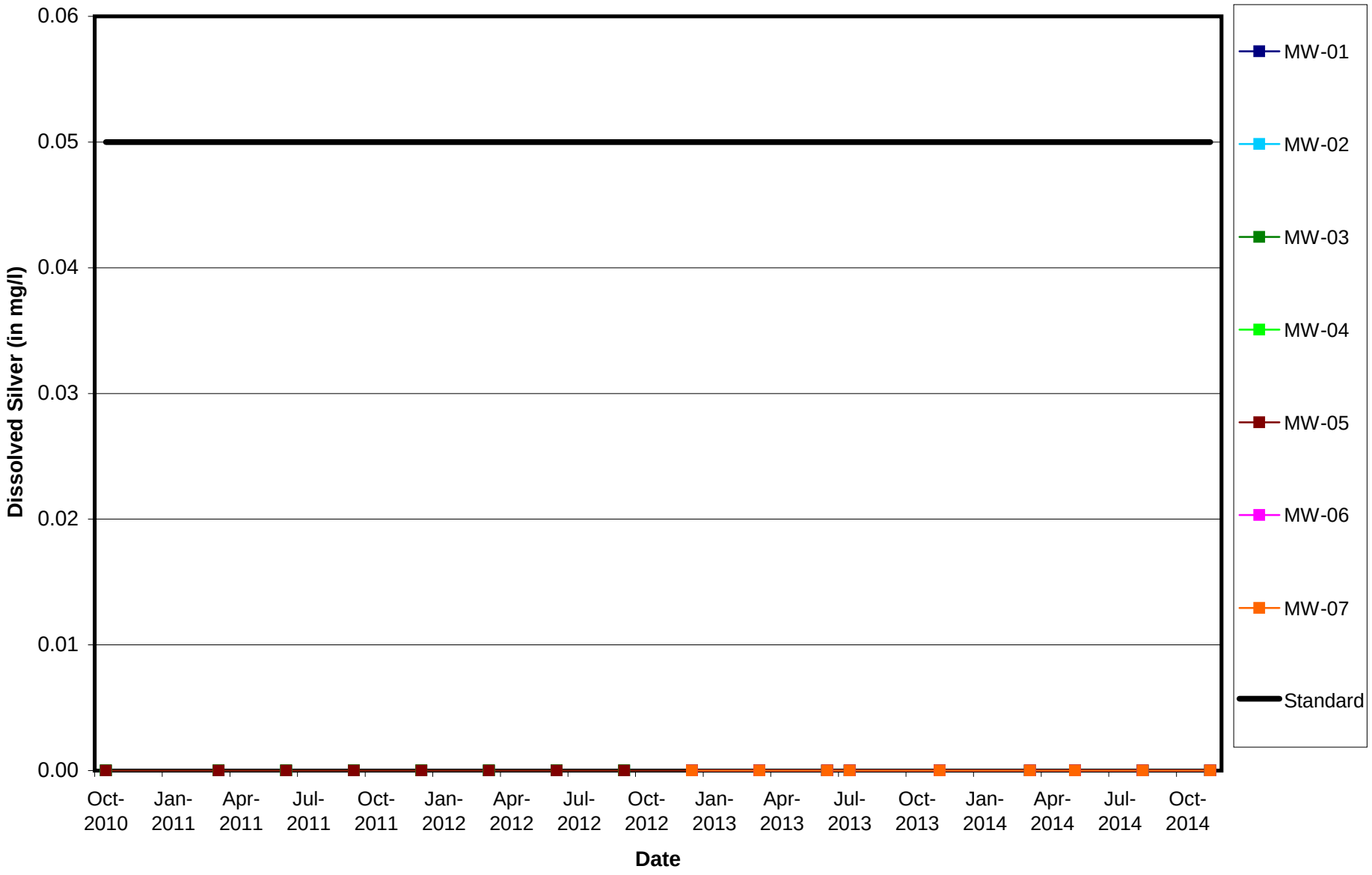
Dissolved Selenium vs. Time



MWG13-15_45409

Midwest Generation Waukegan Station, Waukegan, IL

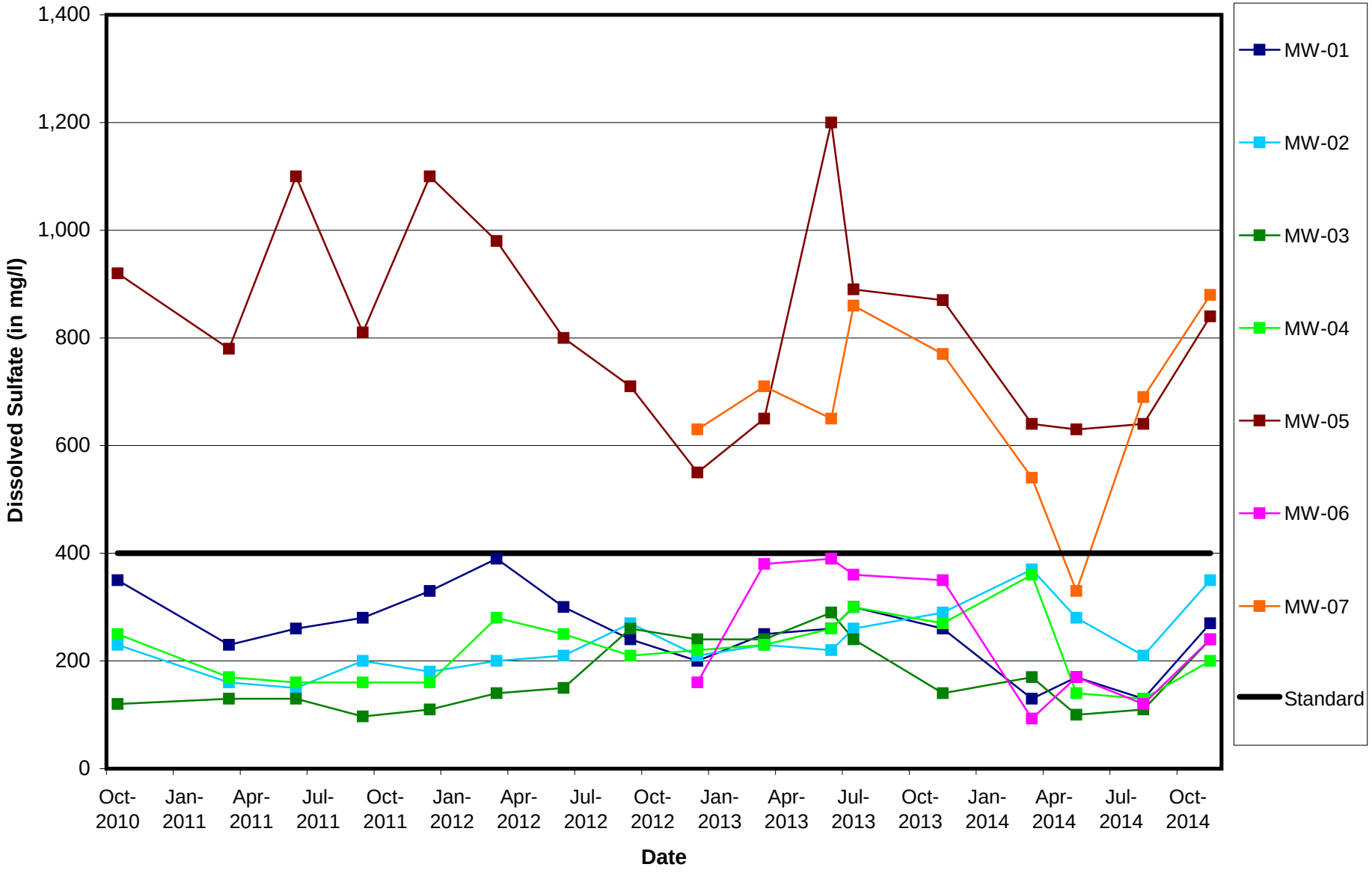
Dissolved Silver vs. Time



MWG13-15_45410

Midwest Generation Waukegan Station, Waukegan, IL

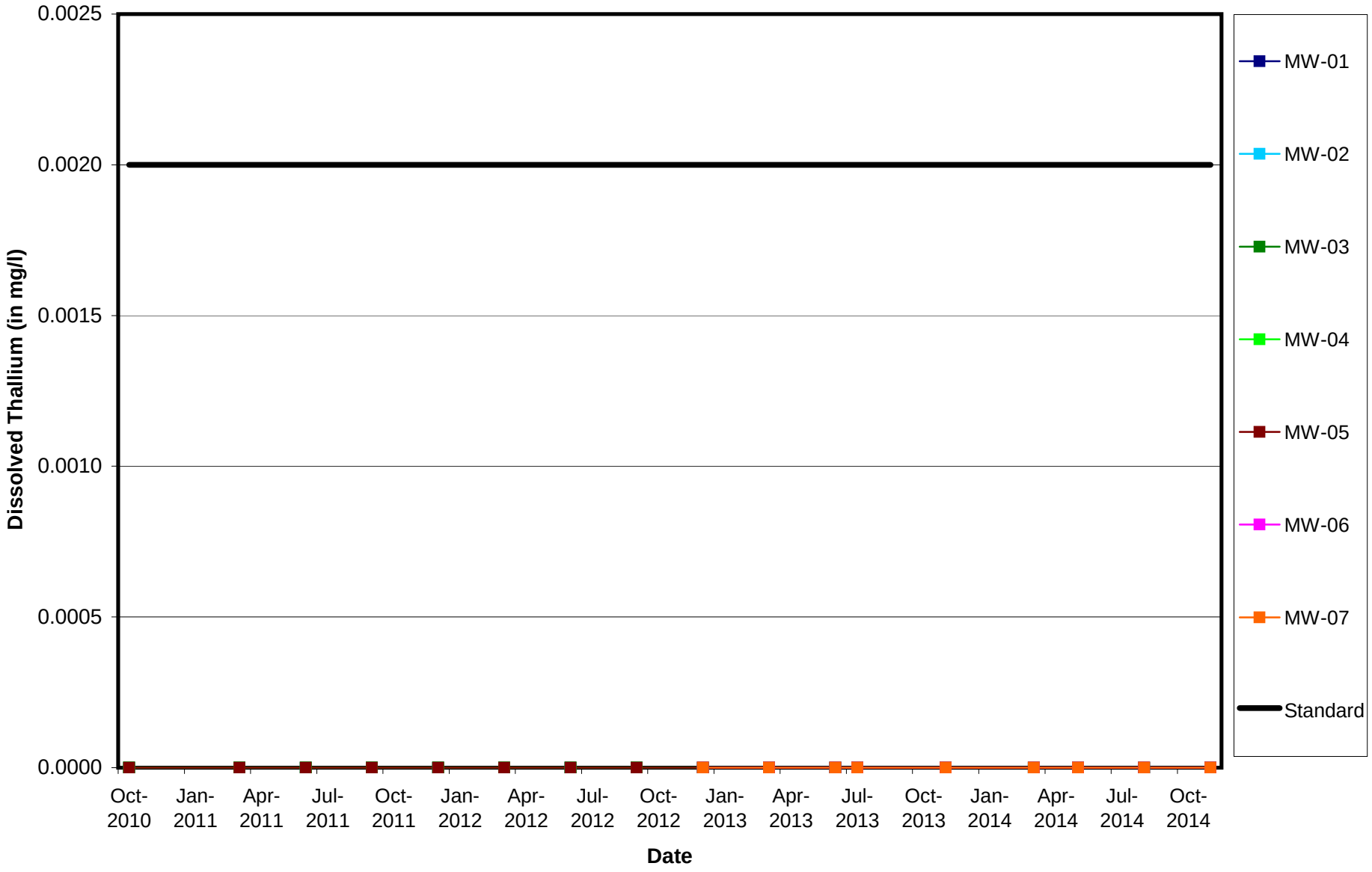
Dissolved Sulfate vs. Time



MWG13-15_45411

Midwest Generation Waukegan Station, Waukegan, IL

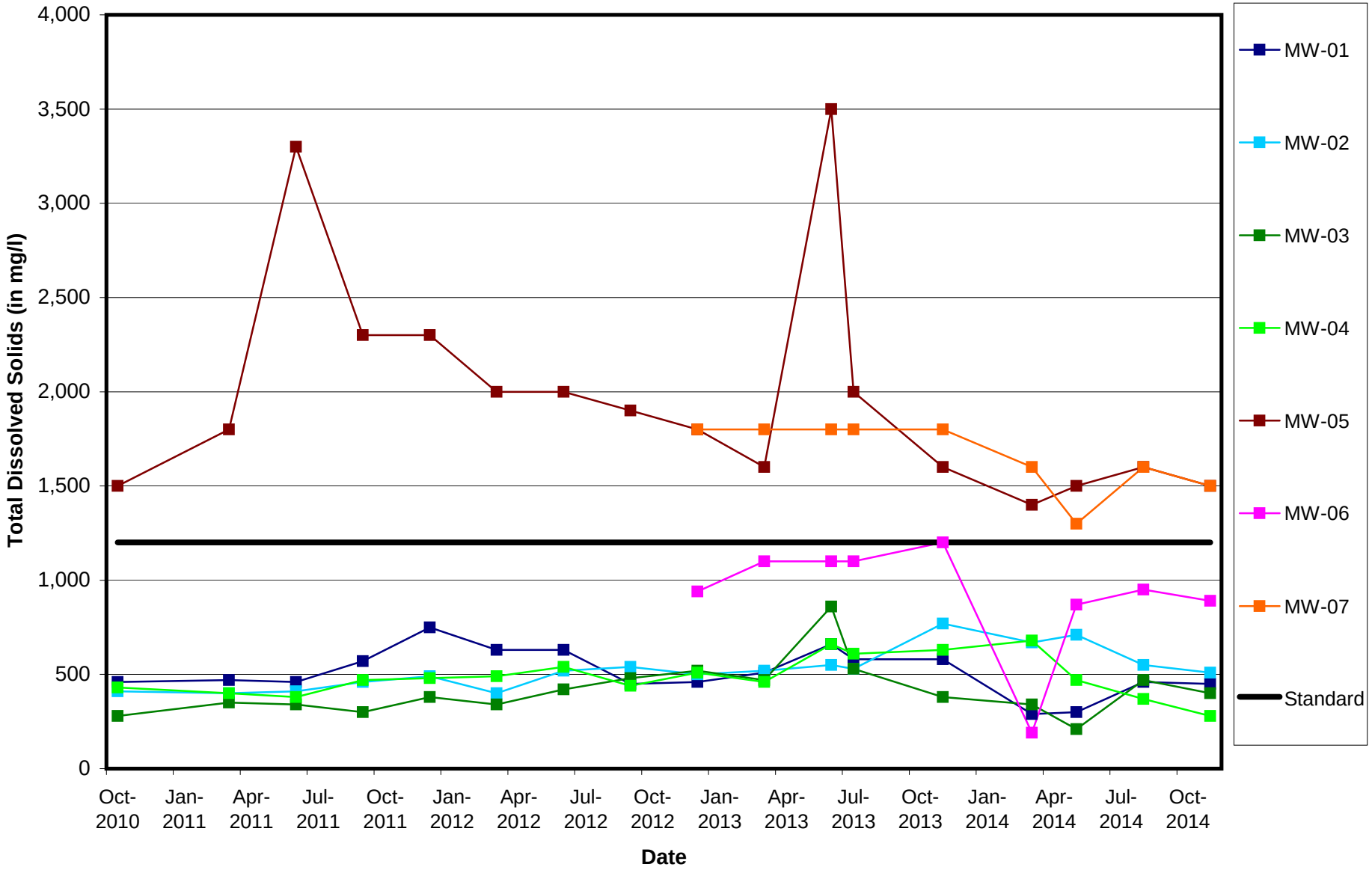
Dissolved Thallium vs. Time



MWG13-15_45412

Midwest Generation Waukegan Station, Waukegan, IL

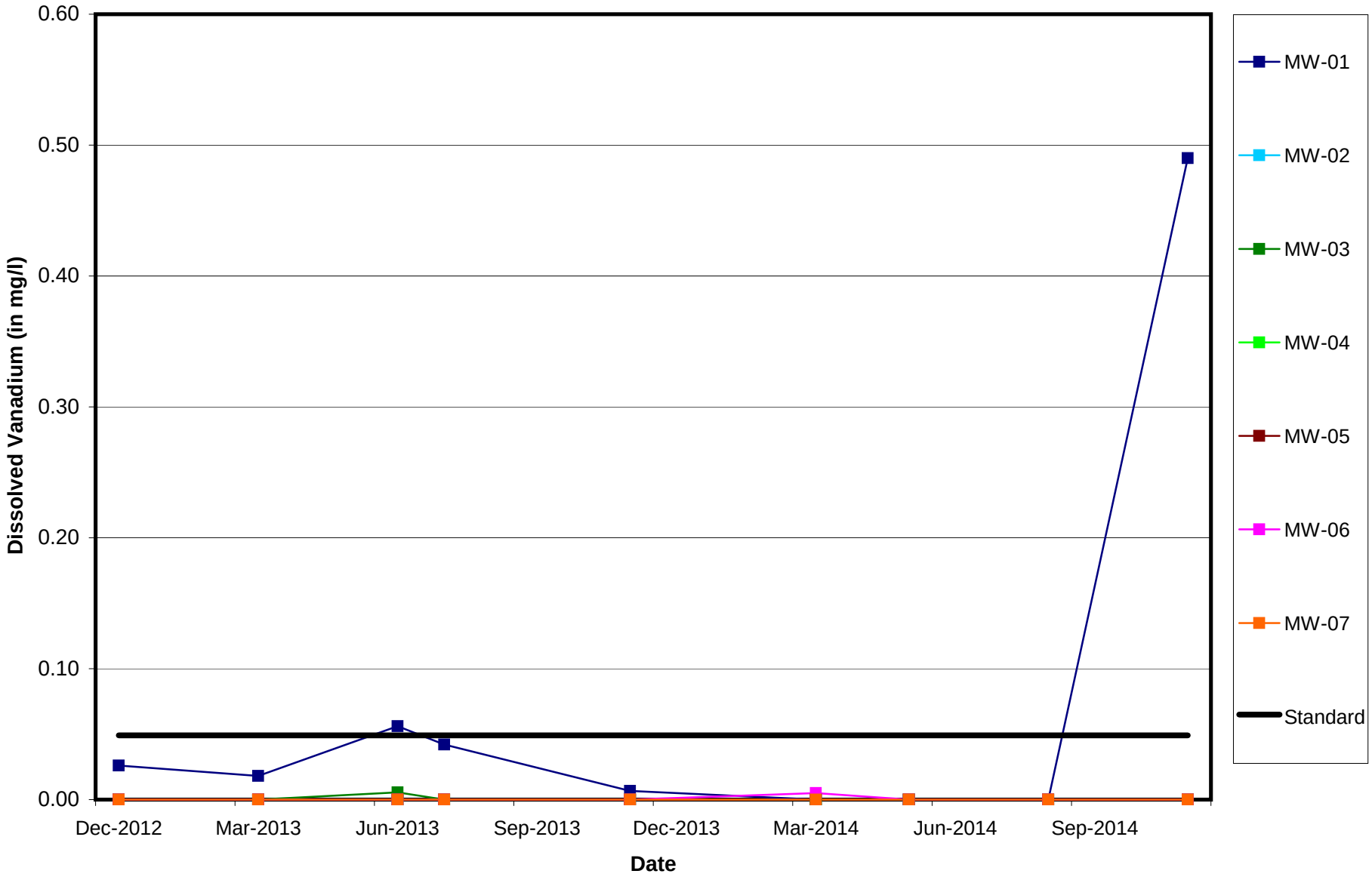
Total Dissolved Solids vs. Time



MWG13-15_45413

Midwest Generation Waukegan Station, Waukegan, IL

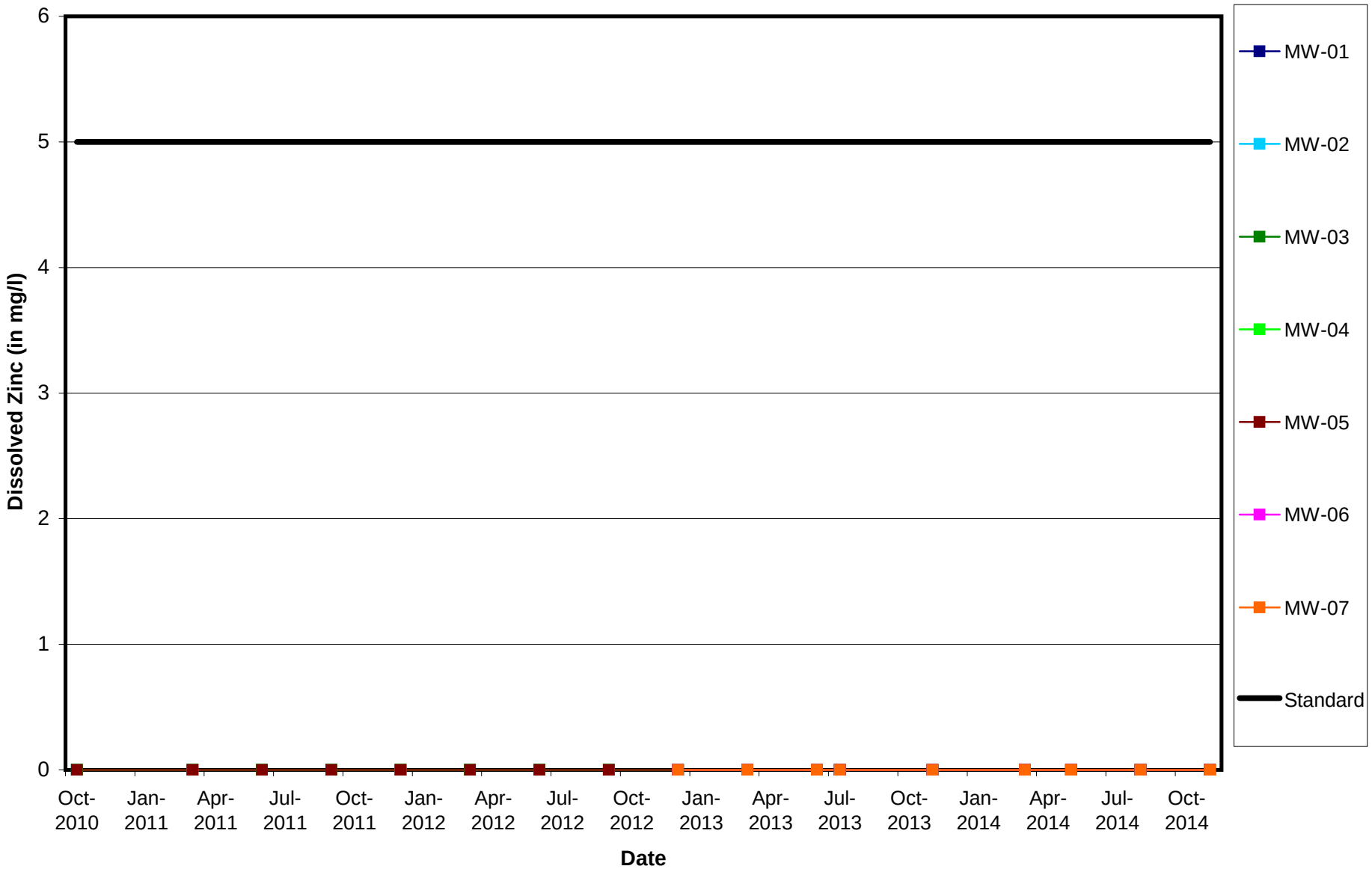
Dissolved Vanadium vs. Time



MWG13-15_45414

Midwest Generation Waukegan Station, Waukegan, IL

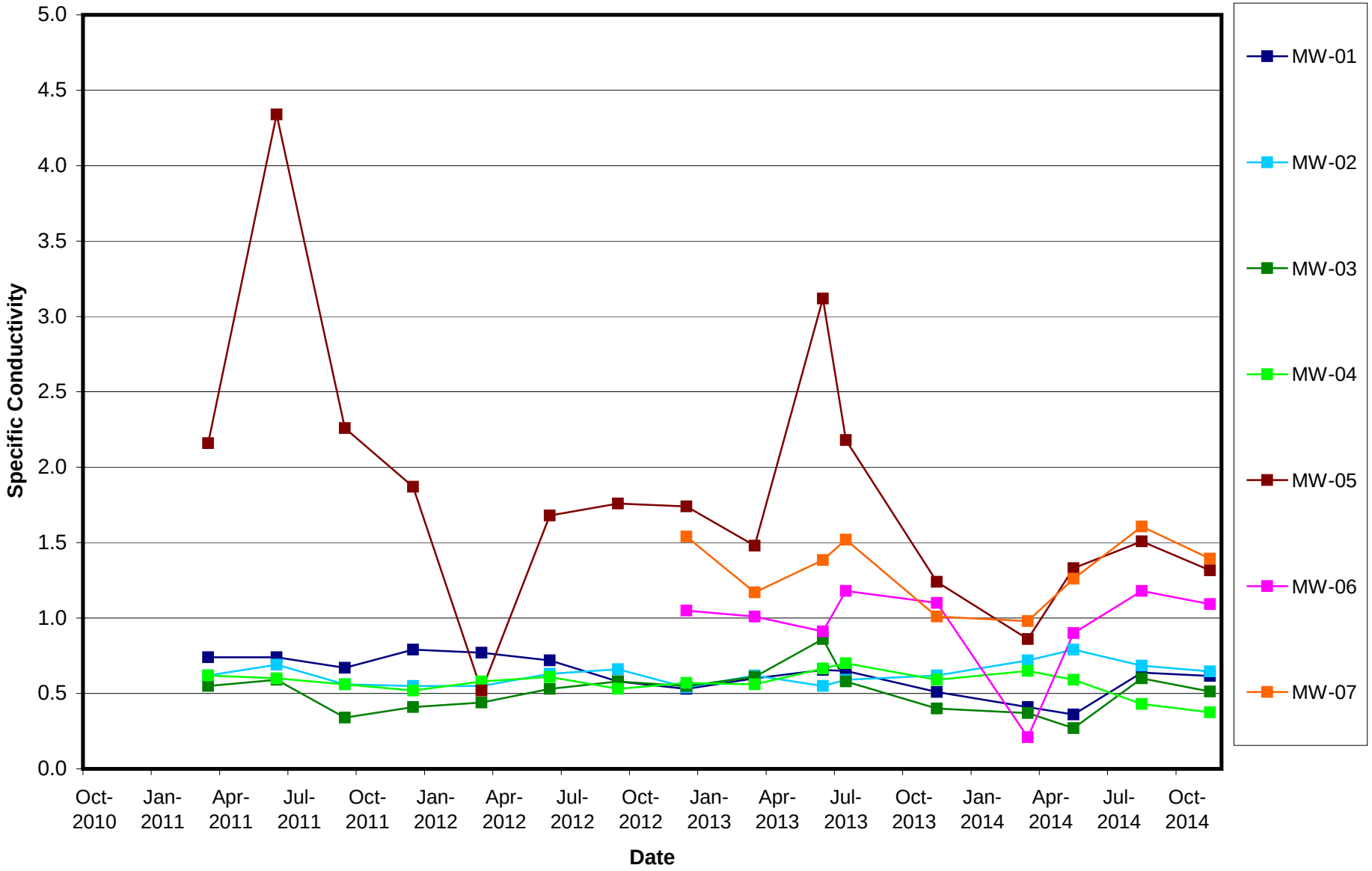
Dissolved Zinc vs. Time



MWG13-15_45415

Midwest Generation Waukegan Station, Waukegan, IL

Specific Conductivity vs. Time



MWG13-15_45416

Exhibit A12

NRG Energy
401 E. Greenwood Ave,
Waukegan, IL 60087

ANNUAL and QUARTERLY GROUNDWATER MONITORING REPORT
WAUKEGAN GENERATING STATION

January 22, 2016

Ms. Andrea Rhodes
Illinois Environmental Protection Agency
Division of Public Water Supplies
MC#19
1021 North Grand Avenue East
Springfield, IL 62794-9276

VIA FEDERAL EXPRESS

Re: Annual and Quarterly Groundwater Monitoring Results – Fourth Quarter 2015
Waukegan Generating Station – Ash Impoundments
Compliance Commitment Agreement VN W-2012-00056; ID# 6281

Dear Ms. Rhodes:

The fourth quarterly groundwater sampling for 2015 has been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Waukegan Generating Station in accordance with the Compliance Commitment Agreement (CCA) with Illinois Environmental Protection Agency (IEPA) dated October 24, 2012. This quarterly monitoring report summarizes the results of the monitoring event and is also intended to serve as the Annual Report and includes historical data analysis/summaries.

Well Inspection and Sampling Procedures

The groundwater monitoring network around the ash ponds at this facility consists of seven wells (MW-01 through MW-07) as shown on Figure 1. As part of sampling procedures, the integrity of all monitoring wells was inspected and water levels were obtained using an electronic water level meter (see summary of water level discussion below). Wells MW-01 through MW-04 are completed as flush-mounts at ground surface. The concrete anchors, protector boxes and interior casings were in good condition. Wells MW-05 through MW-07 are completed with stick-up protector casings. The wells were found in good condition with locked protector casings and the concrete surface seals were intact.

Groundwater samples at well locations MW-01 through MW-07 were collected using the low-flow sampling technique.

One duplicate sample (well MW-07) was collected for quality assurance purposes. The groundwater monitoring samples and the duplicate sample were analyzed for the inorganic compounds listed in Illinois Administrative Code (IAC) 620.410(a), 620.410(d) and 620.410(e), excluding radium 226/228.

Groundwater Flow Evaluation

Water level data from the most recent round of sampling along with historical water levels obtained from each well are summarized in Table 1. The water levels from the most recent sampling were used to generate a groundwater flow map which is provided on Figure 2. The water elevation data indicates a general east-southeasterly flow of groundwater in the vicinity of the ash ponds. The flow conditions observed during this sampling are generally consistent with historical conditions reported for the site.

Relative to an annual evaluation of groundwater levels, a historical hydrograph is presented in Attachment 1. The hydrograph indicates a groundwater elevation cycle with the seasons. The higher water levels were associated with the spring sampling event (May 2014 and April 2015) followed by a drop and recovery, suggesting some seasonal variations on the order of 2 to 3 feet. It is also noted that there has been an overall general rise in water levels in all wells since the fourth quarter 2012 sampling.

Summary of Analytical Data

A copy of the analytical data package is provided in Attachment 2. The field parameter and analytical data from the most recent sampling, along with the previous eight quarters of data, are summarized in Table 2. As stated above, a duplicate sample was collected from well MW-07. The data are generally consistent with previous data generated for the site. The duplicate values were within an acceptable range (below +/- 30%) with the exception of benzene which was detected at a trace level in the duplicate but not in the investigative sample. Benzene is not usually considered and indicator parameter for coal ash. Any exceptions are discussed in greater detail below. All wells for which the sampling data reports a value above one or more groundwater standards are located within the area of the approved Environmental Land Use Control (ELUC).

At this time a statistical evaluation of background water quality for comparing against downgradient wells has not been completed. Data from the initial anticipated background well installation (MW-05) indicated impacts that are not associated with the ash ponds at the site and however, IEPA does not recognize the water quality data from this well as representative of background. A new potential background monitoring well (MW-06) has been installed and is included within the quarterly sampling. An initial review of the MW-06 data suggests that this well location may provide a representative background water quality with which to perform a statistical evaluation, however there are some detections of boron above the Class I standard which may be originating from off-site.

Relative to an annual evaluation of the water chemistry data, time versus concentration curves are provided in Attachment 3 for each parameter analyzed. The curves include the Class I drinking water standard for reference, where appropriate.

As noted previously, all wells for which the sampling data reports a value above one or more applicable groundwater standards are located within the area of the approved ELUC.

If there are any questions, please contact either Sharene Shealey of NRG Energy at 815-372-4625 or Richard Gnat of KPRG at 262-781-0475.

Sincerely,

Mark Nagel
Station Manager

Attachments

cc: William Buscher, IEPA
Fred Veenbaas, NRG Energy
Sharene Shealey, NRG Energy
Richard Gnat, KPRG and Associates, Inc.

FIGURES



ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

SITE MAP

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 500' | Date: January 23, 2015

KPRG Project No. 12313.2 | FIGURE 1

MWGS13-15_50439

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ENVIRONMENTAL CONSULTATION & REMEDIATION

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414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

GROUNDWATER CONTOUR MAP 11/2015

WAUKEGAN STATION
WAUKEGAN, ILLINOIS

Scale: 1" = 500' | Date: January 7, 2016

KPRG Project No. 12313.2 | FIGURE 2

MWG1345_30440

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TABLES

Table 1. Groundwater Elevations - Midwest Generation, LLC, Waukegan Station, Waukegan, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-01	6/13/2011	603.14	603.46	583.34	583.33	570.96	19.80	19.81	32.18
	9/13/2011	603.14	603.46	581.14	581.14	570.96	22.00	22.00	32.18
	12/6/2011	603.14	603.46	581.15	581.15	570.96	21.99	21.99	32.18
	3/14/2012	603.14	603.46	581.18	581.18	570.96	21.96	21.96	32.18
	6/18/2012	603.14	603.46	580.86	580.86	570.96	22.28	22.28	32.18
	9/28/2012	603.14	603.46	579.65	579.65	570.96	23.49	23.49	32.18
	12/19/2012	603.14	603.46	579.42	579.42	570.96	23.72	23.72	32.18
	3/7/2013	603.14	603.46	580.35	580.35	570.96	22.79	22.79	32.18
	6/6/2013	603.14	603.46	582.38	582.31	571.30	20.76	20.83	31.84
	7/25/2013	603.14	603.46	581.40	581.36	571.30	21.74	21.78	31.84
	11/4/2013	603.14	603.46	581.32	581.31	571.30	21.82	21.83	31.84
	3/10/2014	603.14	603.46	581.94	581.96	571.30	21.20	21.18	31.84
	5/16/2014	603.14	603.46	583.07	583.09	571.30	20.07	20.05	31.84
	8/21/2014	603.14	603.46	581.81	581.82	571.30	21.33	21.32	31.84
	11/6/2014	603.14	603.46	582.01	582.01	571.30	21.13	21.13	31.84
	2/17/2015	603.14	603.46	582.42	582.43	571.30	20.72	20.71	31.84
	4/21/2015	603.14	603.46	583.65	583.64	571.30	19.49	19.50	31.84
	8/12/2015	603.14	603.46	582.47	582.47	571.30	20.67	20.67	31.84
	11/2/2015	603.14	603.46	582.39	582.39	571.30	20.75	20.75	31.84
MW-02	6/13/2011	603.04	603.28	583.31	583.31	573.48	19.73	19.73	29.56
	9/13/2011	603.04	603.28	581.19	581.19	573.48	21.85	21.85	29.56
	12/6/2011	603.04	603.28	581.22	581.22	573.48	21.82	21.82	29.56
	3/14/2012	603.04	603.28	581.23	581.21	573.48	21.81	21.83	29.56
	6/18/2012	603.04	603.28	580.89	580.89	573.48	22.15	22.15	29.56
	9/28/2012	603.04	603.28	579.73	579.73	573.48	23.31	23.31	29.56
	12/19/2012	603.04	603.28	579.27	579.27	573.48	23.77	23.77	29.56
	3/7/2013	603.04	603.28	580.50	580.50	573.48	22.54	22.54	29.56
	6/6/2013	603.04	603.28	582.34	582.34	573.48	20.70	20.70	29.56
	7/25/2013	603.04	603.28	581.34	581.33	573.48	21.70	21.71	29.56
	11/4/2013	603.04	603.28	581.23	581.23	573.48	21.81	21.81	29.56
	3/10/2014	603.04	603.28	581.84	581.84	573.48	21.20	21.20	29.56
	5/15/2014	603.04	603.28	582.95	582.95	573.48	20.09	20.09	29.56
	8/21/2014	603.04	603.28	581.76	581.76	573.48	21.28	21.28	29.56
	11/6/2014	603.04	603.28	581.91	581.91	573.48	21.13	21.13	29.56
	2/17/2015	603.04	603.28	582.21	582.21	573.48	20.83	20.83	29.56
	4/21/2015	603.04	603.28	583.54	583.54	573.48	19.50	19.50	29.56
	8/12/2015	603.04	603.28	582.40	582.38	573.48	20.64	20.66	29.56
	11/2/2015	603.04	603.28	582.33	582.34	573.48	20.71	20.70	29.56
MW-03	6/13/2011	602.90	603.18	583.34	583.34	573.06	19.56	19.56	29.84
	9/13/2011	602.90	603.18	581.18	581.18	573.06	21.72	21.72	29.84
	12/6/2011	602.90	603.18	581.22	581.22	573.06	21.68	21.68	29.84
	3/14/2012	602.90	603.18	581.22	581.22	573.06	21.68	21.68	29.84
	6/18/2012	602.90	603.18	580.92	580.92	573.06	21.98	21.98	29.84
	9/28/2012	602.90	603.18	579.68	579.68	573.06	23.22	23.22	29.84
	12/19/2012	602.90	603.18	579.45	579.45	573.06	23.45	23.45	29.84
	3/7/2013	602.90	603.18	580.49	580.49	573.06	22.41	22.41	29.84
	6/6/2013	602.90	603.18	582.38	582.36	573.10	20.52	20.54	29.80
	7/25/2013	602.90	603.18	581.41	581.39	573.10	21.49	21.51	29.80
	11/4/2013	602.90	603.18	581.29	581.29	573.10	21.61	21.61	29.80
	3/10/2014	602.90	603.18	581.88	581.89	573.10	21.02	21.01	29.80
	5/16/2014	602.90	603.18	583.02	583.04	573.10	19.88	19.86	29.80
	8/21/2014	602.90	603.18	581.87	581.85	573.10	21.03	21.05	29.80
	11/6/2014	602.90	603.18	581.97	581.98	573.10	20.93	20.92	29.80
	2/17/2015	602.90	603.18	582.22	582.22	573.10	20.68	20.68	29.80
	4/21/2015	602.90	603.18	583.56	583.53	573.10	19.34	19.37	29.80
	8/12/2015	602.90	603.18	582.48	582.47	573.10	20.42	20.43	29.80
	11/2/2015	602.90	603.18	582.53	582.39	573.10	20.37	20.51	29.80

Table 1. Groundwater Elevations - Midwest Generation, LLC, Waukegan Station, Waukegan, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-04	6/13/2011	603.15	603.53	583.35	583.35	573.30	19.80	19.80	29.85
	9/13/2011	603.15	603.53	581.19	581.19	573.30	21.96	21.96	29.85
	12/6/2011	603.15	603.53	581.23	581.23	573.30	21.92	21.92	29.85
	3/14/2012	603.15	603.53	581.20	581.20	573.30	21.95	21.95	29.85
	6/18/2012	603.15	603.53	580.88	580.88	573.30	22.27	22.27	29.85
	9/28/2012	603.15	603.53	579.55	579.55	573.30	23.60	23.60	29.85
	12/19/2012	603.15	603.53	579.34	579.34	573.30	23.81	23.81	29.85
	3/7/2013	603.15	603.53	580.36	580.36	573.30	22.79	22.79	29.85
	6/6/2013	603.15	603.53	582.38	582.30	573.57	20.77	20.85	29.58
	7/25/2013	603.15	603.53	581.33	581.27	573.57	21.82	21.88	29.58
	11/4/2013	603.15	603.53	581.13	581.13	573.57	22.02	22.02	29.58
	3/11/2014	603.15	603.53	581.87	581.87	573.57	21.28	21.28	29.58
	5/16/2014	603.15	603.53	583.11	583.11	573.57	20.04	20.04	29.58
	8/21/2014	603.15	603.53	581.69	581.68	573.57	21.46	21.47	29.58
	11/6/2014	603.15	603.53	581.86	581.88	573.57	21.29	21.27	29.58
	2/17/2015	603.15	603.53	582.14	582.14	573.57	21.01	21.01	29.58
	4/21/2015	603.15	603.53	583.56	583.55	573.57	19.59	19.60	29.58
	8/12/2015	603.15	603.53	582.32	582.33	573.57	20.83	20.82	29.58
	11/2/2015	603.15	603.53	582.32	582.29	573.57	20.83	20.86	29.58
MW-05	6/13/2011	604.84	601.53	584.55	584.56	572.92	20.29	20.28	31.92
	9/13/2011	604.84	601.53	582.66	582.64	572.92	22.18	22.20	31.92
	12/6/2011	604.84	601.53	582.82	582.82	572.92	22.02	22.02	31.92
	3/14/2012	604.84	601.53	582.98	582.98	572.92	21.86	21.86	31.92
	6/18/2012	604.84	601.53	582.22	582.22	572.92	22.62	22.62	31.92
	9/28/2012	604.84	601.53	581.13	581.13	572.92	23.71	23.71	31.92
	12/19/2012	604.84	601.53	580.65	580.65	572.92	24.19	24.19	31.92
	3/7/2013	604.84	601.53	582.18	582.18	572.92	22.66	22.66	31.92
	6/6/2013	604.84	601.53	583.44	583.44	572.92	21.40	21.40	31.92
	7/25/2013	604.84	601.53	582.60	582.59	572.92	22.24	22.25	31.92
	11/5/2013	604.84	601.53	582.03	582.04	572.92	22.81	22.80	31.92
	3/11/2014	604.84	601.53	582.88	582.88	572.92	21.96	21.96	31.92
	5/16/2014	604.84	601.53	583.71	583.72	572.92	21.13	21.12	31.92
	8/21/2014	604.84	601.53	582.36	582.32	572.92	22.48	22.52	31.92
	11/5/2014	604.84	601.53	582.54	582.55	572.92	22.30	22.29	31.92
	2/17/2015	604.84	601.53	582.38	582.38	572.92	22.46	22.46	31.92
	4/20/2015	604.84	601.53	584.15	584.15	572.92	20.69	20.69	31.92
	8/13/2015	604.84	601.53	583.20	583.21	572.92	21.64	21.63	31.92
	11/2/2015	604.84	601.53	583.17	583.14	572.92	21.67	21.70	31.92
MW-06	12/19/2012	589.73	586.75	580.89	580.89	572.03	8.84	8.84	17.70
	3/7/2013	589.73	586.75	582.63	582.63	572.03	7.10	7.10	17.70
	6/6/2013	589.73	586.75	583.58	583.54	572.03	6.15	6.19	17.70
	7/25/2013	589.73	586.75	582.71	582.71	572.03	7.02	7.02	17.70
	11/5/2013	589.73	586.75	582.71	582.71	572.03	7.02	7.02	17.70
	3/10/2014	589.73	586.75	583.83	583.84	572.03	5.90	5.89	17.70
	5/15/2014	589.73	586.75	584.56	584.56	572.03	5.17	5.17	17.70
	8/21/2014	589.73	586.75	582.70	582.70	572.03	7.03	7.03	17.70
	11/5/2014	589.73	586.75	582.92	582.91	572.03	6.81	6.82	17.70
	2/18/2015	589.73	586.75	583.39	583.39	572.03	6.34	6.34	17.70
	4/20/2015	589.73	586.75	583.87	583.88	572.03	5.86	5.85	17.70
	8/12/2015	589.73	586.75	583.29	583.28	572.03	6.44	6.45	17.70
	11/2/2015	589.73	586.75	583.32	583.27	572.03	6.41	6.46	17.70
MW-07	12/19/2012	598.29	595.87	579.57	579.57	570.33	18.72	18.72	27.96
	3/7/2013	598.29	595.87	580.83	580.83	570.33	17.46	17.46	27.96
	6/6/2013	598.29	595.87	582.61	582.60	570.39	15.68	15.69	27.90
	7/25/2013	598.29	595.87	581.28	581.27	570.39	17.01	17.02	27.90
	11/4/2013	598.29	595.87	580.80	580.80	570.39	17.49	17.49	27.90
	3/10/2014	598.29	595.87	582.04	582.10	570.39	16.25	16.19	27.90
	5/15/2014	598.29	595.87	584.35	584.35	570.39	13.94	13.94	27.90
	8/21/2014	598.29	595.87	581.13	581.14	570.39	17.16	17.15	27.90
	11/5/2014	598.29	595.87	581.39	581.40	570.39	16.90	16.89	27.90
	2/17/2015	598.29	595.87	581.14	581.14	570.39	17.15	17.15	27.90
	4/20/2015	598.29	595.87	584.02	584.01	570.39	14.27	14.28	27.90
	8/12/2015	598.29	595.87	582.35	582.35	570.39	15.94	15.94	27.90
	11/2/2015	598.29	595.87	582.33	582.23	570.39	15.96	16.06	27.90

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-01	Date	11/4/2013		3/10/2014		5/16/2014		8/21/2014		11/6/2014		2/17/2015		4/21/2015		8/12/2015		11/2/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.046	0.0010	0.031	0.0010	0.036	0.0010	0.019	0.0010	0.21	0.0010	0.050	0.0010	0.056	0.0010	0.034	0.0010	0.073
Barium	2.0	0.0025	0.065	0.0025	0.031	0.0025	0.025	0.0025	0.032	0.0025	0.0094	0.0025	0.018	0.0025	0.020	0.0025	0.019	0.0025	0.020
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND ^	0.0010	ND
Boron	2.0	0.25	3.1	0.25	1.9	0.050	2.0	0.25	2.0	0.50	2.2	0.25	1.7	0.050	1.5	0.25	1.2	0.50	1.7
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	28	2.0	33	2.0	31	10	79	2.0	70	2.0	54	2.0	52	2.0	64	2.0	69
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0024	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	0.013	0.010	0.029	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.013	0.010	0.010
Fluoride	4.0	0.10	0.28	0.10	0.27	0.10	0.46	0.10	0.76	0.10	0.56	0.10	0.21	0.10	0.18	0.10	0.42	0.10	0.43
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND^
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.021	0.0025	0.0073	0.0025	ND	0.0025	0.026	0.0025	0.0054	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.24	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.41	0.10	0.26	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	0.024	0.020	0.078	0.020	0.17	0.040	0.23	0.020	0.10	0.020	0.036
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.013	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.035	0.0025	0.0095	0.0025	0.0081	0.0025	0.017	0.0025	0.0099
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND^
Sulfate	400.0	50	260	50	130	50	170	50	130	50	270	50	200	50	250	50	260	50	320
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	580	10	290	10	300	10	460	10	450	10	560	10	500	10	600	10	560
Vanadium	0.049	0.0050	0.0067	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.49	0.0050	0.12	0.0050	0.091	0.0050	0.092	0.0050	0.10
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.001
pH	6.5 - 9.0	NA	8.42	NA	8.99	NA	8.88	NA	7.92	NA	10.54	NA	12.01	NA	11.69	NA	11.83	NA	10.93
Temperature	NA	NA	13.41	NA	13.79	NA	9.41	NA	16.04	NA	11.91	NA	7.73	NA	8.44	NA	17.78	NA	17.17
Conductivity	NA	NA	0.51	NA	0.41	NA	0.36	NA	0.638	NA	0.616	NA	0.630	NA	0.617	NA	0.918	NA	1.054
Dissolved Oxygen	NA	NA	0.55	NA	1.21	NA	1.46	NA	0.43	NA	1.75	NA	1.06	NA	3.31	NA	2.04	NA	0.45
ORP	NA	NA	-213.3	NA	-98.4	NA	42.7	NA	22.7	NA	-37.2	NA	-74.9	NA	-73.2	NA	-44.5	NA	88.7

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-02	Date	11/4/2013		3/10/2014		5/15/2014		8/21/2014		11/6/2014		2/17/2015		4/21/2015		8/12/2015		11/2/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0091	0.0010	0.0085	0.0010	0.0062	0.0010	0.0081	0.0010	0.0095	0.0010	0.0089	0.0010	0.0089	0.0010	0.042	0.0010	0.015
Barium	2.0	0.0025	0.028	0.0025	0.046	0.0025	0.086	0.0025	0.029	0.0025	0.029	0.0025	0.024	0.0025	0.027	0.0025	0.012	0.0025	0.013
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND ^	0.0010	ND
Boron	2.0	0.25	2.2	0.25	2.8	0.25	2.6	0.25	3.0	0.50	3.0	0.25	3.2	0.25	2.9	0.25	2.5	0.50	2.5
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	55	2.0	51	2.0	57	2.0	47	2.0	48	2.0	29	2.0	45	2.0	43	2.0	49
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.025	0.010	ND	0.010	0.011
Fluoride	4.0	0.10	0.60	0.10	0.60	0.10	0.70	0.10	0.76	0.10	0.61	0.10	0.99	0.10	1.1	0.10	1.1	0.10	0.79
Iron	5.0	0.10	ND	0.10	ND	0.10	0.16	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND^
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.034	0.0025	0.085	0.0025	0.16	0.0025	0.050	0.0025	0.041	0.0025	0.043	0.0025	0.068	0.0025	0.028	0.0025	0.035
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0030	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0060	0.0025	0.0045	0.0025	ND	0.0025	ND	0.0025	0.0085	0.0025	0.0044
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND^
Sulfate	400.0	100	290	50	370	100	280	50	210	50	350	50	150	50	190	50	230	50	230
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	770	10	670	10	710	10	550	10	510	10	440	10	430	10	490	10	380
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.0096	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00061
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00077	0.0025	ND	0.0025	ND	0.0025	0.0006	0.0025	0.00251
pH	6.5 - 9.0	NA	7.97	NA	8.38	NA	7.65	NA	8.13	NA	8.61	NA	8.79	NA	7.95	NA	10.13	NA	8.27
Temperature	NA	NA	13.16	NA	12.72	NA	11.00	NA	15.15	NA	11.87	NA	8.01	NA	9.19	NA	18.47	NA	16.44
Conductivity	NA	NA	0.62	NA	0.72	NA	0.79	NA	0.684	NA	0.647	NA	0.430	NA	0.511	NA	0.638	NA	0.629
Dissolved Oxygen	NA	NA	0.60	NA	0.81	NA	0.79	NA	0.32	NA	0.47	NA	0.89	NA	3.09	NA	0.73	NA	0.56
ORP	NA	NA	-129.8	NA	-121.9	NA	-18.2	NA	-58.2	NA	-145.3	NA	-162.8	NA	-128.5	NA	-88.7	NA	52.9

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-03	Date	11/4/2013		3/10/2014		5/15/2014		8/21/2014		11/6/2014		2/17/2015		4/21/2015		8/12/2015		11/2/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0050	0.0010	0.0013	0.0010	0.0020	0.0010	0.0041	0.0010	0.0029	0.0010	0.0031	0.0010	0.0039	0.0010	0.0039	0.0010	0.0090
Barium	2.0	0.0025	0.015	0.0025	0.012	0.0025	0.0061	0.0025	0.012	0.0025	0.013	0.0025	0.013	0.0025	0.0082	0.0025	0.012	0.0025	0.011
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND ^	0.0010	ND
Boron	2.0	0.25	1.9	0.25	1.1	0.050	1.2	0.25	2.3	0.50	2.3	0.25	1.6	0.050	1.2	0.25	1.6	0.50	2.0
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	25	2.0	37	2.0	37	10	89	2.0	64	2.0	72	2.0	64	2.0	72	10	88
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.014	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.63	0.10	0.74	0.10	0.57	0.10	0.55	0.10	0.65	0.10	0.67	0.10	0.60	0.10	0.50	0.10	0.49
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND^
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0015	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.0082	0.0025	0.0069	0.0025	0.0028	0.0025	0.0083	0.0025	0.0035	0.0025	0.0032	0.0025	ND	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	0.11	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	0.11	0.10	0.15	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	0.072	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0045	0.0025	0.0028	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0035	0.0025	0.013
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND^
Sulfate	400.0	50	140	50	170	25	100	50	110	50	240	50	110	50	200	50	200	50	260
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	380	10	340	10	210	10	470	10	400	10	430	10	420	10	480	10	490
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00073
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00056	0.0025	0.00293
pH	6.5 - 9.0	NA	7.26	NA	7.38	NA	8.47	NA	7.82	NA	6.95	NA	7.12	NA	6.67	NA	9.22	NA	9.26
Temperature	NA	NA	15.35	NA	11.89	NA	8.47	NA	18.83	NA	13.28	NA	8.19	NA	9.94	NA	16.64	NA	18.38
Conductivity	NA	NA	0.40	NA	0.37	NA	0.27	NA	0.600	NA	0.513	NA	0.460	NA	0.497	NA	0.628	NA	0.803
Dissolved Oxygen	NA	NA	0.54	NA	0.78	NA	0.40	NA	1.05	NA	1.43	NA	1.02	NA	3.32	NA	0.93	NA	0.41
ORP	NA	NA	-128.2	NA	-78.5	NA	90.5	NA	4.2	NA	13.2	NA	64.6	NA	43.0	NA	-52.0	NA	-7.0

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-04	Date	11/4/2013		3/11/2014		5/16/2014		8/21/2014		11/6/2014		2/17/2015		4/21/2015		8/12/2015		11/3/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0055	0.0010	0.0062	0.0010	0.0061	0.0010	0.0064	0.0010	0.0080	0.0010	0.0080	0.0010	0.0075	0.0010	0.0072	0.0010	0.0069
Barium	2.0	0.0025	0.047	0.0025	0.071	0.0025	0.053	0.0025	0.029	0.0025	0.024	0.0025	0.031	0.0025	0.033	0.0025	0.034	0.0025	0.035
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND ^	0.0010	ND
Boron	2.0	0.25	2.8	0.25	3.0	0.25	2.7	0.25	1.5	0.50	1.6	0.25	2.0	0.25	1.8	0.25	1.6	0.50	1.5
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	46	2.0	41	2.0	34	2.0	33	2.0	36	2.0	53	2.0	70	2.0	65	2.0	63
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.48	0.10	0.28	0.10	0.27	0.10	0.26	0.10	0.23	0.10	0.26	0.10	0.28	0.10	0.41	0.10	0.44
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND^
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.036	0.0025	0.074	0.0025	0.052	0.0025	0.046	0.0025	0.035	0.0025	0.058	0.0025	0.056	0.0025	0.060	0.0025	0.061
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.011	0.0025	0.0034	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND^
Sulfate	400.0	50	270	100	360	50	140	25	130	50	200	50	140	50	130	50	210	50	240
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	630	10	680	10	470	10	370	10	280	10	440	10	400	10	480	10	390
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00083
pH	6.5 - 9.0	NA	7.35	NA	7.99	NA	7.76	NA	7.74	NA	7.53	NA	7.99	NA	7.18	NA	8.38	NA	6.68
Temperature	NA	NA	13.17	NA	10.93	NA	10.27	NA	16.85	NA	10.41	NA	4.49	NA	11.22	NA	19.57	NA	14.98
Conductivity	NA	NA	0.59	NA	0.65	NA	0.59	NA	0.43	NA	0.374	NA	0.390	NA	0.457	NA	0.676	NA	0.68
Dissolved Oxygen	NA	NA	0.37	NA	1.28	NA	0.52	NA	0.43	NA	4.55	NA	1.02	NA	3.77	NA	0.66	NA	1.40
ORP	NA	NA	-166.2	NA	-99.2	NA	13.8	NA	-48.2	NA	-56.8	NA	-74.7	NA	-73.4	NA	-62.6	NA	33.4

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-05	Date	11/5/2013		3/11/2014		5/16/2014		8/21/2014		11/5/2014		2/17/2015		4/20/2015		8/13/2015		11/3/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0086	0.0010	0.0097	0.0010	0.0090	0.0010	0.0019	0.0010	0.0097	0.0010	0.010	0.0010	0.017 F1	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.054	0.0025	0.051	0.0025	0.036	0.0025	0.031	0.0025	0.046	0.0025	0.046	0.0025	0.068	0.0025	0.041	0.0025	0.039
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND ^	0.0010	ND
Boron	2.0	1.0	32	2.5	31	5.0	36	5.0	35	5.0	36	5.0	32	2.5	24	2.5	11	5.0	12
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	49	2.0	45	2.0	47	2.0	47	2.0	42	2.0	41	10	270	50	720	10	370
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.32	0.10	0.29	0.10	0.31	0.10	0.31	0.10	0.29	0.10	0.26	0.10	0.23	0.10	0.19	0.10	0.20
Iron	5.0	0.10	4.6	0.10	5.5	0.10	5.5	0.10	4.0	0.10	8.6	0.10	7.2	0.10	6.9	0.10	0.28	0.10	0.58
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.54	0.0025	0.62	0.0025	0.49	0.0025	0.65	0.0025	0.62	0.0025	0.46	0.0025	0.63	0.0025	0.18	0.0025	0.20
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0020	0.0020	ND	0.0020	0.0037	0.0020	0.0026	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	0.047	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND F1	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0030 F1	0.0025	0.024	0.0025	0.014
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND^
Sulfate	400.0	250	870	250	640	100	630	130	640	200	840	250	660	250	700	250	1200	200	910
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1600	10	1400	10	1500	10	1600	10	1500	10	1700	13	2200	17	3500	13	2700
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00079
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00259
pH	6.5 - 9.0	NA	7.20	NA	7.64	NA	7.07	NA	7.06	NA	7.30	NA	7.46	NA	6.73	NA	7.03	NA	6.18
Temperature	NA	NA	13.34	NA	10.19	NA	10.13	NA	19.08	NA	11.27	NA	7.51	NA	10.27	NA	19.55	NA	14.09
Conductivity	NA	NA	1.24	NA	0.86	NA	1.33	NA	1.509	NA	1.316	NA	1.28	NA	2.095	NA	3.582	NA	3.073
Dissolved Oxygen	NA	NA	0.47	NA	1.45	NA	0.59	NA	4.09	NA	1.61	NA	1.97	NA	2.75	NA	1.11	NA	1.42
ORP	NA	NA	-107.0	NA	-94.3	NA	-28.2	NA	-80	NA	-53	NA	-100.6	NA	-58.6	NA	-34.2	NA	46.2

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-06	Date	11/5/2013		3/10/2014		5/15/2014		8/21/2014		11/5/2014		2/18/2015		4/20/2015		8/12/2015		11/3/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0034	0.0010	0.0017	0.0010	0.0043	0.0010	0.0083	0.0010	0.0045	0.0010	0.0030	0.0010	0.0027	0.0010	0.0037	0.0010	0.0039
Barium	2.0	0.0025	0.13	0.0025	0.012	0.0025	0.061	0.0025	0.089	0.0025	0.10	0.0025	0.063	0.0025	0.066	0.0025	0.084	0.0025	0.096
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND ^	0.0010	ND
Boron	2.0	0.25	2.4	0.25	2.0	0.25	2.2	0.25	2.9	0.50	3.7	0.50	3.5	0.050	1.4	0.25	2.0	0.50	1.9
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	85	2.0	8.0	10	84	10	98	10	97	10	81	10	100	10	110	10	120
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	0.0025	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.30	0.10	0.17	0.10	0.22	0.10	0.35	0.10	0.29	0.10	0.23	0.10	0.32	0.10	0.36	0.10	0.36
Iron	5.0	0.10	4.1	0.10	0.19	0.10	3.0	0.10	9.2	0.10	6.7	0.10	7.6	0.10	0.62	0.10	4.2	0.10	5.2
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.44	0.0025	0.0073	0.0025	0.17	0.0025	0.38	0.0025	0.44	0.0025	0.38	0.0025	0.19	0.0025	0.24	0.0025	0.26
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	0.54	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	0.54	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	0.014	0.0025	ND	0.0025	0.0033	0.0025	0.0034	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND^
Sulfate	400.0	100	350	25	93	50	170	50	120	50	240	50	190	50	160	50	170	50	180
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1200	10	190	10	870	10	950	10	890	10	900	10	850	10	1100	10	870
Vanadium	0.049	0.0050	ND	0.0050	0.0050	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00068
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00078	0.0025	ND	0.0025	ND	0.0025	0.00398
pH	6.5 - 9.0	NA	7.24	NA	7.94	NA	7.18	NA	7.11	NA	7.33	NA	7.45	NA	6.76	NA	7.69	NA	6.81
Temperature	NA	NA	13.14	NA	5.14	NA	8.91	NA	17.83	NA	12.69	NA	4.41	NA	7.68	NA	19.07	NA	13.96
Conductivity	NA	NA	1.10	NA	0.21	NA	0.9	NA	1.179	NA	1.092	NA	0.85	NA	0.905	NA	1.246	NA	1.294
Dissolved Oxygen	NA	NA	0.22	NA	7.07	NA	0.51	NA	0.97	NA	1.37	NA	3.00	NA	4.67	NA	2.11	NA	0.96
ORP	NA	NA	-126.3	NA	-9.90	NA	-36.7	NA	-116.9	NA	-94.1	NA	-104.5	NA	-45.6	NA	-130.8	NA	-55.1

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NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Waukegan Station, Waukegan, IL

Sample: MW-07	Date	11/4/2013		3/10/2014		5/15/2014		8/21/2014		11/5/2014		2/17/2015		4/20/2015		8/12/2015		11/3/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.012	0.0010	0.0096	0.0010	0.0098	0.0010	0.011	0.0010	0.0095	0.0010	0.011	0.0010	0.014	0.0010	0.010	0.0010	0.011
Barium	2.0	0.0025	0.082	0.0025	0.073	0.0025	0.089	0.0025	0.072	0.0025	0.062	0.0025	0.069	0.0025	0.071	0.0025	0.065	0.0025	0.063
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND ^	0.0010	ND
Boron	2.0	1.0	45	2.5	39	5.0	27	5.0	40	5.0	41	5.0	37	2.5	37	5.0	32	5.0	26
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	53	2.0	34	2.0	35	2.0	36	2.0	48	2.0	48	2.0	46	2.0	64	10	85
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.44	0.10	0.39	0.10	0.30	0.10	0.47	0.10	0.45	0.10	0.38	0.10	0.34	0.10	0.47	0.10	0.45
Iron	5.0	0.10	13	0.10	11	0.10	12	0.10	11	0.10	9.4	0.10	12	0.10	14	0.10	11	0.10	11
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.46	0.0025	0.46	0.0025	0.60	0.0025	0.40	0.0025	0.34	0.0025	0.45	0.0025	0.62	0.0025	0.43	0.0025	0.40
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0021	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	0.11	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	0.11	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0025	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND^
Sulfate	400.0	250	770	250	540	100	330	130	690	200	880	250	710	130	470	200	760	200	770
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1800	10	1600	10	1300	10	1600	10	1500	10	1600	10	1400	10	1700	10	1500
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0012	0.0025	ND	0.0025	ND	0.0025	0.0015
pH	6.5 - 9.0	NA	7.18	NA	7.67	NA	6.89	NA	7.25	NA	7.46	NA	7.56	NA	6.59	NA	7.38	NA	6.80
Temperature	NA	NA	12.92	NA	12.33	NA	9.89	NA	18.25	NA	13.37	NA	5.67	NA	10.80	NA	16.66	NA	15.05
Conductivity	NA	NA	1.01	NA	0.98	NA	1.26	NA	1.607	NA	1.394	NA	1.20	NA	1.34	NA	1.62	NA	1.65
Dissolved Oxygen	NA	NA	0.54	NA	1.19	NA	0.62	NA	1.18	NA	2.35	NA	1.31	NA	3.14	NA	0.87	NA	0.53
ORP	NA	NA	-127.7	NA	-116.8	NA	-16.9	NA	-143.6	NA	-112.5	NA	-137.2	NA	-73.9	NA	-135.5	NA	-69.4

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

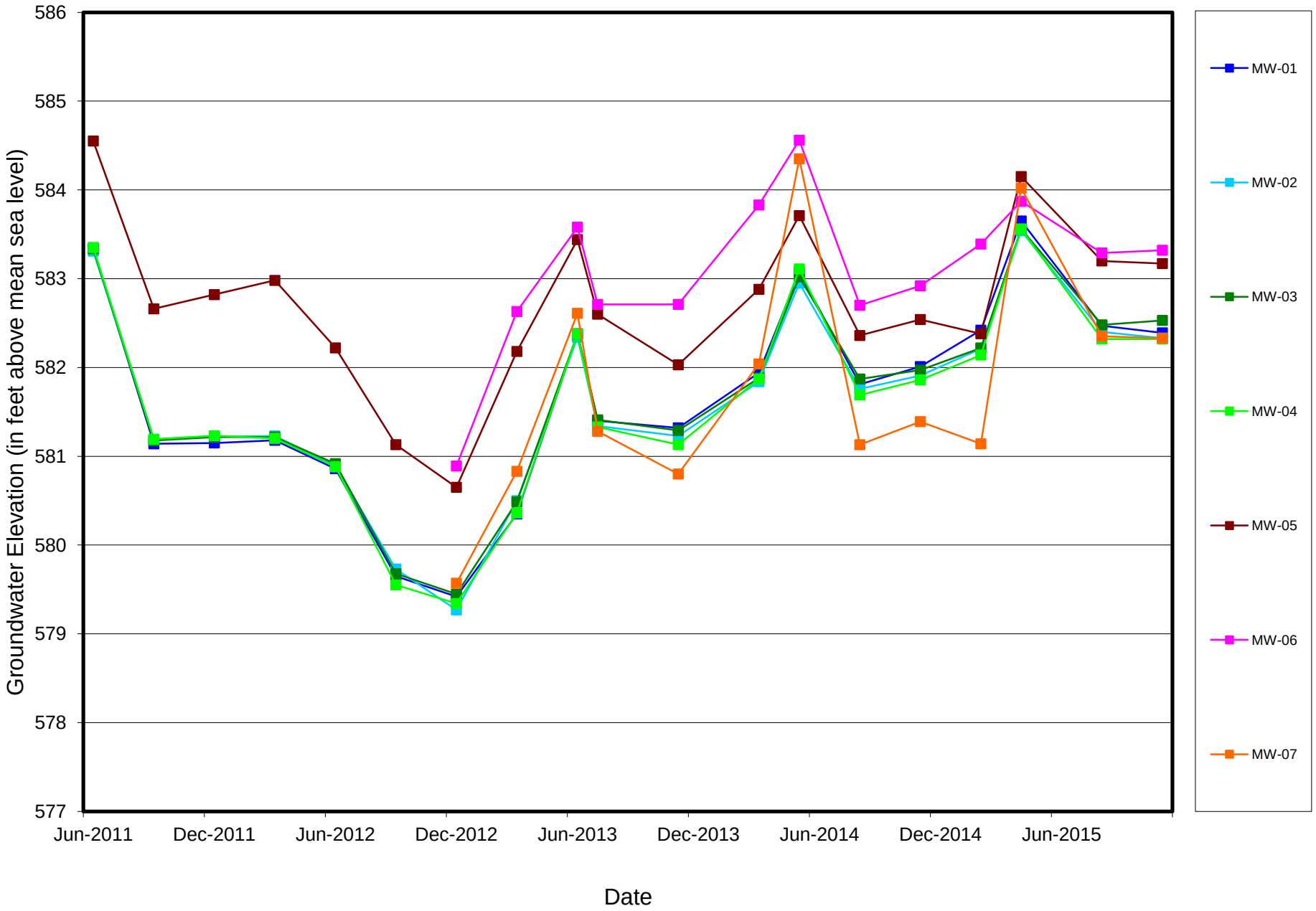
NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

ATTACHMENT 1
Hydrograph of Water Level Elevations

Midwest Generation Waukegan Station, Waukegan, IL

Groundwater Elevation vs Time



MWG13-15_56452

ATTACHMENT 2
Analytical Data Package

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-103417-1
Client Project/Site: Waukegan Station Ash Ponds

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
11/16/2015 11:32:25 AM

Bonnie Stadelmann, Senior Project Manager
(708)534-5200
bonnie.stadelmann@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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1 2 3 4 5 6 7 8 9 10 11 12 13 14

Job ID: 500-103417-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-103417-1

Comments
No additional comments.

Receipt
The samples were received on 11/3/2015 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 3.6º C, 3.8º C, 4.3º C, 5.6º C and 5.9º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method(s) 6020A: The CRI standard associated with analytical batch 500-312167 was above the control limit for iron (Fe). Associated sample concentrations were non-detect; therefore, results are not affected by a high bias in the CRI. All other batch QC were within control limits. Data has been qualified and reported.

Method(s) 6020A: The continuing calibration verification (CCV) and initial calibration verification (ICV) associated with batch 500-312167 recovered above the upper control limit for silver (Ag). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method(s) 314.0: Due to matrix, the following samples in batch 91890 were passed through cleanup cartridges prior to analysis. Total 5 Ba-Ag-H were used for the project. Dionex OnGuard II Ba/Ag/H , 2.5cc cartridges, Lot No.:150820-2.5-Ba-Ag-H.

MW-05 (500-103417-5), DUPLICATE (500-103417-8), (LCS 320-91890/44), (MB 320-91890/43), (500-103417-M-5 MS) and (500-103417-M-5 MSD)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-103417-1

Client Sample ID: MW-01 — Lab Sample ID: 500-103417-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.0010		0.00050		mg/L	1		8260B	Total/NA
Arsenic	0.073		0.0010		mg/L	1		6020A	Dissolved
Barium	0.020		0.0025		mg/L	1		6020A	Dissolved
Boron	1.7		0.50		mg/L	10		6020A	Dissolved
Selenium	0.0099		0.0025		mg/L	1		6020A	Dissolved
Vanadium	0.10		0.0050		mg/L	1		6020A	Dissolved
Cyanide, Total	0.010		0.010		mg/L	1		9014	Dissolved
Sulfate	320		50		mg/L	10		9038	Dissolved
Chloride	69		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	560		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.43		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrite	0.036		0.020		mg/L	1		SM 4500 NO2 B	Dissolved

Client Sample ID: MW-02 — Lab Sample ID: 500-103417-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.00061		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0019		0.00050		mg/L	1		8260B	Total/NA
Arsenic	0.015		0.0010		mg/L	1		6020A	Dissolved
Barium	0.013		0.0025		mg/L	1		6020A	Dissolved
Boron	2.5		0.50		mg/L	10		6020A	Dissolved
Manganese	0.035		0.0025		mg/L	1		6020A	Dissolved
Selenium	0.0044		0.0025		mg/L	1		6020A	Dissolved
Cyanide, Total	0.011		0.010		mg/L	1		9014	Dissolved
Sulfate	230		50		mg/L	10		9038	Dissolved
Chloride	49		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	380		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.79		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-03 — Lab Sample ID: 500-103417-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.00073		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0022		0.00050		mg/L	1		8260B	Total/NA
Arsenic	0.0090		0.0010		mg/L	1		6020A	Dissolved
Barium	0.011		0.0025		mg/L	1		6020A	Dissolved
Boron	2.0		0.50		mg/L	10		6020A	Dissolved
Selenium	0.013		0.0025		mg/L	1		6020A	Dissolved
Sulfate	260		50		mg/L	10		9038	Dissolved
Chloride	88		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	490		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.49		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-04 — Lab Sample ID: 500-103417-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.00083		0.00050		mg/L	1		8260B	Total/NA
Arsenic	0.0069		0.0010		mg/L	1		6020A	Dissolved
Barium	0.035		0.0025		mg/L	1		6020A	Dissolved
Boron	1.5		0.50		mg/L	10		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-04 (Continued) — Lab Sample ID: 500-103417-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.061		0.0025		mg/L	1		6020A	Dissolved
Sulfate	240		50		mg/L	10		9038	Dissolved
Chloride	63		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	390		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.44		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-05 — Lab Sample ID: 500-103417-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.00079		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0018		0.00050		mg/L	1		8260B	Total/NA
Barium	0.039		0.0025		mg/L	1		6020A	Dissolved
Boron	12		5.0		mg/L	100		6020A	Dissolved
Iron	0.58		0.10		mg/L	1		6020A	Dissolved
Manganese	0.20		0.0025		mg/L	1		6020A	Dissolved
Selenium	0.014		0.0025		mg/L	1		6020A	Dissolved
Sulfate	910		200		mg/L	40		9038	Dissolved
Chloride	370		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	2700		13		mg/L	1		SM 2540C	Dissolved
Fluoride	0.20		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-06 — Lab Sample ID: 500-103417-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.00068		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0023		0.00050		mg/L	1		8260B	Total/NA
Xylenes, Total	0.0010		0.0010		mg/L	1		8260B	Total/NA
Arsenic	0.0039		0.0010		mg/L	1		6020A	Dissolved
Barium	0.096		0.0025		mg/L	1		6020A	Dissolved
Boron	1.9		0.50		mg/L	10		6020A	Dissolved
Iron	5.2		0.10		mg/L	1		6020A	Dissolved
Manganese	0.26		0.0025		mg/L	1		6020A	Dissolved
Sulfate	180		50		mg/L	10		9038	Dissolved
Chloride	120		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	870		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.36		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-07 — Lab Sample ID: 500-103417-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.0015		0.00050		mg/L	1		8260B	Total/NA
Arsenic	0.011		0.0010		mg/L	1		6020A	Dissolved
Barium	0.063		0.0025		mg/L	1		6020A	Dissolved
Boron	26		5.0		mg/L	100		6020A	Dissolved
Iron	11		0.10		mg/L	1		6020A	Dissolved
Manganese	0.40		0.0025		mg/L	1		6020A	Dissolved
Sulfate	770		200		mg/L	40		9038	Dissolved
Chloride	85		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	1500		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.45		0.10		mg/L	1		SM 4500 F C	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-103417-1

Client Sample ID: DUPLICATE

Lab Sample ID: 500-103417-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.00058		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0019		0.00050		mg/L	1		8260B	Total/NA
Arsenic	0.011		0.0010		mg/L	1		6020A	Dissolved
Barium	0.063		0.0025		mg/L	1		6020A	Dissolved
Boron	28		5.0		mg/L	100		6020A	Dissolved
Iron	11		0.10		mg/L	1		6020A	Dissolved
Manganese	0.41		0.0025		mg/L	1		6020A	Dissolved
Sulfate	880		200		mg/L	40		9038	Dissolved
Chloride	77		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	1400		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.46		0.10		mg/L	1		SM 4500 F C	Dissolved

This Detection Summary does not include radiochemical test results.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-103417-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
314.0	Perchlorate (IC)	EPA	TAL SAC
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
9014	Cyanide	SW846	TAL CHI
9038	Sulfate, Turbidimetric	SW846	TAL CHI
9251	Chloride	SW846	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-103417-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-103417-1	MW-01	Water	11/02/15 13:10	11/03/15 10:15
500-103417-2	MW-02	Water	11/02/15 14:40	11/03/15 10:15
500-103417-3	MW-03	Water	11/02/15 16:20	11/03/15 10:15
500-103417-4	MW-04	Water	11/03/15 09:35	11/04/15 10:00
500-103417-5	MW-05	Water	11/03/15 16:40	11/04/15 10:00
500-103417-6	MW-06	Water	11/03/15 15:25	11/04/15 10:00
500-103417-7	MW-07	Water	11/03/15 12:35	11/04/15 10:00
500-103417-8	DUPLICATE	Water	11/03/15 00:00	11/04/15 10:00

Client Sample ID: MW-01

Date Collected: 11/02/15 13:10
Date Received: 11/03/15 10:15

Lab Sample ID: 500-103417-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/07/15 05:12	1
Toluene	**0.0010**		0.00050		mg/L			11/07/15 05:12	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/07/15 05:12	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/07/15 05:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*		*11/07/15 05:12*	*1*
Toluene-d8 (Surr)	*106*		*75 - 120*		*11/07/15 05:12*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*11/07/15 05:12*	*1*
Dibromofluoromethane	*101*		*75 - 120*		*11/07/15 05:12*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/09/15 22:09	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/10/15 10:58	11/12/15 12:32	1
Arsenic	**0.073**		0.0010		mg/L		11/10/15 10:58	11/10/15 19:33	1
Barium	**0.020**		0.0025		mg/L		11/10/15 10:58	11/10/15 19:33	1
Beryllium	<0.0010		0.0010		mg/L		11/10/15 10:58	11/12/15 12:32	1
Boron	**1.7**		0.50		mg/L		11/10/15 10:58	11/12/15 17:38	10
Cadmium	<0.00050		0.00050		mg/L		11/10/15 10:58	11/10/15 19:33	1
Chromium	<0.0050		0.0050		mg/L		11/10/15 10:58	11/10/15 19:33	1
Cobalt	<0.0010		0.0010		mg/L		11/10/15 10:58	11/10/15 19:33	1
Copper	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 19:33	1
Iron	<0.10	^	0.10		mg/L		11/10/15 10:58	11/10/15 19:33	1
Lead	<0.00050		0.00050		mg/L		11/10/15 10:58	11/10/15 19:33	1
Manganese	<0.0025		0.0025		mg/L		11/10/15 10:58	11/10/15 19:33	1
Nickel	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 19:33	1
Selenium	**0.0099**		0.0025		mg/L		11/10/15 10:58	11/13/15 12:22	1
Silver	<0.00050	^	0.00050		mg/L		11/10/15 10:58	11/10/15 19:33	1
Thallium	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 19:33	1
Vanadium	**0.10**		0.0050		mg/L		11/10/15 10:58	11/10/15 19:33	1
Zinc	<0.020		0.020		mg/L		11/10/15 10:58	11/10/15 19:33	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/06/15 14:15	11/09/15 12:44	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.010**		0.010		mg/L		11/09/15 16:05	11/09/15 18:51	1
Sulfate	**320**		50		mg/L			11/09/15 06:15	10
Chloride	**69**		2.0		mg/L			11/08/15 14:22	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/13/15 00:57	1
Total Dissolved Solids	**560**		10		mg/L			11/09/15 23:09	1
Fluoride	**0.43**		0.10		mg/L			11/07/15 11:32	1
Nitrogen, Nitrite	**0.036**		0.020		mg/L			11/03/15 18:17	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/10/15 23:24	1

Client Sample ID: MW-02

Date Collected: 11/02/15 14:40
Date Received: 11/03/15 10:15

Lab Sample ID: 500-103417-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00061**		0.00050		mg/L			11/07/15 05:38	1
Toluene	**0.0019**		0.00050		mg/L			11/07/15 05:38	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/07/15 05:38	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/07/15 05:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 125*		*11/07/15 05:38*	*1*
Toluene-d8 (Surr)	*106*		*75 - 120*		*11/07/15 05:38*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*11/07/15 05:38*	*1*
Dibromofluoromethane	*101*		*75 - 120*		*11/07/15 05:38*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/09/15 22:56	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/10/15 10:58	11/12/15 12:36	1
Arsenic	**0.015**		0.0010		mg/L		11/10/15 10:58	11/10/15 19:36	1
Barium	**0.013**		0.0025		mg/L		11/10/15 10:58	11/10/15 19:36	1
Beryllium	<0.0010		0.0010		mg/L		11/10/15 10:58	11/12/15 12:36	1
Boron	**2.5**		0.50		mg/L		11/10/15 10:58	11/12/15 17:42	10
Cadmium	<0.00050		0.00050		mg/L		11/10/15 10:58	11/10/15 19:36	1
Chromium	<0.0050		0.0050		mg/L		11/10/15 10:58	11/10/15 19:36	1
Cobalt	<0.0010		0.0010		mg/L		11/10/15 10:58	11/10/15 19:36	1
Copper	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 19:36	1
Iron	<0.10	^	0.10		mg/L		11/10/15 10:58	11/10/15 19:36	1
Lead	<0.00050		0.00050		mg/L		11/10/15 10:58	11/10/15 19:36	1
Manganese	**0.035**		0.0025		mg/L		11/10/15 10:58	11/10/15 19:36	1
Nickel	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 19:36	1
Selenium	**0.0044**		0.0025		mg/L		11/10/15 10:58	11/13/15 12:26	1
Silver	<0.00050	^	0.00050		mg/L		11/10/15 10:58	11/10/15 19:36	1
Thallium	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 19:36	1
Vanadium	<0.0050		0.0050		mg/L		11/10/15 10:58	11/10/15 19:36	1
Zinc	<0.020		0.020		mg/L		11/10/15 10:58	11/10/15 19:36	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/06/15 14:15	11/09/15 12:46	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.011**		0.010		mg/L		11/09/15 16:05	11/09/15 18:51	1
Sulfate	**230**		50		mg/L			11/09/15 06:16	10
Chloride	**49**		2.0		mg/L			11/08/15 14:25	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/13/15 00:57	1
Total Dissolved Solids	**380**		10		mg/L			11/09/15 23:16	1
Fluoride	**0.79**		0.10		mg/L			11/07/15 11:35	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/03/15 18:17	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/10/15 23:26	1

Client Sample ID: MW-03
Date Collected: 11/02/15 16:20
Date Received: 11/03/15 10:15

Lab Sample ID: 500-103417-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00073**		0.00050		mg/L			11/07/15 06:03	1
Toluene	**0.0022**		0.00050		mg/L			11/07/15 06:03	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/07/15 06:03	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/07/15 06:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*		*11/07/15 06:03*	*1*
Toluene-d8 (Surr)	*102*		*75 - 120*		*11/07/15 06:03*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*11/07/15 06:03*	*1*
Dibromofluoromethane	*100*		*75 - 120*		*11/07/15 06:03*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/09/15 23:11	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/10/15 10:58	11/12/15 12:40	1
Arsenic	**0.0090**		0.0010		mg/L		11/10/15 10:58	11/10/15 19:39	1
Barium	**0.011**		0.0025		mg/L		11/10/15 10:58	11/10/15 19:39	1
Beryllium	<0.0010		0.0010		mg/L		11/10/15 10:58	11/12/15 12:40	1
Boron	**2.0**		0.50		mg/L		11/10/15 10:58	11/12/15 17:46	10
Cadmium	<0.00050		0.00050		mg/L		11/10/15 10:58	11/10/15 19:39	1
Chromium	<0.0050		0.0050		mg/L		11/10/15 10:58	11/10/15 19:39	1
Cobalt	<0.0010		0.0010		mg/L		11/10/15 10:58	11/10/15 19:39	1
Copper	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 19:39	1
Iron	<0.10	^	0.10		mg/L		11/10/15 10:58	11/10/15 19:39	1
Lead	<0.00050		0.00050		mg/L		11/10/15 10:58	11/10/15 19:39	1
Manganese	<0.0025		0.0025		mg/L		11/10/15 10:58	11/10/15 19:39	1
Nickel	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 19:39	1
Selenium	**0.013**		0.0025		mg/L		11/10/15 10:58	11/13/15 12:30	1
Silver	<0.00050	^	0.00050		mg/L		11/10/15 10:58	11/10/15 19:39	1
Thallium	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 19:39	1
Vanadium	<0.0050		0.0050		mg/L		11/10/15 10:58	11/10/15 19:39	1
Zinc	<0.020		0.020		mg/L		11/10/15 10:58	11/10/15 19:39	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/06/15 14:15	11/09/15 12:48	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/09/15 16:05	11/09/15 18:51	1
Sulfate	**260**		50		mg/L			11/09/15 06:17	10
Chloride	**88**		10		mg/L			11/08/15 15:01	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/13/15 00:57	1
Total Dissolved Solids	**490**		10		mg/L			11/09/15 23:19	1
Fluoride	**0.49**		0.10		mg/L			11/07/15 11:40	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/03/15 18:18	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/10/15 23:33	1

Client Sample ID: MW-04

Date Collected: 11/03/15 09:35
Date Received: 11/04/15 10:00

Lab Sample ID: 500-103417-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/07/15 06:28	1
Toluene	**0.00083**		0.00050		mg/L			11/07/15 06:28	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/07/15 06:28	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/07/15 06:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 125*		*11/07/15 06:28*	*1*
Toluene-d8 (Surr)	*103*		*75 - 120*		*11/07/15 06:28*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*11/07/15 06:28*	*1*
Dibromofluoromethane	*103*		*75 - 120*		*11/07/15 06:28*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/09/15 23:57	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/10/15 10:58	11/12/15 12:43	1
Arsenic	**0.0069**		0.0010		mg/L		11/10/15 10:58	11/10/15 19:41	1
Barium	**0.035**		0.0025		mg/L		11/10/15 10:58	11/10/15 19:41	1
Beryllium	<0.0010		0.0010		mg/L		11/10/15 10:58	11/12/15 12:43	1
Boron	**1.5**		0.50		mg/L		11/10/15 10:58	11/12/15 17:50	10
Cadmium	<0.00050		0.00050		mg/L		11/10/15 10:58	11/10/15 19:41	1
Chromium	<0.0050		0.0050		mg/L		11/10/15 10:58	11/10/15 19:41	1
Cobalt	<0.0010		0.0010		mg/L		11/10/15 10:58	11/10/15 19:41	1
Copper	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 19:41	1
Iron	<0.10	^	0.10		mg/L		11/10/15 10:58	11/10/15 19:41	1
Lead	<0.00050		0.00050		mg/L		11/10/15 10:58	11/10/15 19:41	1
Manganese	**0.061**		0.0025		mg/L		11/10/15 10:58	11/10/15 19:41	1
Nickel	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 19:41	1
Selenium	<0.0025		0.0025		mg/L		11/10/15 10:58	11/13/15 12:34	1
Silver	<0.00050	^	0.00050		mg/L		11/10/15 10:58	11/10/15 19:41	1
Thallium	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 19:41	1
Vanadium	<0.0050		0.0050		mg/L		11/10/15 10:58	11/10/15 19:41	1
Zinc	<0.020		0.020		mg/L		11/10/15 10:58	11/10/15 19:41	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/06/15 14:15	11/09/15 12:54	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/09/15 16:05	11/09/15 18:52	1
Sulfate	**240**		50		mg/L			11/09/15 06:18	10
Chloride	**63**		2.0		mg/L			11/08/15 14:27	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/13/15 00:57	1
Total Dissolved Solids	**390**		10		mg/L			11/09/15 23:21	1
Fluoride	**0.44**		0.10		mg/L			11/07/15 11:43	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/04/15 15:01	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/10/15 23:35	1

Client Sample ID: MW-05

Date Collected: 11/03/15 16:40
Date Received: 11/04/15 10:00

Lab Sample ID: 500-103417-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00079**		0.00050		mg/L			11/07/15 17:56	1
Toluene	**0.0018**		0.00050		mg/L			11/07/15 17:56	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/07/15 17:56	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/07/15 17:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 125*		*11/07/15 17:56*	*1*
Toluene-d8 (Surr)	*109*		*75 - 120*		*11/07/15 17:56*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/07/15 17:56*	*1*
Dibromofluoromethane	*96*		*75 - 120*		*11/07/15 17:56*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/10/15 01:45	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/10/15 10:58	11/12/15 12:55	1
Arsenic	<0.0010		0.0010		mg/L		11/10/15 10:58	11/10/15 19:44	1
Barium	**0.039**		0.0025		mg/L		11/10/15 10:58	11/10/15 19:44	1
Beryllium	<0.0010		0.0010		mg/L		11/10/15 10:58	11/12/15 12:55	1
Boron	**12**		5.0		mg/L		11/10/15 10:58	11/12/15 17:54	100
Cadmium	<0.00050		0.00050		mg/L		11/10/15 10:58	11/10/15 19:44	1
Chromium	<0.0050		0.0050		mg/L		11/10/15 10:58	11/10/15 19:44	1
Cobalt	<0.0010		0.0010		mg/L		11/10/15 10:58	11/10/15 19:44	1
Copper	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 19:44	1
Iron	**0.58**		0.10		mg/L		11/10/15 10:58	11/12/15 12:55	1
Lead	<0.00050		0.00050		mg/L		11/10/15 10:58	11/10/15 19:44	1
Manganese	**0.20**		0.0025		mg/L		11/10/15 10:58	11/10/15 19:44	1
Nickel	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 19:44	1
Selenium	**0.014**		0.0025		mg/L		11/10/15 10:58	11/13/15 12:46	1
Silver	<0.00050	^	0.00050		mg/L		11/10/15 10:58	11/10/15 19:44	1
Thallium	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 19:44	1
Vanadium	<0.0050		0.0050		mg/L		11/10/15 10:58	11/10/15 19:44	1
Zinc	<0.020		0.020		mg/L		11/10/15 10:58	11/10/15 19:44	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/06/15 14:15	11/09/15 12:56	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/09/15 16:05	11/09/15 18:52	1
Sulfate	**910**		200		mg/L			11/09/15 06:21	40
Chloride	**370**		10		mg/L			11/08/15 15:01	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/13/15 00:57	1
Total Dissolved Solids	**2700**		13		mg/L			11/09/15 23:24	1
Fluoride	**0.20**		0.10		mg/L			11/07/15 11:45	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/04/15 15:02	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/11/15 00:06	1

Client Sample ID: MW-06

Date Collected: 11/03/15 15:25
Date Received: 11/04/15 10:00

Lab Sample ID: 500-103417-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00068**		0.00050		mg/L			11/07/15 18:23	1
Toluene	**0.0023**		0.00050		mg/L			11/07/15 18:23	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/07/15 18:23	1
Xylenes, Total	**0.0010**		0.0010		mg/L			11/07/15 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 125*		*11/07/15 18:23*	*1*
Toluene-d8 (Surr)	*98*		*75 - 120*		*11/07/15 18:23*	*1*
4-Bromofluorobenzene (Surr)	*109*		*75 - 120*		*11/07/15 18:23*	*1*
Dibromofluoromethane	*95*		*75 - 120*		*11/07/15 18:23*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/10/15 00:13	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/10/15 11:09	11/12/15 12:59	1
Arsenic	**0.0039**		0.0010		mg/L		11/10/15 11:09	11/10/15 19:47	1
Barium	**0.096**		0.0025		mg/L		11/10/15 11:09	11/10/15 19:47	1
Beryllium	<0.0010		0.0010		mg/L		11/10/15 11:09	11/12/15 12:59	1
Boron	**1.9**		0.50		mg/L		11/10/15 11:09	11/12/15 17:58	10
Cadmium	<0.00050		0.00050		mg/L		11/10/15 11:09	11/10/15 19:47	1
Chromium	<0.0050		0.0050		mg/L		11/10/15 11:09	11/10/15 19:47	1
Cobalt	<0.0010		0.0010		mg/L		11/10/15 11:09	11/10/15 19:47	1
Copper	<0.0020		0.0020		mg/L		11/10/15 11:09	11/10/15 19:47	1
Iron	**5.2**		0.10		mg/L		11/10/15 11:09	11/12/15 12:59	1
Lead	<0.00050		0.00050		mg/L		11/10/15 11:09	11/10/15 19:47	1
Manganese	**0.26**		0.0025		mg/L		11/10/15 11:09	11/10/15 19:47	1
Nickel	<0.0020		0.0020		mg/L		11/10/15 11:09	11/10/15 19:47	1
Selenium	<0.0025		0.0025		mg/L		11/10/15 11:09	11/13/15 12:50	1
Silver	<0.00050	^	0.00050		mg/L		11/10/15 11:09	11/10/15 19:47	1
Thallium	<0.0020		0.0020		mg/L		11/10/15 11:09	11/10/15 19:47	1
Vanadium	<0.0050		0.0050		mg/L		11/10/15 11:09	11/10/15 19:47	1
Zinc	<0.020		0.020		mg/L		11/10/15 11:09	11/10/15 19:47	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/06/15 14:15	11/09/15 12:58	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/09/15 16:05	11/09/15 18:52	1
Sulfate	**180**		50		mg/L			11/09/15 06:22	10
Chloride	**120**		10		mg/L			11/08/15 15:02	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/13/15 00:57	1
Total Dissolved Solids	**870**		10		mg/L			11/09/15 23:26	1
Fluoride	**0.36**		0.10		mg/L			11/07/15 11:48	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/04/15 15:02	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/11/15 00:08	1

Client Sample ID: MW-07

Date Collected: 11/03/15 12:35
Date Received: 11/04/15 10:00

Lab Sample ID: 500-103417-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/07/15 18:50	1
Toluene	**0.0015**		0.00050		mg/L			11/07/15 18:50	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/07/15 18:50	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/07/15 18:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 125*		*11/07/15 18:50*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*11/07/15 18:50*	*1*
4-Bromofluorobenzene (Surr)	*110*		*75 - 120*		*11/07/15 18:50*	*1*
Dibromofluoromethane	*94*		*75 - 120*		*11/07/15 18:50*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/10/15 00:28	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/10/15 11:09	11/12/15 13:03	1
Arsenic	**0.011**		0.0010		mg/L		11/10/15 11:09	11/10/15 19:49	1
Barium	**0.063**		0.0025		mg/L		11/10/15 11:09	11/10/15 19:49	1
Beryllium	<0.0010		0.0010		mg/L		11/10/15 11:09	11/12/15 13:03	1
Boron	**26**		5.0		mg/L		11/10/15 11:09	11/12/15 18:02	100
Cadmium	<0.00050		0.00050		mg/L		11/10/15 11:09	11/10/15 19:49	1
Chromium	<0.0050		0.0050		mg/L		11/10/15 11:09	11/10/15 19:49	1
Cobalt	<0.0010		0.0010		mg/L		11/10/15 11:09	11/10/15 19:49	1
Copper	<0.0020		0.0020		mg/L		11/10/15 11:09	11/10/15 19:49	1
Iron	**11**		0.10		mg/L		11/10/15 11:09	11/12/15 13:03	1
Lead	<0.00050		0.00050		mg/L		11/10/15 11:09	11/10/15 19:49	1
Manganese	**0.40**		0.0025		mg/L		11/10/15 11:09	11/10/15 19:49	1
Nickel	<0.0020		0.0020		mg/L		11/10/15 11:09	11/10/15 19:49	1
Selenium	<0.0025		0.0025		mg/L		11/10/15 11:09	11/13/15 12:53	1
Silver	<0.00050	^	0.00050		mg/L		11/10/15 11:09	11/10/15 19:49	1
Thallium	<0.0020		0.0020		mg/L		11/10/15 11:09	11/10/15 19:49	1
Vanadium	<0.0050		0.0050		mg/L		11/10/15 11:09	11/10/15 19:49	1
Zinc	<0.020		0.020		mg/L		11/10/15 11:09	11/10/15 19:49	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/06/15 14:15	11/09/15 13:00	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/09/15 16:05	11/09/15 18:53	1
Sulfate	**770**		200		mg/L			11/09/15 06:23	40
Chloride	**85**		10		mg/L			11/08/15 15:02	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/13/15 00:57	1
Total Dissolved Solids	**1500**		10		mg/L			11/09/15 23:29	1
Fluoride	**0.45**		0.10		mg/L			11/07/15 11:58	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/04/15 15:03	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/11/15 00:10	1

Client Sample ID: DUPLICATE

Date Collected: 11/03/15 00:00
Date Received: 11/04/15 10:00

Lab Sample ID: 500-103417-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00058**		0.00050		mg/L			11/07/15 19:16	1
Toluene	**0.0019**		0.00050		mg/L			11/07/15 19:16	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/07/15 19:16	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/07/15 19:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*75 - 125*		*11/07/15 19:16*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*11/07/15 19:16*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*11/07/15 19:16*	*1*
Dibromofluoromethane	*94*		*75 - 120*		*11/07/15 19:16*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/10/15 02:31	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/10/15 11:09	11/12/15 13:07	1
Arsenic	**0.011**		0.0010		mg/L		11/10/15 11:09	11/10/15 19:52	1
Barium	**0.063**		0.0025		mg/L		11/10/15 11:09	11/10/15 19:52	1
Beryllium	<0.0010		0.0010		mg/L		11/10/15 11:09	11/12/15 13:07	1
Boron	**28**		5.0		mg/L		11/10/15 11:09	11/12/15 18:06	100
Cadmium	<0.00050		0.00050		mg/L		11/10/15 11:09	11/10/15 19:52	1
Chromium	<0.0050		0.0050		mg/L		11/10/15 11:09	11/10/15 19:52	1
Cobalt	<0.0010		0.0010		mg/L		11/10/15 11:09	11/10/15 19:52	1
Copper	<0.0020		0.0020		mg/L		11/10/15 11:09	11/10/15 19:52	1
Iron	**11**		0.10		mg/L		11/10/15 11:09	11/12/15 13:07	1
Lead	<0.00050		0.00050		mg/L		11/10/15 11:09	11/10/15 19:52	1
Manganese	**0.41**		0.0025		mg/L		11/10/15 11:09	11/10/15 19:52	1
Nickel	<0.0020		0.0020		mg/L		11/10/15 11:09	11/10/15 19:52	1
Selenium	<0.0025		0.0025		mg/L		11/10/15 11:09	11/13/15 12:57	1
Silver	<0.00050	^	0.00050		mg/L		11/10/15 11:09	11/10/15 19:52	1
Thallium	<0.0020		0.0020		mg/L		11/10/15 11:09	11/10/15 19:52	1
Vanadium	<0.0050		0.0050		mg/L		11/10/15 11:09	11/10/15 19:52	1
Zinc	<0.020		0.020		mg/L		11/10/15 11:09	11/10/15 19:52	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/06/15 14:15	11/09/15 13:02	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/09/15 16:05	11/09/15 18:53	1
Sulfate	**880**		200		mg/L			11/09/15 06:24	40
Chloride	**77**		10		mg/L			11/08/15 15:03	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/13/15 00:57	1
Total Dissolved Solids	**1400**		10		mg/L			11/09/15 23:31	1
Fluoride	**0.46**		0.10		mg/L			11/07/15 12:01	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/04/15 15:03	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/11/15 00:12	1

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-103417-1

Qualifiers

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-103417-1

GC/MS VOA

Analysis Batch: 311569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Total/NA	Water	8260B	
500-103417-1 MS	MW-01	Total/NA	Water	8260B	
500-103417-1 MSD	MW-01	Total/NA	Water	8260B	
500-103417-2	MW-02	Total/NA	Water	8260B	
500-103417-3	MW-03	Total/NA	Water	8260B	
500-103417-4	MW-04	Total/NA	Water	8260B	
LCS 500-311569/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-311569/6	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 311645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-5	MW-05	Total/NA	Water	8260B	
500-103417-6	MW-06	Total/NA	Water	8260B	
500-103417-7	MW-07	Total/NA	Water	8260B	
500-103417-8	DUPLICATE	Total/NA	Water	8260B	
LCS 500-311645/5	Lab Control Sample	Total/NA	Water	8260B	
MB 500-311645/7	Method Blank	Total/NA	Water	8260B	

HPLC/IC

Analysis Batch: 91890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Total/NA	Water	314.0	
500-103417-1 MS	MW-01	Total/NA	Water	314.0	
500-103417-1 MSD	MW-01	Total/NA	Water	314.0	
500-103417-2	MW-02	Total/NA	Water	314.0	
500-103417-3	MW-03	Total/NA	Water	314.0	
500-103417-4	MW-04	Total/NA	Water	314.0	
500-103417-5	MW-05	Total/NA	Water	314.0	
500-103417-5 MS	MW-05	Total/NA	Water	314.0	
500-103417-5 MSD	MW-05	Total/NA	Water	314.0	
500-103417-6	MW-06	Total/NA	Water	314.0	
500-103417-7	MW-07	Total/NA	Water	314.0	
500-103417-8	DUPLICATE	Total/NA	Water	314.0	
LCS 320-91890/15	Lab Control Sample	Total/NA	Water	314.0	
LCS 320-91890/44	Lab Control Sample	Total/NA	Water	314.0	
MB 320-91890/14	Method Blank	Total/NA	Water	314.0	
MB 320-91890/43	Method Blank	Total/NA	Water	314.0	
MRL 320-91890/13	Lab Control Sample	Total/NA	Water	314.0	

Metals

Prep Batch: 311479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Dissolved	Water	7470A	
500-103417-2	MW-02	Dissolved	Water	7470A	
500-103417-3	MW-03	Dissolved	Water	7470A	
500-103417-4	MW-04	Dissolved	Water	7470A	
500-103417-5	MW-05	Dissolved	Water	7470A	
500-103417-6	MW-06	Dissolved	Water	7470A	

Metals (Continued)

Prep Batch: 311479 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-7	MW-07	Dissolved	Water	7470A	
500-103417-8	DUPLICATE	Dissolved	Water	7470A	
LCS 500-311479/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-311479/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 311795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Dissolved	Water	7470A	311479
500-103417-2	MW-02	Dissolved	Water	7470A	311479
500-103417-3	MW-03	Dissolved	Water	7470A	311479
500-103417-4	MW-04	Dissolved	Water	7470A	311479
500-103417-5	MW-05	Dissolved	Water	7470A	311479
500-103417-6	MW-06	Dissolved	Water	7470A	311479
500-103417-7	MW-07	Dissolved	Water	7470A	311479
500-103417-8	DUPLICATE	Dissolved	Water	7470A	311479
LCS 500-311479/13-A	Lab Control Sample	Total/NA	Water	7470A	311479
MB 500-311479/12-A	Method Blank	Total/NA	Water	7470A	311479

Prep Batch: 311957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Dissolved	Water	Soluble Metals	
500-103417-2	MW-02	Dissolved	Water	Soluble Metals	
500-103417-3	MW-03	Dissolved	Water	Soluble Metals	
500-103417-4	MW-04	Dissolved	Water	Soluble Metals	
500-103417-5	MW-05	Dissolved	Water	Soluble Metals	
500-103417-6	MW-06	Dissolved	Water	Soluble Metals	
500-103417-7	MW-07	Dissolved	Water	Soluble Metals	
500-103417-8	DUPLICATE	Dissolved	Water	Soluble Metals	
LCS 500-311957/2-A	Lab Control Sample	Soluble	Water	Soluble Metals	
MB 500-311957/1-A	Method Blank	Soluble	Water	Soluble Metals	

Analysis Batch: 312167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Dissolved	Water	6020A	311957
500-103417-2	MW-02	Dissolved	Water	6020A	311957
500-103417-3	MW-03	Dissolved	Water	6020A	311957
500-103417-4	MW-04	Dissolved	Water	6020A	311957
500-103417-5	MW-05	Dissolved	Water	6020A	311957
500-103417-6	MW-06	Dissolved	Water	6020A	311957
500-103417-7	MW-07	Dissolved	Water	6020A	311957
500-103417-8	DUPLICATE	Dissolved	Water	6020A	311957
LCS 500-311957/2-A	Lab Control Sample	Soluble	Water	6020A	311957
MB 500-311957/1-A	Method Blank	Soluble	Water	6020A	311957

Analysis Batch: 312421

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Dissolved	Water	6020A	311957
500-103417-2	MW-02	Dissolved	Water	6020A	311957
500-103417-3	MW-03	Dissolved	Water	6020A	311957
500-103417-4	MW-04	Dissolved	Water	6020A	311957
500-103417-5	MW-05	Dissolved	Water	6020A	311957

Metals (Continued)

Analysis Batch: 312421 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-6	MW-06	Dissolved	Water	6020A	311957
500-103417-7	MW-07	Dissolved	Water	6020A	311957
500-103417-8	DUPLICATE	Dissolved	Water	6020A	311957
LCS 500-311957/2-A	Lab Control Sample	Soluble	Water	6020A	311957
MB 500-311957/1-A	Method Blank	Soluble	Water	6020A	311957

Analysis Batch: 312539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Dissolved	Water	6020A	311957
500-103417-2	MW-02	Dissolved	Water	6020A	311957
500-103417-3	MW-03	Dissolved	Water	6020A	311957
500-103417-4	MW-04	Dissolved	Water	6020A	311957
500-103417-5	MW-05	Dissolved	Water	6020A	311957
500-103417-6	MW-06	Dissolved	Water	6020A	311957
500-103417-7	MW-07	Dissolved	Water	6020A	311957
500-103417-8	DUPLICATE	Dissolved	Water	6020A	311957
LCS 500-311957/2-A	Lab Control Sample	Soluble	Water	6020A	311957
MB 500-311957/1-A	Method Blank	Soluble	Water	6020A	311957

Analysis Batch: 312597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Dissolved	Water	6020A	311957
500-103417-2	MW-02	Dissolved	Water	6020A	311957
500-103417-3	MW-03	Dissolved	Water	6020A	311957
500-103417-4	MW-04	Dissolved	Water	6020A	311957
500-103417-5	MW-05	Dissolved	Water	6020A	311957
500-103417-6	MW-06	Dissolved	Water	6020A	311957
500-103417-7	MW-07	Dissolved	Water	6020A	311957
500-103417-8	DUPLICATE	Dissolved	Water	6020A	311957
LCS 500-311957/2-A	Lab Control Sample	Soluble	Water	6020A	311957
MB 500-311957/1-A	Method Blank	Soluble	Water	6020A	311957

General Chemistry

Analysis Batch: 311080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Dissolved	Water	SM 4500 NO2 B	
500-103417-2	MW-02	Dissolved	Water	SM 4500 NO2 B	
500-103417-3	MW-03	Dissolved	Water	SM 4500 NO2 B	
500-103417-3 MS	MW-03	Dissolved	Water	SM 4500 NO2 B	
500-103417-3 MSD	MW-03	Dissolved	Water	SM 4500 NO2 B	
LCS 500-311080/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-311080/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 311092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-4	MW-04	Dissolved	Water	SM 4500 NO2 B	
500-103417-5	MW-05	Dissolved	Water	SM 4500 NO2 B	
500-103417-6	MW-06	Dissolved	Water	SM 4500 NO2 B	
500-103417-7	MW-07	Dissolved	Water	SM 4500 NO2 B	

General Chemistry (Continued)

Analysis Batch: 311092 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-8	DUPLICATE	Dissolved	Water	SM 4500 NO2 B	
LCS 500-311092/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-311092/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 311708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Dissolved	Water	9251	
500-103417-1 MS	MW-01	Dissolved	Water	9251	
500-103417-1 MSD	MW-01	Dissolved	Water	9251	
500-103417-2	MW-02	Dissolved	Water	9251	
500-103417-3	MW-03	Dissolved	Water	9251	
500-103417-4	MW-04	Dissolved	Water	9251	
500-103417-5	MW-05	Dissolved	Water	9251	
500-103417-6	MW-06	Dissolved	Water	9251	
500-103417-7	MW-07	Dissolved	Water	9251	
500-103417-8	DUPLICATE	Dissolved	Water	9251	
LCS 500-311708/5	Lab Control Sample	Total/NA	Water	9251	
MB 500-311708/4	Method Blank	Total/NA	Water	9251	

Prep Batch: 311841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Dissolved	Water	9010B	
500-103417-2	MW-02	Dissolved	Water	9010B	
500-103417-3	MW-03	Dissolved	Water	9010B	
500-103417-4	MW-04	Dissolved	Water	9010B	
500-103417-5	MW-05	Dissolved	Water	9010B	
500-103417-6	MW-06	Dissolved	Water	9010B	
500-103417-7	MW-07	Dissolved	Water	9010B	
500-103417-8	DUPLICATE	Dissolved	Water	9010B	
LCS 500-311841/2-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-311841/1-A	Method Blank	Total/NA	Water	9010B	

Analysis Batch: 311860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Dissolved	Water	9014	311841
500-103417-2	MW-02	Dissolved	Water	9014	311841
500-103417-3	MW-03	Dissolved	Water	9014	311841
500-103417-4	MW-04	Dissolved	Water	9014	311841
500-103417-5	MW-05	Dissolved	Water	9014	311841
500-103417-6	MW-06	Dissolved	Water	9014	311841
500-103417-7	MW-07	Dissolved	Water	9014	311841
500-103417-8	DUPLICATE	Dissolved	Water	9014	311841
LCS 500-311841/2-A	Lab Control Sample	Total/NA	Water	9014	311841
MB 500-311841/1-A	Method Blank	Total/NA	Water	9014	311841

Analysis Batch: 311884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Dissolved	Water	SM 2540C	
500-103417-1 DU	MW-01	Dissolved	Water	SM 2540C	
500-103417-1 MS	MW-01	Dissolved	Water	SM 2540C	
500-103417-2	MW-02	Dissolved	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 311884 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-3	MW-03	Dissolved	Water	SM 2540C	
500-103417-4	MW-04	Dissolved	Water	SM 2540C	
500-103417-5	MW-05	Dissolved	Water	SM 2540C	
500-103417-6	MW-06	Dissolved	Water	SM 2540C	
500-103417-7	MW-07	Dissolved	Water	SM 2540C	
500-103417-8	DUPLICATE	Dissolved	Water	SM 2540C	
LCS 500-311884/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-311884/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 311888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Dissolved	Water	9038	
500-103417-2	MW-02	Dissolved	Water	9038	
500-103417-3	MW-03	Dissolved	Water	9038	
500-103417-4	MW-04	Dissolved	Water	9038	
500-103417-5	MW-05	Dissolved	Water	9038	
500-103417-6	MW-06	Dissolved	Water	9038	
500-103417-7	MW-07	Dissolved	Water	9038	
500-103417-8	DUPLICATE	Dissolved	Water	9038	
LCS 500-311888/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-311888/3	Method Blank	Total/NA	Water	9038	

Analysis Batch: 311974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Dissolved	Water	SM 4500 F C	
500-103417-2	MW-02	Dissolved	Water	SM 4500 F C	
500-103417-3	MW-03	Dissolved	Water	SM 4500 F C	
500-103417-4	MW-04	Dissolved	Water	SM 4500 F C	
500-103417-5	MW-05	Dissolved	Water	SM 4500 F C	
500-103417-6	MW-06	Dissolved	Water	SM 4500 F C	
500-103417-7	MW-07	Dissolved	Water	SM 4500 F C	
500-103417-8	DUPLICATE	Dissolved	Water	SM 4500 F C	
LCS 500-311974/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-311974/3	Method Blank	Total/NA	Water	SM 4500 F C	

Analysis Batch: 312430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Dissolved	Water	SM 4500 NO3 F	
500-103417-2	MW-02	Dissolved	Water	SM 4500 NO3 F	
500-103417-2 MS	MW-02	Dissolved	Water	SM 4500 NO3 F	
500-103417-2 MSD	MW-02	Dissolved	Water	SM 4500 NO3 F	
500-103417-3	MW-03	Dissolved	Water	SM 4500 NO3 F	
500-103417-4	MW-04	Dissolved	Water	SM 4500 NO3 F	
500-103417-5	MW-05	Dissolved	Water	SM 4500 NO3 F	
500-103417-6	MW-06	Dissolved	Water	SM 4500 NO3 F	
500-103417-7	MW-07	Dissolved	Water	SM 4500 NO3 F	
500-103417-8	DUPLICATE	Dissolved	Water	SM 4500 NO3 F	
LCS 500-312430/13	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-312430/12	Method Blank	Total/NA	Water	SM 4500 NO3 F	

General Chemistry (Continued)

Analysis Batch: 312495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103417-1	MW-01	Dissolved	Water	Nitrate by calc	
500-103417-2	MW-02	Dissolved	Water	Nitrate by calc	
500-103417-3	MW-03	Dissolved	Water	Nitrate by calc	
500-103417-4	MW-04	Dissolved	Water	Nitrate by calc	
500-103417-5	MW-05	Dissolved	Water	Nitrate by calc	
500-103417-6	MW-06	Dissolved	Water	Nitrate by calc	
500-103417-7	MW-07	Dissolved	Water	Nitrate by calc	
500-103417-8	DUPLICATE	Dissolved	Water	Nitrate by calc	

Surrogate Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-103417-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(75-125)	(75-120)	(75-120)	(75-120)
500-103417-1	MW-01	102	106	98	101
500-103417-1 MS	MW-01	102	102	106	100
500-103417-1 MSD	MW-01	101	100	106	101
500-103417-2	MW-02	103	106	98	101
500-103417-3	MW-03	102	102	98	100
500-103417-4	MW-04	103	103	98	103
500-103417-5	MW-05	106	109	94	96
500-103417-6	MW-06	108	98	109	95
500-103417-7	MW-07	106	97	110	94
500-103417-8	DUPLICATE	109	97	98	94
LCS 500-311569/4	Lab Control Sample	99	103	102	99
LCS 500-311645/5	Lab Control Sample	109	88	93	98
MB 500-311569/6	Method Blank	102	103	103	102
MB 500-311645/7	Method Blank	107	96	89	96

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-311569/6
Matrix: Water
Analysis Batch: 311569

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/07/15 01:26	1
Toluene	<0.00050		0.00050		mg/L			11/07/15 01:26	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/07/15 01:26	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/07/15 01:26	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*		*11/07/15 01:26*	*1*
Toluene-d8 (Surr)	*103*		*75 - 120*		*11/07/15 01:26*	*1*
4-Bromofluorobenzene (Surr)	*103*		*75 - 120*		*11/07/15 01:26*	*1*
Dibromofluoromethane	*102*		*75 - 120*		*11/07/15 01:26*	*1*

Lab Sample ID: LCS 500-311569/4
Matrix: Water
Analysis Batch: 311569

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0464		mg/L		93	70 - 120
Toluene	0.0500	0.0509		mg/L		102	70 - 120
Ethylbenzene	0.0500	0.0495		mg/L		99	70 - 125
Xylenes, Total	0.100	0.0946		mg/L		95	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 125*
Toluene-d8 (Surr)	*103*		*75 - 120*
4-Bromofluorobenzene (Surr)	*102*		*75 - 120*
Dibromofluoromethane	*99*		*75 - 120*

Lab Sample ID: 500-103417-1 MS
Matrix: Water
Analysis Batch: 311569

Client Sample ID: MW-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00050		0.0500	0.0454		mg/L		90	70 - 120
Toluene	0.0010		0.0500	0.0496		mg/L		97	70 - 120
Ethylbenzene	<0.00050		0.0500	0.0478		mg/L		96	70 - 125
Xylenes, Total	<0.0010		0.100	0.0911		mg/L		91	70 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*
Toluene-d8 (Surr)	*102*		*75 - 120*
4-Bromofluorobenzene (Surr)	*106*		*75 - 120*
Dibromofluoromethane	*100*		*75 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-103417-1 MSD
Matrix: Water
Analysis Batch: 311569

Client Sample ID: MW-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00050		0.0500	0.0403		mg/L		80	70 - 120	12	20
Toluene	0.0010		0.0500	0.0432		mg/L		84	70 - 120	14	20
Ethylbenzene	<0.00050		0.0500	0.0415		mg/L		83	70 - 125	14	20
Xylenes, Total	<0.0010		0.100	0.0797		mg/L		80	70 - 120	13	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*
Toluene-d8 (Surr)	*100*		*75 - 120*
4-Bromofluorobenzene (Surr)	*106*		*75 - 120*
Dibromofluoromethane	*101*		*75 - 120*

Lab Sample ID: MB 500-311645/7
Matrix: Water
Analysis Batch: 311645

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/07/15 17:30	1
Toluene	<0.00050		0.00050		mg/L			11/07/15 17:30	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/07/15 17:30	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/07/15 17:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*75 - 125*		*11/07/15 17:30*	*1*
Toluene-d8 (Surr)	*96*		*75 - 120*		*11/07/15 17:30*	*1*
4-Bromofluorobenzene (Surr)	*89*		*75 - 120*		*11/07/15 17:30*	*1*
Dibromofluoromethane	*96*		*75 - 120*		*11/07/15 17:30*	*1*

Lab Sample ID: LCS 500-311645/5
Matrix: Water
Analysis Batch: 311645

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0429		mg/L		86	70 - 120
Toluene	0.0500	0.0370		mg/L		74	70 - 120
Ethylbenzene	0.0500	0.0436		mg/L		87	70 - 125
Xylenes, Total	0.100	0.0810		mg/L		81	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*109*		*75 - 125*
Toluene-d8 (Surr)	*88*		*75 - 120*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*
Dibromofluoromethane	*98*		*75 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-91890/14
Matrix: Water
Analysis Batch: 91890

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/09/15 17:47	1

Lab Sample ID: MB 320-91890/43
Matrix: Water
Analysis Batch: 91890

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/10/15 01:14	1

Lab Sample ID: LCS 320-91890/15
Matrix: Water
Analysis Batch: 91890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	0.0500	0.0508		mg/L		102	85 - 115

Lab Sample ID: LCS 320-91890/44
Matrix: Water
Analysis Batch: 91890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	0.0500	0.0516		mg/L		103	85 - 115

Lab Sample ID: MRL 320-91890/13
Matrix: Water
Analysis Batch: 91890

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	<4.0		ug/L		99	75 - 125

Lab Sample ID: 500-103417-1 MS
Matrix: Water
Analysis Batch: 91890

Client Sample ID: MW-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	<0.0040		0.0500	0.0494		mg/L		99	80 - 120

Lab Sample ID: 500-103417-1 MSD
Matrix: Water
Analysis Batch: 91890

Client Sample ID: MW-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	<0.0040		0.0500	0.0469		mg/L		94	80 - 120	5	20

Lab Sample ID: 500-103417-5 MS
Matrix: Water
Analysis Batch: 91890

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	<0.0040		0.0500	0.0481		mg/L		96	80 - 120

Lab Sample ID: 500-103417-5 MSD
Matrix: Water
Analysis Batch: 91890

Client Sample ID: MW-05
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	<0.0040		0.0500	0.0516		mg/L		103	80 - 120	7	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-311957/1-A
Matrix: Water
Analysis Batch: 312167

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 311957

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0010		0.0010		mg/L		11/10/15 10:58	11/10/15 18:40	1
Barium	<0.0025		0.0025		mg/L		11/10/15 10:58	11/10/15 18:40	1
Cadmium	<0.00050		0.00050		mg/L		11/10/15 10:58	11/10/15 18:40	1
Chromium	<0.0050		0.0050		mg/L		11/10/15 10:58	11/10/15 18:40	1
Cobalt	<0.0010		0.0010		mg/L		11/10/15 10:58	11/10/15 18:40	1
Copper	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 18:40	1
Iron	<0.10	^	0.10		mg/L		11/10/15 10:58	11/10/15 18:40	1
Lead	<0.00050		0.00050		mg/L		11/10/15 10:58	11/10/15 18:40	1
Manganese	<0.0025		0.0025		mg/L		11/10/15 10:58	11/10/15 18:40	1
Nickel	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 18:40	1
Silver	<0.00050	^	0.00050		mg/L		11/10/15 10:58	11/10/15 18:40	1
Thallium	<0.0020		0.0020		mg/L		11/10/15 10:58	11/10/15 18:40	1
Vanadium	<0.0050		0.0050		mg/L		11/10/15 10:58	11/10/15 18:40	1
Zinc	<0.020		0.020		mg/L		11/10/15 10:58	11/10/15 18:40	1

Lab Sample ID: MB 500-311957/1-A
Matrix: Water
Analysis Batch: 312421

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 311957

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/10/15 10:58	11/12/15 12:24	1
Beryllium	<0.0010		0.0010		mg/L		11/10/15 10:58	11/12/15 12:24	1

Lab Sample ID: MB 500-311957/1-A
Matrix: Water
Analysis Batch: 312539

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 311957

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		11/10/15 10:58	11/12/15 17:31	1

Lab Sample ID: MB 500-311957/1-A
Matrix: Water
Analysis Batch: 312597

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 311957

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.0025		0.0025		mg/L		11/10/15 10:58	11/13/15 12:14	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-311957/2-A
Matrix: Water
Analysis Batch: 312167

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 311957

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.102		mg/L		102	80 - 120
Barium	0.500	0.466		mg/L		93	80 - 120
Cadmium	0.0500	0.0567		mg/L		113	80 - 120
Chromium	0.200	0.208		mg/L		104	80 - 120
Cobalt	0.500	0.555		mg/L		111	80 - 120
Copper	0.250	0.268		mg/L		107	80 - 120
Iron	1.00	1.12	^	mg/L		112	80 - 120
Lead	0.100	0.106		mg/L		106	80 - 120
Manganese	0.500	0.529		mg/L		106	80 - 120
Nickel	0.500	0.572		mg/L		114	80 - 120
Silver	0.0500	0.0430	^	mg/L		86	80 - 120
Thallium	0.100	0.102		mg/L		102	80 - 120
Vanadium	0.500	0.519		mg/L		104	80 - 120
Zinc	0.500	0.534		mg/L		107	80 - 120

Lab Sample ID: LCS 500-311957/2-A
Matrix: Water
Analysis Batch: 312421

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 311957

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.501		mg/L		100	80 - 120
Beryllium	0.0500	0.0542		mg/L		108	80 - 120

Lab Sample ID: LCS 500-311957/2-A
Matrix: Water
Analysis Batch: 312539

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 311957

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.06		mg/L		106	80 - 120

Lab Sample ID: LCS 500-311957/2-A
Matrix: Water
Analysis Batch: 312597

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 311957

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	0.100	0.102		mg/L		102	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-311479/12-A
Matrix: Water
Analysis Batch: 311795

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311479

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/06/15 14:15	11/09/15 12:21	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 500-311479/13-A
Matrix: Water
Analysis Batch: 311795

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311479

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00209		mg/L		105	80 - 120

Method: 9014 - Cyanide

Lab Sample ID: MB 500-311841/1-A
Matrix: Water
Analysis Batch: 311860

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311841

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/09/15 16:05	11/09/15 18:50	1

Lab Sample ID: LCS 500-311841/2-A
Matrix: Water
Analysis Batch: 311860

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311841

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.111		mg/L		111	80 - 120

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 500-311888/3
Matrix: Water
Analysis Batch: 311888

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/09/15 06:09	1

Lab Sample ID: LCS 500-311888/4
Matrix: Water
Analysis Batch: 311888

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.5		mg/L		97	80 - 120

Method: 9251 - Chloride

Lab Sample ID: MB 500-311708/4
Matrix: Water
Analysis Batch: 311708

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/08/15 14:20	1

Method: 9251 - Chloride (Continued)

Lab Sample ID: LCS 500-311708/5
Matrix: Water
Analysis Batch: 311708

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			50.0	49.0		mg/L		98	80 - 120		

Lab Sample ID: 500-103417-1 MS
Matrix: Water
Analysis Batch: 311708

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	69		50.0	114		mg/L		90	75 - 125		

Lab Sample ID: 500-103417-1 MSD
Matrix: Water
Analysis Batch: 311708

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	69		50.0	115		mg/L		91	75 - 125	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-311884/1
Matrix: Water
Analysis Batch: 311884

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/09/15 23:04	1

Lab Sample ID: LCS 500-311884/2
Matrix: Water
Analysis Batch: 311884

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			250	252		mg/L		101	80 - 120		

Lab Sample ID: 500-103417-1 MS
Matrix: Water
Analysis Batch: 311884

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids	560		250	806		mg/L		100	75 - 125		

Lab Sample ID: 500-103417-1 DU
Matrix: Water
Analysis Batch: 311884

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	560		554		mg/L		0.4	5

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-311974/3
Matrix: Water
Analysis Batch: 311974

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			11/07/15 10:40	1

Lab Sample ID: LCS 500-311974/4
Matrix: Water
Analysis Batch: 311974

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.3		mg/L		103	80 - 120

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-311080/3
Matrix: Water
Analysis Batch: 311080

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/03/15 18:10	1

Lab Sample ID: LCS 500-311080/4
Matrix: Water
Analysis Batch: 311080

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.101		mg/L		101	80 - 120

Lab Sample ID: MB 500-311092/3
Matrix: Water
Analysis Batch: 311092

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/04/15 15:00	1

Lab Sample ID: LCS 500-311092/4
Matrix: Water
Analysis Batch: 311092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.105		mg/L		105	80 - 120

Lab Sample ID: 500-103417-3 MS
Matrix: Water
Analysis Batch: 311080

Client Sample ID: MW-03
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	<0.020		0.100	0.0975		mg/L		91	75 - 125

Method: SM 4500 NO2 B - Nitrogen, Nitrite (Continued)

Lab Sample ID: 500-103417-3 MSD — **Client Sample ID: MW-03**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 311080

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	<0.020		0.100	0.0996		mg/L		93	75 - 125	2	20

Method: SM 4500 NO3 F - Nitrogen, Nitrate

Lab Sample ID: MB 500-312430/12 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 312430

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/10/15 23:16	1

Lab Sample ID: LCS 500-312430/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 312430

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	1.16		mg/L		116	80 - 120

Lab Sample ID: 500-103417-2 MS — **Client Sample ID: MW-02**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 312430

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	<0.10		1.00	1.03		mg/L		103	75 - 125

Lab Sample ID: 500-103417-2 MSD — **Client Sample ID: MW-02**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 312430

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrate Nitrite	<0.10		1.00	1.09		mg/L		109	75 - 125	5	20

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Rich Gnat	Contact:	
Company:	KPRG & Associates Inc.	Company:	
Address:	14665 W. Llisbon Rd. Suite 2B	Address:	
	Brookfield, WI, 53005		
Phone:	262-781-0475	Phone:	
Fax:		Fax:	
Email:		PO #:	

Lab Lot # 500-103417

Package Sealed	Samples Sealed
(Yes) No	Yes (No)
Received on Ice	**Samples Intact**
(Yes) No	(Yes) No N/A

Temperature °C of Cooler 5.9

Within Hold Time	Preserv. Indicated
(Yes) No	(Yes) No N/A
pH Check OK	**Res CL_2 Check OK**
(Yes) No	(Yes) No N/A

Sample Labels and COC Agree
(Yes) No COC not present

Sampler Name:	Client Project #	Refrg #
Ian John Howieson	12313.2	# / Cont.
Project Name:	**TestAmerica Project Number:**	Volume
Waukegan Station Ash Ponds	50004763	Preserv.
Project Location:	**Date Required**	
Waukegan, IL	Hard Copy: ____/____/____	
Lab PM: Bonnie Stadelmann	Fax: ____/____/____	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Containers	~~Metals-Dissolved~~	~~Cl, TDS, SO4, Fl~~	NO2	~~NO3 - NO2~~	~~Cyanide~~	~~Perchlorate~~	~~BTEX~~	Additional Analyses / Remarks
1		MW-01	11-2-15	13:10	W	1	—	—	X	—	—	—	—	
2		MW-02	11-2-15	14:40	W	1	—	—	X	—	—	—	—	
3		MW-03	11-2-15	16:20	W	1	—	—	X	—	—	—	—	
NB N														

500-103417 COC

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
[signature]	KPRG	11-2-15	17:45	FEDEX			
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY: [signature]	COMPANY: TAL	DATE: 11/3/15	TIME: 1015

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 11/3/15
Courier: FX
Hand Delivered ☐
Bill of Lading:
PAGE 1 of 1

STL-8208 (0600)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Rich Gnat	Contact:	
Company:	KPRG & Associates Inc.	Company:	
Address:	14665 W. Llisbon Rd. Suite 2B	Address:	
	Brookfield, WI, 53005		
Phone:	262-781-0475	Phone:	
Fax:		Fax:	
Email:		PO #:	

500-103417 COC

Lab Lot # 500-103417

Package Sealed: Yes / No	Samples Sealed: Yes / No
Received on Ice: Yes / No	Samples Intact: Yes / No / N/A
Temperature °C of Cooler: 5.6	
Within Hold Time: Yes / No	Preserv. Indicated: Yes / No / N/A
pH Check OK: Yes / No	Res CL_2 Check OK: Yes / No / N/A
Sample Labels and COC Agree: Yes / No	COC not present

Sampler Name: Ian John Howieson	**Client Project #** 12313.2	**Refrg #**	
		# / Cont.	
Project Name: Waukegan Station Ash Ponds	**TestAmerica Project Number:** 50004763	**Volume**	
		Preserv.	
Project Location: Waukegan, IL	**Date Required** Hard Copy: ____/____/____		
Lab PM: Bonnie Stadelmann	Fax: ____/____/____		

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Containers	Metals Dissolved	Cl, FR, SO4, TA	NO2	NO3_NO2	Cyanide	Perchlorate	BTEX	Additional Analyses / Remarks
4		MW-04	11-3-15	09:35	W	1	—	—	X	—	—	—	—	
5		MW-05	11-3-15	16:40	W	1	—	—	X	—	—	—	—	
6		MW-06	11-3-15	15:25	W	1	—	—	X	—	—	—	—	
7		MW-07	11-3-15	12:35	W	1	—	—	X	—	—	—	—	
NB N 8		DUPLICATE	11-3-15	—	W	1	—	—	X	—	—	—	—	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
	KPRG	11-3-15	18:45	FEDEX			
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
					TA	11-4-15	1000

Matrix Key
WW = Wastewater, SE = Sediment, W = Water, SO = Solid, S = Soil, DL = Drum Liquid, SL = Sludge, DS = Drum Solid, MS = Miscellaneous, L = Leachate, OL = Oil, W = Wipe, A = Air, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ____/____/____
Courier:
Hand Delivered ☐
Bill of Lading:

PAGE 1 of 2

STL-8208 (0600)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

500-103417 COC

Report To:		Bill To:	
Contact:	Rich Gnat	Contact:	
Company:	KPRG & Associates Inc.	Company:	
Address:	14665 W. Lisbon Rd. Suite 2B	Address:	
	Brookfield, WI		
Phone:	262-781-0475	Phone:	
Fax:		Fax:	
Email:		PO #:	

Lab Lot # 500-103417

Package Sealed	Samples Sealed
(Yes) No	Yes (No)
Received on Ice	**Samples Intact**
(Yes) No	(Yes) No N/A

Temperature °C of Cooler (3.6) (4.3) (3.8)

Within Hold Time	Preserv. Indicated
(Yes) No	(Yes) No N/A
pH Check OK	**Res CL_2 Check OK**
(Yes) No	(Yes) No N/A

Sample Labels and COC Agree
(Yes) No COC not present

Sampler Name:	Client Project #	Refrg #
Ian John Howieson	12313.2	# / Cont.
Project Name:	**TestAmerica Project Number:**	Volume
Waukegan Station Ash Ponds	50004763	Preserv.
Project Location:	**Date Required**	
Waukegan, IL	Hard Copy: ____/____/____	
Lab PM: Bonnie Stadelmann	Fax: ____/____/____	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Containers	Metals Dissolved	Cl, TDS, SO4, Fl,	NO2	NO3 - NO2	Cyanide	Perchlorate	BTEX	Additional Analyses / Remarks
1 9		MW-01	11-2-15	13:10	W	8	X	X	—	X	X	X	X	
2 10		MW-02	11-2-15	14:40	W	8	X	X	—	X	X	X	X	
3 11	MS/MSD	MW-03	11-2-15	16:20	W	8	X	X	—	X	X	X	X	
4 12	11/10/15	MW-04	11-3-15	09:35	W	8	X	X	—	X	X	X	X	
5 NB N 13		MW-05	11-3-15	16:40	W	8	X	X	—	X	X	X	X	
6 14		MW-06	11-3-15	15:25	W	8	X	X	—	X	X	X	X	
7 15		MW-07	11-3-15	12:35	W	8	X	X	—	X	X	X	X	
8 16		DUP	11-3-15	—	W	8	X	X	—	X	X	X	X	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
[signature]	KPRG	11-5-15	15:45	[signature]	TAL	11/5/15	1545
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key
WW = Wastewater, W = Water, S = Soil, SL = Sludge, MS = Miscellaneous, OL = Oil, A = Air, SE = Sediment, SO = Solid, DL = Drum Liquid, DS = Drum Solid, L = Leachate, W = Wipe, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

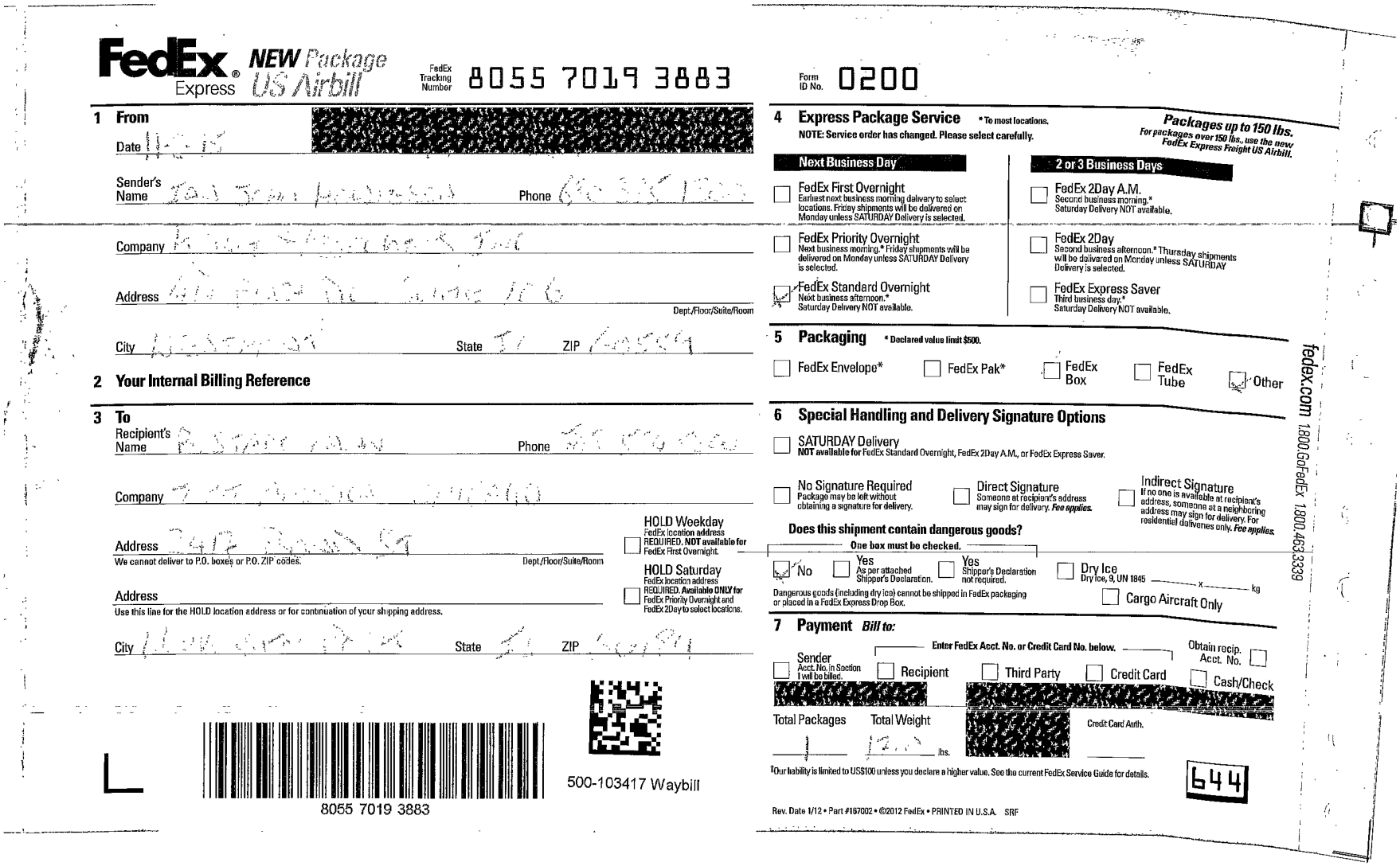
Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 11/5/15
Courier:
Hand Delivered ✓
Bill of Lading:

PAGE 1 of 4

STL-8208 (0600)



FedEx Express NEW Package US Airbill

FedEx Tracking Number 8055 7019 3883

Form ID No. 0200

1 From

Date

Sender's Name Phone

Company

Address

Dept./Floor/Suite/Room

City State ZIP

2 Your Internal Billing Reference

3 To

Recipient's Name Phone

Company

Address

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City State ZIP

HOLD Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

4 Express Package Service * To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs.
For packages over 150 lbs., use the new FedEx Express Freight US Airbill.

Next Business Day	2 or 3 Business Days
☐ FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.	☐ FedEx 2Day A.M. — Second business morning.* Saturday Delivery NOT available.
☐ FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.	☐ FedEx 2Day — Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
☑ FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.	☐ FedEx Express Saver — Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☑ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required — Package may be left without obtaining a signature for delivery.

☐ Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*

☐ Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods?

One box must be checked.

☑ No ☐ Yes — As per attached Shipper's Declaration. ☐ Yes — Shipper's Declaration not required. ☐ Dry Ice — Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

☐ Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below. Obtain recip. Acct. No. ☐

☐ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

Total Packages Total Weight lbs. Credit Card Auth.

†Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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fedex.com 1.800.GoFedEx 1.800.463.3339

8055 7019 3883

500-103417 Waybill

FedEx Express NEW Package US Airbill

FedEx Tracking Number 8030 3293 6057

Form ID No. 0200 4763 Recipient's Copy

1 From

Date 11-7-15

Sender's Name [redacted] Phone [redacted]

Company [redacted]

Address [redacted]

Dept./Floor/Suite/Room

City [redacted] State IL ZIP [redacted]

2 Your Internal Billing Reference

3 To

Recipient's Name [redacted] Phone [redacted]

Company [redacted]

Address [redacted]

We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City [redacted] State IL ZIP [redacted]

HOLD Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.

HOLD Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

8030 3293 6057

4 Express Package Service * To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs.
For packages over 150 lbs., use the new FedEx Express Freight US Airbill.

Next Business Day

- FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [x] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

- [ ] [redacted] shipments TURDAY
- [ ] 500-103417 Waybill

5 Packaging * Declared value limit $500.

[ ] FedEx Envelope* [ ] FedEx Pak* [ ] FedEx Box [ ] FedEx Tube [ ] Other

6 Special Handling and Delivery Signature Options

[ ] SATURDAY Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

[ ] No Signature Required — Package may be left without obtaining a signature for delivery.
[ ] Direct Signature — Someone at recipient's address may sign for delivery. *Fee applies.*
[ ] Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods?
One box must be checked.

[x] No [ ] Yes As per attached Shipper's Declaration. [ ] Yes Shipper's Declaration not required. [ ] Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

[ ] Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below. Obtain recip. Acct. No. [ ]

[x] Sender Acct. No. in Section 1 will be billed. [ ] Recipient [ ] Third Party [ ] Credit Card [ ] Cash/Check

Total Packages [redacted] Total Weight [redacted] lbs. Credit Card Auth.

†Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103417-1

Login Number: 103417
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.9, 5.6, 3.6, 4.3, 3.8
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103417-1

Login Number: 103417
List Number: 2
Creator: James, Jeff A

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103417-1

Login Number: 103417
List Number: 3
Creator: Hytrek, Cheryl

List Source: TestAmerica Sacramento
List Creation: 11/06/15 04:42 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	headspace in 314
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Waukegan Station Ash Ponds

TestAmerica Job ID: 500-103417-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

Laboratory: TestAmerica Sacramento

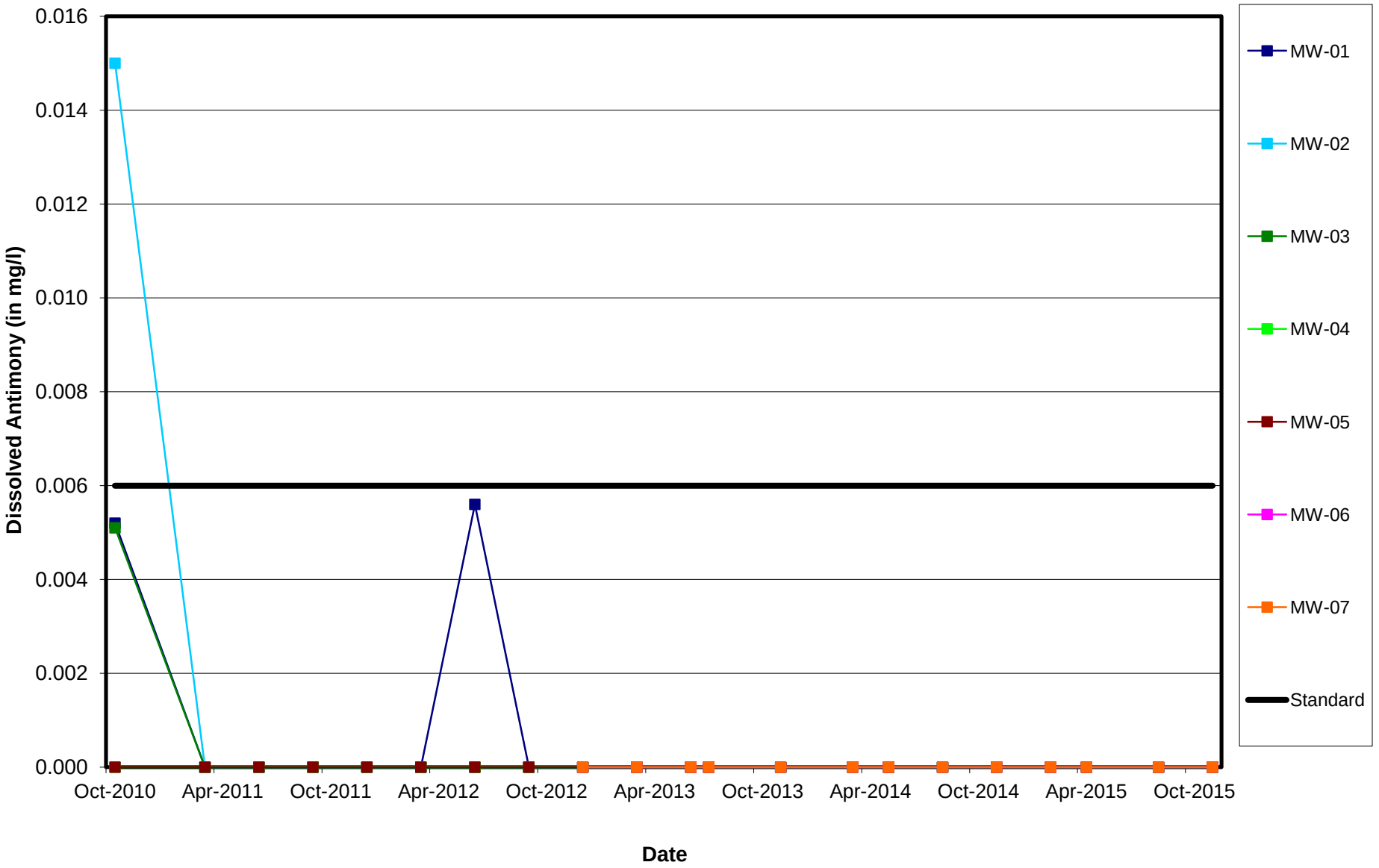
All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-16
Alaska (UST)	State Program	10	UST-055	12-18-15
Arizona	State Program	9	AZ0708	08-11-16
Arkansas DEQ	State Program	6	88-0691	06-17-16
California	State Program	9	2897	01-31-16
Colorado	State Program	8	N/A	08-31-16
Connecticut	State Program	1	PH-0691	06-30-17
Florida	NELAP	4	E87570	06-30-16
Hawaii	State Program	9	N/A	01-29-16
Illinois	NELAP	5	200060	03-17-16
Kansas	NELAP	7	E-10375	01-31-16
Louisiana	NELAP	6	30612	06-30-16
Michigan	State Program	5	9947	01-31-16
Nevada	State Program	9	CA44	07-31-16
New Jersey	NELAP	2	CA005	06-30-16
New York	NELAP	2	11666	04-01-16
Oregon	NELAP	10	CA200005	01-29-16
Pennsylvania	NELAP	3	9947	03-31-16
Texas	NELAP	6	T104704399-15-9	05-31-16
US Fish & Wildlife	Federal		LE148388-0	02-28-16
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-16
Utah	NELAP	8	QUAN1	02-28-16
Virginia	NELAP Secondary AB	3	460278	03-14-16
Washington	State Program	10	C581	05-04-16
West Virginia (DW)	State Program	3	9930C	12-31-15
Wyoming	State Program	8	8TMS-Q	01-29-16

ATTACHMENT 3
Time Versus Concentration Curves

Midwest Generation Waukegan Station, Waukegan, IL

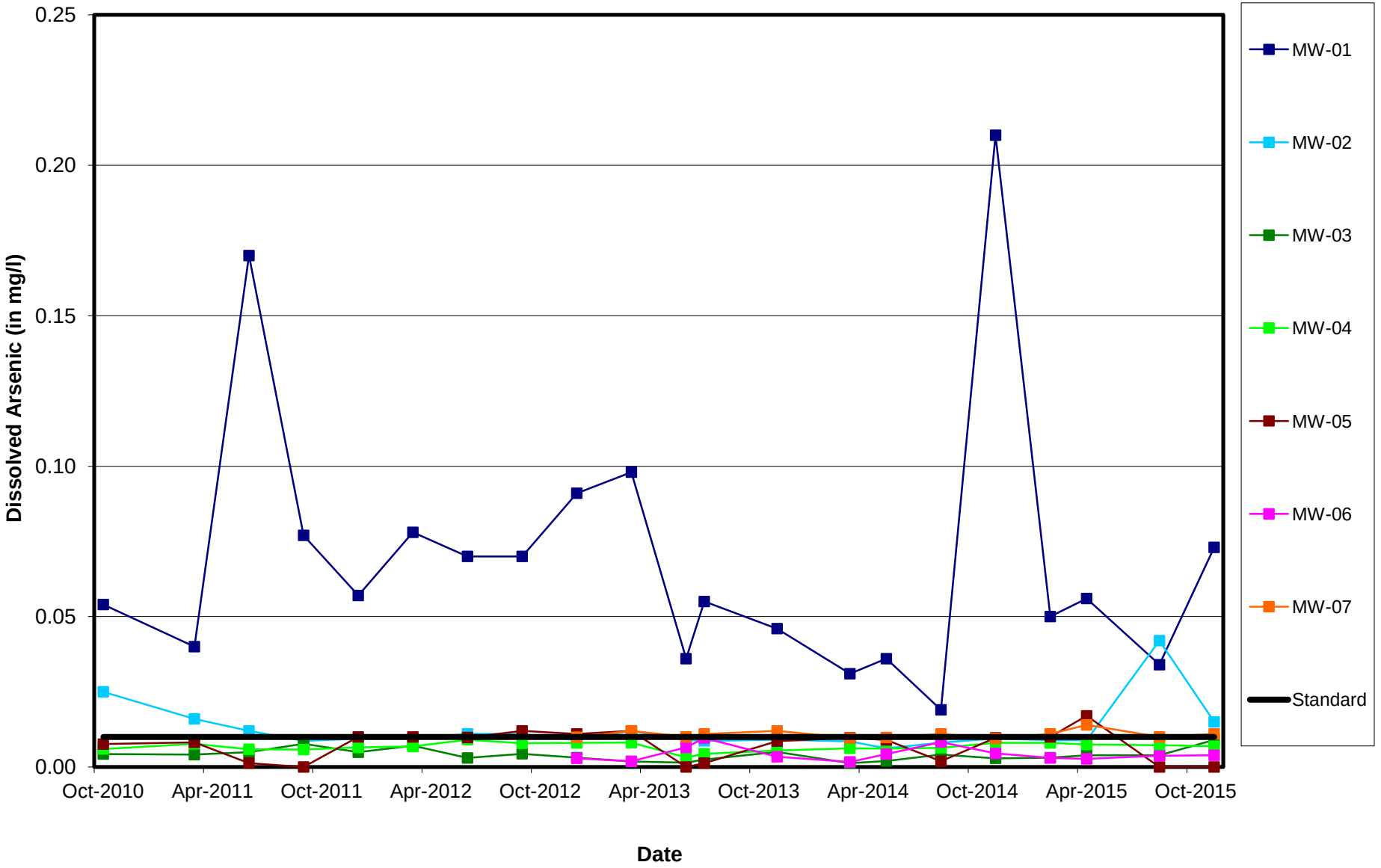
Dissolved Antimony vs. Time



MWG13-15_56497

Midwest Generation Waukegan Station, Waukegan, IL

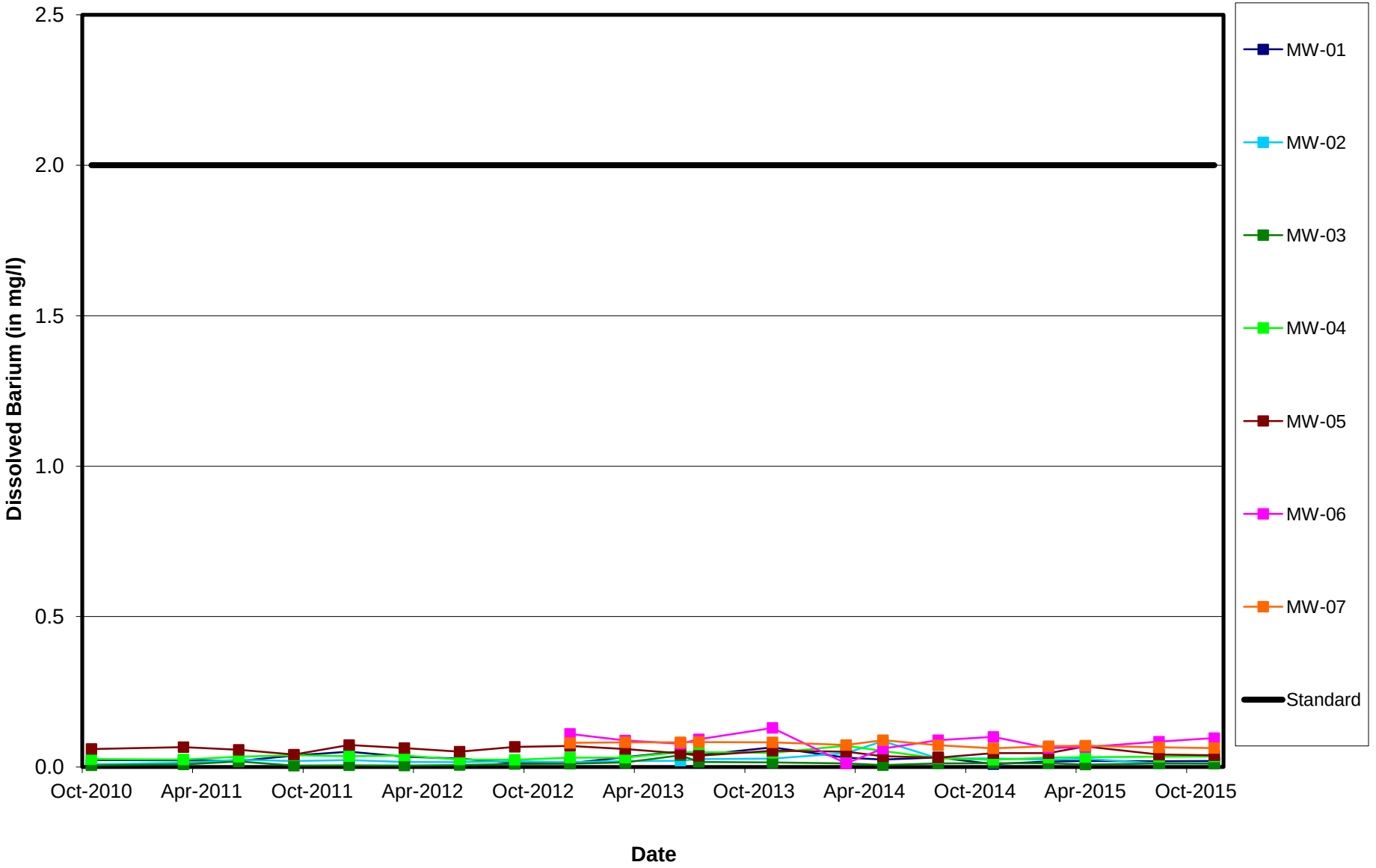
Dissolved Arsenic vs. Time



MWG13-15_56498

Midwest Generation Waukegan Station, Waukegan, IL

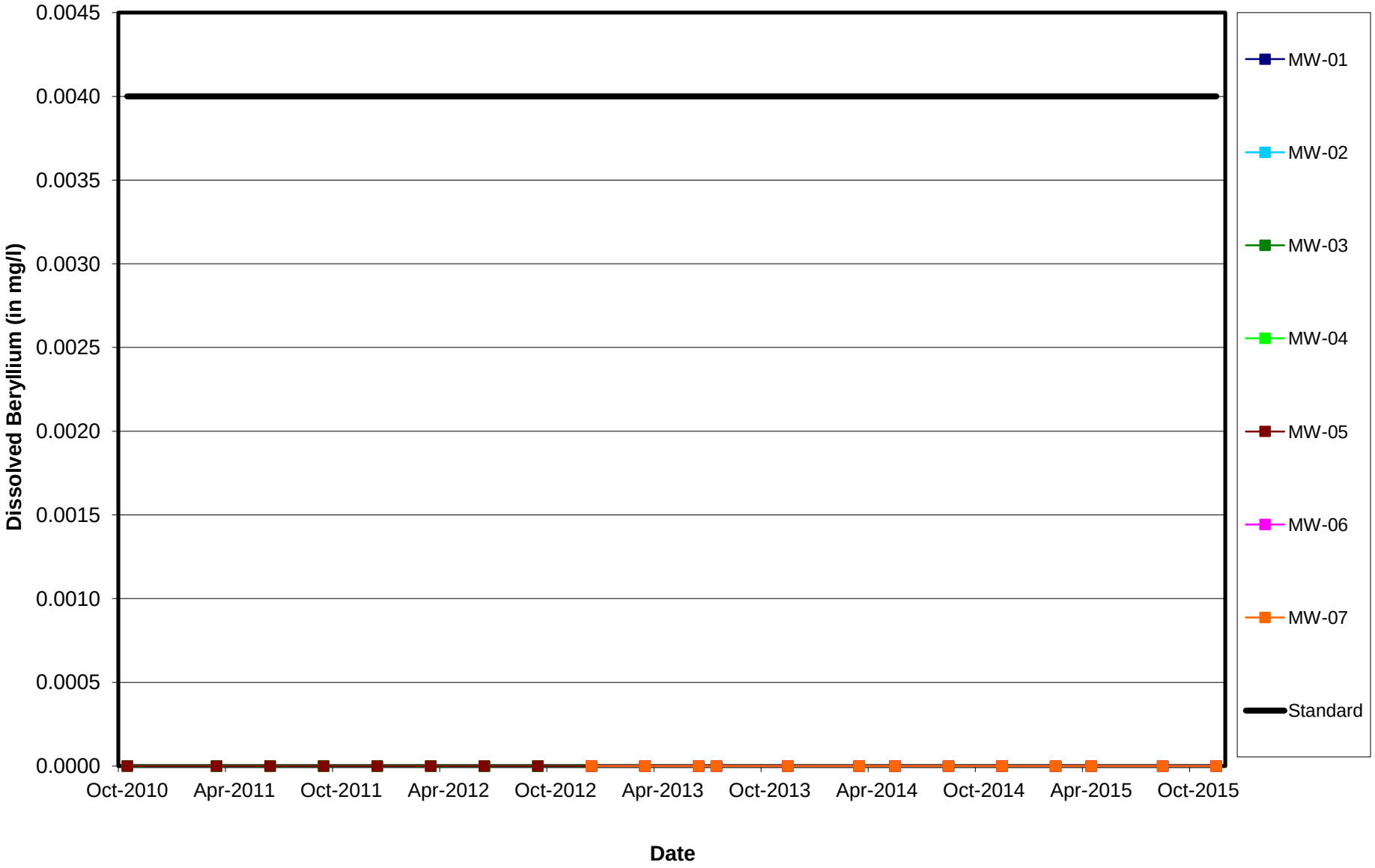
Dissolved Barium vs. Time



MWG13-15_56499

Midwest Generation Waukegan Station, Waukegan, IL

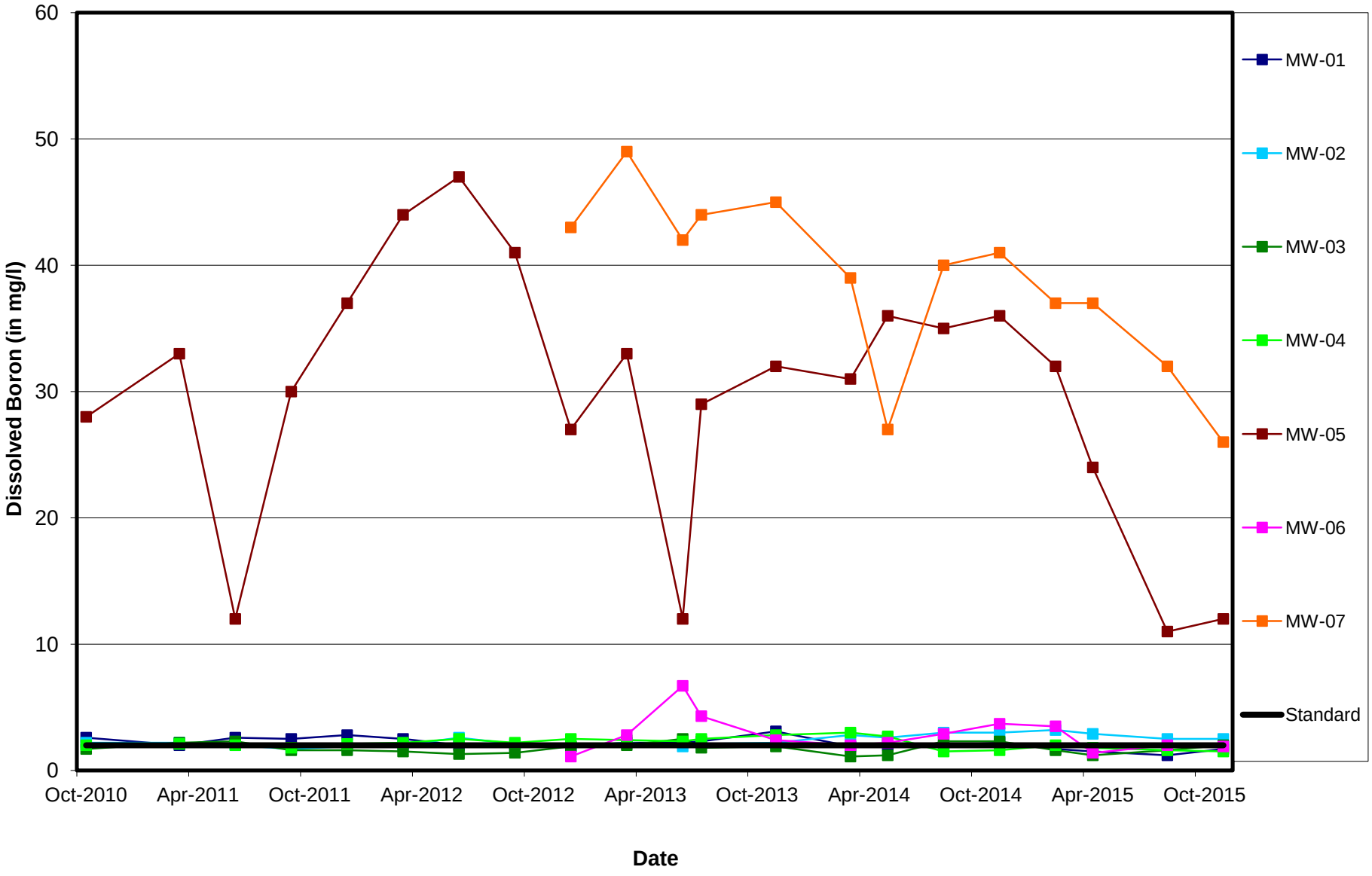
Dissolved Beryllium vs. Time



MWG13-15_56500

Midwest Generation Waukegan Station, Waukegan, IL

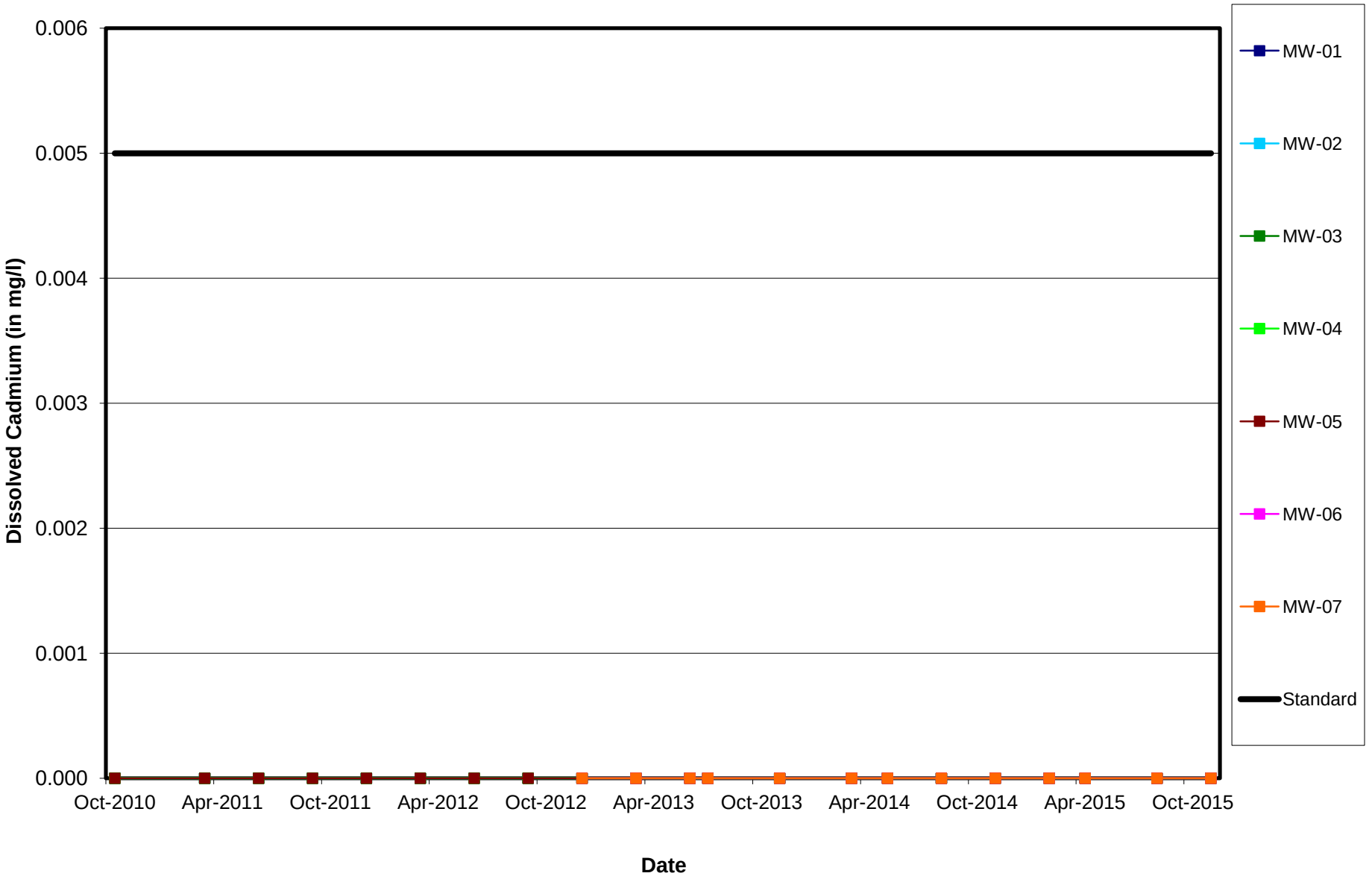
Dissolved Boron vs. Time



MWG13-15_56501

Midwest Generation Waukegan Station, Waukegan, IL

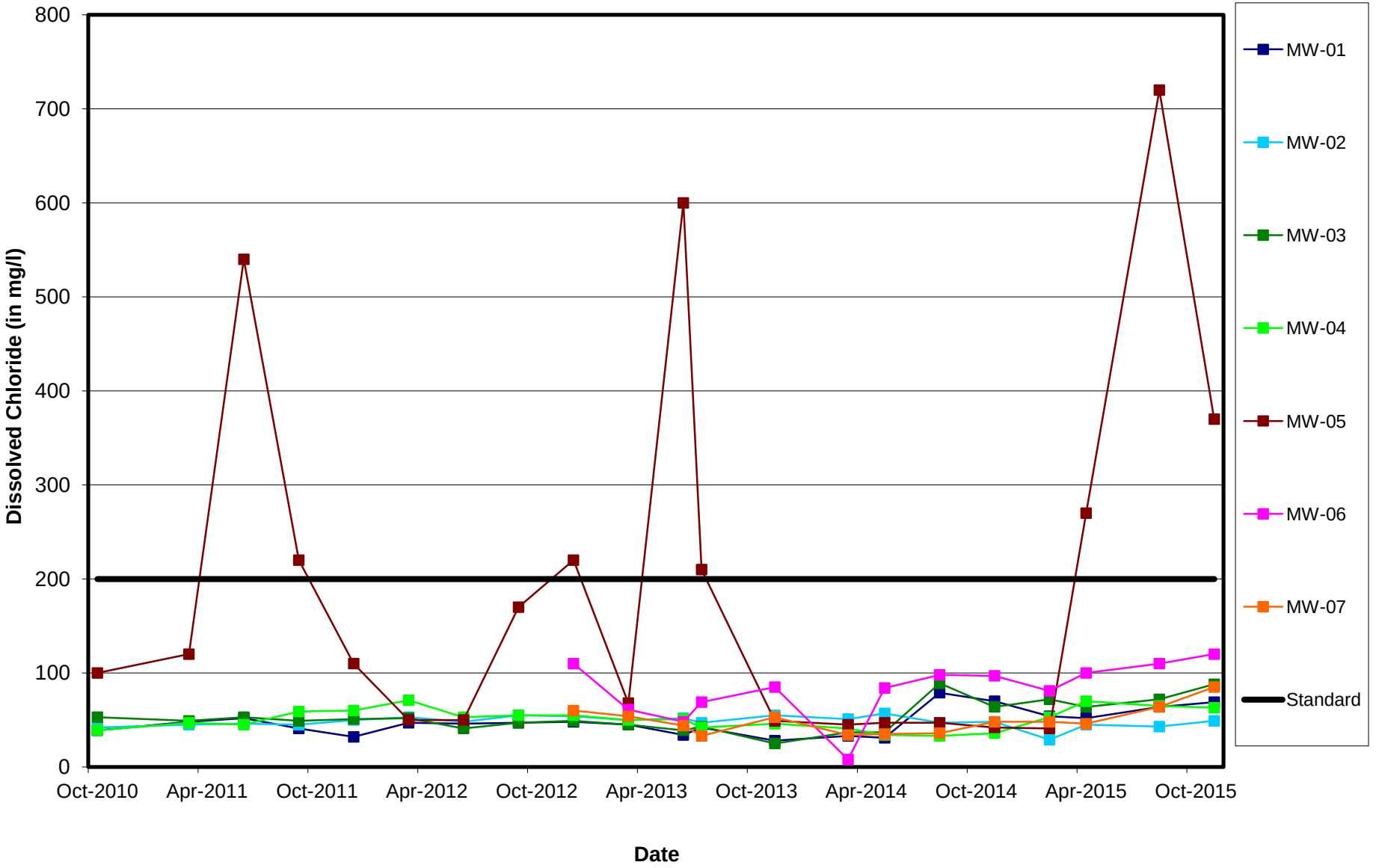
Dissolved Cadmium vs. Time



MWG13-15_56502

Midwest Generation Waukegan Station, Waukegan, IL

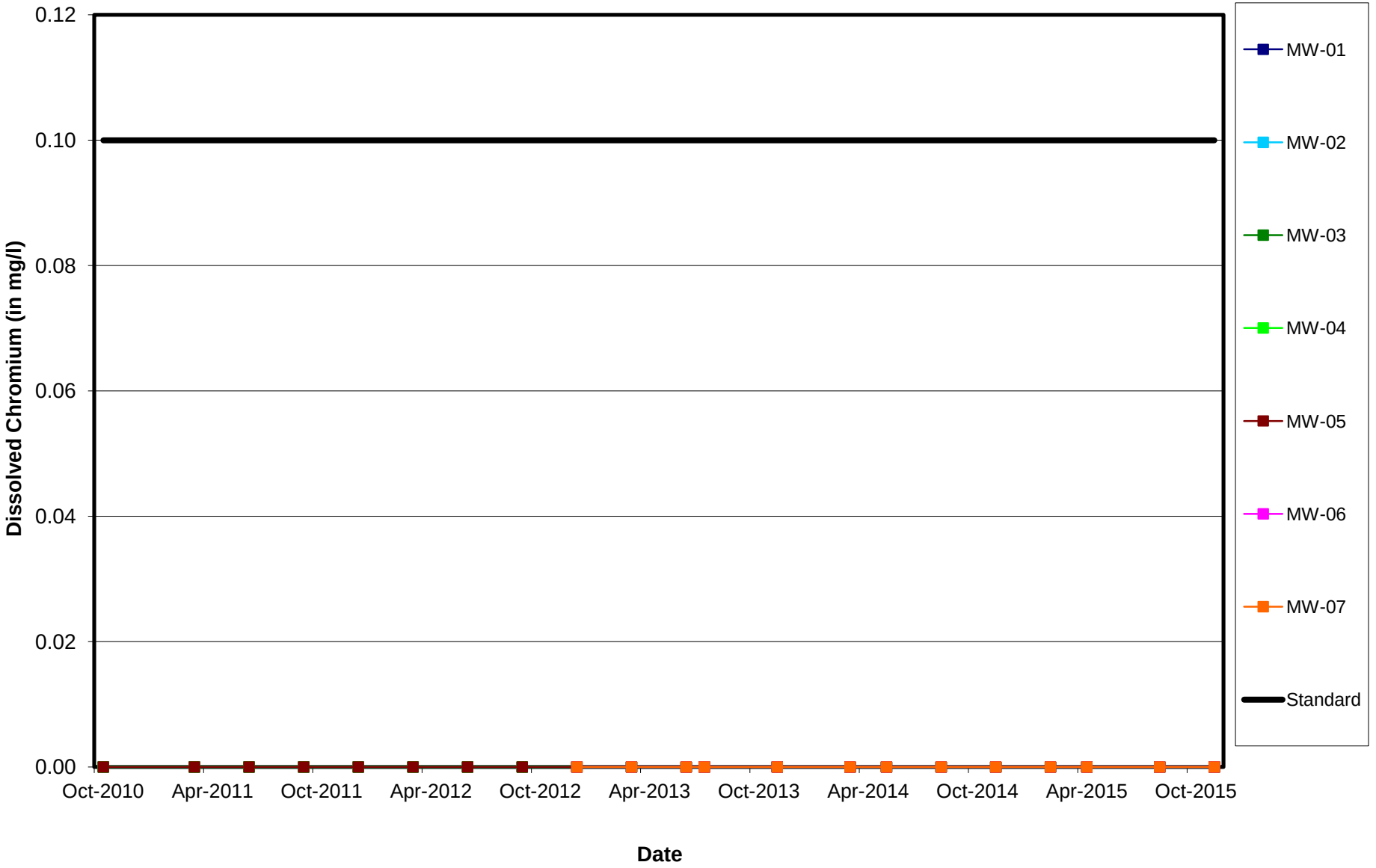
Dissolved Chloride vs. Time



MWG13-15_56503

Midwest Generation Waukegan Station, Waukegan, IL

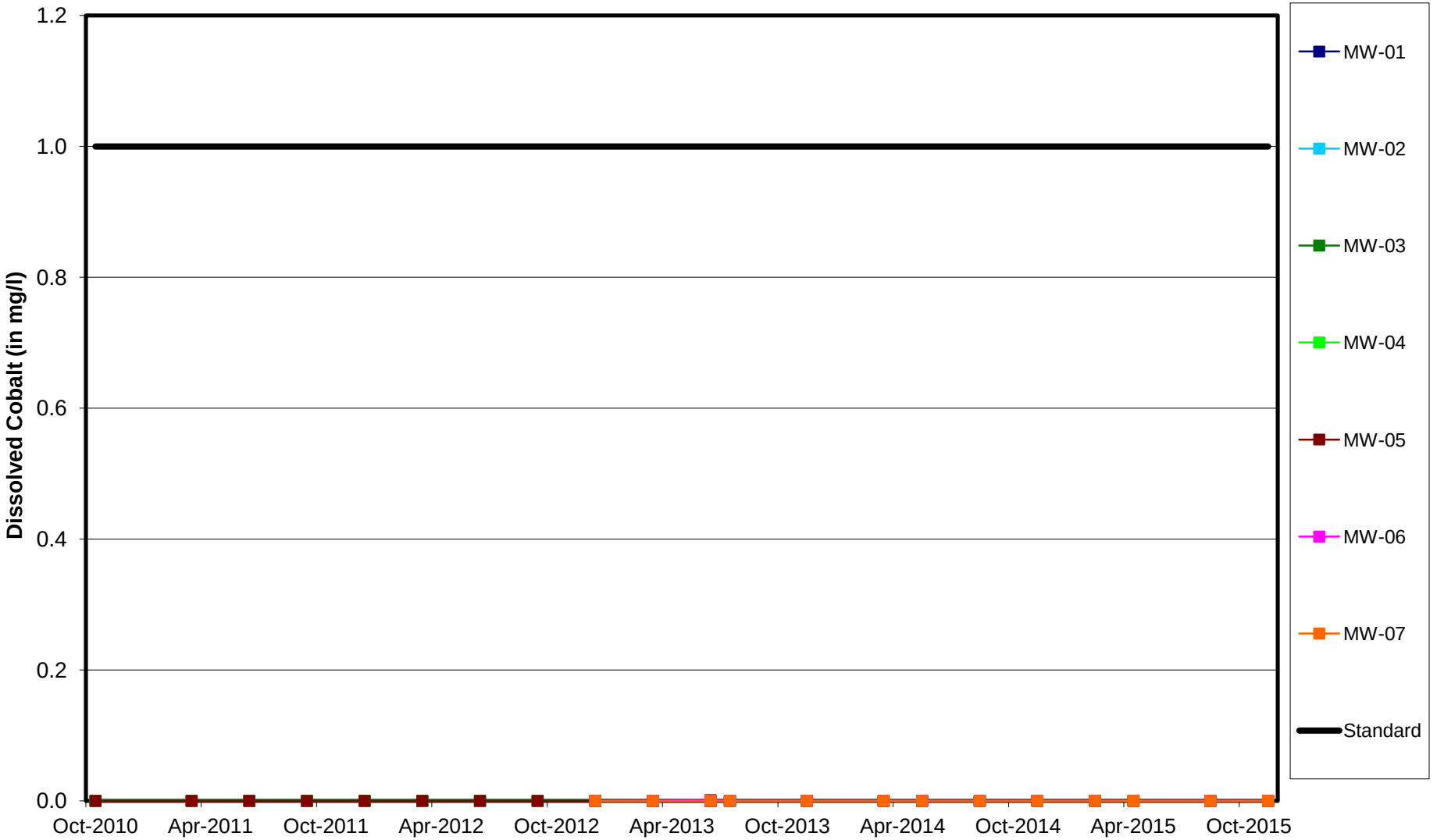
Dissolved Chromium vs. Time



MWG13-15_56504

Midwest Generation Waukegan Station, Waukegan, IL

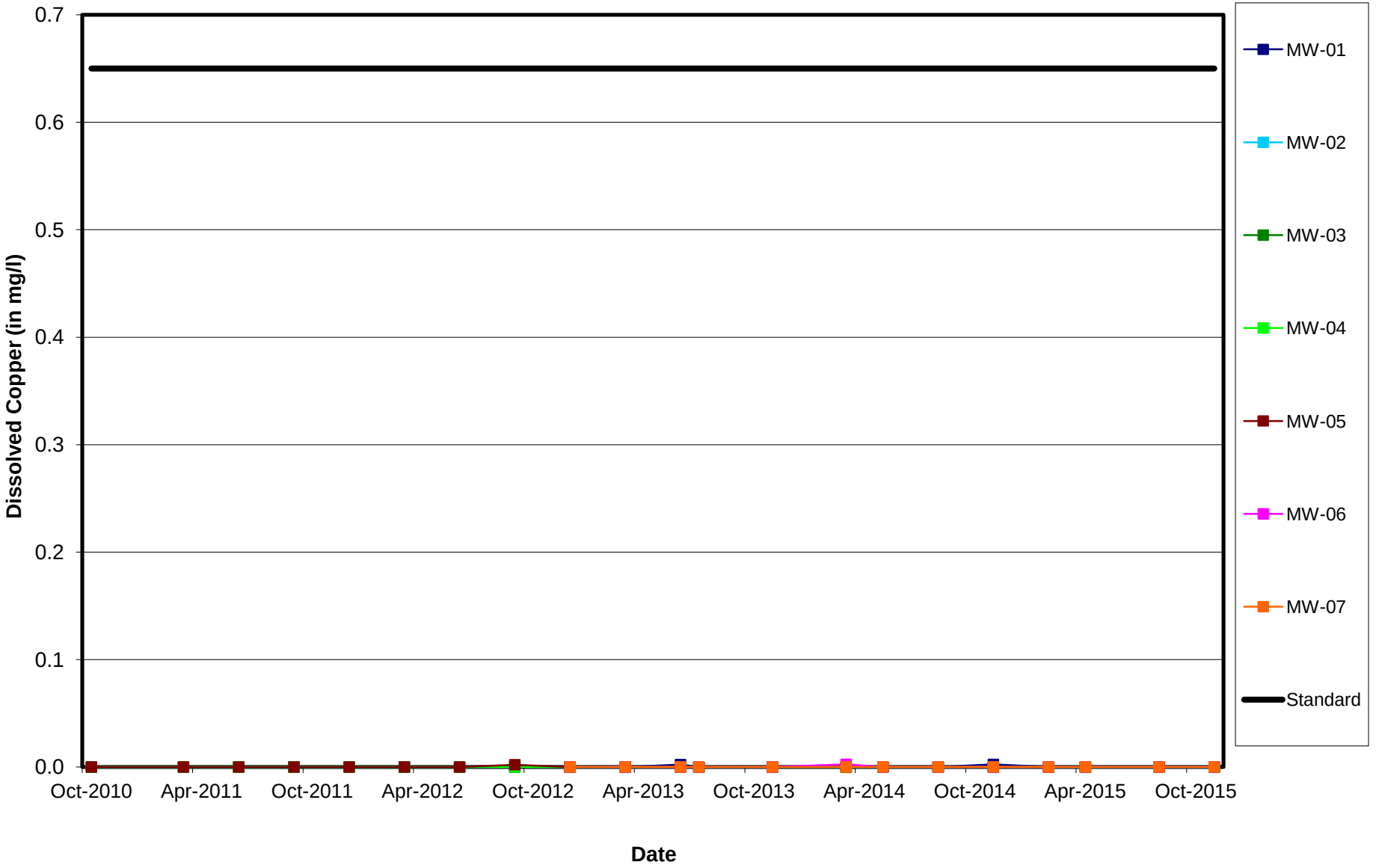
Dissolved Cobalt vs. Time



MWG13-15_56505

Midwest Generation Waukegan Station, Waukegan, IL

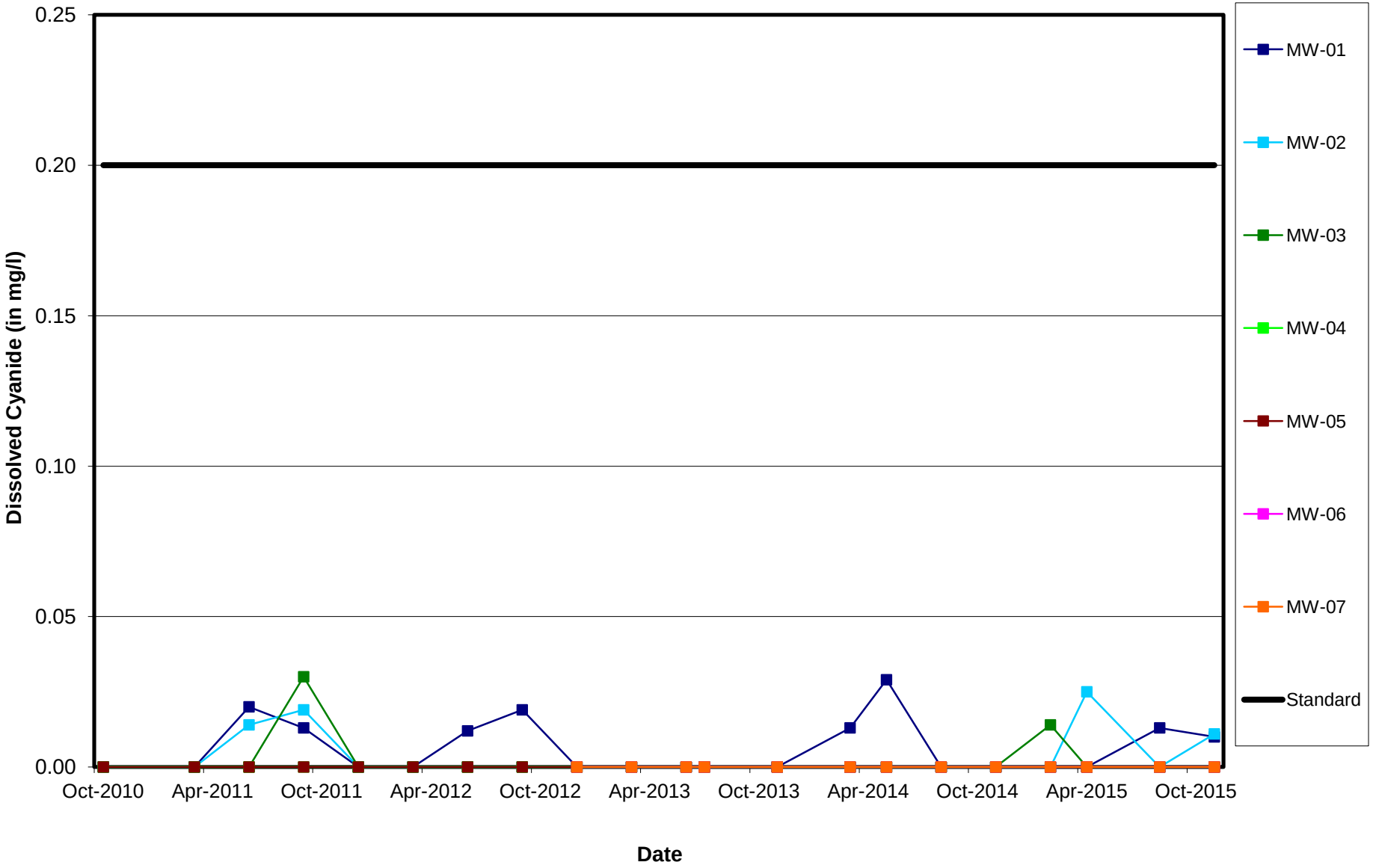
Dissolved Copper vs. Time



MWG13-15_56506

Midwest Generation Waukegan Station, Waukegan, IL

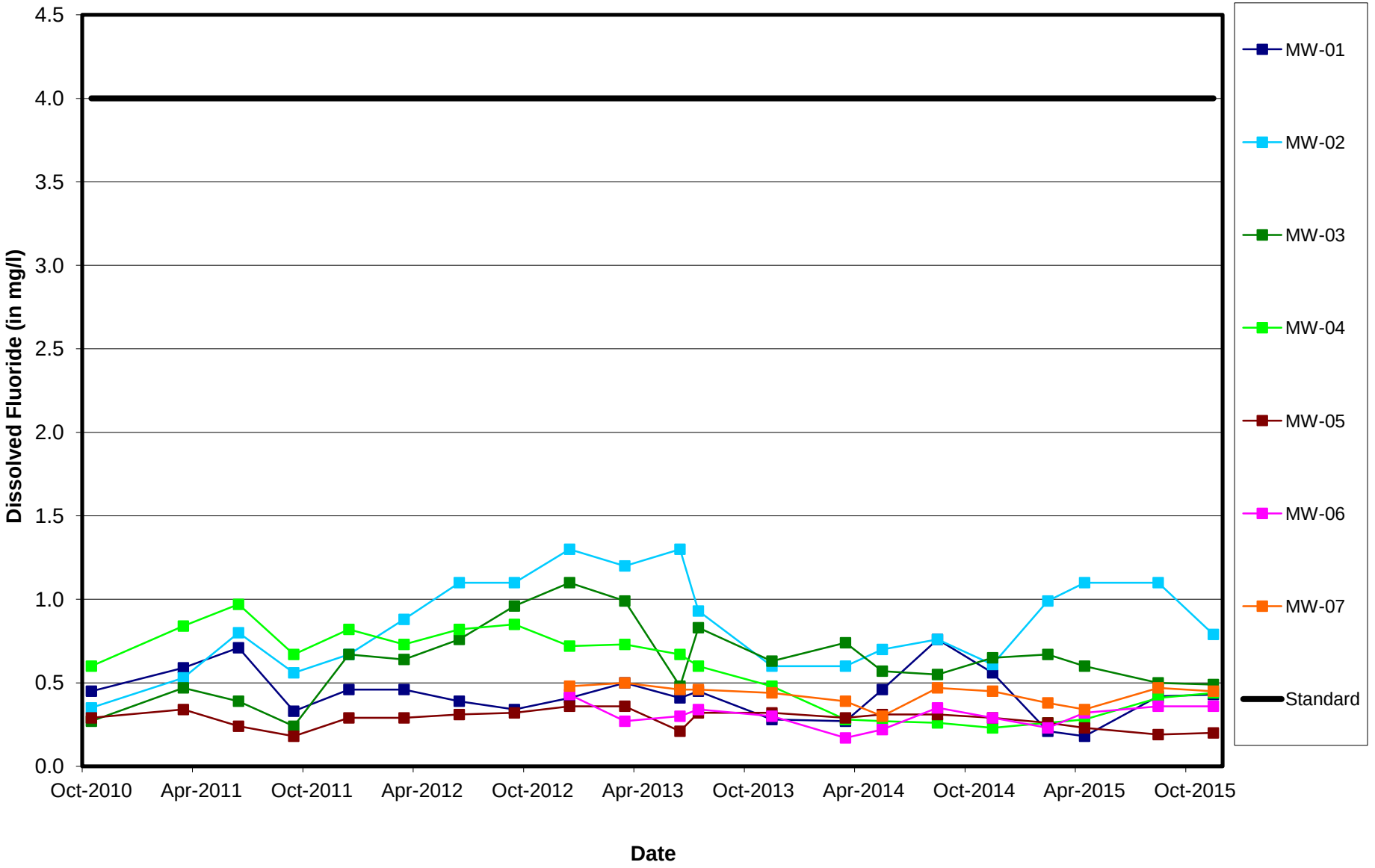
Dissolved Cyanide vs. Time



MWG13-15_56507

Midwest Generation Waukegan Station, Waukegan, IL

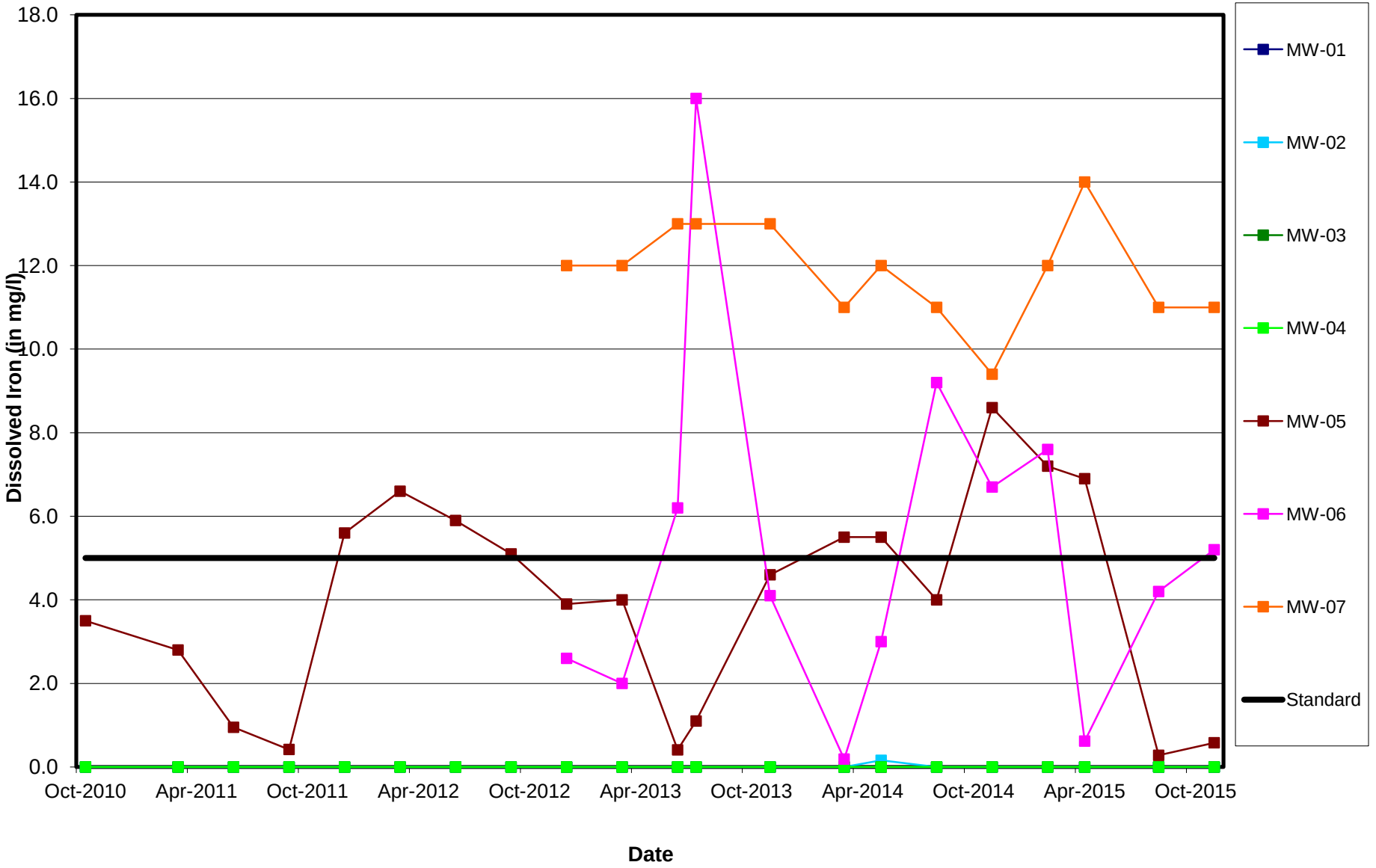
Dissolved Fluoride vs. Time



MWG13-15_56508

Midwest Generation Waukegan Station, Waukegan, IL

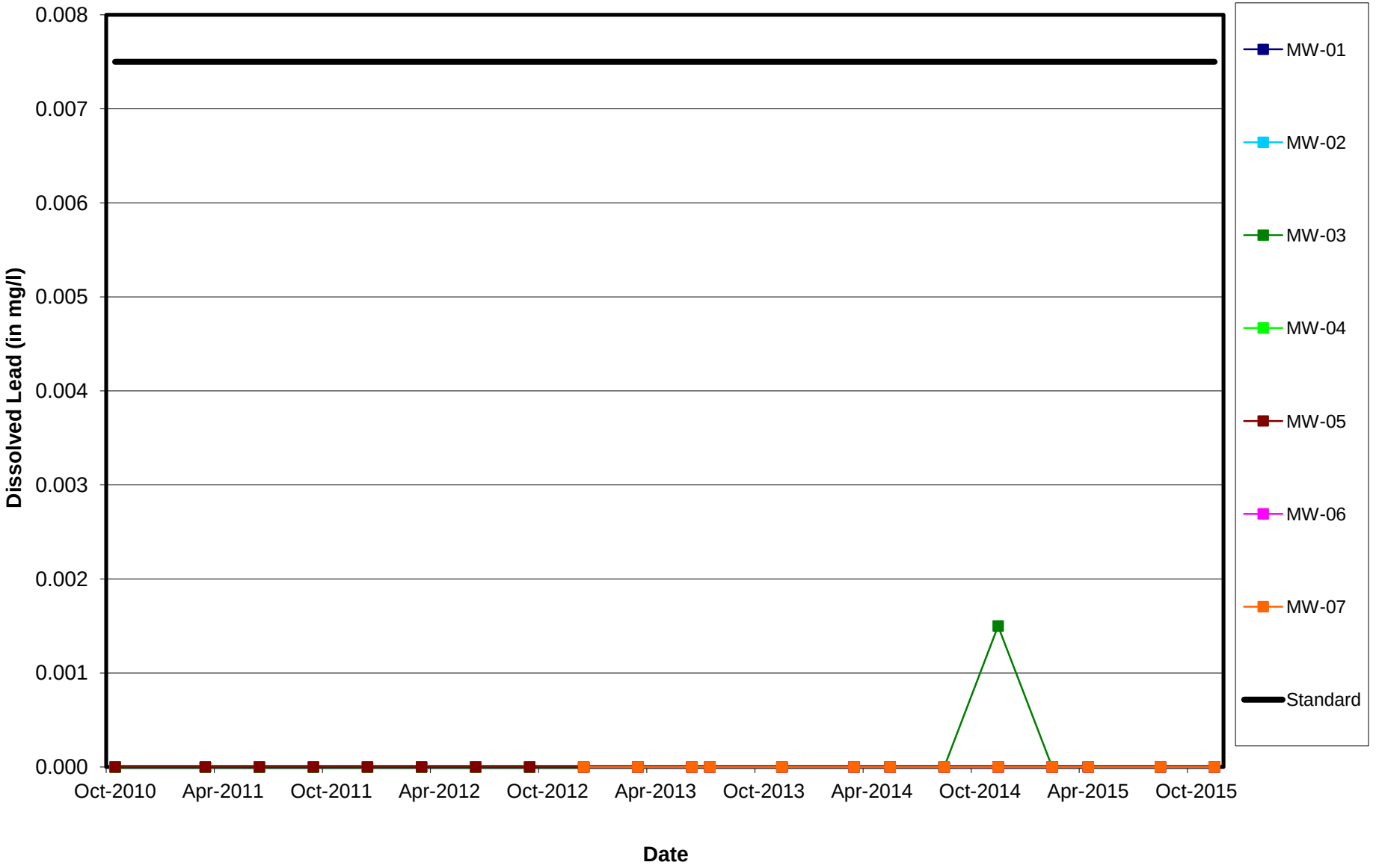
Dissolved Iron vs. Time



MWG13-15_56509

Midwest Generation Waukegan Station, Waukegan, IL

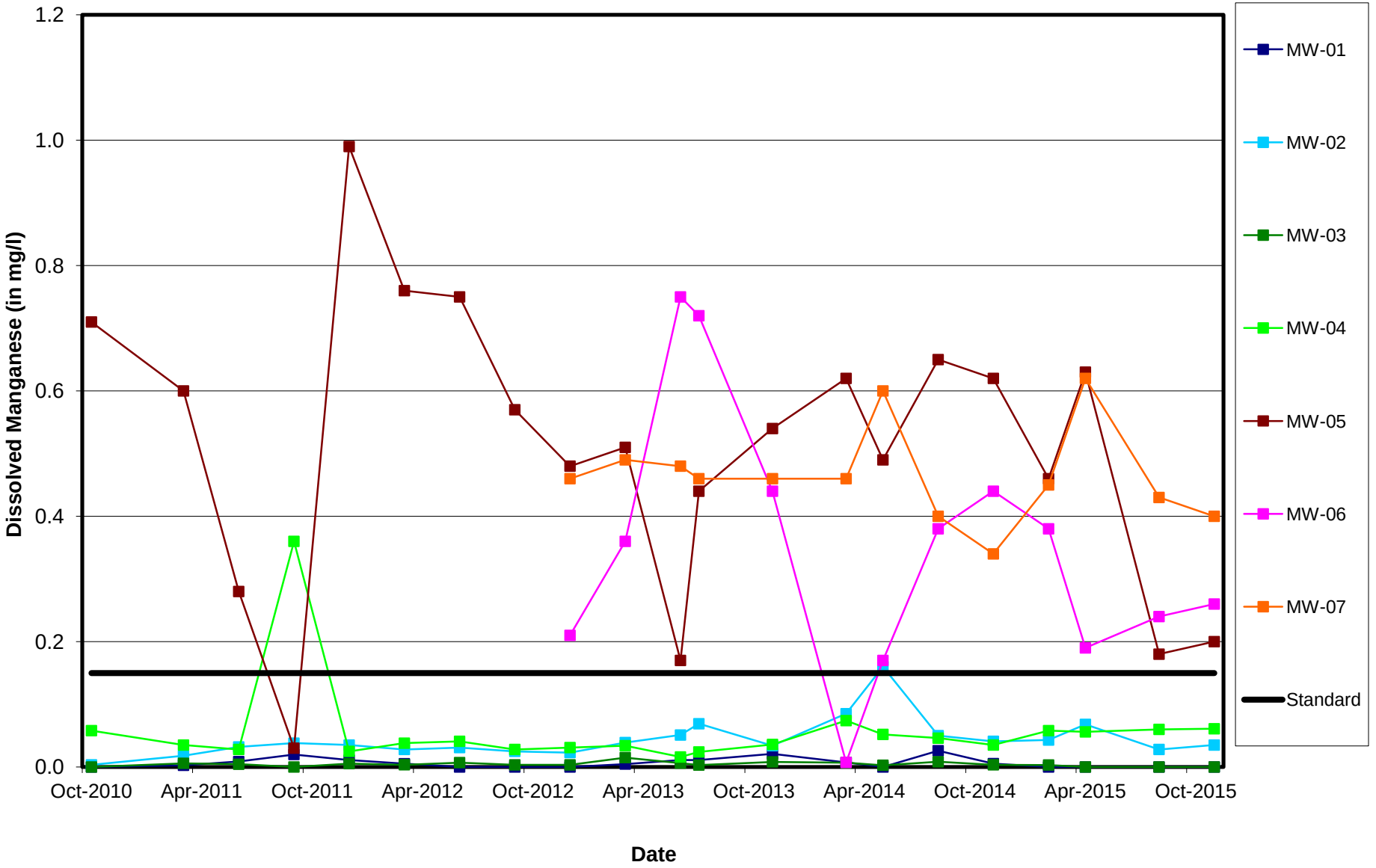
Dissolved Lead vs. Time



MWG13-15_56510

Midwest Generation Waukegan Station, Waukegan, IL

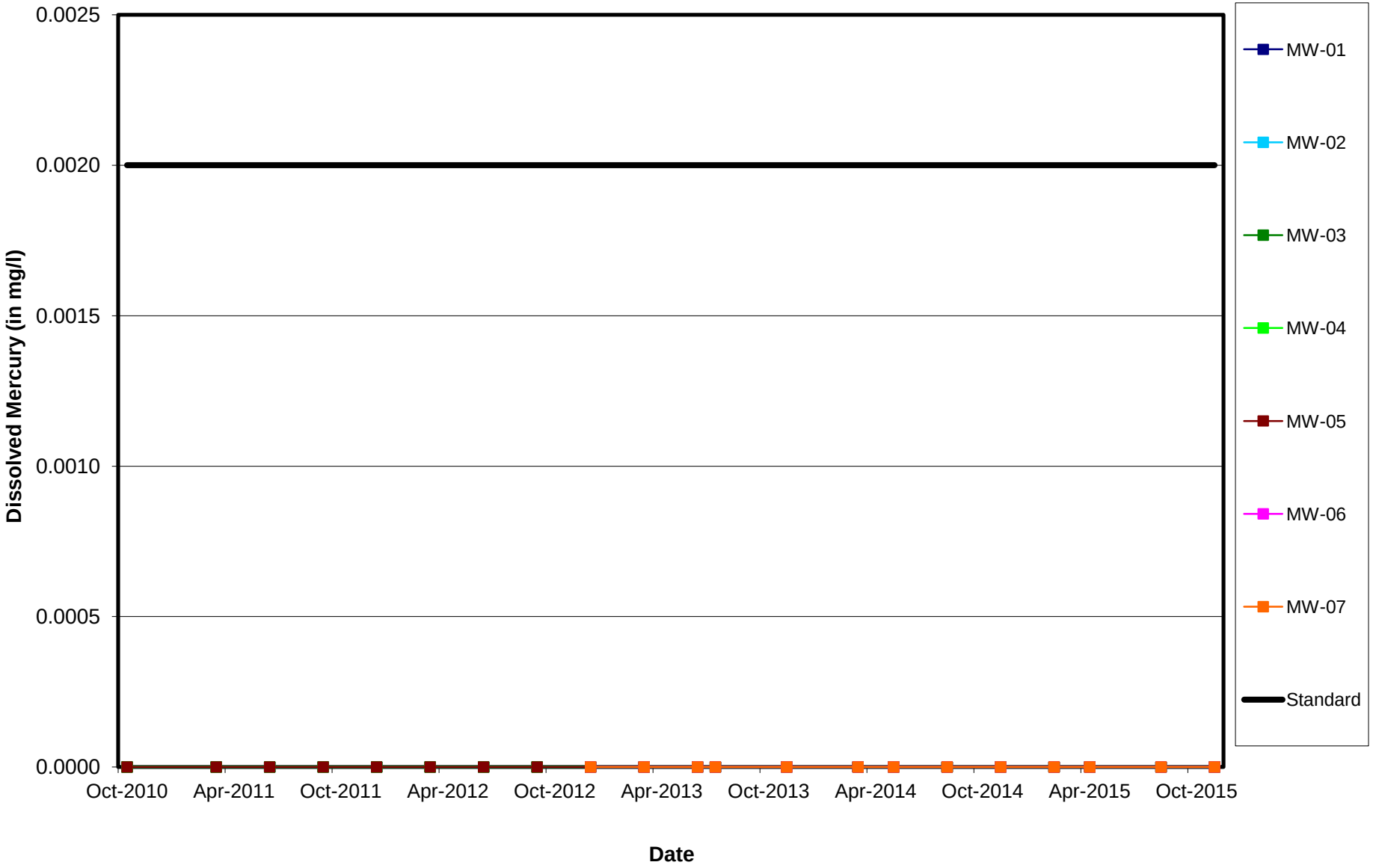
Dissolved Manganese vs. Time



MWG13-15_56511

Midwest Generation Waukegan Station, Waukegan, IL

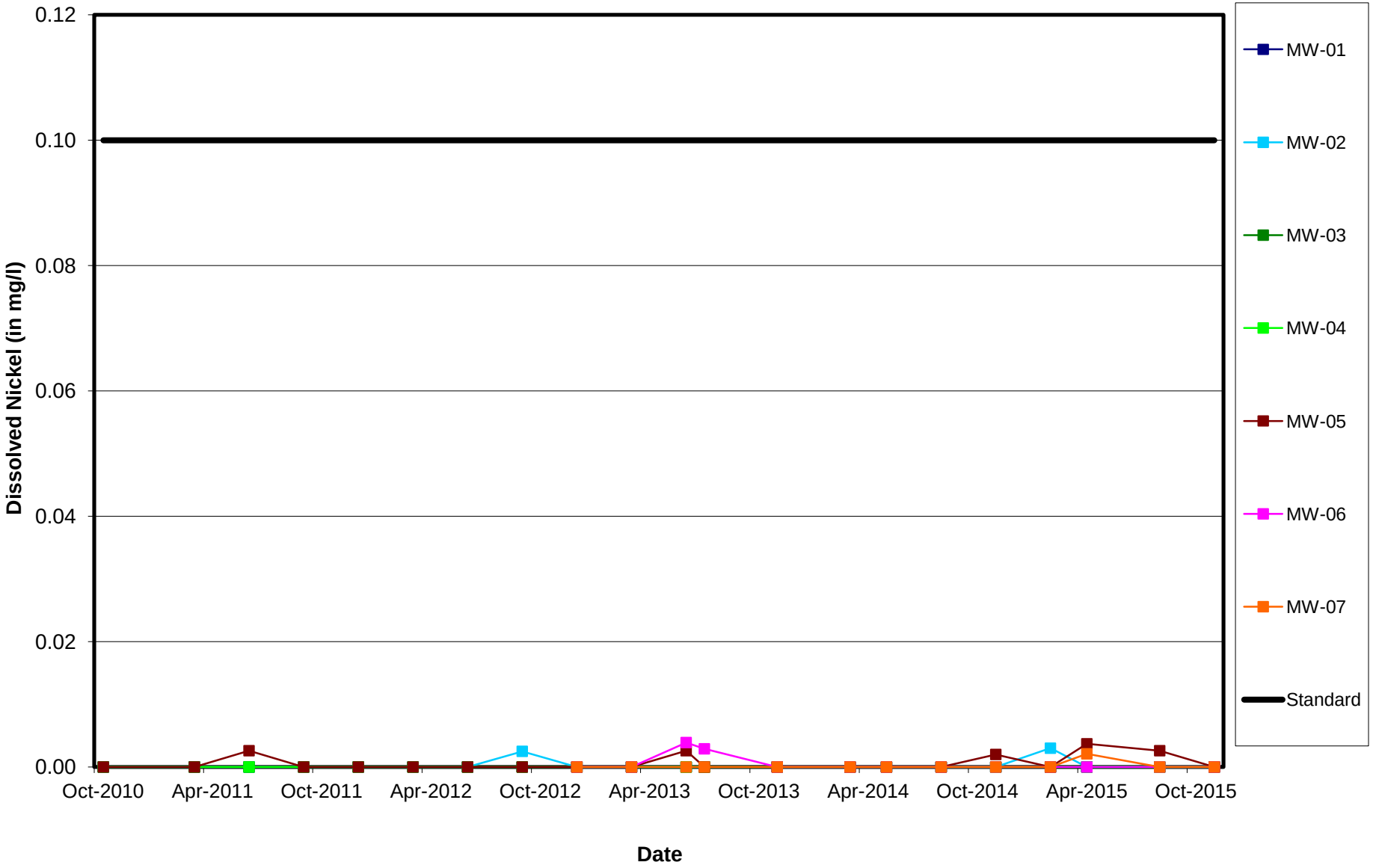
Dissolved Mercury vs. Time



MWG13-15_56512

Midwest Generation Waukegan Station, Waukegan, IL

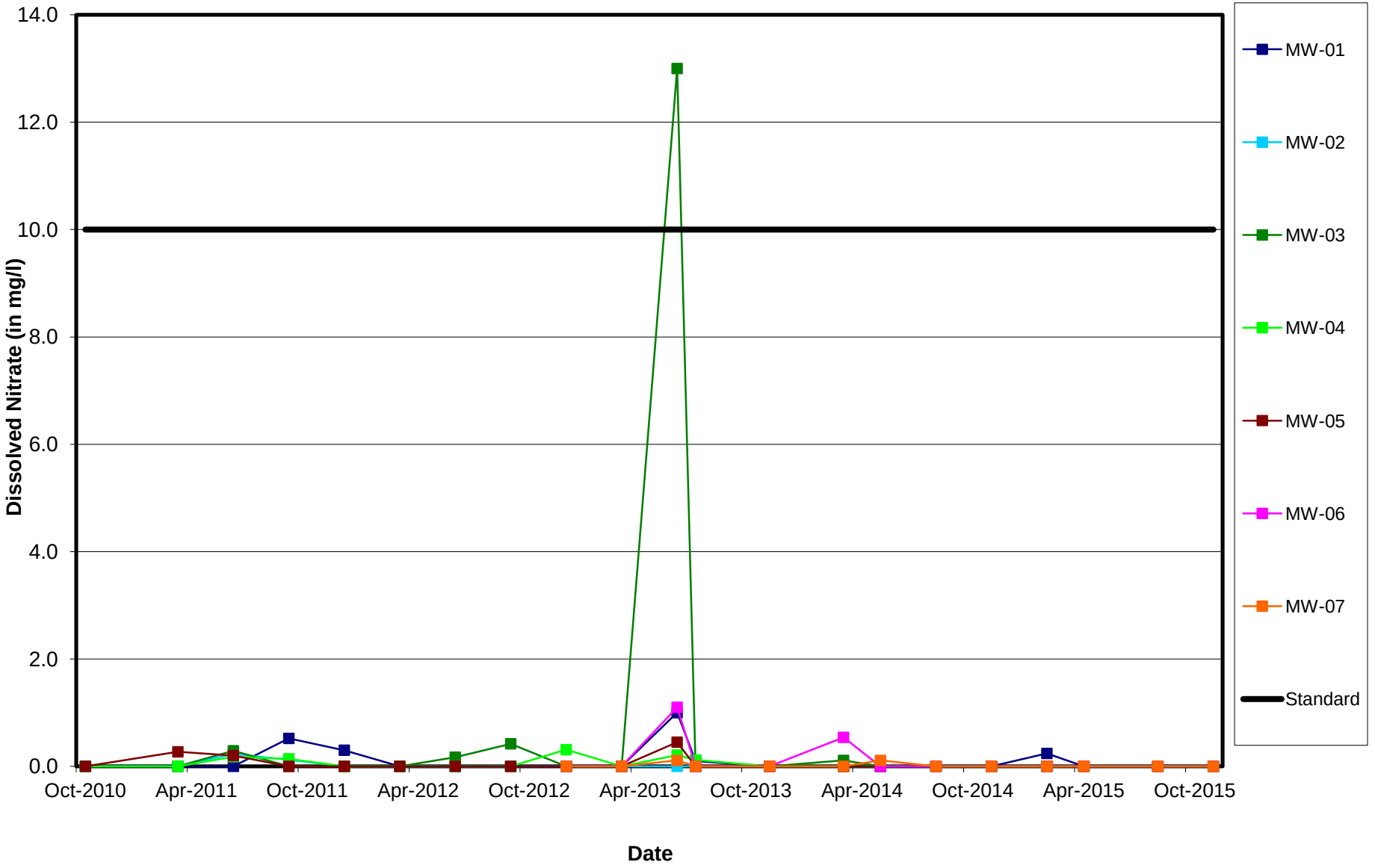
Dissolved Nickel vs. Time



MWG13-15_56513

Midwest Generation Waukegan Station, Waukegan, IL

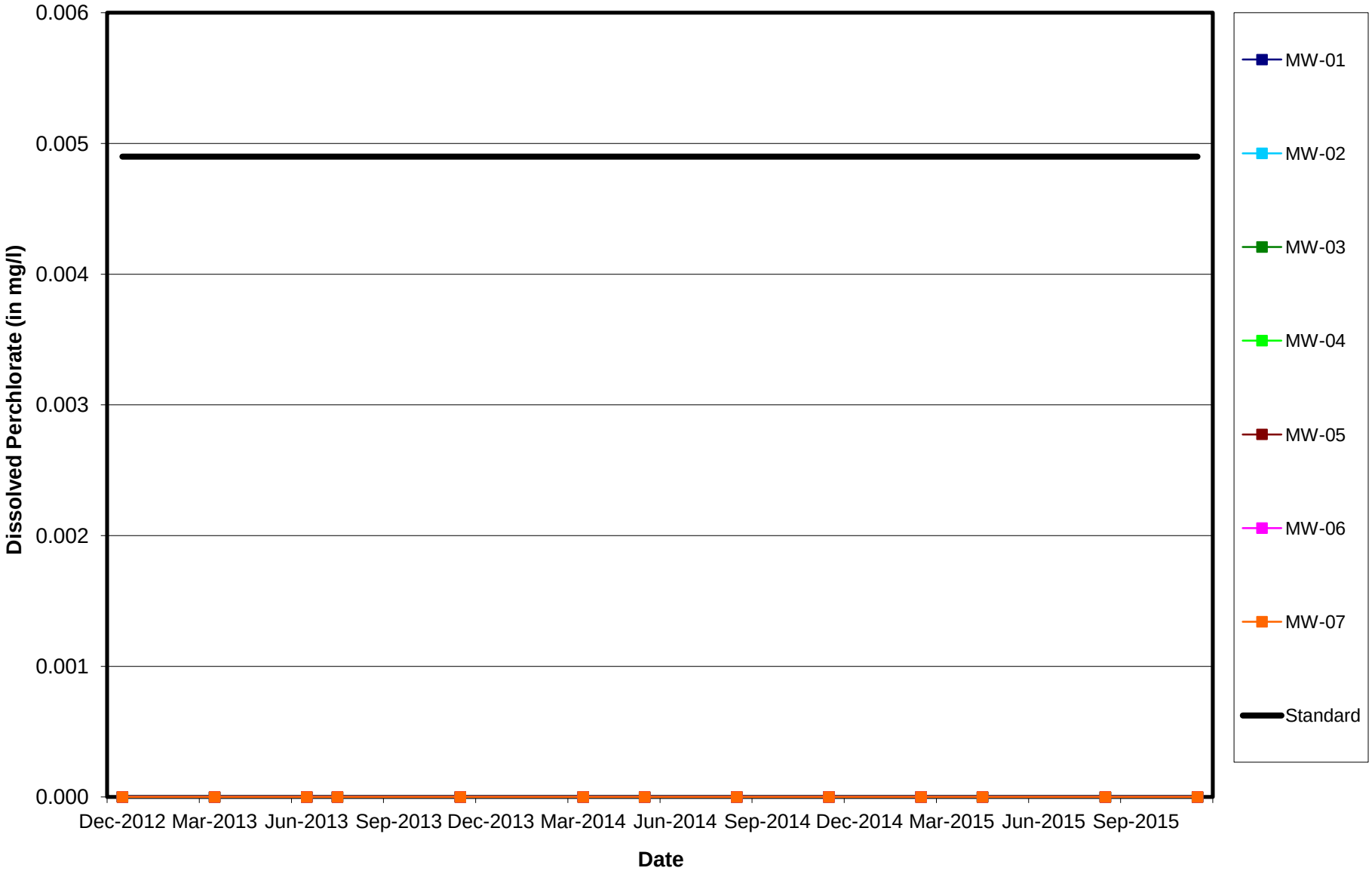
Dissolved Nitrate vs. Time



MWG13-15_56514

Midwest Generation Waukegan Station, Waukegan, IL

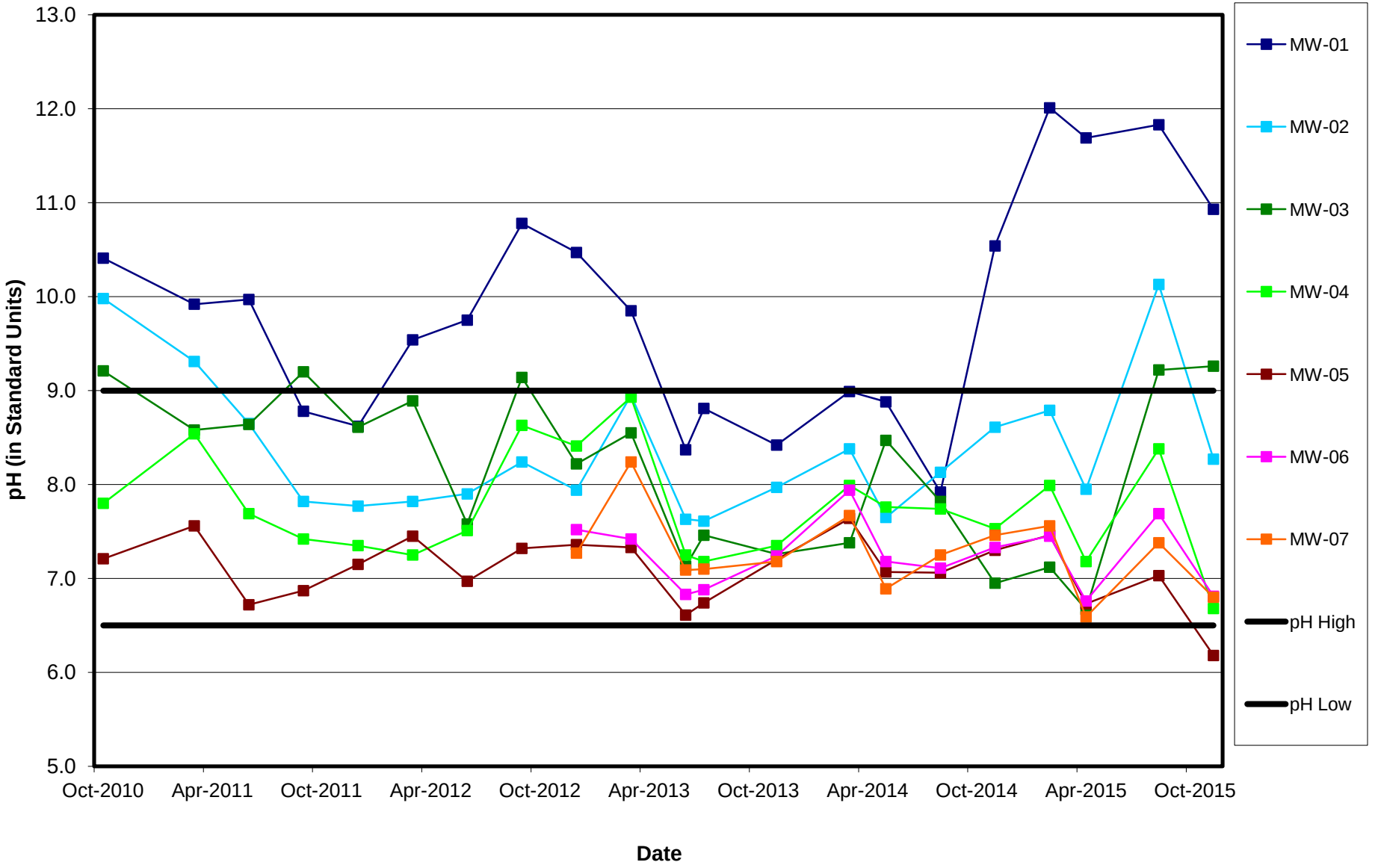
Dissolved Perchlorate vs. Time



MWG13-15_56515

Midwest Generation Waukegan Station, Waukegan, IL

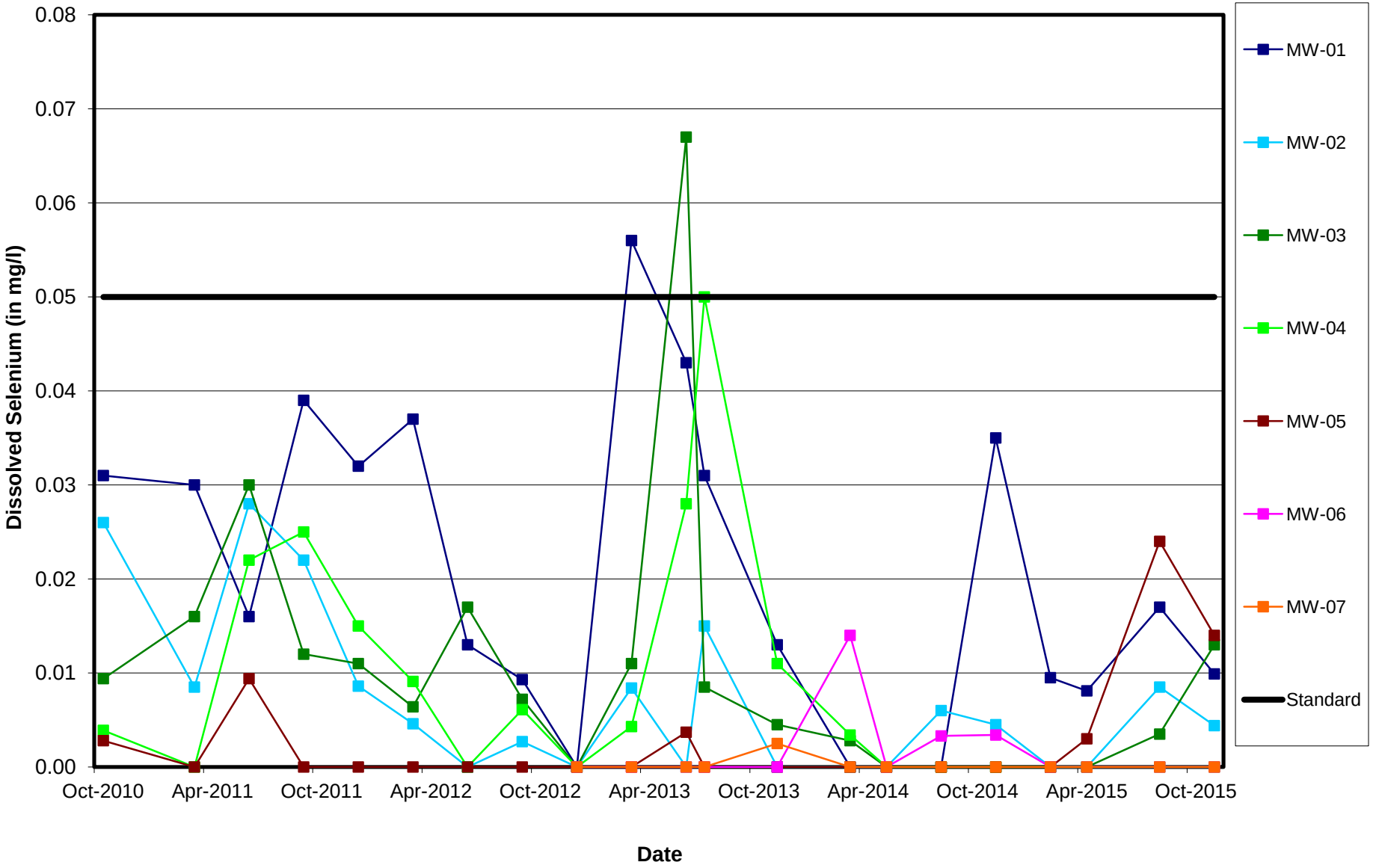
pH vs. Time



MWG13-15_56516

Midwest Generation Waukegan Station, Waukegan, IL

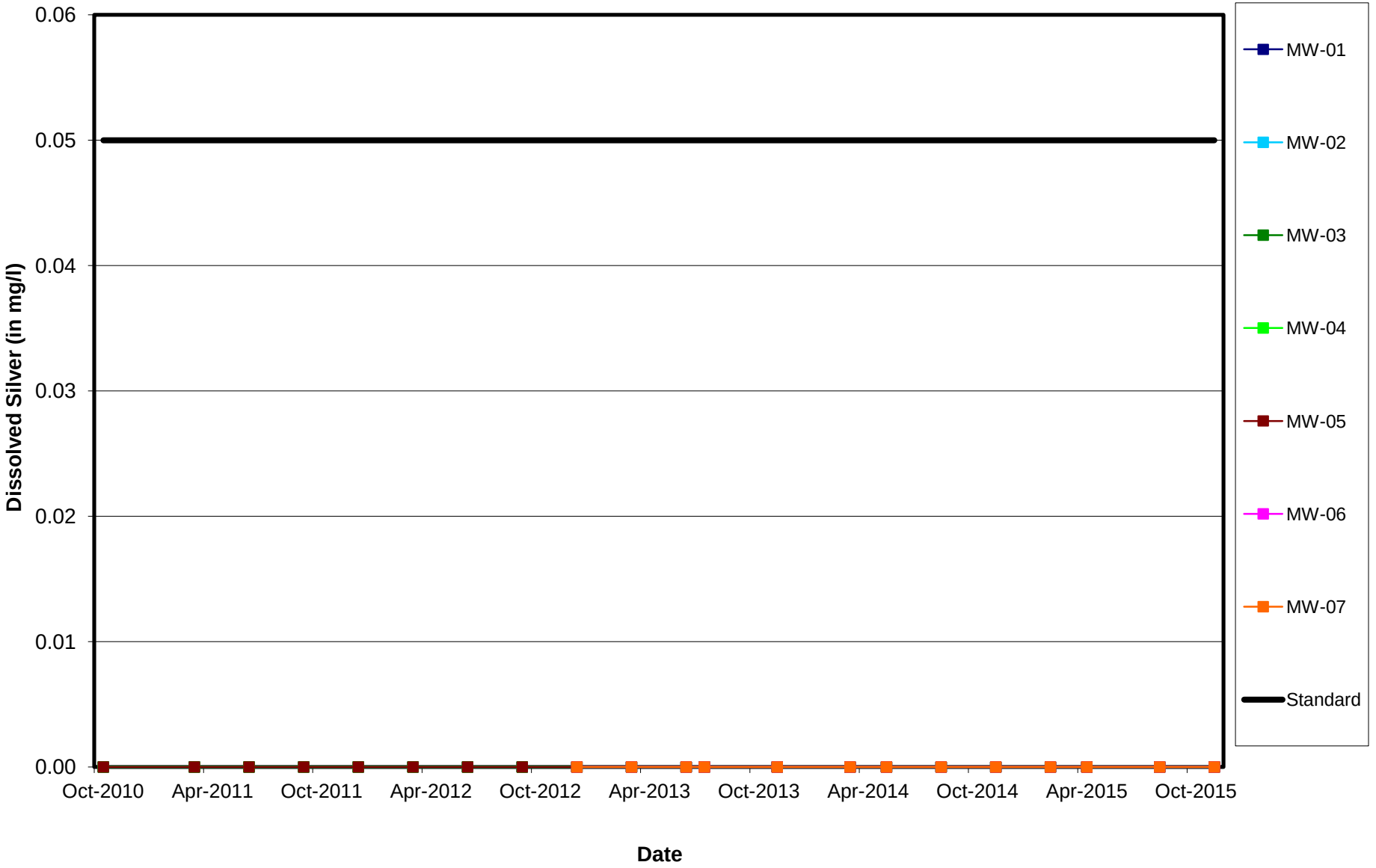
Dissolved Selenium vs. Time



MWG13-15_56517

Midwest Generation Waukegan Station, Waukegan, IL

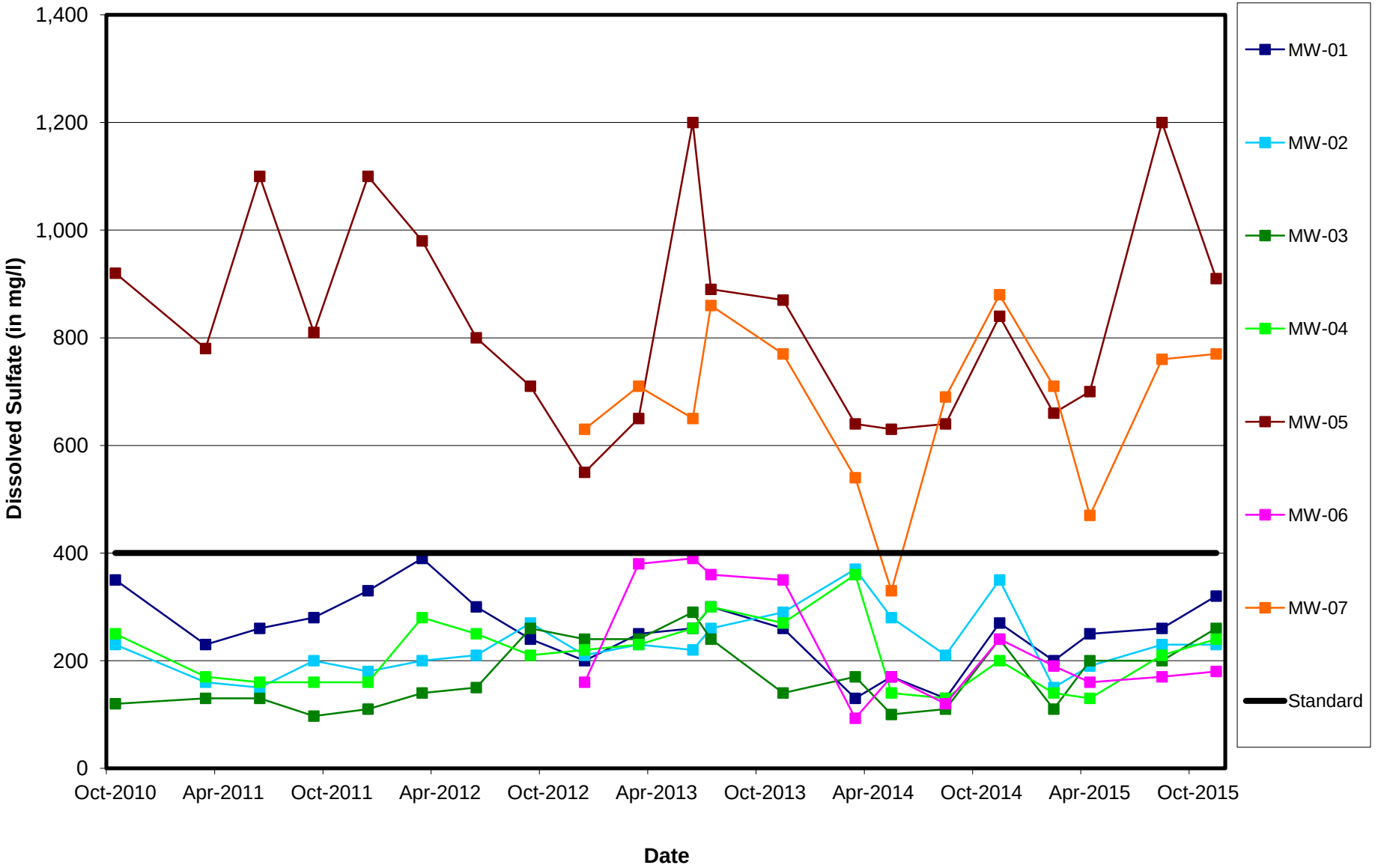
Dissolved Silver vs. Time



MWG13-15_56518

Midwest Generation Waukegan Station, Waukegan, IL

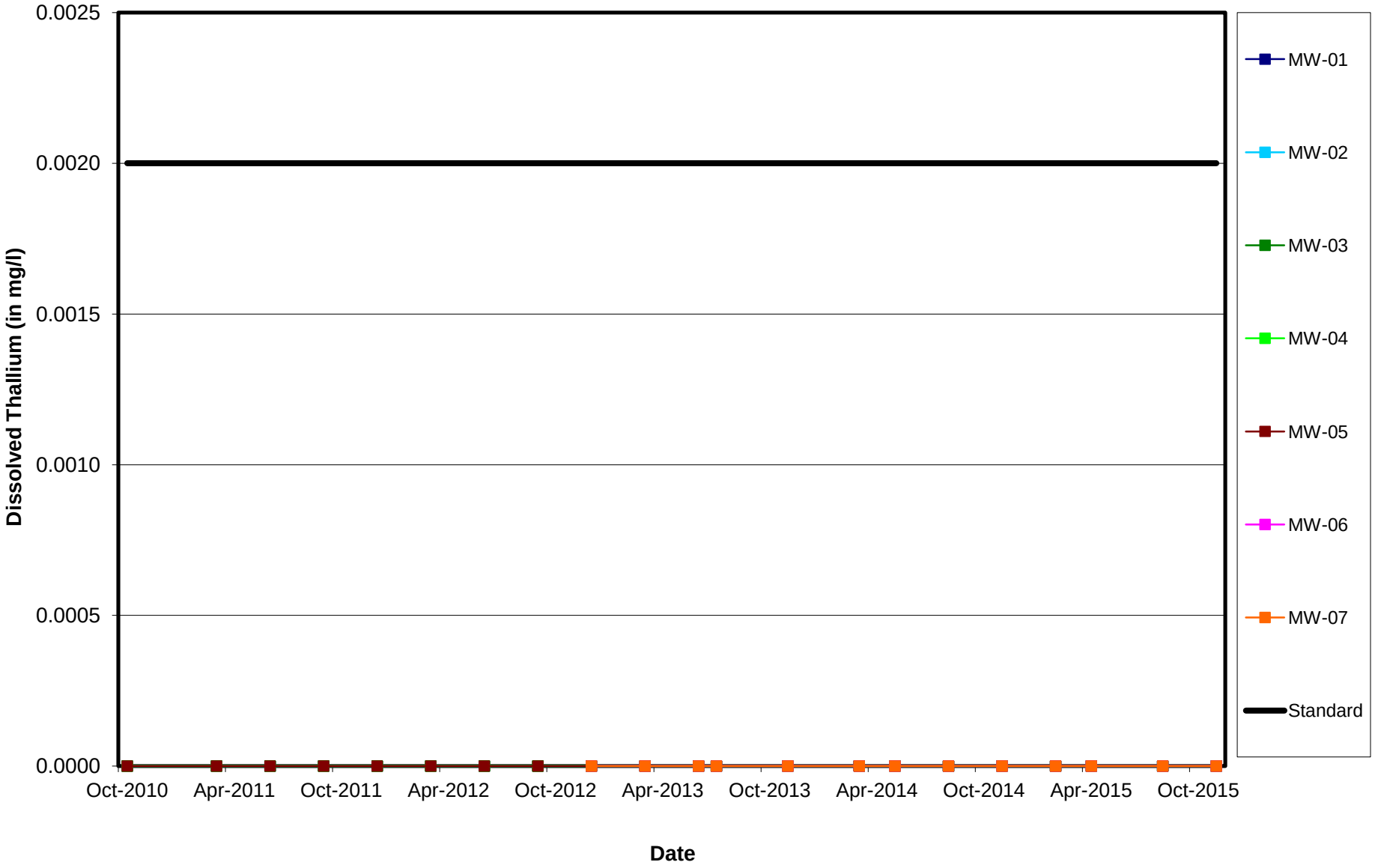
Dissolved Sulfate vs. Time



MWG13-15_56519

Midwest Generation Waukegan Station, Waukegan, IL

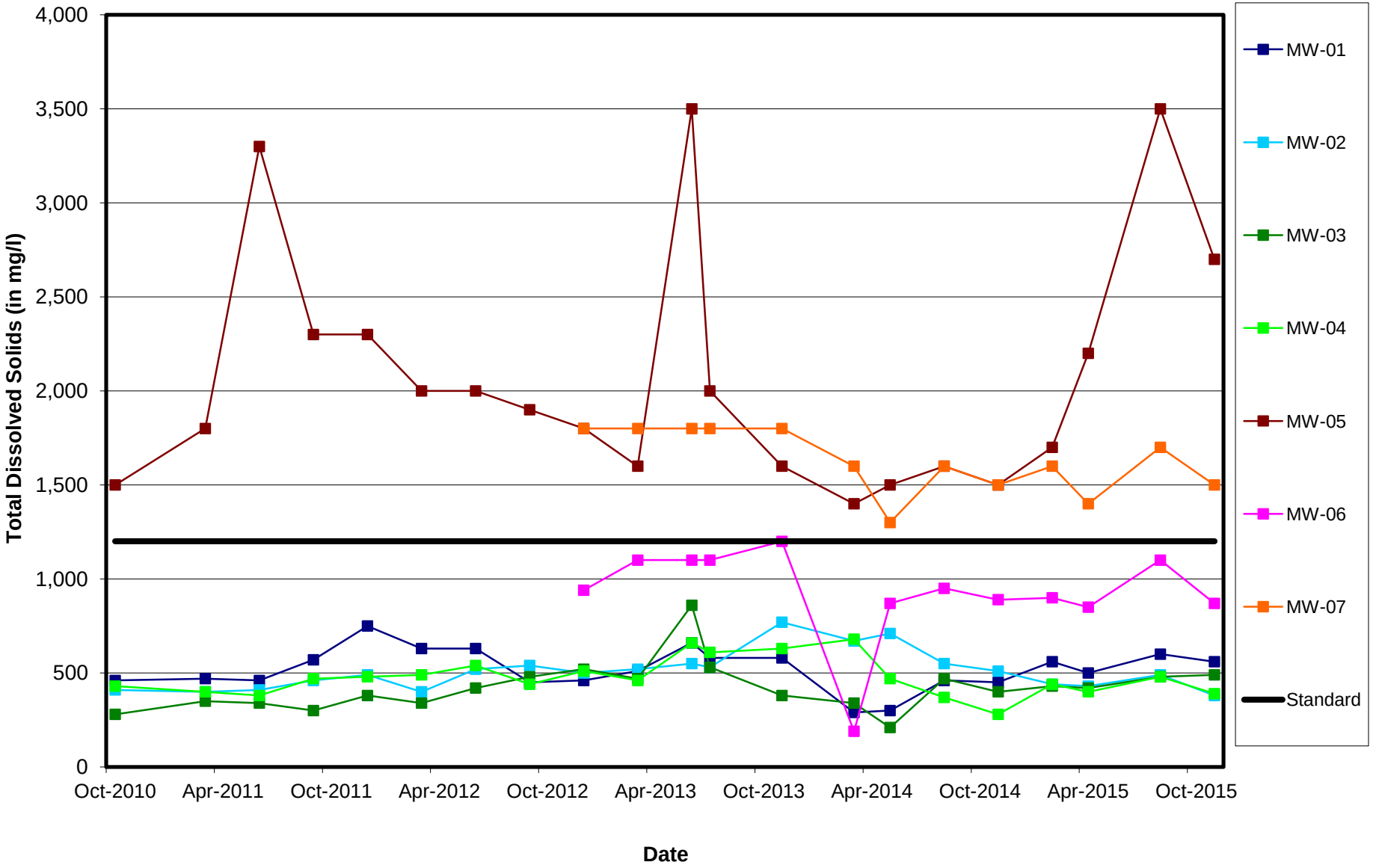
Dissolved Thallium vs. Time



MWG13-15_56520

Midwest Generation Waukegan Station, Waukegan, IL

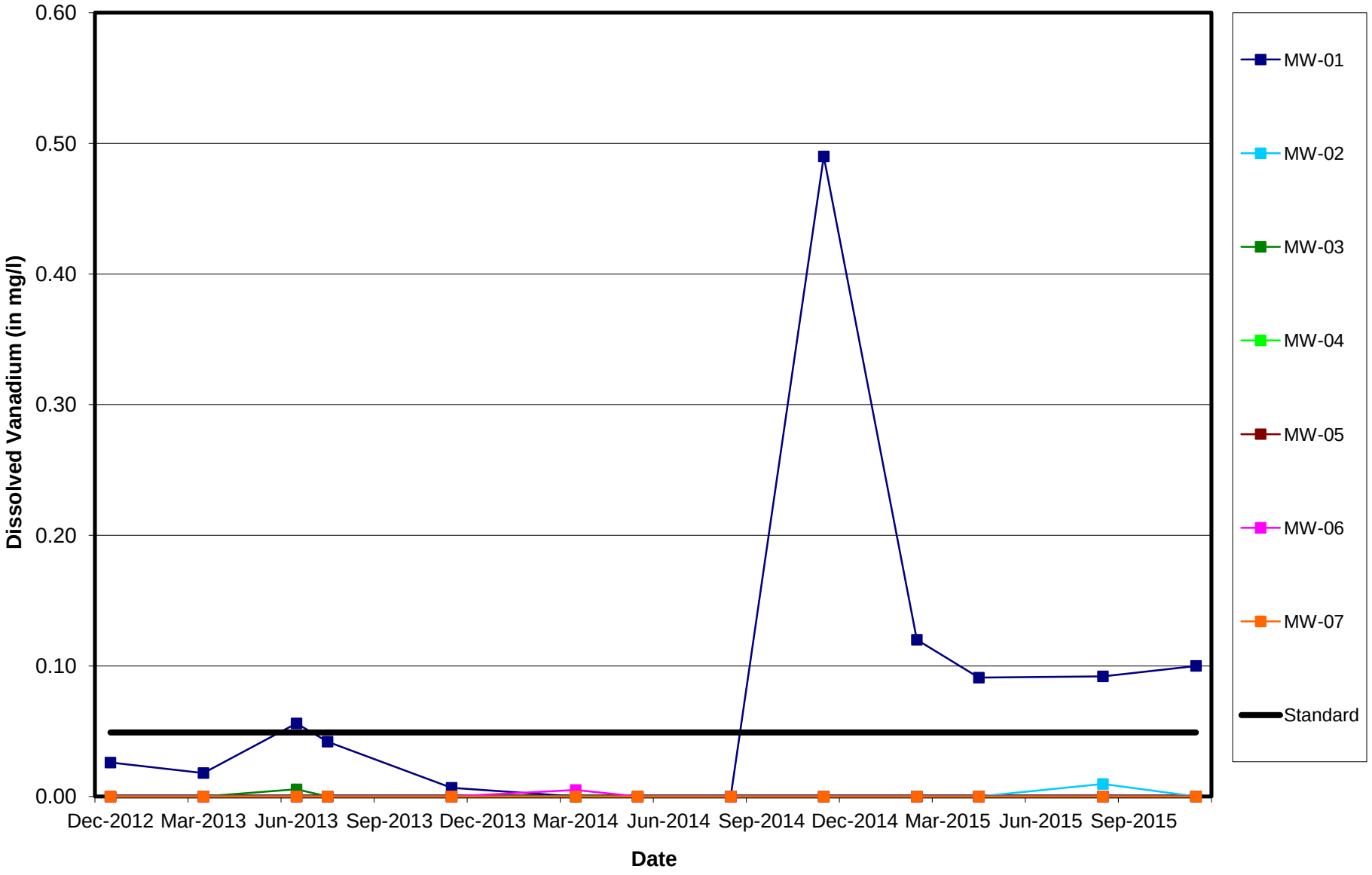
Total Dissolved Solids vs. Time



MWG13-15_56521

Midwest Generation Waukegan Station, Waukegan, IL

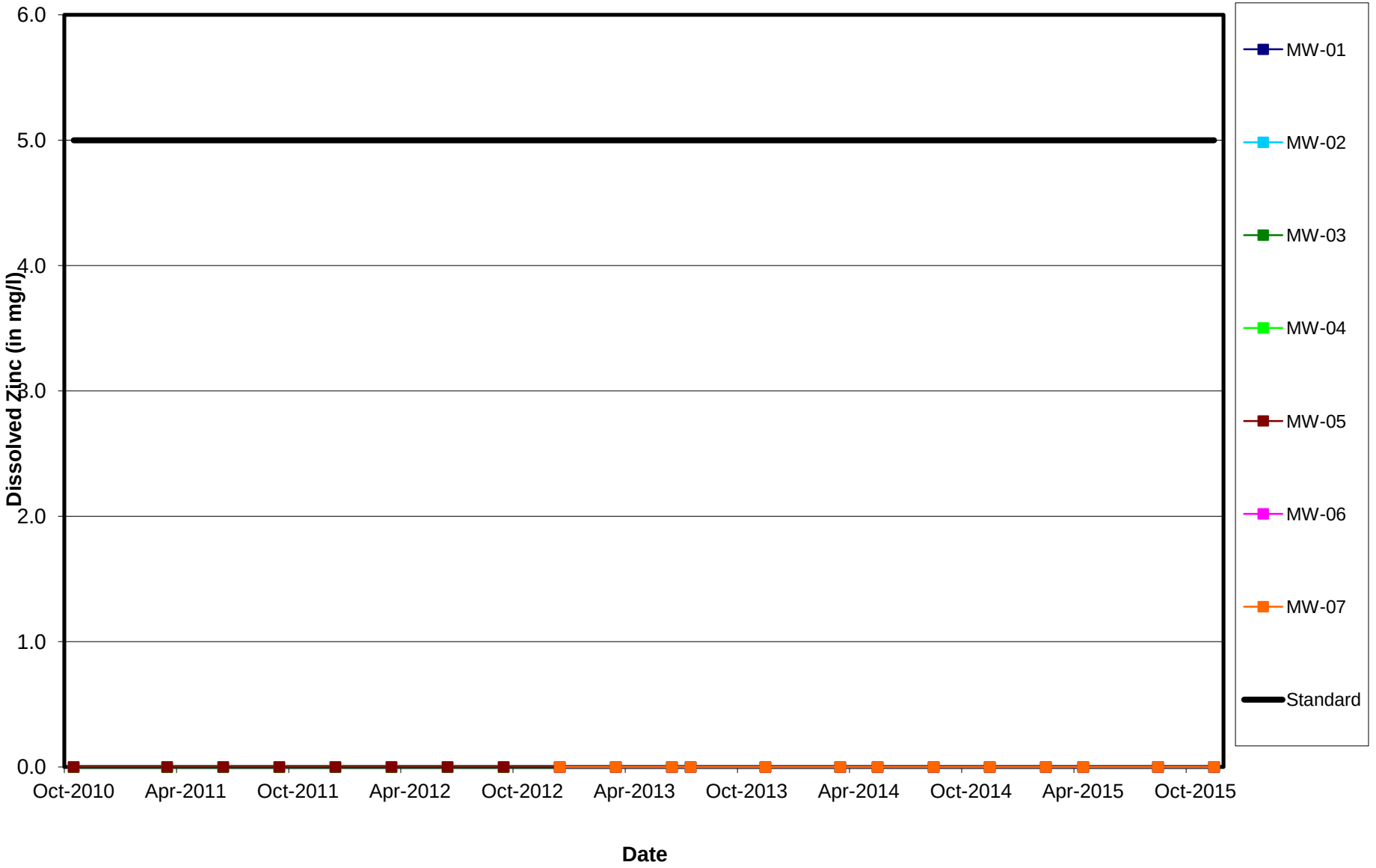
Dissolved Vanadium vs. Time



MWG13-15_56522

Midwest Generation Waukegan Station, Waukegan, IL

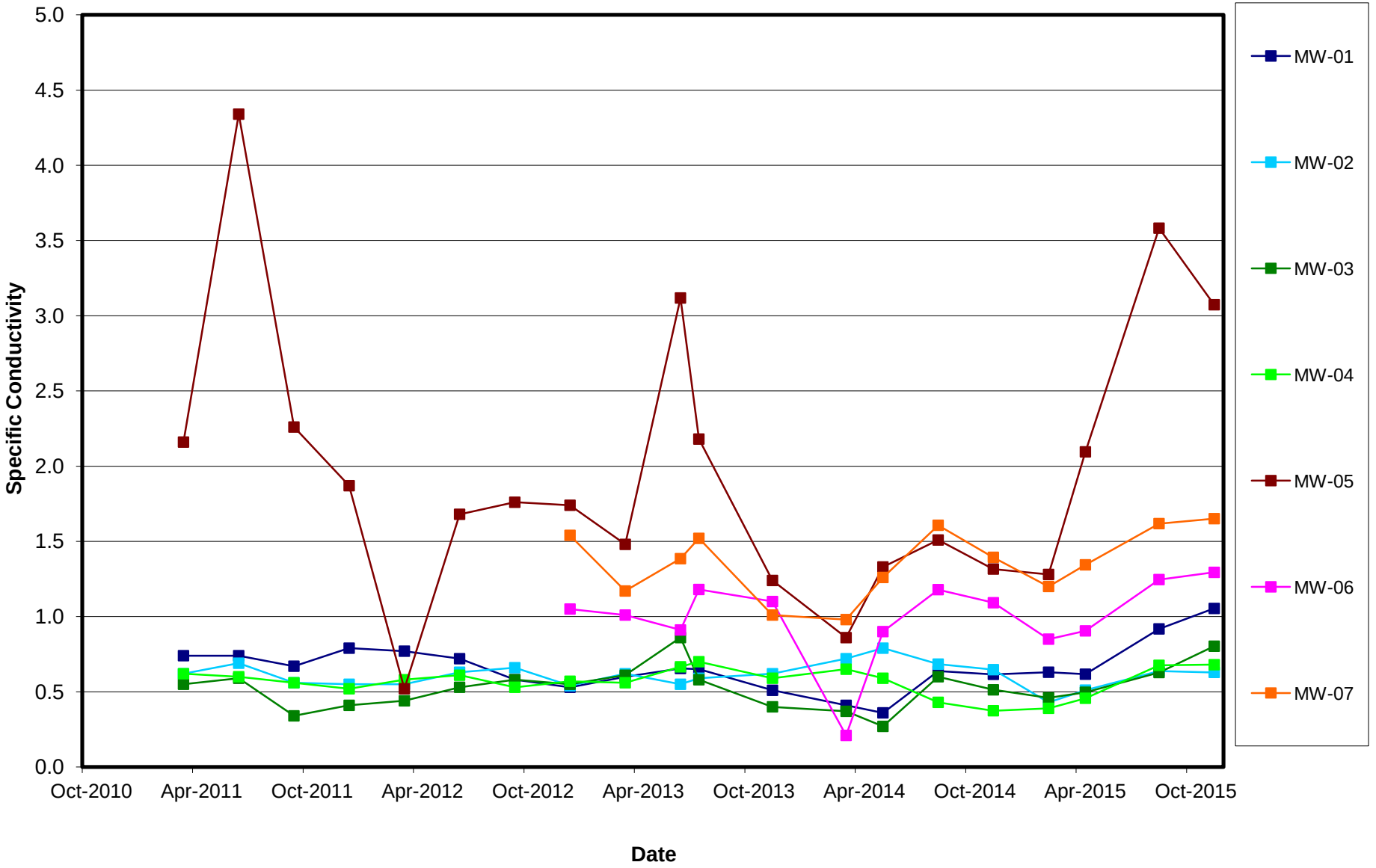
Dissolved Zinc vs. Time



MWG13-15_56523

Midwest Generation Waukegan Station, Waukegan, IL

Specific Conductivity vs. Time



MWG13-15_56524

Exhibit A13

Sample: MW-08	Date	5/15/2014		8/22/2014		11/5/2014		2/18/2015		4/21/2015		8/12/2015		11/4/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0049	0.0010	0.0057	0.0010	0.0054	0.0010	0.0045	0.0010	0.0067	0.0010	0.0050	0.0010	0.0058
Barium	2.0	0.0025	0.083	0.0025	0.14	0.0025	0.15	0.0025	0.14	0.0025	0.090	0.0025	0.12	0.0025	0.13
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND ^	0.0010	ND
Boron	2.0	5.0	19	5.0	24	5.0	28	5.0	24	2.5	23	5.0	22	2.5	22
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	50	2.0	56	2.0	30	2.0	30	2.0	48	2.0	30	2.0	36
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.30	0.10	0.29	0.10	0.29	0.10	0.21	0.10	0.24	0.10	0.26	0.10	0.27
Iron	5.0	0.10	5.0	0.10	7.0	0.10	6.2	0.10	6.7	0.10	7.5	0.10	7.2	0.10	6.5
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.31	0.0025	0.33	0.0025	0.33	0.0025	0.36	0.0025	0.27	0.0025	0.34	0.0025	0.28
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.016	0.0025	0.0083	0.0025	0.012	0.0025	0.0050	0.0025	ND	0.0025	0.0054	0.0025	0.0059
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	250	100	370	100	500	100	420	100	360	100	350	100	470
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1000	10	1200	10	1200	10	1200	10	1100	10	1300	10	1100
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.0057
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0007
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00057	0.0025	ND	0.0025	ND	0.0025	0.0025
pH	6.5 - 9.0	NA	6.92	NA	6.97	NA	7.16	NA	7.36	NA	7.15	NA	7.11	NA	6.30
Temperature	NA	NA	9.19	NA	14.98	NA	12.55	NA	4.91	NA	8.13	NA	14.03	NA	13.78
Conductivity	NA	NA	0.99	NA	1.172	NA	1.224	NA	1.000	NA	1.048	NA	1.148	NA	1.268
Dissolved Oxygen	NA	NA	0.27	NA	0.29	NA	0.41	NA	1.91	NA	2.44	NA	0.78	NA	0.58
ORP	NA	NA	-16.1	NA	-97.4	NA	-94.9	NA	-98.9	NA	-128.3	NA	-119.4	NA	26.0

Notes:
Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.

All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured
NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm²	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_56632

Sample: MW-09	Date	5/15/2014		8/22/2014		11/5/2014		2/18/2015		4/21/2015		8/13/2015		11/4/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND ^	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0012	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.027	0.0025	0.014	0.0025	0.015	0.0025	0.010	0.0025	0.015	0.0025	0.018	0.0025	0.016
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND ^	0.0010	ND
Boron	2.0	5.0	16	0.50	6.3	5.0	13	1.0	7.5	2.5	20	5.0	15	2.5	12
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	50	370	50	380	50	430	10	330	10	290	50	550	50	450
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.15	0.10	0.13	0.10	0.12	0.10	0.18	0.10	0.12	0.10	0.15	0.10	0.14
Iron	5.0	0.10	0.81	0.10	0.12	0.10	0.14	0.10	ND	0.10	0.16	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.14	0.0025	0.050	0.0025	0.048	0.0025	0.047	0.0025	0.064	0.0025	0.075	0.0025	0.056
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	0.0024	0.0020	0.0031	0.0020	ND	0.0020	0.0029	0.0020	ND	0.0020	0.0026
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.014	0.0025	0.011	0.0025	0.0048	0.0025	0.0053	0.0025	0.018	0.0025	0.011	0.0025	0.0029
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	360	50	230	100	430	50	320	100	380	100	450	100	400
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1600	10	1300	10	1400	10	1300	10	1400	10	2200	10	1600
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.0058
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00071
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00089	0.0025	ND	0.0025	ND	0.0025	0.00441
pH	6.5 - 9.0	NA	6.94	NA	6.90	NA	7.20	NA	7.45	NA	7.08	NA	6.98	NA	6.60
Temperature	NA	NA	9.70	NA	15.54	NA	12.98	NA	3.85	NA	8.81	NA	15.24	NA	15.84
Conductivity	NA	NA	1.70	NA	1.669	NA	1.773	NA	1.270	NA	1.457	NA	2.584	NA	2.227
Dissolved Oxygen	NA	NA	0.31	NA	0.32	NA	0.40	NA	2.15	NA	5.20	NA	0.96	NA	1.21
ORP	NA	NA	27.3	NA	6.7	NA	4.0	NA	11.0	NA	-5.6	NA	-25.2	NA	106.8

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.

All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured
NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_56633

Sample: ELUC MW-10	Date	8/22/2014		11/6/2014		2/18/2015		4/20/2015		8/11/2015		11/4/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.75	0.0010	0.40	0.0010	0.12	0.0010	0.74	0.0010	ND	0.0010	0.63
Barium	2.0	0.0025	0.072	0.0025	0.068	0.0025	0.064	0.0025	0.075	0.0025	0.047	0.0025	0.066
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.77	0.050	0.81	0.050	0.59	0.050	0.94	0.25	1.7	2.5	ND
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	61	2.0	65	2.0	49	10	98	2.0	36	10	82
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.19	0.10	0.19	0.10	0.19	0.10	0.11	0.10	0.15	0.10	0.15
Iron	5.0	0.10	7.3	0.10	3.5	0.10	ND	0.10	6.4	0.10	0.49	0.10	8.6
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.19	0.0025	0.13	0.0025	0.022	0.0025	0.19	0.0025	0.025	0.0025	0.20
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0021	0.0020	0.0028	0.0020	ND	0.0020	0.0023	0.0020	0.0047	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	1.1	0.10	3.2	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	1.1	0.20	3.2	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	0.0041	0.0025	ND	0.0025	ND	0.0025	ND^
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	170	50	270	50	170	50	240	20	77	50	190
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	770	10	720	10	740	10	920	10	370	10	950
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	0.036	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	0.0039	0.0025	0.0039	0.0025	ND	0.0025	ND	0.0025	0.00067
pH	6.5 - 9.0	NA	6.82	NA	7.44	NA	7.62	NA	7.26	NA	6.25	NA	6.15
Temperature	NA	NA	15.79	NA	10.38	NA	6.99	NA	8.87	NA	17.96	NA	13.05
Conductivity	NA	NA	0.922	NA	0.815	NA	0.680	NA	1.077	NA	0.510	NA	1.170
Dissolved Oxygen	NA	NA	0.20	NA	0.47	NA	2.66	NA	3.87	NA	1.46	NA	0.78
ORP	NA	NA	-91.9	NA	-75.1	NA	9.1	NA	-111.9	NA	10.7	NA	9.3

Notes:
Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.

All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured
NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_56634

Sample: ELUC MW-11	Date	8/22/2014		11/6/2014		2/18/2015		4/20/2015		8/11/2015		11/5/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	1.3	0.0010	1.0	0.0010	0.96	0.0010	0.79	0.0010	0.81	0.0010	0.82
Barium	2.0	0.0025	0.039	0.0025	0.042	0.0025	0.041	0.0025	0.045	0.0025	0.038	0.0025	0.038
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.50	5.1	0.50	3.5	0.25	2.8	0.25	2.5	0.50	5.0	2.5	4.4
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	290	10	300	10	120	10	290	10	270	10	270
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0013	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.14	0.10	0.15	0.10	0.15	0.10	0.11	0.10	0.13	0.10	0.14
Iron	5.0	0.10	2.0	0.10	2.4	0.10	2.3	0.10	2.6	0.10	2.6	0.10	2.2
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.23	0.0025	0.21	0.0025	0.22	0.0025	0.24	0.0025	0.25	0.0025	0.21
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0089	0.0025	0.010	0.0025	0.0098	0.0025	ND	0.0025	0.0026	0.0025	0.0059
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	210	50	230	50	150	50	140	50	170	50	180
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1100	10	1100	10	1200	10	1100	10	1200	10	1100
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0013
pH	6.5 - 9.0	NA	6.98	NA	7.46	NA	7.59	NA	7.23	NA	7.31	NA	6.51
Temperature	NA	NA	16.56	NA	11.28	NA	7.22	NA	9.13	NA	14.96	NA	17.97
Conductivity	NA	NA	1.596	NA	1.415	NA	1.300	NA	1.377	NA	1.550	NA	1.805
Dissolved Oxygen	NA	NA	0.34	NA	0.42	NA	1.21	NA	2.69	NA	0.92	NA	0.51
ORP	NA	NA	-89.8	NA	-122.4	NA	-105.3	NA	-115.1	NA	-108.5	NA	29.6

Notes:
Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.

All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured
NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_56635

Sample: ELUC MW-12	Date	8/22/2014		11/6/2014		2/18/2015		4/20/2015		8/11/2015		11/4/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0011	0.0010	0.0014	0.0010	0.0012	0.0010	0.012	0.0010	0.46	0.0010	0.0011
Barium	2.0	0.0025	0.10	0.0025	0.083	0.0025	0.081	0.0025	0.048	0.0025	0.065	0.0025	0.045
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.25	1.9	0.50	1.4	0.25	1.6	0.25	10	0.25	1.4	2.5	ND
Cadmium	0.005	0.00050	0.0026	0.00050	0.0014	0.00050	0.0025	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	50	410	10	370	10	160	10	130	10	85	2.0	29
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0033	0.0010	0.0023	0.0010	0.018	0.0010	0.0018	0.0010	ND	0.0010	0.0014
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.10	0.10	ND	0.10	ND	0.10	0.22	0.10	0.15	0.10	0.13
Iron	5.0	0.10	2.2	0.10	0.88	0.10	1.2	0.10	2.1	0.10	4.7	0.10	0.48
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.11	0.0025	0.051	0.0025	0.70	0.0025	0.16	0.0025	0.17	0.0025	0.069
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	0.00022	0.00020	ND
Nickel	0.1	0.0020	0.016	0.0020	0.013	0.0020	0.075	0.0020	0.0071	0.0020	ND	0.0020	0.0047
Nitrogen/Nitrate	10.0	0.10	ND	0.10	0.56	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	0.56	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0059	0.0025	0.0074	0.0025	0.0027	0.0025	ND	0.0025	ND	0.0025	ND^
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	200	50	230	100	400	50	200	50	180	10	47
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1100	10	950	10	1400	10	890	10	900	10	900
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	0.14	0.020	0.086	0.020	0.74	0.020	0.030	0.020	ND	0.020	0.036
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00095
pH	6.5 - 9.0	NA	6.44	NA	6.66	NA	6.48	NA	6.96	NA	6.88	NA	5.49
Temperature	NA	NA	21.11	NA	12.65	NA	2.30	NA	9.17	NA	14.26	NA	15.79
Conductivity	NA	NA	1.700	NA	1.258	NA	1.14	NA	1.145	NA	1.130	NA	0.435
Dissolved Oxygen	NA	NA	1.17	NA	1.76	NA	2.57	NA	4.06	NA	0.89	NA	1.79
ORP	NA	NA	5.9	NA	28.5	NA	71.5	NA	-53.1	NA	-82.1	NA	110.4

Notes:

Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.

All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_56636

Sample: ELUC MW-14	Date	8/22/2014		11/6/2014		2/18/2015		4/20/2015		8/11/2015		11/5/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	NS	NS	0.0030	0.0047	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.13	0.0010	0.049	NS	NS	0.0010	0.050	0.0010	0.32	0.0010	0.23
Barium	2.0	0.0025	0.049	0.0025	0.052	NS	NS	0.0025	0.024	0.0025	0.045	0.0025	0.053
Beryllium	0.004	0.0010	ND	0.0010	ND	NS	NS	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.25	1.0	0.50	1.0	NS	NS	0.050	0.54	0.25	1.1	2.5	ND
Cadmium	0.005	0.00050	ND	0.00050	ND	NS	NS	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	120	10	110	NS	NS	2.0	66	10	160	10	180
Chromium	0.1	0.0050	0.0060	0.0050	0.015	NS	NS	0.0050	0.032	0.0050	ND	0.0050	0.0093
Cobalt	1.0	0.0010	ND	0.0010	ND	NS	NS	0.0010	ND	0.0010	ND	0.0010	0.0011
Copper	0.65	0.0020	ND	0.0020	0.0024	NS	NS	0.0020	0.0022	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	NS	NS	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.14	0.10	0.24	NS	NS	0.10	0.28	0.10	0.19	0.10	0.20
Iron	5.0	0.10	2.0	0.10	0.40	NS	NS	0.10	ND	0.10	1.8	0.10	1.4
Lead	0.0075	0.00050	ND	0.00050	ND	NS	NS	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.18	0.0025	0.054	NS	NS	0.0025	0.015	0.0025	0.13	0.0025	0.13
Mercury	0.002	0.00020	ND	0.00020	ND	NS	NS	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	0.0025	NS	NS	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	0.17	NS	NS	0.10	0.73	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	0.17	NS	NS	0.10	0.73	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	NS	NS	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	NS	NS	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	NS	NS	0.0025	ND	0.0025	ND	0.0025	ND^
Silver	0.05	0.00050	ND	0.00050	ND	NS	NS	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	370	50	310	NS	NS	20	84	25	130	50	140
Thallium	0.002	0.0020	ND	0.0020	ND	NS	NS	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1300	10	930	NS	NS	10	480	10	1000	10	890
Vanadium	0.049	0.0050	ND	0.0050	ND	NS	NS	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	NS	NS	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	NS	NS	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	0.0032	NS	NS	0.0025	ND	0.0025	ND	0.0025	0.00085
pH	6.5 - 9.0	NA	6.98	NA	7.32	NS	NS	NA	7.33	NA	7.02	NA	6.78
Temperature	NA	NA	16.36	NA	10.25	NS	NS	NA	7.80	NA	15.73	NA	15.17
Conductivity	NA	NA	1.435	NA	0.949	NS	NS	NA	0.414	NA	1.307	NA	1.448
Dissolved Oxygen	NA	NA	0.26	NA	0.59	NS	NS	NA	9.86	NA	0.78	NA	1.80
ORP	NA	NA	-60.8	NA	17.5	NS	NS	NA	11.4	NA	-58.4	NA	65.3

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.

All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured
NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_56637

Sample: ELUC MW-15	Date	8/22/2014		11/5/2014		2/18/2015		4/20/2015		8/11/2015		11/3/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND ^	NS	NS	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0048	0.0010	0.012	NS	NS	0.0010	0.0061	0.0010	0.32	0.0010	0.010
Barium	2.0	0.0025	0.087	0.0025	0.083	NS	NS	0.0025	0.082	0.0025	0.045	0.0025	0.083
Beryllium	0.004	0.0010	ND	0.0010	ND	NS	NS	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.25	3.7	5.0	5.1	NS	NS	0.50	4.8	0.25	1.1	2.5	6.8
Cadmium	0.005	0.00050	ND	0.00050	ND	NS	NS	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	57	2.0	65	NS	NS	2.0	47	10	160	2.0	58
Chromium	0.1	0.0050	ND	0.0050	ND	NS	NS	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0011	0.0010	0.0011	NS	NS	0.0010	0.0014	0.0010	ND	0.0010	0.0014
Copper	0.65	0.0020	ND	0.0020	ND	NS	NS	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	0.17	0.010	ND	NS	NS	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.28	0.10	0.27	NS	NS	0.10	0.25	0.10	0.19	0.10	0.28
Iron	5.0	0.10	11	0.10	10	NS	NS	0.10	4.4	0.10	1.8	0.10	11
Lead	0.0075	0.00050	ND	0.00050	ND	NS	NS	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.39	0.0025	0.37	NS	NS	0.0025	0.35	0.0025	0.13	0.0025	0.48
Mercury	0.002	0.00020	ND	0.00020	ND	NS	NS	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	0.0023	NS	NS	0.0020	0.0025	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	NS	NS	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	NS	NS	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	NS	NS	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	NS	NS	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	NS	NS	0.0025	0.0025	0.0025	ND	0.0025	ND^
Silver	0.05	0.00050	ND	0.00050	ND	NS	NS	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	250	100	350	NS	NS	50	240	25	130	50	250
Thallium	0.002	0.0020	ND	0.0020	ND	NS	NS	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	950	10	830	NS	NS	10	810	10	1000	10	320
Vanadium	0.049	0.0050	ND	0.0050	ND	NS	NS	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	NS	NS	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	NS	NS	0.00050	ND	0.00050	ND	0.00050	0.00056
BETX	11.705	0.0025	ND	0.0025	ND	NS	NS	0.0025	ND	0.0025	ND	0.0025	0.00206
pH	6.5 - 9.0	NA	6.57	NA	7.25	NS	NS	NA	6.78	NA	6.69	NA	6.26
Temperature	NA	NA	14.15	NA	12.68	NS	NS	NA	7.79	NA	14.22	NA	13.46
Conductivity	NA	NA	1.114	NA	0.982	NS	NS	NA	0.840	NA	1.024	NA	1.120
Dissolved Oxygen	NA	NA	0.25	NA	0.44	NS	NS	NA	3.50	NA	0.79	NA	0.58
ORP	NA	NA	-75.2	NA	-105	NS	NS	NA	-44.8	NA	-72.7	NA	-18.4

Notes:

Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.

All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_56638

Exhibit B1



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

SITE MAP

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

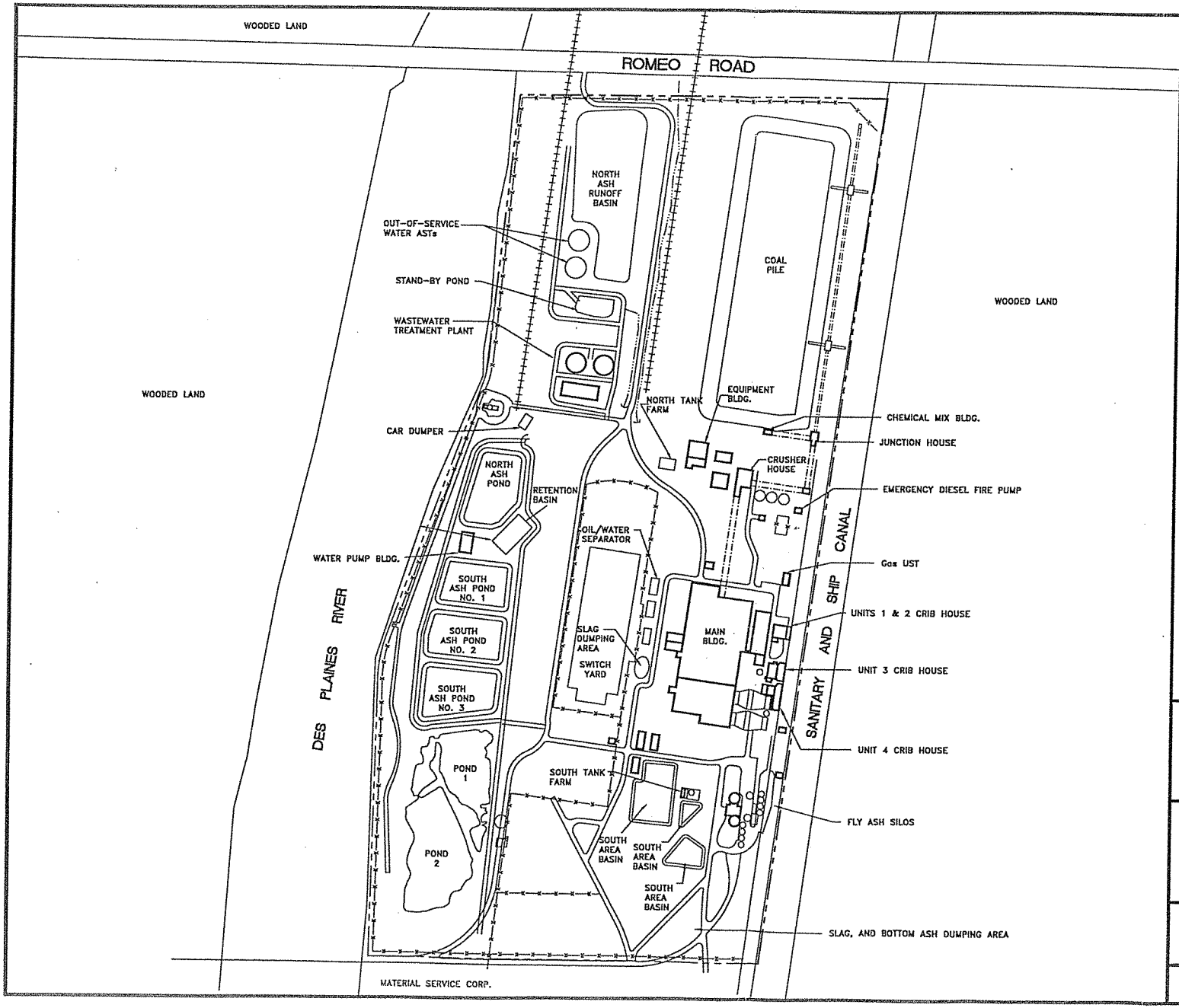
Scale: 1" = 250' | Date: January 23, 2015

KPRG Project No. 12313.3 | FIGURE 1

MWG13-15_50529

W:\c-p&p projects\midwest generation\groundwater sampling\will county\will co station gw map.dwg

MWG13-15_5739



LEGEND:

- PROPERTY BOUNDARY
- FENCE
- CONVEYOR LINE
- RAILROAD LINE
- DRAINAGE DITCH

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: WillcntySP1.dwg

WILL COUNTY GENERATING STATION
529 EAST ROMEO ROAD
ROMEOVILLE, ILLINOIS

COMMOMNWEALTH EDISON COMPANY

November 1998 File No: 1801-023-710

SITE PLAN

N

NOT TO SCALE

FIGURE 2

ENSR

Exhibit B2

K P R G

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

SUMMARY REPORT

September 8, 2015

Ms. Sharene Shealey
Midwest Generation, LLC
529 E. 135th Street
Romeoville, IL 60466

VIA E-Mail

KPRG Project No. 16714.1

Re: CCB Determination Support, Midwest Generation Will County Station

Dear Ms. Shealey:

KPRG and Associates, Inc. (KPRG) is pleased to provide this summary letter report with regard to evaluating whether coal ash formerly deposited at the Midwest Generation Will County Station can be classified as Coal Combustion Byproduct (CCB). This letter report provides a brief summary of the project objective, documents the work performed by KPRG, and summarizes the analytical data along with statistical analysis and interpretation of the data. Each item is discussed separately below.

PROJECT OBJECTIVE

The project objective was to develop a data set to evaluate the potential for classifying this material as CCB for beneficial reuse relative to the regulatory criteria set forth in 415 ILSC 5/3.135 (formerly 415 ILSC 5/3.94) a-5(B) which states that: "CCB shall not exceed Class I Groundwater Standards for metals when tested utilizing test method ASTM D3987-85. The sample or samples tested shall be representative of the CCB being considered for use."

DOCUMENTATION OF FIELD ACTIVITIES

KPRG mobilized technical personnel and a geoprobe contractor to the site. A 4 by 7 grid (each grid was 25 feet square) was established over the study area resulting in the potential for 28 samples. The grid was labeled with A, B, C and D along one side and numbers 1 through 7 along the other, resulting in grid nomenclature of A1, B1, C1 and so on through D7. However, due to the irregular boundary of the material, a subtotal of 20 grids were utilized for sample collection. One geoprobe boring was advanced within the

center of each of these 20 grids. Approximate geoprobe drilling locations are shown on Figure 1.

Geoprobe borings were advanced at each marked location through the ash/slag deposits to the top of bedrock (dolomite). Continuous sample cores were obtained, visually logged and screened in the field for total organic vapors using a photoionization detector (PID). It is noted that no PID readings were measured in any of the borings.

One composite sample was collected from each boring from the entire vertical profile and placed into a plastic bag for mixing. Once thoroughly mixed/composited, an appropriate sample aliquot was placed into a laboratory prepared container for analysis of Neutral Leach Extraction Test (NLET; method ASTM D3987-85) metals and stored on ice for delivery to the laboratory.

Once drilling was completed at a particular location, the boring was backfilled with any remaining sample core along with granular bentonite to the ground surface.

The samples were delivered to TestAmerica Laboratories in University Park, Illinois under a properly completed chain-of-custody for chemical analysis.

DATA PRESENTATION AND STATISTICAL ANALYSIS

The NLET metals analyses are summarized in Table 1 along with the Class I groundwater standards for comparison. The "non-detects" reported on the lab sheets in Attachment 1 are recorded as "less than the method detection limit" in Table 1. A review of the data set indicates that there were no detections higher than any Class I drinking water standard for these metals.

Statistical analyses were subsequently performed on the entire population of 20 samples. A review of the data indicates that there were no detections of antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, lead, manganese, mercury, molybdenum, nickel, potassium, selenium, silver, thallium or zinc in the leachate from any of the samples analyzed. The method detection limits (MDLs) for these compounds were all substantially below the Class I groundwater standards. Therefore, for these compounds, it can be confidently said that there are no exceedances associated with the tested materials.

Relative to the remaining compounds (boron, iron and sodium), the data set was first evaluated for normality by the calculation of the arithmetic mean, standard deviation and the coefficient of variance (CV). For the purposes of this evaluation, all "non-detect" values were assigned a value of one-half the MDL which is an accepted method for handling censored or non-detect values within a data set (Gilbert, 1987). The formulas used for the statistical calculations are provided in Attachment 2 and the initial results are tabulated in Table 2. In general, if CV is less than or equal to 1, then the data set is considered "normal" and as a rule of thumb if the CV is between 1 and 1.2, then the

arithmetic mean and standard deviation is still an adequate estimator for the data set (Gilbert, 1987; Koch and Link, 1980). Any values of CV above 1.2 indicate that the data set is not normal and an alternate statistical evaluation must be considered to estimate the mean and standard deviation.

A review of the initial statistical evaluations in Table 2 indicates that the data set for all metals are normal and that the arithmetic mean is a good estimator of the true mean of the concentration of these compounds in the leachate.

Subsequent calculation of the standard error and the 95% Upper Confidence Limit (UCL; assuming a one-tailed distribution since we are only concerned about a regulatory exceedance) was performed for each parameter. The 95% UCL provides the 95% probability that the true mean of the data set is less than the calculated value. The results are included in Table 2. A review of the table indicates that none of the calculated means and 95% UCLs are above the Class I groundwater standards for those compounds.

The next step in the statistical evaluation process was to determine whether the sample size was sufficient to support the above statistics. This was accomplished by calculating a Lambda (λ) value which is a function of the regulatory threshold concentration (in this case the Class I groundwater standard for each parameter), the mean and the standard deviation (see equation in Attachment 2). The λ value is then entered into the statistical table included in Attachment 2 to estimate the sample size that would be required to assure a valid statistical representation. To obtain the appropriate sample size from the table of λ values, the single-sided value with the α and β errors set at 0.05 was used. The α error is the probability of rejecting a true hypothesis (in this case this probability was set at 5%); the hypothesis being that the true mean is less than the regulatory threshold. The β error is the probability of accepting a false hypothesis. The number of samples obtained from the λ table required for a valid data set for each of the parameters being evaluated is included in Table 2. A review of the results indicate that the existing data set of 20 values is sufficient to adequately characterize the materials sampled.

CONCLUSIONS

Based on the data and statistical analysis discussed above, the following conclusions are provided:

- The ash deposits are consistent and homogenous consisting bottom ash/slag from the coal combustion process.
- There were no outlier samples, and all samples collected were used in the calculations.
- The NLET metals data from the 20 sample locations indicate with a high degree of statistical certainty that the criteria established in 415 ILSC 5/3.135 (formerly 415 ILSC 5/3.94) a-5(B) are met and that the material may be considered CCB relative to this criterion for engineering/beneficial reuse.
- The data set is sufficiently large to support the statistical evaluations based on the variance and specific regulatory threshold relationships.

KPRG appreciates the opportunity for providing our technical services. If there are any questions, please contact me at 262-781-0475.

Sincerely,
KPRG and Associates, Inc.

Richard R. Gnat, P.G.
Principal

Patrick Allenstein, P.G.
Project Manager/Senior Geologist

cc: Kristen Gale, Nijman Franzetti, LLP



ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

SAMPLING GRID

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 30'

Date: August 31, 2015

KPRG Project No. 16714.1

FIGURE 1

MWG13-15_49569

W:\projects\midwest generation\will co. station\16714.1 attorney-client privilege-grid.dwg

Table 1. Sampling Analytical Results for Detected Neutral Leachable Metals - CCB Sampling, Will County Station

Boring Name Sample Date	IEPA Class I GW Standard	A2 6/9/2015	A3 6/9/2015	A4 6/9/2015	A5 6/9/2015	B1 6/9/2015	B2 8/5/2015	B3 8/5/2015	B4 8/5/2015	B5 8/5/2015	B6 8/5/2015
Boron	2.00	0.20	0.16	0.16	0.16	0.24	<0.1	<0.1	<0.1	<0.1	0.12
Iron	5.00	<0.2	<0.2	0.30	0.21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Sodium	NS	14	7.6	6.4	6.4	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Boring Name Sample Date	IEPA Class I GW Standard	B7 8/5/2015	C2 6/9/2015	C3 6/9/2015	C4 6/9/2015	C5 6/9/2015	C6 6/9/2015	C7 6/9/2015	D5 6/9/2015	D6 6/9/2015	D7 6/9/2015
Boron	2.00	0.16	0.15	<0.1	0.15	<0.1	<0.1	<0.1	<0.1	0.12	0.13
Iron	5.00	<0.2	<0.2	<0.2	<0.2	0.24	0.42	<0.2	0.22	0.47	<0.2
Sodium	NS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Notes: All values are in mg/L
NS - No Standard
BOLD - Exceeds the Class I Groundwater standard

Table 1. Sampling Analytical Results for Detected Neutral Leachable Metals - CCB Sampling, Will County Station

Boring Name Sample Date	IEPA Class I GW Standard	A2 6/9/2015	A3 6/9/2015	A4 6/9/2015	A5 6/9/2015	B1 6/9/2015	B2 8/5/2015	B3 8/5/2015	B4 8/5/2015	B5 8/5/2015	B6 8/5/2015
Boron	2.00	0.20	0.16	0.16	0.16	0.24	<0.1	<0.1	<0.1	<0.1	0.12
Iron	5.00	<0.2	<0.2	0.30	0.21	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Sodium	NS	14	7.6	6.4	6.4	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Boring Name Sample Date	IEPA Class I GW Standard	B7 8/5/2015	C2 6/9/2015	C3 6/9/2015	C4 6/9/2015	C5 6/9/2015	C6 6/9/2015	C7 6/9/2015	D5 6/9/2015	D6 6/9/2015	D7 6/9/2015
Boron	2.00	0.16	0.15	<0.1	0.15	<0.1	<0.1	<0.1	<0.1	0.12	0.13
Iron	5.00	<0.2	<0.2	<0.2	<0.2	0.24	0.42	<0.2	0.22	0.47	<0.2
Sodium	NS	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Notes: All values are in mg/L
NS - No Standard
BOLD - Exceeds the Class I Groundwater standard

ATTACHMENT 1

Laboratory Analytical Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-97217-1
Client Project/Site: Confidential

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
6/24/2015 3:22:08 PM

Bonnie Stadelmann, Senior Project Manager
(708)534-5200
bonnie.stadelmann@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 500-97217-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-97217-1

Comments
No additional comments.

Receipt
The samples were received on 6/11/2015 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 9.4º C.

Receipt Exceptions

The following sample(s) was received at the laboratory outside the required temperature criteria: 9.4C.

6-11-2015 Per client, proceed with analysis.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method(s) 6010B: The continuing calibration verifications (CCV's) associated with batch 500-292053 recovered above the upper control limit for Zinc. The samples associated with these CCV's were non-detects for the affected analyte; therefore, the data have been reported. The following samples are impacted: A2 (500-97217-1), A3 (500-97217-2), A4 (500-97217-3), A5 (500-97217-4), C2 (500-97217-5), C3 (500-97217-6), C4 (500-97217-7), C5 (500-97217-8), C6 (500-97217-9), C7 (500-97217-10), D5 (500-97217-11), D6 (500-97217-12), D7 (500-97217-13), B1 (500-97217-14), Protocol 1 (500-97217-15), (500-97217-A-1-C DU), (500-97217-A-1-D MS) and (500-97217-A-1-B SD ^).

Method(s) 6010B: The continuing calibration verification (CCV) at line 57 associated with batch 500-292053 recovered above the upper control limit for Nickel. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported. The following samples are impacted: C6 (500-97217-9), C7 (500-97217-10), D5 (500-97217-11), D6 (500-97217-12), D7 (500-97217-13) and B1 (500-97217-14).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: A2 — Lab Sample ID: 500-97217-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.20		0.10		mg/L	1		6010B	ASTM Leach
Sodium	14		5.0		mg/L	1		6010B	ASTM Leach

Client Sample ID: A3 — Lab Sample ID: 500-97217-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.16		0.10		mg/L	1		6010B	ASTM Leach
Sodium	7.6		5.0		mg/L	1		6010B	ASTM Leach

Client Sample ID: A4 — Lab Sample ID: 500-97217-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.16		0.10		mg/L	1		6010B	ASTM Leach
Iron	0.30		0.20		mg/L	1		6010B	ASTM Leach
Sodium	6.4		5.0		mg/L	1		6010B	ASTM Leach

Client Sample ID: A5 — Lab Sample ID: 500-97217-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.16		0.10		mg/L	1		6010B	ASTM Leach
Iron	0.21		0.20		mg/L	1		6010B	ASTM Leach
Sodium	6.4		5.0		mg/L	1		6010B	ASTM Leach

Client Sample ID: C2 — Lab Sample ID: 500-97217-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.15		0.10		mg/L	1		6010B	ASTM Leach

Client Sample ID: C3 — Lab Sample ID: 500-97217-6

No Detections.

Client Sample ID: C4 — Lab Sample ID: 500-97217-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.15		0.10		mg/L	1		6010B	ASTM Leach

Client Sample ID: C5 — Lab Sample ID: 500-97217-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.24		0.20		mg/L	1		6010B	ASTM Leach

Client Sample ID: C6 — Lab Sample ID: 500-97217-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.42		0.20		mg/L	1		6010B	ASTM Leach

Client Sample ID: C7 — Lab Sample ID: 500-97217-10

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: D5 — Lab Sample ID: 500-97217-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.22		0.20		mg/L	1		6010B	ASTM Leach

Client Sample ID: D6 — Lab Sample ID: 500-97217-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.12		0.10		mg/L	1		6010B	ASTM Leach
Iron	0.47		0.20		mg/L	1		6010B	ASTM Leach

Client Sample ID: D7 — Lab Sample ID: 500-97217-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.13		0.10		mg/L	1		6010B	ASTM Leach

Client Sample ID: B1 — Lab Sample ID: 500-97217-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.24		0.10		mg/L	1		6010B	ASTM Leach

Client Sample ID: Protocol 1 — Lab Sample ID: 500-97217-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.83		0.50		mg/L	1		6010B	TCLP
Flashpoint	>176		40.0		Degrees F	1		1010A	Total/NA
pH	6.99		0.200		SU	1		9045C	Total/NA
Paint Filter	pass				No Unit	1		9095A	Total/NA
Specific Gravity	1.33				NONE	1		SM 2710F	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CHI
6010B	Metals (ICP)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
1010A	Ignitability, Pensky-Martens Closed Cup Method	SW846	TAL CHI
9014	Cyanide	SW846	TAL CHI
9034	Sulfide, Acid soluble and Insoluble (Titrimetric)	SW846	TAL CHI
9045C	pH	SW846	TAL CHI
9095A	Paint Filter	SW846	TAL CHI
9251	Chlorine, Total	SW846	TAL SAV
Moisture	Percent Moisture	EPA	TAL CHI
SM 2710F	Specific Gravity, Density	SM	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-97217-1	A2	Solid	06/09/15 10:20	06/11/15 10:15
500-97217-2	A3	Solid	06/09/15 10:30	06/11/15 10:15
500-97217-3	A4	Solid	06/09/15 10:40	06/11/15 10:15
500-97217-4	A5	Solid	06/09/15 10:50	06/11/15 10:15
500-97217-5	C2	Solid	06/09/15 12:10	06/11/15 10:15
500-97217-6	C3	Solid	06/09/15 12:00	06/11/15 10:15
500-97217-7	C4	Solid	06/09/15 11:55	06/11/15 10:15
500-97217-8	C5	Solid	06/09/15 11:50	06/11/15 10:15
500-97217-9	C6	Solid	06/09/15 11:05	06/11/15 10:15
500-97217-10	C7	Solid	06/09/15 10:55	06/11/15 10:15
500-97217-11	D5	Solid	06/09/15 11:40	06/11/15 10:15
500-97217-12	D6	Solid	06/09/15 11:35	06/11/15 10:15
500-97217-13	D7	Solid	06/09/15 11:25	06/11/15 10:15
500-97217-14	B1	Solid	06/09/15 12:20	06/11/15 10:15
500-97217-15	Protocol 1	Solid	06/09/15 13:00	06/11/15 10:15

Client Sample Results

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: A2
Date Collected: 06/09/15 10:20
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-1
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:14	1
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:14	1
Barium	<0.50		0.50		mg/L		06/14/15 14:10	06/15/15 22:14	1
Beryllium	<0.0040		0.0040		mg/L		06/14/15 14:10	06/15/15 22:14	1
Boron	**0.20**		0.10		mg/L		06/14/15 14:10	06/15/15 22:14	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 22:14	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:14	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:14	1
Iron	<0.20		0.20		mg/L		06/14/15 14:10	06/15/15 22:14	1
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 18:01	1
Manganese	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:14	1
Molybdenum	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:14	1
Nickel	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:14	1
Potassium	<2.5		2.5		mg/L		06/14/15 14:10	06/15/15 22:14	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:14	1
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:14	1
Sodium	**14**		5.0		mg/L		06/14/15 14:10	06/15/15 22:14	1
Thallium	<0.25		0.25		mg/L		06/14/15 14:10	06/15/15 22:14	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 22:14	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 09:34	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: A3
Date Collected: 06/09/15 10:30
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-2
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:38	1
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:38	1
Barium	<0.50		0.50		mg/L		06/14/15 14:10	06/15/15 22:38	1
Beryllium	<0.0040		0.0040		mg/L		06/14/15 14:10	06/15/15 22:38	1
Boron	**0.16**		0.10		mg/L		06/14/15 14:10	06/15/15 22:38	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 22:38	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:38	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:38	1
Iron	<0.20		0.20		mg/L		06/14/15 14:10	06/15/15 22:38	1
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 18:41	1
Manganese	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:38	1
Molybdenum	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:38	1
Nickel	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:38	1
Potassium	<2.5		2.5		mg/L		06/14/15 14:10	06/15/15 22:38	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:38	1
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:38	1
Sodium	**7.6**		5.0		mg/L		06/14/15 14:10	06/15/15 22:38	1
Thallium	<0.25		0.25		mg/L		06/14/15 14:10	06/15/15 22:38	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 22:38	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 09:36	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: A4
Date Collected: 06/09/15 10:40
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-3
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:42	1
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:42	1
Barium	<0.50		0.50		mg/L		06/14/15 14:10	06/15/15 22:42	1
Beryllium	<0.0040		0.0040		mg/L		06/14/15 14:10	06/15/15 22:42	1
Boron	**0.16**		0.10		mg/L		06/14/15 14:10	06/15/15 22:42	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 22:42	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:42	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:42	1
Iron	**0.30**		0.20		mg/L		06/14/15 14:10	06/15/15 22:42	1
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 18:47	1
Manganese	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:42	1
Molybdenum	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:42	1
Nickel	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:42	1
Potassium	<2.5		2.5		mg/L		06/14/15 14:10	06/15/15 22:42	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:42	1
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:42	1
Sodium	**6.4**		5.0		mg/L		06/14/15 14:10	06/15/15 22:42	1
Thallium	<0.25		0.25		mg/L		06/14/15 14:10	06/15/15 22:42	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 22:42	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 09:42	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: A5
Date Collected: 06/09/15 10:50
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-4
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:46	1
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:46	1
Barium	<0.50		0.50		mg/L		06/14/15 14:10	06/15/15 22:46	1
Beryllium	<0.0040		0.0040		mg/L		06/14/15 14:10	06/15/15 22:46	1
Boron	**0.16**		0.10		mg/L		06/14/15 14:10	06/15/15 22:46	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 22:46	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:46	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:46	1
Iron	**0.21**		0.20		mg/L		06/14/15 14:10	06/15/15 22:46	1
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 18:53	1
Manganese	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:46	1
Molybdenum	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:46	1
Nickel	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:46	1
Potassium	<2.5		2.5		mg/L		06/14/15 14:10	06/15/15 22:46	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:46	1
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:46	1
Sodium	**6.4**		5.0		mg/L		06/14/15 14:10	06/15/15 22:46	1
Thallium	<0.25		0.25		mg/L		06/14/15 14:10	06/15/15 22:46	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 22:46	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 09:44	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: C2
Date Collected: 06/09/15 12:10
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-5
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:50	1
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:50	1
Barium	<0.50		0.50		mg/L		06/14/15 14:10	06/15/15 22:50	1
Beryllium	<0.0040		0.0040		mg/L		06/14/15 14:10	06/15/15 22:50	1
Boron	**0.15**		0.10		mg/L		06/14/15 14:10	06/15/15 22:50	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 22:50	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:50	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:50	1
Iron	<0.20		0.20		mg/L		06/14/15 14:10	06/15/15 22:50	1
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 18:59	1
Manganese	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:50	1
Molybdenum	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:50	1
Nickel	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:50	1
Potassium	<2.5		2.5		mg/L		06/14/15 14:10	06/15/15 22:50	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:50	1
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:50	1
Sodium	<5.0		5.0		mg/L		06/14/15 14:10	06/15/15 22:50	1
Thallium	<0.25		0.25		mg/L		06/14/15 14:10	06/15/15 22:50	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 22:50	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 09:46	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: C3
Date Collected: 06/09/15 12:00
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-6
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:54	1
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:54	1
Barium	<0.50		0.50		mg/L		06/14/15 14:10	06/15/15 22:54	1
Beryllium	<0.0040		0.0040		mg/L		06/14/15 14:10	06/15/15 22:54	1
Boron	<0.10		0.10		mg/L		06/14/15 14:10	06/15/15 22:54	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 22:54	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:54	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:54	1
Iron	<0.20		0.20		mg/L		06/14/15 14:10	06/15/15 22:54	1
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 19:06	1
Manganese	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:54	1
Molybdenum	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:54	1
Nickel	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:54	1
Potassium	<2.5		2.5		mg/L		06/14/15 14:10	06/15/15 22:54	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:54	1
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:54	1
Sodium	<5.0		5.0		mg/L		06/14/15 14:10	06/15/15 22:54	1
Thallium	<0.25		0.25		mg/L		06/14/15 14:10	06/15/15 22:54	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 22:54	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 09:52	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: C4
Date Collected: 06/09/15 11:55
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-7
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:59	1
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:59	1
Barium	<0.50		0.50		mg/L		06/14/15 14:10	06/15/15 22:59	1
Beryllium	<0.0040		0.0040		mg/L		06/14/15 14:10	06/15/15 22:59	1
Boron	**0.15**		0.10		mg/L		06/14/15 14:10	06/15/15 22:59	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 22:59	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:59	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:59	1
Iron	<0.20		0.20		mg/L		06/14/15 14:10	06/15/15 22:59	1
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 19:12	1
Manganese	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:59	1
Molybdenum	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:59	1
Nickel	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:59	1
Potassium	<2.5		2.5		mg/L		06/14/15 14:10	06/15/15 22:59	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:59	1
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:59	1
Sodium	<5.0		5.0		mg/L		06/14/15 14:10	06/15/15 22:59	1
Thallium	<0.25		0.25		mg/L		06/14/15 14:10	06/15/15 22:59	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 22:59	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 09:54	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: C5
Date Collected: 06/09/15 11:50
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-8
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:03	1
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:03	1
Barium	<0.50		0.50		mg/L		06/14/15 14:10	06/15/15 23:03	1
Beryllium	<0.0040		0.0040		mg/L		06/14/15 14:10	06/15/15 23:03	1
Boron	<0.10		0.10		mg/L		06/14/15 14:10	06/15/15 23:03	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 23:03	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:03	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:03	1
Iron	**0.24**		0.20		mg/L		06/14/15 14:10	06/15/15 23:03	1
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 19:18	1
Manganese	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:03	1
Molybdenum	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:03	1
Nickel	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:03	1
Potassium	<2.5		2.5		mg/L		06/14/15 14:10	06/15/15 23:03	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:03	1
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:03	1
Sodium	<5.0		5.0		mg/L		06/14/15 14:10	06/15/15 23:03	1
Thallium	<0.25		0.25		mg/L		06/14/15 14:10	06/15/15 23:03	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 23:03	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 09:56	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: C6
Date Collected: 06/09/15 11:05
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-9
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:14	1
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:14	1
Barium	<0.50		0.50		mg/L		06/14/15 14:10	06/15/15 23:14	1
Beryllium	<0.0040		0.0040		mg/L		06/14/15 14:10	06/15/15 23:14	1
Boron	<0.10		0.10		mg/L		06/14/15 14:10	06/15/15 23:14	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 23:14	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:14	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:14	1
Iron	**0.42**		0.20		mg/L		06/14/15 14:10	06/15/15 23:14	1
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 19:24	1
Manganese	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:14	1
Molybdenum	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:14	1
Nickel	<0.025	^	0.025		mg/L		06/14/15 14:10	06/15/15 23:14	1
Potassium	<2.5		2.5		mg/L		06/14/15 14:10	06/15/15 23:14	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:14	1
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:14	1
Sodium	<5.0		5.0		mg/L		06/14/15 14:10	06/15/15 23:14	1
Thallium	<0.25		0.25		mg/L		06/14/15 14:10	06/15/15 23:14	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 23:14	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 09:58	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: C7
Date Collected: 06/09/15 10:55
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-10
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:18	1
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:18	1
Barium	<0.50		0.50		mg/L		06/14/15 14:10	06/15/15 23:18	1
Beryllium	<0.0040		0.0040		mg/L		06/14/15 14:10	06/15/15 23:18	1
Boron	<0.10		0.10		mg/L		06/14/15 14:10	06/15/15 23:18	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 23:18	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:18	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:18	1
Iron	<0.20		0.20		mg/L		06/14/15 14:10	06/15/15 23:18	1
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 19:31	1
Manganese	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:18	1
Molybdenum	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:18	1
Nickel	<0.025	^	0.025		mg/L		06/14/15 14:10	06/15/15 23:18	1
Potassium	<2.5		2.5		mg/L		06/14/15 14:10	06/15/15 23:18	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:18	1
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:18	1
Sodium	<5.0		5.0		mg/L		06/14/15 14:10	06/15/15 23:18	1
Thallium	<0.25		0.25		mg/L		06/14/15 14:10	06/15/15 23:18	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 23:18	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 10:00	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: D5
Date Collected: 06/09/15 11:40
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-11
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:22	1
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:22	1
Barium	<0.50		0.50		mg/L		06/14/15 14:10	06/15/15 23:22	1
Beryllium	<0.0040		0.0040		mg/L		06/14/15 14:10	06/15/15 23:22	1
Boron	<0.10		0.10		mg/L		06/14/15 14:10	06/15/15 23:22	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 23:22	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:22	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:22	1
Iron	**0.22**		0.20		mg/L		06/14/15 14:10	06/15/15 23:22	1
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 19:52	1
Manganese	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:22	1
Molybdenum	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:22	1
Nickel	<0.025	^	0.025		mg/L		06/14/15 14:10	06/15/15 23:22	1
Potassium	<2.5		2.5		mg/L		06/14/15 14:10	06/15/15 23:22	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:22	1
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:22	1
Sodium	<5.0		5.0		mg/L		06/14/15 14:10	06/15/15 23:22	1
Thallium	<0.25		0.25		mg/L		06/14/15 14:10	06/15/15 23:22	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 23:22	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 10:02	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: D6
Date Collected: 06/09/15 11:35
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-12
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:26	1
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:26	1
Barium	<0.50		0.50		mg/L		06/14/15 14:10	06/15/15 23:26	1
Beryllium	<0.0040		0.0040		mg/L		06/14/15 14:10	06/15/15 23:26	1
Boron	**0.12**		0.10		mg/L		06/14/15 14:10	06/15/15 23:26	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 23:26	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:26	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:26	1
Iron	**0.47**		0.20		mg/L		06/14/15 14:10	06/15/15 23:26	1
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 19:58	1
Manganese	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:26	1
Molybdenum	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:26	1
Nickel	<0.025	^	0.025		mg/L		06/14/15 14:10	06/15/15 23:26	1
Potassium	<2.5		2.5		mg/L		06/14/15 14:10	06/15/15 23:26	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:26	1
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:26	1
Sodium	<5.0		5.0		mg/L		06/14/15 14:10	06/15/15 23:26	1
Thallium	<0.25		0.25		mg/L		06/14/15 14:10	06/15/15 23:26	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 23:26	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 10:04	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: D7
Date Collected: 06/09/15 11:25
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-13
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:30	1
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:30	1
Barium	<0.50		0.50		mg/L		06/14/15 14:10	06/15/15 23:30	1
Beryllium	<0.0040		0.0040		mg/L		06/14/15 14:10	06/15/15 23:30	1
Boron	**0.13**		0.10		mg/L		06/14/15 14:10	06/15/15 23:30	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 23:30	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:30	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:30	1
Iron	<0.20		0.20		mg/L		06/14/15 14:10	06/15/15 23:30	1
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 20:04	1
Manganese	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:30	1
Molybdenum	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:30	1
Nickel	<0.025	^	0.025		mg/L		06/14/15 14:10	06/15/15 23:30	1
Potassium	<2.5		2.5		mg/L		06/14/15 14:10	06/15/15 23:30	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:30	1
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:30	1
Sodium	<5.0		5.0		mg/L		06/14/15 14:10	06/15/15 23:30	1
Thallium	<0.25		0.25		mg/L		06/14/15 14:10	06/15/15 23:30	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 23:30	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 10:06	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: B1
Date Collected: 06/09/15 12:20
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-14
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:34	1
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:34	1
Barium	<0.50		0.50		mg/L		06/14/15 14:10	06/15/15 23:34	1
Beryllium	<0.0040		0.0040		mg/L		06/14/15 14:10	06/15/15 23:34	1
Boron	**0.24**		0.10		mg/L		06/14/15 14:10	06/15/15 23:34	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 23:34	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:34	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:34	1
Iron	<0.20		0.20		mg/L		06/14/15 14:10	06/15/15 23:34	1
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 20:10	1
Manganese	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:34	1
Molybdenum	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:34	1
Nickel	<0.025	^	0.025		mg/L		06/14/15 14:10	06/15/15 23:34	1
Potassium	<2.5		2.5		mg/L		06/14/15 14:10	06/15/15 23:34	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 23:34	1
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 23:34	1
Sodium	<5.0		5.0		mg/L		06/14/15 14:10	06/15/15 23:34	1
Thallium	<0.25		0.25		mg/L		06/14/15 14:10	06/15/15 23:34	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 23:34	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 10:08	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: Protocol 1
Date Collected: 06/09/15 13:00
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-15
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.020		0.020		mg/L			06/18/15 15:56	20
Carbon tetrachloride	<0.020		0.020		mg/L			06/18/15 15:56	20
Chlorobenzene	<0.020		0.020		mg/L			06/18/15 15:56	20
Chloroform	<0.020		0.020		mg/L			06/18/15 15:56	20
1,2-Dichloroethane	<0.020		0.020		mg/L			06/18/15 15:56	20
1,1-Dichloroethene	<0.020		0.020		mg/L			06/18/15 15:56	20
Methyl Ethyl Ketone	<0.10		0.10		mg/L			06/18/15 15:56	20
Tetrachloroethene	<0.020		0.020		mg/L			06/18/15 15:56	20
Trichloroethene	<0.020		0.020		mg/L			06/18/15 15:56	20
Vinyl chloride	<0.020		0.020		mg/L			06/18/15 15:56	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*75 - 120*		*06/18/15 15:56*	*20*
Dibromofluoromethane	*93*		*75 - 120*		*06/18/15 15:56*	*20*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*		*06/18/15 15:56*	*20*
Toluene-d8 (Surr)	*100*		*75 - 120*		*06/18/15 15:56*	*20*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	<0.020		0.020		mg/L		06/16/15 10:52	06/16/15 22:21	1
2,4-Dinitrotoluene	<0.010		0.010		mg/L		06/16/15 10:52	06/16/15 22:21	1
Hexachlorobenzene	<0.0050		0.0050		mg/L		06/16/15 10:52	06/16/15 22:21	1
Hexachlorobutadiene	<0.050		0.050		mg/L		06/16/15 10:52	06/16/15 22:21	1
Hexachloroethane	<0.050		0.050		mg/L		06/16/15 10:52	06/16/15 22:21	1
2-Methylphenol	<0.020		0.020		mg/L		06/16/15 10:52	06/16/15 22:21	1
3 & 4 Methylphenol	<0.020		0.020		mg/L		06/16/15 10:52	06/16/15 22:21	1
Nitrobenzene	<0.010		0.010		mg/L		06/16/15 10:52	06/16/15 22:21	1
Pentachlorophenol	<0.20		0.20		mg/L		06/16/15 10:52	06/16/15 22:21	1
Pyridine	<0.20		0.20		mg/L		06/16/15 10:52	06/16/15 22:21	1
2,4,5-Trichlorophenol	<0.10		0.10		mg/L		06/16/15 10:52	06/16/15 22:21	1
2,4,6-Trichlorophenol	<0.050		0.050		mg/L		06/16/15 10:52	06/16/15 22:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*76*		*48 - 110*	*06/16/15 10:52*	*06/16/15 22:21*	*1*
2-Fluorophenol (Surr)	*39*		*20 - 100*	*06/16/15 10:52*	*06/16/15 22:21*	*1*
Nitrobenzene-d5 (Surr)	*85*		*41 - 110*	*06/16/15 10:52*	*06/16/15 22:21*	*1*
Phenol-d5 (Surr)	*29*		*20 - 100*	*06/16/15 10:52*	*06/16/15 22:21*	*1*
Terphenyl-d14 (Surr)	*104*		*44 - 132*	*06/16/15 10:52*	*06/16/15 22:21*	*1*
2,4,6-Tribromophenol (Surr)	*80*		*50 - 129*	*06/16/15 10:52*	*06/16/15 22:21*	*1*

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 21:01	1
Barium	**0.83**		0.50		mg/L		06/14/15 14:10	06/15/15 21:01	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 21:01	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 21:01	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 21:01	1
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 16:23	1
Nickel	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 21:01	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 21:01	1

Client Sample ID: Protocol 1

Date Collected: 06/09/15 13:00
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-15

Matrix: Solid

Method: 6010B - Metals (ICP) - TCLP (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 21:01	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 21:01	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 10:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Flashpoint	**>176**		40.0		Degrees F			06/11/15 15:50	1
Cyanide, Total	<0.48		0.48		mg/Kg		06/15/15 20:05	06/15/15 22:16	1
Sulfide	<10	F1	10		mg/Kg		06/16/15 10:12	06/16/15 12:30	1
pH	**6.99**		0.200		SU			06/12/15 13:20	1
Paint Filter	**pass**				No Unit			06/18/15 19:15	1
Specific Gravity	**1.33**				NONE			06/15/15 20:50	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: Protocol 1
Date Collected: 06/09/15 13:00
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-15
Matrix: Solid
Percent Solids: 87.9

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<19		19		ug/Kg	☼	06/17/15 18:04	06/18/15 15:48	1
PCB-1221	<19		19		ug/Kg	☼	06/17/15 18:04	06/18/15 15:48	1
PCB-1232	<19		19		ug/Kg	☼	06/17/15 18:04	06/18/15 15:48	1
PCB-1242	<19		19		ug/Kg	☼	06/17/15 18:04	06/18/15 15:48	1
PCB-1248	<19		19		ug/Kg	☼	06/17/15 18:04	06/18/15 15:48	1
PCB-1254	<19		19		ug/Kg	☼	06/17/15 18:04	06/18/15 15:48	1
PCB-1260	<19		19		ug/Kg	☼	06/17/15 18:04	06/18/15 15:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*66*		*50 - 116*	*06/17/15 18:04*	*06/18/15 15:48*	*1*
DCB Decachlorobiphenyl	*96*		*48 - 142*	*06/17/15 18:04*	*06/18/15 15:48*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Chlorine	<220		220		mg/Kg	☼	06/19/15 13:36	06/22/15 14:09	1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Metals

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA

Leach Batch: 291830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	TCLP	Solid	1311	
LB 500-291830/1-A	Method Blank	TCLP	Solid	1311	

Analysis Batch: 292410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	TCLP	Solid	8260B	291830
LB 500-291830/1-A	Method Blank	TCLP	Solid	8260B	291830
LCS 500-292410/3	Lab Control Sample	Total/NA	Solid	8260B	
MB 500-292410/5	Method Blank	Total/NA	Solid	8260B	

GC/MS Semi VOA

Leach Batch: 291829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	TCLP	Solid	1311	
LB 500-291829/1-D	Method Blank	TCLP	Solid	1311	

Prep Batch: 292097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	TCLP	Solid	3510C	291829
LB 500-291829/1-D	Method Blank	TCLP	Solid	3510C	291829
LCS 500-292097/2-A	Lab Control Sample	Total/NA	Solid	3510C	
MB 500-292097/1-A	Method Blank	Total/NA	Solid	3510C	

Analysis Batch: 292155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	TCLP	Solid	8270D	292097
LB 500-291829/1-D	Method Blank	TCLP	Solid	8270D	292097
LCS 500-292097/2-A	Lab Control Sample	Total/NA	Solid	8270D	292097
MB 500-292097/1-A	Method Blank	Total/NA	Solid	8270D	292097

GC Semi VOA

Prep Batch: 292346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	Total/NA	Solid	3541	
LCS 500-292346/3-A	Lab Control Sample	Total/NA	Solid	3541	
MB 500-292346/1-A	Method Blank	Total/NA	Solid	3541	

Analysis Batch: 292408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	Total/NA	Solid	8082A	292346
LCS 500-292346/3-A	Lab Control Sample	Total/NA	Solid	8082A	292346
MB 500-292346/1-A	Method Blank	Total/NA	Solid	8082A	292346

Metals

Leach Batch: 291829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	TCLP	Solid	1311	

Metals (Continued)

Leach Batch: 291829 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB 500-291829/1-B	Method Blank	TCLP	Solid	1311	
LB 500-291829/1-C	Method Blank	TCLP	Solid	1311	

Leach Batch: 291831

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-1	A2	ASTM Leach	Solid	D3987-85	
500-97217-1 DU	A2	ASTM Leach	Solid	D3987-85	
500-97217-1 MS	A2	ASTM Leach	Solid	D3987-85	
500-97217-2	A3	ASTM Leach	Solid	D3987-85	
500-97217-2 DU	A3	ASTM Leach	Solid	D3987-85	
500-97217-2 MS	A3	ASTM Leach	Solid	D3987-85	
500-97217-3	A4	ASTM Leach	Solid	D3987-85	
500-97217-4	A5	ASTM Leach	Solid	D3987-85	
500-97217-5	C2	ASTM Leach	Solid	D3987-85	
500-97217-6	C3	ASTM Leach	Solid	D3987-85	
500-97217-7	C4	ASTM Leach	Solid	D3987-85	
500-97217-8	C5	ASTM Leach	Solid	D3987-85	
500-97217-9	C6	ASTM Leach	Solid	D3987-85	
500-97217-10	C7	ASTM Leach	Solid	D3987-85	
500-97217-11	D5	ASTM Leach	Solid	D3987-85	
500-97217-12	D6	ASTM Leach	Solid	D3987-85	
500-97217-13	D7	ASTM Leach	Solid	D3987-85	
500-97217-14	B1	ASTM Leach	Solid	D3987-85	
LB3 500-291831/1-B	Method Blank	ASTM Leach	Solid	D3987-85	
LB3 500-291831/1-C	Method Blank	ASTM Leach	Solid	D3987-85	

Prep Batch: 291899

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	TCLP	Solid	3010A	291829
LB 500-291829/1-B	Method Blank	TCLP	Solid	3010A	291829
LCS 500-291899/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Prep Batch: 291900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-1	A2	ASTM Leach	Solid	3010A	291831
500-97217-1 DU	A2	ASTM Leach	Solid	3010A	291831
500-97217-1 MS	A2	ASTM Leach	Solid	3010A	291831
500-97217-2	A3	ASTM Leach	Solid	3010A	291831
500-97217-3	A4	ASTM Leach	Solid	3010A	291831
500-97217-4	A5	ASTM Leach	Solid	3010A	291831
500-97217-5	C2	ASTM Leach	Solid	3010A	291831
500-97217-6	C3	ASTM Leach	Solid	3010A	291831
500-97217-7	C4	ASTM Leach	Solid	3010A	291831
500-97217-8	C5	ASTM Leach	Solid	3010A	291831
500-97217-9	C6	ASTM Leach	Solid	3010A	291831
500-97217-10	C7	ASTM Leach	Solid	3010A	291831
500-97217-11	D5	ASTM Leach	Solid	3010A	291831
500-97217-12	D6	ASTM Leach	Solid	3010A	291831
500-97217-13	D7	ASTM Leach	Solid	3010A	291831
500-97217-14	B1	ASTM Leach	Solid	3010A	291831
LB3 500-291831/1-B	Method Blank	ASTM Leach	Solid	3010A	291831

Metals (Continued)

Prep Batch: 291900 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-291900/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Prep Batch: 291969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-1	A2	ASTM Leach	Solid	7470A	291831
500-97217-2	A3	ASTM Leach	Solid	7470A	291831
500-97217-2 DU	A3	ASTM Leach	Solid	7470A	291831
500-97217-2 MS	A3	ASTM Leach	Solid	7470A	291831
500-97217-3	A4	ASTM Leach	Solid	7470A	291831
500-97217-4	A5	ASTM Leach	Solid	7470A	291831
500-97217-5	C2	ASTM Leach	Solid	7470A	291831
500-97217-6	C3	ASTM Leach	Solid	7470A	291831
500-97217-7	C4	ASTM Leach	Solid	7470A	291831
500-97217-8	C5	ASTM Leach	Solid	7470A	291831
500-97217-9	C6	ASTM Leach	Solid	7470A	291831
500-97217-10	C7	ASTM Leach	Solid	7470A	291831
500-97217-11	D5	ASTM Leach	Solid	7470A	291831
500-97217-12	D6	ASTM Leach	Solid	7470A	291831
500-97217-13	D7	ASTM Leach	Solid	7470A	291831
500-97217-14	B1	ASTM Leach	Solid	7470A	291831
LB3 500-291831/1-C	Method Blank	ASTM Leach	Solid	7470A	291831
LCS 500-291969/13-A	Lab Control Sample	Total/NA	Solid	7470A	
MB 500-291969/12-A	Method Blank	Total/NA	Solid	7470A	

Prep Batch: 291970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	TCLP	Solid	7470A	291829
LB 500-291829/1-C	Method Blank	TCLP	Solid	7470A	291829
LCS 500-291970/13-A	Lab Control Sample	Total/NA	Solid	7470A	
MB 500-291970/12-A	Method Blank	Total/NA	Solid	7470A	

Analysis Batch: 292053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-1	A2	ASTM Leach	Solid	6010B	291900
500-97217-1 DU	A2	ASTM Leach	Solid	6010B	291900
500-97217-1 MS	A2	ASTM Leach	Solid	6010B	291900
500-97217-2	A3	ASTM Leach	Solid	6010B	291900
500-97217-3	A4	ASTM Leach	Solid	6010B	291900
500-97217-4	A5	ASTM Leach	Solid	6010B	291900
500-97217-5	C2	ASTM Leach	Solid	6010B	291900
500-97217-6	C3	ASTM Leach	Solid	6010B	291900
500-97217-7	C4	ASTM Leach	Solid	6010B	291900
500-97217-8	C5	ASTM Leach	Solid	6010B	291900
500-97217-9	C6	ASTM Leach	Solid	6010B	291900
500-97217-10	C7	ASTM Leach	Solid	6010B	291900
500-97217-11	D5	ASTM Leach	Solid	6010B	291900
500-97217-12	D6	ASTM Leach	Solid	6010B	291900
500-97217-13	D7	ASTM Leach	Solid	6010B	291900
500-97217-14	B1	ASTM Leach	Solid	6010B	291900
500-97217-15	Protocol 1	TCLP	Solid	6010B	291899
LB 500-291829/1-B	Method Blank	TCLP	Solid	6010B	291899

Metals (Continued)

Analysis Batch: 292053 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB3 500-291831/1-B	Method Blank	ASTM Leach	Solid	6010B	291900
LCS 500-291899/2-A	Lab Control Sample	Total/NA	Solid	6010B	291899
LCS 500-291900/2-A	Lab Control Sample	Total/NA	Solid	6010B	291900

Analysis Batch: 292106

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-1	A2	ASTM Leach	Solid	7470A	291969
500-97217-2	A3	ASTM Leach	Solid	7470A	291969
500-97217-2 DU	A3	ASTM Leach	Solid	7470A	291969
500-97217-2 MS	A3	ASTM Leach	Solid	7470A	291969
500-97217-3	A4	ASTM Leach	Solid	7470A	291969
500-97217-4	A5	ASTM Leach	Solid	7470A	291969
500-97217-5	C2	ASTM Leach	Solid	7470A	291969
500-97217-6	C3	ASTM Leach	Solid	7470A	291969
500-97217-7	C4	ASTM Leach	Solid	7470A	291969
500-97217-8	C5	ASTM Leach	Solid	7470A	291969
500-97217-9	C6	ASTM Leach	Solid	7470A	291969
500-97217-10	C7	ASTM Leach	Solid	7470A	291969
500-97217-11	D5	ASTM Leach	Solid	7470A	291969
500-97217-12	D6	ASTM Leach	Solid	7470A	291969
500-97217-13	D7	ASTM Leach	Solid	7470A	291969
500-97217-14	B1	ASTM Leach	Solid	7470A	291969
500-97217-15	Protocol 1	TCLP	Solid	7470A	291970
LB 500-291829/1-C	Method Blank	TCLP	Solid	7470A	291970
LB3 500-291831/1-C	Method Blank	ASTM Leach	Solid	7470A	291969
LCS 500-291969/13-A	Lab Control Sample	Total/NA	Solid	7470A	291969
LCS 500-291970/13-A	Lab Control Sample	Total/NA	Solid	7470A	291970
MB 500-291969/12-A	Method Blank	Total/NA	Solid	7470A	291969
MB 500-291970/12-A	Method Blank	Total/NA	Solid	7470A	291970

Analysis Batch: 292224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-1	A2	ASTM Leach	Solid	6010B	291900
500-97217-1 DU	A2	ASTM Leach	Solid	6010B	291900
500-97217-1 MS	A2	ASTM Leach	Solid	6010B	291900
500-97217-2	A3	ASTM Leach	Solid	6010B	291900
500-97217-3	A4	ASTM Leach	Solid	6010B	291900
500-97217-4	A5	ASTM Leach	Solid	6010B	291900
500-97217-5	C2	ASTM Leach	Solid	6010B	291900
500-97217-6	C3	ASTM Leach	Solid	6010B	291900
500-97217-7	C4	ASTM Leach	Solid	6010B	291900
500-97217-8	C5	ASTM Leach	Solid	6010B	291900
500-97217-9	C6	ASTM Leach	Solid	6010B	291900
500-97217-10	C7	ASTM Leach	Solid	6010B	291900
500-97217-11	D5	ASTM Leach	Solid	6010B	291900
500-97217-12	D6	ASTM Leach	Solid	6010B	291900
500-97217-13	D7	ASTM Leach	Solid	6010B	291900
500-97217-14	B1	ASTM Leach	Solid	6010B	291900
500-97217-15	Protocol 1	TCLP	Solid	6010B	291899
LB 500-291829/1-B	Method Blank	TCLP	Solid	6010B	291899
LB3 500-291831/1-B	Method Blank	ASTM Leach	Solid	6010B	291900

Metals (Continued)

Analysis Batch: 292224 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-291899/2-A	Lab Control Sample	Total/NA	Solid	6010B	291899
LCS 500-291900/2-A	Lab Control Sample	Total/NA	Solid	6010B	291900

General Chemistry

Analysis Batch: 291705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	Total/NA	Solid	Moisture	

Analysis Batch: 291731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	Total/NA	Solid	1010A	

Analysis Batch: 291847

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	Total/NA	Solid	9045C	

Prep Batch: 292026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	Total/NA	Solid	9010B	
LCS 500-292026/2-A	Lab Control Sample	Total/NA	Solid	9010B	
MB 500-292026/1-A	Method Blank	Total/NA	Solid	9010B	

Analysis Batch: 292027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	Total/NA	Solid	SM 2710F	

Analysis Batch: 292032

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	Total/NA	Solid	9014	292026
LCS 500-292026/2-A	Lab Control Sample	Total/NA	Solid	9014	292026
MB 500-292026/1-A	Method Blank	Total/NA	Solid	9014	292026

Prep Batch: 292075

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	Total/NA	Solid	9030B	
500-97217-15 MS	Protocol 1	Total/NA	Solid	9030B	
500-97217-15 MSD	Protocol 1	Total/NA	Solid	9030B	
LCS 500-292075/2-A	Lab Control Sample	Total/NA	Solid	9030B	
MB 500-292075/1-A	Method Blank	Total/NA	Solid	9030B	

Analysis Batch: 292113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	Total/NA	Solid	9034	292075
500-97217-15 MS	Protocol 1	Total/NA	Solid	9034	292075
500-97217-15 MSD	Protocol 1	Total/NA	Solid	9034	292075
LCS 500-292075/2-A	Lab Control Sample	Total/NA	Solid	9034	292075
MB 500-292075/1-A	Method Blank	Total/NA	Solid	9034	292075

General Chemistry (Continued)

Analysis Batch: 292536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	Total/NA	Solid	9095A	

Prep Batch: 388413

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	Total/NA	Solid	5050	
LCS 680-388413/2-A	Lab Control Sample	Total/NA	Solid	5050	
MB 680-388413/1-A	Method Blank	Total/NA	Solid	5050	

Analysis Batch: 388646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-97217-15	Protocol 1	Total/NA	Solid	9251	388413
LCS 680-388413/2-A	Lab Control Sample	Total/NA	Solid	9251	388413
MB 680-388413/1-A	Method Blank	Total/NA	Solid	9251	388413

Surrogate Summary

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(75-120)	(75-120)	(75-125)	(75-120)
LCS 500-292410/3	Lab Control Sample	100	97	103	103
MB 500-292410/5	Method Blank	100	96	98	101

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	12DCE	TOL
Lab Sample ID	Client Sample ID	(75-120)	(75-120)	(75-125)	(75-120)
500-97217-15	Protocol 1	104	93	102	100
LB 500-291830/1-A	Method Blank	99	97	103	100

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPH	TBP
Lab Sample ID	Client Sample ID	(48-110)	(20-100)	(41-110)	(20-100)	(44-132)	(50-129)
LCS 500-292097/2-A	Lab Control Sample	84	45	81	34	98	92
MB 500-292097/1-A	Method Blank	43 X	31	53	20	89	50

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Solid — **Prep Type: TCLP**

		Percent Surrogate Recovery (Acceptance Limits)					
		FBP	2FP	NBZ	PHL	TPH	TBP
Lab Sample ID	Client Sample ID	(48-110)	(20-100)	(41-110)	(20-100)	(44-132)	(50-129)
500-97217-15	Protocol 1	76	39	85	29	104	80
LB 500-291829/1-D	Method Blank	83	45	87	28	106	98

Surrogate Legend

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPH = Terphenyl-d14 (Surr)
TBP = 2,4,6-Tribromophenol (Surr)

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Solid **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)									
		TCX1	DCB1								
Lab Sample ID	Client Sample ID	(50-116)	(48-142)								
500-97217-15	Protocol 1	66	96								
LCS 500-292346/3-A	Lab Control Sample	83	109								
MB 500-292346/1-A	Method Blank	94	107								

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCB = DCB Decachlorobiphenyl

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-292410/5
Matrix: Solid
Analysis Batch: 292410

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.0010		0.0010		mg/L			06/18/15 11:41	1
Carbon tetrachloride	<0.0010		0.0010		mg/L			06/18/15 11:41	1
Chlorobenzene	<0.0010		0.0010		mg/L			06/18/15 11:41	1
Chloroform	<0.0010		0.0010		mg/L			06/18/15 11:41	1
1,2-Dichloroethane	<0.0010		0.0010		mg/L			06/18/15 11:41	1
1,1-Dichloroethene	<0.0010		0.0010		mg/L			06/18/15 11:41	1
Methyl Ethyl Ketone	<0.0050		0.0050		mg/L			06/18/15 11:41	1
Tetrachloroethene	<0.0010		0.0010		mg/L			06/18/15 11:41	1
Trichloroethene	<0.0010		0.0010		mg/L			06/18/15 11:41	1
Vinyl chloride	<0.0010		0.0010		mg/L			06/18/15 11:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*06/18/15 11:41*	*1*
Dibromofluoromethane	*96*		*75 - 120*		*06/18/15 11:41*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 125*		*06/18/15 11:41*	*1*
Toluene-d8 (Surr)	*101*		*75 - 120*		*06/18/15 11:41*	*1*

Lab Sample ID: LCS 500-292410/3
Matrix: Solid
Analysis Batch: 292410

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0457		mg/L		91	70 - 120
Carbon tetrachloride	0.0500	0.0477		mg/L		95	70 - 125
Chlorobenzene	0.0500	0.0485		mg/L		97	70 - 120
Chloroform	0.0500	0.0463		mg/L		93	70 - 120
1,2-Dichloroethane	0.0500	0.0496		mg/L		99	69 - 120
1,1-Dichloroethene	0.0500	0.0410		mg/L		82	58 - 122
Methyl Ethyl Ketone	0.0500	0.0507		mg/L		101	54 - 138
Tetrachloroethene	0.0500	0.0493		mg/L		99	70 - 123
Trichloroethene	0.0500	0.0466		mg/L		93	70 - 120
Vinyl chloride	0.0500	0.0513		mg/L		103	62 - 138

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*
Dibromofluoromethane	*97*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 125*
Toluene-d8 (Surr)	*103*		*75 - 120*

Lab Sample ID: LB 500-291830/1-A
Matrix: Solid
Analysis Batch: 292410

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.020		0.020		mg/L			06/18/15 13:35	20
Carbon tetrachloride	<0.020		0.020		mg/L			06/18/15 13:35	20
Chlorobenzene	<0.020		0.020		mg/L			06/18/15 13:35	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB 500-291830/1-A
Matrix: Solid
Analysis Batch: 292410

Client Sample ID: Method Blank
Prep Type: TCLP

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	<0.020		0.020		mg/L			06/18/15 13:35	20
1,2-Dichloroethane	<0.020		0.020		mg/L			06/18/15 13:35	20
1,1-Dichloroethene	<0.020		0.020		mg/L			06/18/15 13:35	20
Methyl Ethyl Ketone	<0.10		0.10		mg/L			06/18/15 13:35	20
Tetrachloroethene	<0.020		0.020		mg/L			06/18/15 13:35	20
Trichloroethene	<0.020		0.020		mg/L			06/18/15 13:35	20
Vinyl chloride	<0.020		0.020		mg/L			06/18/15 13:35	20

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*06/18/15 13:35*	*20*
Dibromofluoromethane	*97*		*75 - 120*		*06/18/15 13:35*	*20*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 125*		*06/18/15 13:35*	*20*
Toluene-d8 (Surr)	*100*		*75 - 120*		*06/18/15 13:35*	*20*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-292097/1-A
Matrix: Solid
Analysis Batch: 292155

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 292097

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	<0.0020		0.0020		mg/L		06/16/15 10:52	06/16/15 19:41	1
2,4-Dinitrotoluene	<0.0010		0.0010		mg/L		06/16/15 10:52	06/16/15 19:41	1
Hexachlorobenzene	<0.00050		0.00050		mg/L		06/16/15 10:52	06/16/15 19:41	1
Hexachlorobutadiene	<0.0050		0.0050		mg/L		06/16/15 10:52	06/16/15 19:41	1
Hexachloroethane	<0.0050		0.0050		mg/L		06/16/15 10:52	06/16/15 19:41	1
2-Methylphenol	<0.0020		0.0020		mg/L		06/16/15 10:52	06/16/15 19:41	1
3 & 4 Methylphenol	<0.0020		0.0020		mg/L		06/16/15 10:52	06/16/15 19:41	1
Nitrobenzene	<0.0010		0.0010		mg/L		06/16/15 10:52	06/16/15 19:41	1
Pentachlorophenol	<0.020		0.020		mg/L		06/16/15 10:52	06/16/15 19:41	1
Pyridine	<0.020		0.020		mg/L		06/16/15 10:52	06/16/15 19:41	1
2,4,5-Trichlorophenol	<0.010		0.010		mg/L		06/16/15 10:52	06/16/15 19:41	1
2,4,6-Trichlorophenol	<0.0050		0.0050		mg/L		06/16/15 10:52	06/16/15 19:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*43*	*X*	*48 - 110*	*06/16/15 10:52*	*06/16/15 19:41*	*1*
2-Fluorophenol (Surr)	*31*		*20 - 100*	*06/16/15 10:52*	*06/16/15 19:41*	*1*
Nitrobenzene-d5 (Surr)	*53*		*41 - 110*	*06/16/15 10:52*	*06/16/15 19:41*	*1*
Phenol-d5 (Surr)	*20*		*20 - 100*	*06/16/15 10:52*	*06/16/15 19:41*	*1*
Terphenyl-d14 (Surr)	*89*		*44 - 132*	*06/16/15 10:52*	*06/16/15 19:41*	*1*
2,4,6-Tribromophenol (Surr)	*50*		*50 - 129*	*06/16/15 10:52*	*06/16/15 19:41*	*1*

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-292097/2-A
Matrix: Solid
Analysis Batch: 292155

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 292097

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dichlorobenzene	0.0400	0.0249		mg/L		62	33 - 100
2,4-Dinitrotoluene	0.0400	0.0401		mg/L		100	62 - 119
Hexachlorobenzene	0.0400	0.0368		mg/L		92	60 - 110
Hexachlorobutadiene	0.0400	0.0242		mg/L		60	28 - 110
Hexachloroethane	0.0400	0.0209		mg/L		52	29 - 100
2-Methylphenol	0.0400	0.0298		mg/L		74	42 - 100
3 & 4 Methylphenol	0.0400	0.0293		mg/L		73	38 - 110
Nitrobenzene	0.0400	0.0323		mg/L		81	52 - 110
Pentachlorophenol	0.0800	0.0675		mg/L		84	42 - 127
Pyridine	0.0400	<0.020		mg/L		41	10 - 100
2,4,5-Trichlorophenol	0.0400	0.0389		mg/L		97	63 - 110
2,4,6-Trichlorophenol	0.0400	0.0388		mg/L		97	63 - 110

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2-Fluorobiphenyl	*84*		*48 - 110*
2-Fluorophenol (Surr)	*45*		*20 - 100*
Nitrobenzene-d5 (Surr)	*81*		*41 - 110*
Phenol-d5 (Surr)	*34*		*20 - 100*
Terphenyl-d14 (Surr)	*98*		*44 - 132*
2,4,6-Tribromophenol (Surr)	*92*		*50 - 129*

Lab Sample ID: LB 500-291829/1-D
Matrix: Solid
Analysis Batch: 292155

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 292097

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dichlorobenzene	<0.020		0.020		mg/L		06/16/15 10:52	06/16/15 20:27	1
2,4-Dinitrotoluene	<0.010		0.010		mg/L		06/16/15 10:52	06/16/15 20:27	1
Hexachlorobenzene	<0.0050		0.0050		mg/L		06/16/15 10:52	06/16/15 20:27	1
Hexachlorobutadiene	<0.050		0.050		mg/L		06/16/15 10:52	06/16/15 20:27	1
Hexachloroethane	<0.050		0.050		mg/L		06/16/15 10:52	06/16/15 20:27	1
2-Methylphenol	<0.020		0.020		mg/L		06/16/15 10:52	06/16/15 20:27	1
3 & 4 Methylphenol	<0.020		0.020		mg/L		06/16/15 10:52	06/16/15 20:27	1
Nitrobenzene	<0.010		0.010		mg/L		06/16/15 10:52	06/16/15 20:27	1
Pentachlorophenol	<0.20		0.20		mg/L		06/16/15 10:52	06/16/15 20:27	1
Pyridine	<0.20		0.20		mg/L		06/16/15 10:52	06/16/15 20:27	1
2,4,5-Trichlorophenol	<0.10		0.10		mg/L		06/16/15 10:52	06/16/15 20:27	1
2,4,6-Trichlorophenol	<0.050		0.050		mg/L		06/16/15 10:52	06/16/15 20:27	1

Surrogate	*LB %Recovery*	*LB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2-Fluorobiphenyl	*83*		*48 - 110*	*06/16/15 10:52*	*06/16/15 20:27*	*1*
2-Fluorophenol (Surr)	*45*		*20 - 100*	*06/16/15 10:52*	*06/16/15 20:27*	*1*
Nitrobenzene-d5 (Surr)	*87*		*41 - 110*	*06/16/15 10:52*	*06/16/15 20:27*	*1*
Phenol-d5 (Surr)	*28*		*20 - 100*	*06/16/15 10:52*	*06/16/15 20:27*	*1*
Terphenyl-d14 (Surr)	*106*		*44 - 132*	*06/16/15 10:52*	*06/16/15 20:27*	*1*
2,4,6-Tribromophenol (Surr)	*98*		*50 - 129*	*06/16/15 10:52*	*06/16/15 20:27*	*1*

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 500-292346/1-A
Matrix: Solid
Analysis Batch: 292408

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 292346

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<17		17		ug/Kg		06/17/15 18:04	06/18/15 15:21	1
PCB-1221	<17		17		ug/Kg		06/17/15 18:04	06/18/15 15:21	1
PCB-1232	<17		17		ug/Kg		06/17/15 18:04	06/18/15 15:21	1
PCB-1242	<17		17		ug/Kg		06/17/15 18:04	06/18/15 15:21	1
PCB-1248	<17		17		ug/Kg		06/17/15 18:04	06/18/15 15:21	1
PCB-1254	<17		17		ug/Kg		06/17/15 18:04	06/18/15 15:21	1
PCB-1260	<17		17		ug/Kg		06/17/15 18:04	06/18/15 15:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*94*		*50 - 116*	*06/17/15 18:04*	*06/18/15 15:21*	*1*
DCB Decachlorobiphenyl	*107*		*48 - 142*	*06/17/15 18:04*	*06/18/15 15:21*	*1*

Lab Sample ID: LCS 500-292346/3-A
Matrix: Solid
Analysis Batch: 292408

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 292346

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1016	167	153		ug/Kg		92	59 - 110
PCB-1260	167	166		ug/Kg		99	69 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*83*		*50 - 116*
DCB Decachlorobiphenyl	*109*		*48 - 142*

Method: 6010B - Metals (ICP)

Lab Sample ID: LCS 500-291899/2-A
Matrix: Solid
Analysis Batch: 292053

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 291899

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.103		mg/L		103	80 - 120
Barium	0.500	0.476	J	mg/L		95	80 - 120
Cadmium	0.0500	0.0528		mg/L		106	80 - 120
Chromium	0.200	0.198		mg/L		99	80 - 120
Copper	0.250	0.257		mg/L		103	80 - 120
Nickel	0.500	0.530		mg/L		106	80 - 120
Selenium	0.100	0.0897		mg/L		90	80 - 120
Silver	0.0500	0.0473		mg/L		95	80 - 120
Zinc	0.500	0.532	^	mg/L		106	80 - 120

Lab Sample ID: LCS 500-291899/2-A
Matrix: Solid
Analysis Batch: 292224

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 291899

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.100	0.105		mg/L		105	80 - 120

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 500-291900/2-A
Matrix: Solid
Analysis Batch: 292053

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 291900

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.551		mg/L		110	80 - 120
Arsenic	0.100	0.110		mg/L		110	80 - 120
Barium	0.500	0.487	J	mg/L		97	80 - 120
Beryllium	0.0500	0.0507		mg/L		101	80 - 120
Boron	1.00	1.04		mg/L		104	80 - 120
Cadmium	0.0500	0.0543		mg/L		109	80 - 120
Chromium	0.200	0.203		mg/L		101	80 - 120
Copper	0.250	0.274		mg/L		109	80 - 120
Iron	1.00	0.979		mg/L		98	80 - 120
Manganese	0.500	0.504		mg/L		101	80 - 120
Molybdenum	1.00	1.05		mg/L		105	80 - 120
Nickel	0.500	0.531		mg/L		106	80 - 120
Potassium	10.0	10.1		mg/L		101	80 - 120
Selenium	0.100	0.0929		mg/L		93	80 - 120
Silver	0.0500	0.0484		mg/L		97	80 - 120
Sodium	10.0	11.1		mg/L		111	80 - 120
Thallium	0.100	0.100	J	mg/L		100	80 - 120
Zinc	0.500	0.526	^	mg/L		105	80 - 120

Lab Sample ID: LCS 500-291900/2-A
Matrix: Solid
Analysis Batch: 292224

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 291900

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.100	0.109		mg/L		109	80 - 120

Lab Sample ID: LB 500-291829/1-B
Matrix: Solid
Analysis Batch: 292053

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 291899

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 20:32	1
Barium	<0.50		0.50		mg/L		06/14/15 14:10	06/15/15 20:32	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 20:32	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 20:32	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 20:32	1
Nickel	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 20:32	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 20:32	1
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 20:32	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 20:32	1

Lab Sample ID: LB 500-291829/1-B
Matrix: Solid
Analysis Batch: 292224

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 291899

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 15:30	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LB3 500-291831/1-B
Matrix: Solid
Analysis Batch: 292053

Client Sample ID: Method Blank
Prep Type: ASTM Leach
Prep Batch: 291900

Analyte	LB3 Result	LB3 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:06	1
Arsenic	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:06	1
Barium	<0.50		0.50		mg/L		06/14/15 14:10	06/15/15 22:06	1
Beryllium	<0.0040		0.0040		mg/L		06/14/15 14:10	06/15/15 22:06	1
Boron	<0.10		0.10		mg/L		06/14/15 14:10	06/15/15 22:06	1
Cadmium	<0.0050		0.0050		mg/L		06/14/15 14:10	06/15/15 22:06	1
Chromium	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:06	1
Copper	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:06	1
Iron	<0.20		0.20		mg/L		06/14/15 14:10	06/15/15 22:06	1
Manganese	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:06	1
Molybdenum	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:06	1
Nickel	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:06	1
Potassium	<2.5		2.5		mg/L		06/14/15 14:10	06/15/15 22:06	1
Selenium	<0.050		0.050		mg/L		06/14/15 14:10	06/15/15 22:06	1
Silver	<0.025		0.025		mg/L		06/14/15 14:10	06/15/15 22:06	1
Sodium	<5.0		5.0		mg/L		06/14/15 14:10	06/15/15 22:06	1
Thallium	<0.25		0.25		mg/L		06/14/15 14:10	06/15/15 22:06	1
Zinc	<0.10	^	0.10		mg/L		06/14/15 14:10	06/15/15 22:06	1

Lab Sample ID: LB3 500-291831/1-B
Matrix: Solid
Analysis Batch: 292224

Client Sample ID: Method Blank
Prep Type: ASTM Leach
Prep Batch: 291900

Analyte	LB3 Result	LB3 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	<0.050		0.050		mg/L		06/14/15 14:10	06/16/15 17:48	1

Lab Sample ID: 500-97217-1 MS
Matrix: Solid
Analysis Batch: 292053

Client Sample ID: A2
Prep Type: ASTM Leach
Prep Batch: 291900

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.050		0.500	0.541		mg/L		108	50 - 150
Arsenic	<0.050		0.100	0.106		mg/L		106	50 - 150
Barium	<0.50		0.500	0.562		mg/L		94	50 - 150
Beryllium	<0.0040		0.0500	0.0494		mg/L		99	50 - 150
Boron	0.20		1.00	1.21		mg/L		101	50 - 150
Cadmium	<0.0050		0.0500	0.0531		mg/L		106	50 - 150
Chromium	<0.025		0.200	0.198		mg/L		99	50 - 150
Copper	<0.025		0.250	0.267		mg/L		107	50 - 150
Iron	<0.20		1.00	1.00		mg/L		100	50 - 150
Manganese	<0.025		0.500	0.492		mg/L		98	50 - 150
Molybdenum	<0.050		1.00	1.02		mg/L		102	50 - 150
Nickel	<0.025		0.500	0.525		mg/L		105	50 - 150
Potassium	<2.5		10.0	11.6		mg/L		98	50 - 150
Selenium	<0.050		0.100	0.0901		mg/L		90	50 - 150
Silver	<0.025		0.0500	0.0476		mg/L		95	50 - 150
Sodium	14		10.0	24.9		mg/L		106	50 - 150
Thallium	<0.25		0.100	<0.25		mg/L		96	50 - 150

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 500-97217-1 MS
Matrix: Solid
Analysis Batch: 292053

Client Sample ID: A2
Prep Type: ASTM Leach
Prep Batch: 291900

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Zinc	<0.10	^	0.500	0.526	^	mg/L		105	50 - 150

Lab Sample ID: 500-97217-1 MS
Matrix: Solid
Analysis Batch: 292224

Client Sample ID: A2
Prep Type: ASTM Leach
Prep Batch: 291900

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	<0.050		0.100	0.107		mg/L		107	50 - 150

Lab Sample ID: 500-97217-1 DU
Matrix: Solid
Analysis Batch: 292053

Client Sample ID: A2
Prep Type: ASTM Leach
Prep Batch: 291900

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.050		<0.050		mg/L		NC	20
Arsenic	<0.050		<0.050		mg/L		NC	20
Barium	<0.50		<0.50		mg/L		NC	20
Beryllium	<0.0040		<0.0040		mg/L		NC	20
Boron	0.20		0.197		mg/L		0.3	20
Cadmium	<0.0050		<0.0050		mg/L		NC	20
Chromium	<0.025		<0.025		mg/L		NC	20
Copper	<0.025		<0.025		mg/L		NC	20
Iron	<0.20		<0.20		mg/L		NC	20
Manganese	<0.025		<0.025		mg/L		NC	20
Molybdenum	<0.050		<0.050		mg/L		NC	20
Nickel	<0.025		<0.025		mg/L		NC	20
Potassium	<2.5		<2.5		mg/L		NC	20
Selenium	<0.050		<0.050		mg/L		NC	20
Silver	<0.025		<0.025		mg/L		NC	20
Sodium	14		14.6		mg/L		2	20
Thallium	<0.25		<0.25		mg/L		NC	20
Zinc	<0.10	^	<0.10	^	mg/L		NC	20

Lab Sample ID: 500-97217-1 DU
Matrix: Solid
Analysis Batch: 292224

Client Sample ID: A2
Prep Type: ASTM Leach
Prep Batch: 291900

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Lead	<0.050		<0.050		mg/L		NC	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-291969/12-A
Matrix: Solid
Analysis Batch: 292106

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 291969

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 09:28	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 500-291969/13-A
Matrix: Solid
Analysis Batch: 292106

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 291969

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00200	0.00206		mg/L		103	80 - 120		

Lab Sample ID: MB 500-291970/12-A
Matrix: Solid
Analysis Batch: 292106

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 291970

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 10:21	1

Lab Sample ID: LCS 500-291970/13-A
Matrix: Solid
Analysis Batch: 292106

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 291970

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00200	0.00190		mg/L		95	80 - 120		

Lab Sample ID: LB 500-291829/1-C
Matrix: Solid
Analysis Batch: 292106

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 291970

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 10:25	1

Lab Sample ID: LB3 500-291831/1-C
Matrix: Solid
Analysis Batch: 292106

Client Sample ID: Method Blank
Prep Type: ASTM Leach
Prep Batch: 291969

Analyte	LB3 Result	LB3 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		06/15/15 11:30	06/16/15 09:32	1

Lab Sample ID: 500-97217-2 MS
Matrix: Solid
Analysis Batch: 292106

Client Sample ID: A3
Prep Type: ASTM Leach
Prep Batch: 291969

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	<0.00020		0.00100	0.00102		mg/L		102	50 - 150		

Lab Sample ID: 500-97217-2 DU
Matrix: Solid
Analysis Batch: 292106

Client Sample ID: A3
Prep Type: ASTM Leach
Prep Batch: 291969

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Mercury	<0.00020			<0.00020		mg/L				NC	20

Method: 9014 - Cyanide

Lab Sample ID: MB 500-292026/1-A
Matrix: Solid
Analysis Batch: 292032

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 292026

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.50		0.50		mg/Kg		06/15/15 20:05	06/15/15 22:15	1

Lab Sample ID: LCS 500-292026/2-A
Matrix: Solid
Analysis Batch: 292032

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 292026

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	5.00	5.04		mg/Kg		101	80 - 120

Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 500-292075/1-A
Matrix: Solid
Analysis Batch: 292113

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 292075

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfide	<10		10		mg/Kg		06/16/15 10:12	06/16/15 12:25	1

Lab Sample ID: LCS 500-292075/2-A
Matrix: Solid
Analysis Batch: 292113

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 292075

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	203	174		mg/Kg		86	80 - 120

Lab Sample ID: 500-97217-15 MS
Matrix: Solid
Analysis Batch: 292113

Client Sample ID: Protocol 1
Prep Type: Total/NA
Prep Batch: 292075

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfide	<10	F1	202	124	F1	mg/Kg		58	75 - 125

Lab Sample ID: 500-97217-15 MSD
Matrix: Solid
Analysis Batch: 292113

Client Sample ID: Protocol 1
Prep Type: Total/NA
Prep Batch: 292075

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfide	<10	F1	203	128	F1	mg/Kg		60	75 - 125	4	20

Method: 9251 - Chlorine, Total

Lab Sample ID: MB 680-388413/1-A
Matrix: Solid
Analysis Batch: 388646

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 388413

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Chlorine	<50		50		mg/Kg		06/19/15 13:36	06/22/15 14:09	1

Method: 9251 - Chlorine, Total (Continued)

Lab Sample ID: LCS 680-388413/2-A
Matrix: Solid
Analysis Batch: 388646

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 388413

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Chlorine	9890	9670		mg/Kg		98	70 - 130

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: A2

Lab Sample ID: 500-97217-1

Date Collected: 06/09/15 10:20

Matrix: Solid

Date Received: 06/11/15 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292224	06/16/15 18:01	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292053	06/15/15 22:14	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	7470A			291969	06/15/15 11:30	RLL	TAL CHI
ASTM Leach	Analysis	7470A		1	292106	06/16/15 09:34	RLL	TAL CHI

Client Sample ID: A3

Lab Sample ID: 500-97217-2

Date Collected: 06/09/15 10:30

Matrix: Solid

Date Received: 06/11/15 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292224	06/16/15 18:41	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292053	06/15/15 22:38	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	7470A			291969	06/15/15 11:30	RLL	TAL CHI
ASTM Leach	Analysis	7470A		1	292106	06/16/15 09:36	RLL	TAL CHI

Client Sample ID: A4

Lab Sample ID: 500-97217-3

Date Collected: 06/09/15 10:40

Matrix: Solid

Date Received: 06/11/15 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292224	06/16/15 18:47	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292053	06/15/15 22:42	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	7470A			291969	06/15/15 11:30	RLL	TAL CHI
ASTM Leach	Analysis	7470A		1	292106	06/16/15 09:42	RLL	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: A5

Lab Sample ID: 500-97217-4

Date Collected: 06/09/15 10:50
Date Received: 06/11/15 10:15

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292224	06/16/15 18:53	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292053	06/15/15 22:46	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	7470A			291969	06/15/15 11:30	RLL	TAL CHI
ASTM Leach	Analysis	7470A		1	292106	06/16/15 09:44	RLL	TAL CHI

Client Sample ID: C2

Lab Sample ID: 500-97217-5

Date Collected: 06/09/15 12:10
Date Received: 06/11/15 10:15

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292224	06/16/15 18:59	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292053	06/15/15 22:50	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	7470A			291969	06/15/15 11:30	RLL	TAL CHI
ASTM Leach	Analysis	7470A		1	292106	06/16/15 09:46	RLL	TAL CHI

Client Sample ID: C3

Lab Sample ID: 500-97217-6

Date Collected: 06/09/15 12:00
Date Received: 06/11/15 10:15

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292224	06/16/15 19:06	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292053	06/15/15 22:54	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	7470A			291969	06/15/15 11:30	RLL	TAL CHI
ASTM Leach	Analysis	7470A		1	292106	06/16/15 09:52	RLL	TAL CHI

Client Sample ID: C4

Lab Sample ID: 500-97217-7

Date Collected: 06/09/15 11:55

Matrix: Solid

Date Received: 06/11/15 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292224	06/16/15 19:12	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292053	06/15/15 22:59	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	7470A			291969	06/15/15 11:30	RLL	TAL CHI
ASTM Leach	Analysis	7470A		1	292106	06/16/15 09:54	RLL	TAL CHI

Client Sample ID: C5

Lab Sample ID: 500-97217-8

Date Collected: 06/09/15 11:50

Matrix: Solid

Date Received: 06/11/15 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292224	06/16/15 19:18	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292053	06/15/15 23:03	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	7470A			291969	06/15/15 11:30	RLL	TAL CHI
ASTM Leach	Analysis	7470A		1	292106	06/16/15 09:56	RLL	TAL CHI

Client Sample ID: C6

Lab Sample ID: 500-97217-9

Date Collected: 06/09/15 11:05

Matrix: Solid

Date Received: 06/11/15 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292224	06/16/15 19:24	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292053	06/15/15 23:14	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	7470A			291969	06/15/15 11:30	RLL	TAL CHI
ASTM Leach	Analysis	7470A		1	292106	06/16/15 09:58	RLL	TAL CHI

Client Sample ID: C7

Lab Sample ID: 500-97217-10

Date Collected: 06/09/15 10:55

Matrix: Solid

Date Received: 06/11/15 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292224	06/16/15 19:31	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292053	06/15/15 23:18	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	7470A			291969	06/15/15 11:30	RLL	TAL CHI
ASTM Leach	Analysis	7470A		1	292106	06/16/15 10:00	RLL	TAL CHI

Client Sample ID: D5

Lab Sample ID: 500-97217-11

Date Collected: 06/09/15 11:40

Matrix: Solid

Date Received: 06/11/15 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292224	06/16/15 19:52	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292053	06/15/15 23:22	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	7470A			291969	06/15/15 11:30	RLL	TAL CHI
ASTM Leach	Analysis	7470A		1	292106	06/16/15 10:02	RLL	TAL CHI

Client Sample ID: D6

Lab Sample ID: 500-97217-12

Date Collected: 06/09/15 11:35

Matrix: Solid

Date Received: 06/11/15 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292224	06/16/15 19:58	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292053	06/15/15 23:26	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	7470A			291969	06/15/15 11:30	RLL	TAL CHI
ASTM Leach	Analysis	7470A		1	292106	06/16/15 10:04	RLL	TAL CHI

Client Sample ID: D7

Lab Sample ID: 500-97217-13

Date Collected: 06/09/15 11:25

Matrix: Solid

Date Received: 06/11/15 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292224	06/16/15 20:04	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292053	06/15/15 23:30	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	7470A			291969	06/15/15 11:30	RLL	TAL CHI
ASTM Leach	Analysis	7470A		1	292106	06/16/15 10:06	RLL	TAL CHI

Client Sample ID: B1

Lab Sample ID: 500-97217-14

Date Collected: 06/09/15 12:20

Matrix: Solid

Date Received: 06/11/15 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292224	06/16/15 20:10	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	3010A			291900	06/14/15 14:10	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	292053	06/15/15 23:34	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			291831	06/12/15 13:00	CMV	TAL CHI
ASTM Leach	Prep	7470A			291969	06/15/15 11:30	RLL	TAL CHI
ASTM Leach	Analysis	7470A		1	292106	06/16/15 10:08	RLL	TAL CHI

Client Sample ID: Protocol 1

Lab Sample ID: 500-97217-15

Date Collected: 06/09/15 13:00

Matrix: Solid

Date Received: 06/11/15 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			291830	06/12/15 13:00	CMV	TAL CHI
TCLP	Analysis	8260B		20	292410	06/18/15 15:56	PMF	TAL CHI
TCLP	Leach	1311			291829	06/12/15 13:00	CMV	TAL CHI
TCLP	Prep	3510C			292097	06/16/15 10:52	RTO	TAL CHI
TCLP	Analysis	8270D		1	292155	06/16/15 22:21	BJH	TAL CHI
Total/NA	Prep	3541			292346	06/17/15 18:04	DEA	TAL CHI
Total/NA	Analysis	8082A		1	292408	06/18/15 15:48	GMO	TAL CHI
TCLP	Leach	1311			291829	06/12/15 13:00	CMV	TAL CHI
TCLP	Prep	3010A			291899	06/14/15 14:10	PJH	TAL CHI
TCLP	Analysis	6010B		1	292224	06/16/15 16:23	PJ1	TAL CHI
TCLP	Leach	1311			291829	06/12/15 13:00	CMV	TAL CHI
TCLP	Prep	3010A			291899	06/14/15 14:10	PJH	TAL CHI
TCLP	Analysis	6010B		1	292053	06/15/15 21:01	PJ1	TAL CHI
TCLP	Leach	1311			291829	06/12/15 13:00	CMV	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Client Sample ID: Protocol 1

Date Collected: 06/09/15 13:00
Date Received: 06/11/15 10:15

Lab Sample ID: 500-97217-15

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Prep	7470A			291970	06/15/15 11:30	RLL	TAL CHI
TCLP	Analysis	7470A		1	292106	06/16/15 10:57	RLL	TAL CHI
Total/NA	Analysis	1010A		1	291731		SSF	TAL CHI
					(Start)	06/11/15 15:50		
					(End)	06/11/15 17:18		
Total/NA	Prep	9010B			292026	06/15/15 20:05	ELR	TAL CHI
Total/NA	Analysis	9014		1	292032		ELR	TAL CHI
					(Start)	06/15/15 22:16		
					(End)	06/15/15 22:16		
Total/NA	Prep	9030B			292075	06/16/15 10:12	LAJ	TAL CHI
Total/NA	Analysis	9034		1	292113	06/16/15 12:30	LAJ	TAL CHI
Total/NA	Analysis	9045C		1	291847		LAJ	TAL CHI
					(Start)	06/12/15 13:20		
					(End)	06/12/15 13:22		
Total/NA	Analysis	9095A		1	292536		ELR	TAL CHI
					(Start)	06/18/15 19:15		
					(End)	06/18/15 19:20		
Total/NA	Prep	5050			388413	06/19/15 13:36	JRJ	TAL SAV
Total/NA	Analysis	9251		1	388646	06/22/15 14:09	JRJ	TAL SAV
Total/NA	Analysis	Moisture		1	291705	06/11/15 18:40	MJD	TAL CHI
Total/NA	Analysis	SM 2710F		1	292027	06/15/15 20:50	HMW	TAL CHI

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
7470A	7470A	Solid	Mercury
Moisture		Solid	Percent Moisture
Moisture		Solid	Percent Solids
SM 2710F		Solid	Specific Gravity

Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-17
A2LA	ISO/IEC 17025		399.01	02-28-17
Alabama	State Program	4	41450	06-30-15 *
Arkansas DEQ	State Program	6	88-0692	01-31-16
California	State Program	9	2939	07-31-15
Colorado	State Program	8	N/A	12-31-15
Connecticut	State Program	1	PH-0161	03-31-17
Florida	NELAP	4	E87052	06-30-15 *
GA Dept. of Agriculture	State Program	4	N/A	06-12-17
Georgia	State Program	4	N/A	06-30-16
Guam	State Program	9	14-004r	04-16-16
Hawaii	State Program	9	N/A	06-30-15 *
Illinois	NELAP	5	200022	11-30-15
Indiana	State Program	5	N/A	06-30-15 *
Iowa	State Program	7	353	06-30-17
Kentucky (DW)	State Program	4	90084	12-31-15
Kentucky (UST)	State Program	4	18	06-30-15 *
Kentucky (WW)	State Program	4	90084	12-31-15
Louisiana	NELAP	6	30690	06-30-15 *
Louisiana (DW)	NELAP	6	LA150014	12-31-15
Maine	State Program	1	GA00006	09-24-16
Maryland	State Program	3	250	12-31-15
Massachusetts	State Program	1	M-GA006	06-30-15 *
Michigan	State Program	5	9925	06-30-15 *
Mississippi	State Program	4	N/A	06-30-15 *
Montana	State Program	8	CERT0081	12-31-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-15 *
New Jersey	NELAP	2	GA769	06-30-15 *
New Mexico	State Program	6	N/A	06-30-15 *
New York	NELAP	2	10842	03-31-16
North Carolina (DW)	State Program	4	13701	07-31-15
North Carolina (WW/SW)	State Program	4	269	12-31-15
Oklahoma	State Program	6	9984	08-31-15
Pennsylvania	NELAP	3	68-00474	06-30-15 *
Puerto Rico	State Program	2	GA00006	12-31-15
South Carolina	State Program	4	98001	06-30-15 *
Tennessee	State Program	4	TN02961	06-30-15 *

* Certification renewal pending - certification considered valid.

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-97217-1

Laboratory: TestAmerica Savannah (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Texas	NELAP	6	T104704185-14-7	11-30-15
USDA	Federal		SAV 3-04	06-11-17
Virginia	NELAP	3	460161	06-14-16
Washington	State Program	10	C805	06-10-16
West Virginia (DW)	State Program	3	9950C	12-31-15
West Virginia DEP	State Program	3	094	06-30-15 *
Wisconsin	State Program	5	999819810	08-31-15
Wyoming	State Program	8	8TMS-L	06-30-15 *

* Certification renewal pending - certification considered valid.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)
Report To
Contact:
Company:
Address:
Address:
Phone:
Fax:
E-Mail:

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-97217

Chain of Custody Number:

Page 1 of 2

Temperature °C of Cooler: 9.4

Client: KPRG AND ASSOCIATES
Client Project #:
Project Name: CONFIDENTIAL
Project Location/State: WILL COUNTY, IL
Lab Project #: 500-97217 COC
Sampler: PATRICK ALLENSTEIN
Lab PM:

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Parameter: Neutral Leach Metals *	Parameter: Protocol B	Comments
1		A2	6/9/15	1020	1	S	X		
2		A3		1030					
3		A4		1040					
4		A5		1050					
5		C2		1210					
6		C3		1200					
7		C4		1155					
8		C5		1150					
9		C6		1105					
10		C7		1055					

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	KPRG	6/10/15	1600	FED EX		6/10/15	1600
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
				David Sparks	TA-CHI	06/11/15	10:15
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped: Fed Ex Priority
Hand Delivered

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments
* Neutral Leach Metals Incl:
As, Sb, Ba, Be, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Mo, Ni, K, Se, Ag, Na, Tl, Zn, Hg
(See lab quote 500-10899-O)

Lab Comments:

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)
Report To
Contact:
Company:
Address:
Address:
Phone:
Fax:
E-Mail:

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-97217
Chain of Custody Number:
Page 2 of 2
Temperature °C of Cooler: 9.4

Client: KPRG and Assoc. | Client Project #: 16714.1
Project Name: CONFIDENTIAL
Project Location/State: WILL COUNTY, IL | Lab Project #:
Sampler: PATRICK ALLENSTEIN | Lab PM:

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	Parameter: Neutral Leach Metals *	Parameter: Protocol B	Comments
11		D5	6/9/15	1140	1	S		X		
12		D6		1135	1			X		
13		D7		1125	1			X		
14		B1		1220	1			X		
15		PROTOCOL 1		1300					X	

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
				[signature]	TA-CHI	06/11/15	10:15

Lab Courier:
Shipped: FedEx Priority
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments
*Neutral Leach Metals Incl:
As, Sb, Ba, Be, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Mo, Ni, K, Se, Ag, Na, Tl, Zn, Hg
(See lab quote 50010899-0)

Lab Comments:

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Stadelmann, Bonnie M	Carrier Tracking No(s):	COC No: 500-62242.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 500-97217-1

Address: 5102 LaRoche Avenue, ,	Due Date Requested: 6/23/2015
City: Savannah	TAT Requested (days):
State, Zip: GA, 31404	
Phone: 912-354-7858(Tel) 912-352-0165(Fax)	PO #:
Email:	WO #:
Project Name: Protocol B & ASTM Leach Metals	Project #: 50011056
Site:	SSOW#:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	9251_Total_Cl/5050	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
Protocol 1 (500-97217-15)	6/9/15	13:00 Central		Solid			X	1	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		06/11/15 1600	TAL			
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 6/12/15 8:59	Company TA

Custody Seals Intact: ∆ Yes ∆ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.8/3.3

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MWG13-15_49626
6/24/2015

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-97217-1

Login Number: 97217
List Number: 1
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	False	
Cooler Temperature is recorded.	True	9.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-97217-1

Login Number: 97217
List Number: 2
Creator: Riegner, Charlton A

List Source: TestAmerica Savannah
List Creation: 06/12/15 11:50 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-99434-1
Client Project/Site: Confidential

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
8/25/2015 11:49:16 AM

Bonnie Stadelmann, Senior Project Manager
(708)534-5200
bonnie.stadelmann@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-99434-1

Job ID: 500-99434-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-99434-1

Comments
No additional comments.

Receipt
The samples were received on 8/5/2015 1:10 PM; the samples arrived in good condition, properly preserved and, where required, on ice.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-99434-1

Client Sample ID: B2 — Lab Sample ID: 500-99434-1

No Detections.

Client Sample ID: B3 — Lab Sample ID: 500-99434-2

No Detections.

Client Sample ID: B4 — Lab Sample ID: 500-99434-3

No Detections.

Client Sample ID: B5 — Lab Sample ID: 500-99434-4

No Detections.

Client Sample ID: B6 — Lab Sample ID: 500-99434-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.12		0.10		mg/L	1		6010B	ASTM Leach

Client Sample ID: B7 — Lab Sample ID: 500-99434-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.16		0.10		mg/L	1		6010B	ASTM Leach

This Detection Summary does not include radiochemical test results.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-99434-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-99434-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-99434-1	B2	Solid	08/05/15 09:34	08/05/15 13:10
500-99434-2	B3	Solid	08/05/15 09:45	08/05/15 13:10
500-99434-3	B4	Solid	08/05/15 10:00	08/05/15 13:10
500-99434-4	B5	Solid	08/05/15 10:10	08/05/15 13:10
500-99434-5	B6	Solid	08/05/15 10:25	08/05/15 13:10
500-99434-6	B7	Solid	08/05/15 10:40	08/05/15 13:10

Client Sample ID: B2

Lab Sample ID: 500-99434-1

Date Collected: 08/05/15 09:34

Matrix: Solid

Date Received: 08/05/15 13:10

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:13	1
Arsenic	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:13	1
Barium	<0.50		0.50		mg/L		08/23/15 15:30	08/24/15 17:13	1
Beryllium	<0.0040		0.0040		mg/L		08/23/15 15:30	08/24/15 17:13	1
Boron	<0.10		0.10		mg/L		08/23/15 15:30	08/24/15 17:13	1
Cadmium	<0.0050		0.0050		mg/L		08/23/15 15:30	08/24/15 17:13	1
Chromium	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:13	1
Cobalt	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:13	1
Copper	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:13	1
Iron	<0.20		0.20		mg/L		08/23/15 15:30	08/24/15 17:13	1
Lead	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:13	1
Manganese	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:13	1
Molybdenum	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:13	1
Nickel	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:13	1
Potassium	<2.5		2.5		mg/L		08/23/15 15:30	08/24/15 17:13	1
Selenium	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:13	1
Silver	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:13	1
Sodium	<5.0		5.0		mg/L		08/23/15 15:30	08/24/15 17:13	1
Thallium	<0.25		0.25		mg/L		08/23/15 15:30	08/24/15 17:13	1
Zinc	<0.10		0.10		mg/L		08/23/15 15:30	08/24/15 17:13	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/21/15 15:00	08/24/15 11:27	1

Client Sample ID: B3

Lab Sample ID: 500-99434-2

Date Collected: 08/05/15 09:45

Matrix: Solid

Date Received: 08/05/15 13:10

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:17	1
Arsenic	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:17	1
Barium	<0.50		0.50		mg/L		08/23/15 15:30	08/24/15 17:17	1
Beryllium	<0.0040		0.0040		mg/L		08/23/15 15:30	08/24/15 17:17	1
Boron	<0.10		0.10		mg/L		08/23/15 15:30	08/24/15 17:17	1
Cadmium	<0.0050		0.0050		mg/L		08/23/15 15:30	08/24/15 17:17	1
Chromium	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:17	1
Cobalt	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:17	1
Copper	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:17	1
Iron	<0.20		0.20		mg/L		08/23/15 15:30	08/24/15 17:17	1
Lead	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:17	1
Manganese	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:17	1
Molybdenum	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:17	1
Nickel	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:17	1
Potassium	<2.5		2.5		mg/L		08/23/15 15:30	08/24/15 17:17	1
Selenium	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:17	1
Silver	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:17	1
Sodium	<5.0		5.0		mg/L		08/23/15 15:30	08/24/15 17:17	1
Thallium	<0.25		0.25		mg/L		08/23/15 15:30	08/24/15 17:17	1

Client Sample ID: B3

Date Collected: 08/05/15 09:45
Date Received: 08/05/15 13:10

Lab Sample ID: 500-99434-2
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Zinc	<0.10		0.10		mg/L		08/23/15 15:30	08/24/15 17:17	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/21/15 15:00	08/24/15 11:32	1

Client Sample ID: B4

Date Collected: 08/05/15 10:00
Date Received: 08/05/15 13:10

Lab Sample ID: 500-99434-3
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:33	1
Arsenic	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:33	1
Barium	<0.50		0.50		mg/L		08/23/15 15:30	08/24/15 17:33	1
Beryllium	<0.0040		0.0040		mg/L		08/23/15 15:30	08/24/15 17:33	1
Boron	<0.10		0.10		mg/L		08/23/15 15:30	08/24/15 17:33	1
Cadmium	<0.0050		0.0050		mg/L		08/23/15 15:30	08/24/15 17:33	1
Chromium	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:33	1
Cobalt	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:33	1
Copper	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:33	1
Iron	<0.20		0.20		mg/L		08/23/15 15:30	08/24/15 17:33	1
Lead	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:33	1
Manganese	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:33	1
Molybdenum	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:33	1
Nickel	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:33	1
Potassium	<2.5		2.5		mg/L		08/23/15 15:30	08/24/15 17:33	1
Selenium	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:33	1
Silver	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:33	1
Sodium	<5.0		5.0		mg/L		08/23/15 15:30	08/24/15 17:33	1
Thallium	<0.25		0.25		mg/L		08/23/15 15:30	08/24/15 17:33	1
Zinc	<0.10		0.10		mg/L		08/23/15 15:30	08/24/15 17:33	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/21/15 15:00	08/24/15 11:34	1

Client Sample ID: B5

Date Collected: 08/05/15 10:10
Date Received: 08/05/15 13:10

Lab Sample ID: 500-99434-4
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:37	1
Arsenic	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:37	1
Barium	<0.50		0.50		mg/L		08/23/15 15:30	08/24/15 17:37	1
Beryllium	<0.0040		0.0040		mg/L		08/23/15 15:30	08/24/15 17:37	1
Boron	<0.10		0.10		mg/L		08/23/15 15:30	08/24/15 17:37	1
Cadmium	<0.0050		0.0050		mg/L		08/23/15 15:30	08/24/15 17:37	1
Chromium	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:37	1

Client Sample ID: B5

Date Collected: 08/05/15 10:10
Date Received: 08/05/15 13:10

Lab Sample ID: 500-99434-4
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:37	1
Copper	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:37	1
Iron	<0.20		0.20		mg/L		08/23/15 15:30	08/24/15 17:37	1
Lead	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:37	1
Manganese	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:37	1
Molybdenum	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:37	1
Nickel	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:37	1
Potassium	<2.5		2.5		mg/L		08/23/15 15:30	08/24/15 17:37	1
Selenium	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:37	1
Silver	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:37	1
Sodium	<5.0		5.0		mg/L		08/23/15 15:30	08/24/15 17:37	1
Thallium	<0.25		0.25		mg/L		08/23/15 15:30	08/24/15 17:37	1
Zinc	<0.10		0.10		mg/L		08/23/15 15:30	08/24/15 17:37	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/21/15 15:00	08/24/15 11:36	1

Client Sample ID: B6

Date Collected: 08/05/15 10:25
Date Received: 08/05/15 13:10

Lab Sample ID: 500-99434-5
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:41	1
Arsenic	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:41	1
Barium	<0.50		0.50		mg/L		08/23/15 15:30	08/24/15 17:41	1
Beryllium	<0.0040		0.0040		mg/L		08/23/15 15:30	08/24/15 17:41	1
Boron	**0.12**		0.10		mg/L		08/23/15 15:30	08/24/15 17:41	1
Cadmium	<0.0050		0.0050		mg/L		08/23/15 15:30	08/24/15 17:41	1
Chromium	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:41	1
Cobalt	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:41	1
Copper	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:41	1
Iron	<0.20		0.20		mg/L		08/23/15 15:30	08/24/15 17:41	1
Lead	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:41	1
Manganese	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:41	1
Molybdenum	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:41	1
Nickel	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:41	1
Potassium	<2.5		2.5		mg/L		08/23/15 15:30	08/24/15 17:41	1
Selenium	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:41	1
Silver	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:41	1
Sodium	<5.0		5.0		mg/L		08/23/15 15:30	08/24/15 17:41	1
Thallium	<0.25		0.25		mg/L		08/23/15 15:30	08/24/15 17:41	1
Zinc	<0.10		0.10		mg/L		08/23/15 15:30	08/24/15 17:41	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/21/15 15:00	08/24/15 11:38	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-99434-1

Client Sample ID: B7
Date Collected: 08/05/15 10:40
Date Received: 08/05/15 13:10

Lab Sample ID: 500-99434-6
Matrix: Solid

Method: 6010B - Metals (ICP) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:52	1
Arsenic	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:52	1
Barium	<0.50		0.50		mg/L		08/23/15 15:30	08/24/15 17:52	1
Beryllium	<0.0040		0.0040		mg/L		08/23/15 15:30	08/24/15 17:52	1
Boron	**0.16**		0.10		mg/L		08/23/15 15:30	08/24/15 17:52	1
Cadmium	<0.0050		0.0050		mg/L		08/23/15 15:30	08/24/15 17:52	1
Chromium	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:52	1
Cobalt	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:52	1
Copper	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:52	1
Iron	<0.20		0.20		mg/L		08/23/15 15:30	08/24/15 17:52	1
Lead	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:52	1
Manganese	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:52	1
Molybdenum	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:52	1
Nickel	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:52	1
Potassium	<2.5		2.5		mg/L		08/23/15 15:30	08/24/15 17:52	1
Selenium	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:52	1
Silver	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:52	1
Sodium	<5.0		5.0		mg/L		08/23/15 15:30	08/24/15 17:52	1
Thallium	<0.25		0.25		mg/L		08/23/15 15:30	08/24/15 17:52	1
Zinc	<0.10		0.10		mg/L		08/23/15 15:30	08/24/15 17:52	1

Method: 7470A - Mercury (CVAA) - ASTM Leach

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/21/15 15:00	08/24/15 11:40	1

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-99434-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Leach Batch: 301047

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-99434-1	B2	ASTM Leach	Solid	D3987-85	
500-99434-1 DU	B2	ASTM Leach	Solid	D3987-85	
500-99434-1 MS	B2	ASTM Leach	Solid	D3987-85	
500-99434-2	B3	ASTM Leach	Solid	D3987-85	
500-99434-2 DU	B3	ASTM Leach	Solid	D3987-85	
500-99434-2 MS	B3	ASTM Leach	Solid	D3987-85	
500-99434-3	B4	ASTM Leach	Solid	D3987-85	
500-99434-4	B5	ASTM Leach	Solid	D3987-85	
500-99434-5	B6	ASTM Leach	Solid	D3987-85	
500-99434-6	B7	ASTM Leach	Solid	D3987-85	
LB3 500-301047/1-B	Method Blank	ASTM Leach	Solid	D3987-85	
LB3 500-301047/1-C	Method Blank	ASTM Leach	Solid	D3987-85	

Prep Batch: 301140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-99434-1	B2	ASTM Leach	Solid	7470A	301047
500-99434-1 DU	B2	ASTM Leach	Solid	7470A	301047
500-99434-1 MS	B2	ASTM Leach	Solid	7470A	301047
500-99434-2	B3	ASTM Leach	Solid	7470A	301047
500-99434-3	B4	ASTM Leach	Solid	7470A	301047
500-99434-4	B5	ASTM Leach	Solid	7470A	301047
500-99434-5	B6	ASTM Leach	Solid	7470A	301047
500-99434-6	B7	ASTM Leach	Solid	7470A	301047
LB3 500-301047/1-B	Method Blank	ASTM Leach	Solid	7470A	301047
LCS 500-301140/13-A	Lab Control Sample	Total/NA	Solid	7470A	
MB 500-301140/12-A	Method Blank	Total/NA	Solid	7470A	

Prep Batch: 301312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-99434-1	B2	ASTM Leach	Solid	3010A	301047
500-99434-2	B3	ASTM Leach	Solid	3010A	301047
500-99434-2 DU	B3	ASTM Leach	Solid	3010A	301047
500-99434-2 MS	B3	ASTM Leach	Solid	3010A	301047
500-99434-3	B4	ASTM Leach	Solid	3010A	301047
500-99434-4	B5	ASTM Leach	Solid	3010A	301047
500-99434-5	B6	ASTM Leach	Solid	3010A	301047
500-99434-6	B7	ASTM Leach	Solid	3010A	301047
LB3 500-301047/1-C	Method Blank	ASTM Leach	Solid	3010A	301047
LCS 500-301312/2-A	Lab Control Sample	Total/NA	Solid	3010A	

Analysis Batch: 301422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-99434-1	B2	ASTM Leach	Solid	7470A	301140
500-99434-1 DU	B2	ASTM Leach	Solid	7470A	301140
500-99434-1 MS	B2	ASTM Leach	Solid	7470A	301140
500-99434-2	B3	ASTM Leach	Solid	7470A	301140
500-99434-3	B4	ASTM Leach	Solid	7470A	301140
500-99434-4	B5	ASTM Leach	Solid	7470A	301140
500-99434-5	B6	ASTM Leach	Solid	7470A	301140
500-99434-6	B7	ASTM Leach	Solid	7470A	301140
LB3 500-301047/1-B	Method Blank	ASTM Leach	Solid	7470A	301140

Metals (Continued)

Analysis Batch: 301422 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-301140/13-A	Lab Control Sample	Total/NA	Solid	7470A	301140
MB 500-301140/12-A	Method Blank	Total/NA	Solid	7470A	301140

Analysis Batch: 301493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-99434-1	B2	ASTM Leach	Solid	6010B	301312
500-99434-2	B3	ASTM Leach	Solid	6010B	301312
500-99434-2 DU	B3	ASTM Leach	Solid	6010B	301312
500-99434-2 MS	B3	ASTM Leach	Solid	6010B	301312
500-99434-3	B4	ASTM Leach	Solid	6010B	301312
500-99434-4	B5	ASTM Leach	Solid	6010B	301312
500-99434-5	B6	ASTM Leach	Solid	6010B	301312
500-99434-6	B7	ASTM Leach	Solid	6010B	301312
LB3 500-301047/1-C	Method Blank	ASTM Leach	Solid	6010B	301312
LCS 500-301312/2-A	Lab Control Sample	Total/NA	Solid	6010B	301312

Method: 6010B - Metals (ICP)

Lab Sample ID: LCS 500-301312/2-A
Matrix: Solid
Analysis Batch: 301493

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 301312

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.493		mg/L		99	80 - 120
Arsenic	0.100	0.0981		mg/L		98	80 - 120
Barium	2.00	2.04		mg/L		102	80 - 120
Beryllium	0.0500	0.0509		mg/L		102	80 - 120
Boron	1.00	0.941		mg/L		94	80 - 120
Cadmium	0.0500	0.0495		mg/L		99	80 - 120
Chromium	0.200	0.204		mg/L		102	80 - 120
Cobalt	0.500	0.507		mg/L		101	80 - 120
Copper	0.250	0.258		mg/L		103	80 - 120
Iron	1.00	1.02		mg/L		102	80 - 120
Lead	0.100	0.0990		mg/L		99	80 - 120
Manganese	0.500	0.504		mg/L		101	80 - 120
Molybdenum	1.00	1.01		mg/L		101	80 - 120
Nickel	0.500	0.499		mg/L		100	80 - 120
Potassium	10.0	10.1		mg/L		101	80 - 120
Selenium	0.100	0.0988		mg/L		99	80 - 120
Silver	0.0500	0.0489		mg/L		98	80 - 120
Sodium	10.0	10.3		mg/L		103	80 - 120
Thallium	0.100	0.0970	J	mg/L		97	80 - 120
Zinc	0.500	0.501		mg/L		100	80 - 120

Lab Sample ID: LB3 500-301047/1-C
Matrix: Solid
Analysis Batch: 301493

Client Sample ID: Method Blank
Prep Type: ASTM Leach
Prep Batch: 301312

Analyte	LB3 Result	LB3 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:05	1
Arsenic	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:05	1
Barium	<0.50		0.50		mg/L		08/23/15 15:30	08/24/15 17:05	1
Beryllium	<0.0040		0.0040		mg/L		08/23/15 15:30	08/24/15 17:05	1
Boron	<0.10		0.10		mg/L		08/23/15 15:30	08/24/15 17:05	1
Cadmium	<0.0050		0.0050		mg/L		08/23/15 15:30	08/24/15 17:05	1
Chromium	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:05	1
Cobalt	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:05	1
Copper	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:05	1
Iron	<0.20		0.20		mg/L		08/23/15 15:30	08/24/15 17:05	1
Lead	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:05	1
Manganese	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:05	1
Molybdenum	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:05	1
Nickel	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:05	1
Potassium	<2.5		2.5		mg/L		08/23/15 15:30	08/24/15 17:05	1
Selenium	<0.050		0.050		mg/L		08/23/15 15:30	08/24/15 17:05	1
Silver	<0.025		0.025		mg/L		08/23/15 15:30	08/24/15 17:05	1
Sodium	<5.0		5.0		mg/L		08/23/15 15:30	08/24/15 17:05	1
Thallium	<0.25		0.25		mg/L		08/23/15 15:30	08/24/15 17:05	1
Zinc	<0.10		0.10		mg/L		08/23/15 15:30	08/24/15 17:05	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 500-99434-2 MS
Matrix: Solid
Analysis Batch: 301493

Client Sample ID: B3
Prep Type: ASTM Leach
Prep Batch: 301312

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.050		0.500	0.503		mg/L		101	50 - 150
Arsenic	<0.050		0.100	0.101		mg/L		101	50 - 150
Barium	<0.50		2.00	2.15		mg/L		101	50 - 150
Beryllium	<0.0040		0.0500	0.0507		mg/L		101	50 - 150
Boron	<0.10		1.00	1.01		mg/L		95	50 - 150
Cadmium	<0.0050		0.0500	0.0500		mg/L		100	50 - 150
Chromium	<0.025		0.200	0.201		mg/L		100	50 - 150
Cobalt	<0.025		0.500	0.515		mg/L		103	50 - 150
Copper	<0.025		0.250	0.257		mg/L		103	50 - 150
Iron	<0.20		1.00	0.977		mg/L		98	50 - 150
Lead	<0.050		0.100	0.101		mg/L		101	50 - 150
Manganese	<0.025		0.500	0.500		mg/L		100	50 - 150
Molybdenum	<0.050		1.00	1.03		mg/L		103	50 - 150
Nickel	<0.025		0.500	0.508		mg/L		102	50 - 150
Potassium	<2.5		10.0	10.4		mg/L		104	50 - 150
Selenium	<0.050		0.100	0.0980		mg/L		98	50 - 150
Silver	<0.025		0.0500	0.0480		mg/L		96	50 - 150
Sodium	<5.0		10.0	11.6		mg/L		102	50 - 150
Thallium	<0.25		0.100	<0.25		mg/L		96	50 - 150
Zinc	<0.10		0.500	0.516		mg/L		103	50 - 150

Lab Sample ID: 500-99434-2 DU
Matrix: Solid
Analysis Batch: 301493

Client Sample ID: B3
Prep Type: ASTM Leach
Prep Batch: 301312

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.050		<0.050		mg/L		NC	20
Arsenic	<0.050		<0.050		mg/L		NC	20
Barium	<0.50		<0.50		mg/L		NC	20
Beryllium	<0.0040		<0.0040		mg/L		NC	20
Boron	<0.10		<0.10		mg/L		NC	20
Cadmium	<0.0050		<0.0050		mg/L		NC	20
Chromium	<0.025		<0.025		mg/L		NC	20
Cobalt	<0.025		<0.025		mg/L		NC	20
Copper	<0.025		<0.025		mg/L		NC	20
Iron	<0.20		<0.20		mg/L		NC	20
Lead	<0.050		<0.050		mg/L		NC	20
Manganese	<0.025		<0.025		mg/L		NC	20
Molybdenum	<0.050		<0.050		mg/L		NC	20
Nickel	<0.025		<0.025		mg/L		NC	20
Potassium	<2.5		<2.5		mg/L		NC	20
Selenium	<0.050		<0.050		mg/L		NC	20
Silver	<0.025		<0.025		mg/L		NC	20
Sodium	<5.0		<5.0		mg/L		NC	20
Thallium	<0.25		<0.25		mg/L		NC	20
Zinc	<0.10		<0.10		mg/L		NC	20

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-99434-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-301140/12-A
Matrix: Solid
Analysis Batch: 301422

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 301140

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/21/15 15:00	08/24/15 11:14	1

Lab Sample ID: LCS 500-301140/13-A
Matrix: Solid
Analysis Batch: 301422

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 301140

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00204		mg/L		102	80 - 120

Lab Sample ID: LB3 500-301047/1-B
Matrix: Solid
Analysis Batch: 301422

Client Sample ID: Method Blank
Prep Type: ASTM Leach
Prep Batch: 301140

Analyte	LB3 Result	LB3 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		08/21/15 15:00	08/24/15 11:25	1

Lab Sample ID: 500-99434-1 MS
Matrix: Solid
Analysis Batch: 301422

Client Sample ID: B2
Prep Type: ASTM Leach
Prep Batch: 301140

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00020		0.00100	0.000565		mg/L		57	50 - 150

Lab Sample ID: 500-99434-1 DU
Matrix: Solid
Analysis Batch: 301422

Client Sample ID: B2
Prep Type: ASTM Leach
Prep Batch: 301140

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.00020		<0.00020		mg/L		NC	20

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-99434-1

Client Sample ID: B2

Lab Sample ID: 500-99434-1

Date Collected: 08/05/15 09:34

Matrix: Solid

Date Received: 08/05/15 13:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			301047	08/20/15 14:00	FXG	TAL CHI
ASTM Leach	Prep	3010A			301312	08/23/15 15:30	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	301493	08/24/15 17:13	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			301047	08/20/15 14:00	FXG	TAL CHI
ASTM Leach	Prep	7470A			301140	08/21/15 15:00	MJD	TAL CHI
ASTM Leach	Analysis	7470A		1	301422	08/24/15 11:27	MJD	TAL CHI

Client Sample ID: B3

Lab Sample ID: 500-99434-2

Date Collected: 08/05/15 09:45

Matrix: Solid

Date Received: 08/05/15 13:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			301047	08/20/15 14:00	FXG	TAL CHI
ASTM Leach	Prep	3010A			301312	08/23/15 15:30	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	301493	08/24/15 17:17	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			301047	08/20/15 14:00	FXG	TAL CHI
ASTM Leach	Prep	7470A			301140	08/21/15 15:00	MJD	TAL CHI
ASTM Leach	Analysis	7470A		1	301422	08/24/15 11:32	MJD	TAL CHI

Client Sample ID: B4

Lab Sample ID: 500-99434-3

Date Collected: 08/05/15 10:00

Matrix: Solid

Date Received: 08/05/15 13:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			301047	08/20/15 14:00	FXG	TAL CHI
ASTM Leach	Prep	3010A			301312	08/23/15 15:30	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	301493	08/24/15 17:33	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			301047	08/20/15 14:00	FXG	TAL CHI
ASTM Leach	Prep	7470A			301140	08/21/15 15:00	MJD	TAL CHI
ASTM Leach	Analysis	7470A		1	301422	08/24/15 11:34	MJD	TAL CHI

Client Sample ID: B5

Lab Sample ID: 500-99434-4

Date Collected: 08/05/15 10:10

Matrix: Solid

Date Received: 08/05/15 13:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			301047	08/20/15 14:00	FXG	TAL CHI
ASTM Leach	Prep	3010A			301312	08/23/15 15:30	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	301493	08/24/15 17:37	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			301047	08/20/15 14:00	FXG	TAL CHI
ASTM Leach	Prep	7470A			301140	08/21/15 15:00	MJD	TAL CHI
ASTM Leach	Analysis	7470A		1	301422	08/24/15 11:36	MJD	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-99434-1

Client Sample ID: B6

Lab Sample ID: 500-99434-5

Date Collected: 08/05/15 10:25

Matrix: Solid

Date Received: 08/05/15 13:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			301047	08/20/15 14:00	FXG	TAL CHI
ASTM Leach	Prep	3010A			301312	08/23/15 15:30	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	301493	08/24/15 17:41	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			301047	08/20/15 14:00	FXG	TAL CHI
ASTM Leach	Prep	7470A			301140	08/21/15 15:00	MJD	TAL CHI
ASTM Leach	Analysis	7470A		1	301422	08/24/15 11:38	MJD	TAL CHI

Client Sample ID: B7

Lab Sample ID: 500-99434-6

Date Collected: 08/05/15 10:40

Matrix: Solid

Date Received: 08/05/15 13:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
ASTM Leach	Leach	D3987-85			301047	08/20/15 14:00	FXG	TAL CHI
ASTM Leach	Prep	3010A			301312	08/23/15 15:30	PJH	TAL CHI
ASTM Leach	Analysis	6010B		1	301493	08/24/15 17:52	PJ1	TAL CHI
ASTM Leach	Leach	D3987-85			301047	08/20/15 14:00	FXG	TAL CHI
ASTM Leach	Prep	7470A			301140	08/21/15 15:00	MJD	TAL CHI
ASTM Leach	Analysis	7470A		1	301422	08/24/15 11:40	MJD	TAL CHI

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Confidential

TestAmerica Job ID: 500-99434-1

Laboratory: TestAmerica Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each certification below.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

The following analytes are included in this report, but certification is not offered by the governing authority:

Analysis Method	Prep Method	Matrix	Analyte
7470A	7470A	Solid	Mercury

TestAmerica
THE LEADER IN ENVIR

TestAmerica Chicag
2417 Bond St.
University Park, IL 60
708-534-5200
Fax. 708-534-5211

500-99434 COC

Report To:		Bill To:	
Contact:	RICHARD GNAT	Contact:	
Company:	KPRG AND ASSOCIATES	Company:	
Address:		Address:	
Phone:		Phone:	
Email:		Email	
		PO #:	

Lab Lot # 500-99434

Package Sealed: Yes (No) — Samples Sealed: Yes (No)

Received on Ice: Yes (No) — Samples Intact: (Yes) No N/A

Temperature °C of Cooler: Unchilled

Within Hold Time: (Yes) No — Preserv. Indicated: Yes No (N/A)

pH Check OK: Yes (No) — Res CL_2 Check OK: Yes No (N/A)

Sample Labels and COC Agree: (Yes) No — COC not present

Sampler Name:	Signature:	Refrg #												
PATRICK ALLENSTEIN		# / Cont.												
Project Name:	**TestAmerica Project Number:**	Volume												
CONFIDENTIAL	50011056	Preserv.												
Project Location:	**TAT**													
WILL COUNTY, IL	STANDARD													
Lab PM:	Bonnie Stadelmann													

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	Neural Leach Metals	Additional Analyses / Remarks
1		B2	8-5	934	S		X	
2		B3		945			X	
3		B4		1000			X	
4		B5		1010			X	
5		B6		1025			X	
6		B7		1040			X	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
	KPRG	8-5	1310		TA-CHI	8/5/15	1310
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:
As, Sb, Ba, Be, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Mo, Ni, K, Se, Ag, Na, Tl, Zn

Date Received ____/____/____

Courier:

Hand Delivered ☐

Bill of Lading:

1 of 1

STL-8208 (0600) MWG13-15_49648

8/25/2015

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-99434-1

Login Number: 99434
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	metals only - acceptable
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	Unchilled
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ATTACHMENT 2

Statistical Equations Used

STATISTICAL EQUATIONS USED

1) Mean (μ) = $1/n$ ($\sum\mu_i$), where n is the number of samples

2) Variance (s^2) = $1/(n-1)$ ($\sum(\mu_i - \mu)^2$

3) Standard Deviation (s) = $\sqrt{}$Variance

4) Coefficient of Variance (CV) = s/μ

5) Standard Error (s_μ) = $s/\sqrt{n}$

6) 95% Upper Confidence Limit (UCL_{95}) = μ + ($t_{0.95(n-1)}$)(s_μ), where $t_{0.95(n-1)}$ is obtained from the one-tailed Student's *t* Distribution table

7) $\lambda = (RT - \mu)/s$, where RT is the regulatory threshold concentration

8) Mean of the Lognormal Distribution (μ_{Ln}) = $\exp[y_i+(s^2_y/2)]$, where y_i is the mean of the natural logs of μ_i and s^2_y is the variance of the natural logs of μ_i

9) Standard Deviation of the Lognormal Distribution (s_{Ln}) = $\sqrt{\{(\mu_{Ln})^2[\exp(s^2_y)-1]\}}$

10) Winsorized Standard Deviation (s_w) = $[s(n-1)/(v-1)]$, where s is the standard deviation of the Winsorized data set and v is the number of data not adjusted during Winzorization.

TABLE 4-3

NUMBER OF OBSERVATIONS FOR t TEST OF MEAN

Single-Sided Test / Double-Sided Test		Level of t Test																			
		α=0.005 α=0.01					α=0.01 α=0.02					α=0.025 α=0.05					α=0.05 α=0.1				
β=		0.01	0.05	0.1	0.2	0.5	0.01	0.05	0.1	0.2	0.5	0.01	0.05	0.1	0.2	0.5	0.01	0.05	0.1	0.2	0.5
	0.05																				
	0.10																				
	0.15																				
	0.20										139					99					122
	0.25					110					90				128	64			139	101	45
	0.30				134	78				115	83			119	90	45		122	97	71	32
	0.35			125	99	58			109	85	47		109	88	67	34		90	72	52	24
	0.40		115	97	77	45		101	85	66	37	117	84	68	51	26	101	70	55	40	19
	0.45		92	77	62	37	110	81	68	53	30	93	67	54	41	21	80	55	44	33	15
	0.50	100	75	63	51	30	90	66	55	43	25	76	54	44	34	18	65	45	36	27	13
	0.55	83	63	53	42	26	75	55	46	36	21	63	45	37	28	15	54	38	30	22	11
	0.60	71	53	45	36	22	63	47	39	31	18	53	38	32	24	13	46	32	26	19	9
	0.65	61	46	39	31	20	55	41	34	27	16	46	33	27	21	12	39	28	22	16	8
	0.70	53	40	34	28	17	47	35	30	24	14	40	29	24	19	10	34	24	19	15	8
	0.75	47	36	30	25	16	42	31	27	21	13	35	26	21	16	9	30	21	17	13	7
	0.80	41	32	27	22	14	37	28	24	19	12	31	22	19	15	9	27	19	15	12	6
	0.85	37	29	24	20	13	33	25	21	17	11	28	21	17	13	8	24	17	14	11	6
λ Value	0.90	34	26	22	18	12	29	23	19	16	10	25	19	16	12	7	21	15	13	10	5
	0.95	31	24	20	17	11	27	21	18	14	9	23	17	14	11	7	19	14	11	9	5
	1.00	28	22	19	16	10	25	19	16	13	9	21	16	13	10	6	18	13	11	8	5
	1.1	24	19	16	14	9	21	16	14	12	8	18	13	11	9	6	15	11	9	7	
	1.2	21	16	14	12	8	18	14	12	10	7	15	12	10	8	5	13	10	8	6	
	1.3	18	15	13	11	8	16	13	11	9	6	14	10	9	7		11	8	7	6	
	1.4	16	13	12	10	7	14	11	10	9	6	12	9	8	7		10	8	7	5	
	1.5	15	12	11	9	7	13	10	9	8	6	11	8	7	6		9	7	6		
	1.6	13	11	10	8	6	12	10	9	7	5	10	8	7	6		8	6	6		
	1.7	12	10	9	8	6	11	9	8	7		9	7	6	5		8	6	5		
	1.8	12	10	9	8	6	10	8	7	7		8	7	6			7	6			
	1.9	11	9	8	7	6	10	8	7	6		8	6	6			7	5			
	2.0	10	8	8	7	5	9	7	7	6		7	6	5			6				
	2.1	10	8	7	7		8	7	6	6		7	6				6				
	2.2	9	8	7	6		8	7	6	5		7	6				6				
	2.3	9	7	7	6		8	6	6			6	5				5				
	2.4	8	7	7	6		7	6	6			6									
	2.5	8	7	6	6		7	6	6			6									
	3.0	7	6	6	5		6	5	5			5									
	3.5	6	5	5			5														
	4.0	6																			

Exhibit B3

HYDROGEOLOGIC ASSESSMENT REPORT
WILL COUNTY GENERATING STATION
ROMEOVILLE, ILLINOIS

SUBMITTED BY:
MIDWEST GENERATION, LLC
235 REMINGTON BLVD, SUITE A
BOLINGBROOK, ILLINOIS 60440

SUBMITTED TO:
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 N GRAND AVENUE EAST
SPRINGFIELD, ILLINOIS 62702

PREPARED BY:
PATRICK ENGINEERING INC.
4970 VARSITY DRIVE
LISLE, ILLINOIS 60532

PATRICK PROJECT NO. 21053.070

FEBRUARY 2011

PATRICK ENGINEERING

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Appendix A – Soil Boring Logs
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Appendix C – Laboratory Analytical Reports
Appendix D – Hydraulic Conductivity Testing Data

1.0 INTRODUCTION

1.1 Background

Pursuant to the request of the Illinois Environmental Protection Agency (Illinois EPA), this document presents the Hydrogeologic Assessment Report for the on-site ash pond areas at the Midwest Generation, LLC (MWG) Will County in Romeoville, Illinois. This hydrogeologic assessment was performed in accordance with the Hydrogeologic Assessment Plan, approved by the Illinois EPA, dated September 3, 2010.

As defined by the Hydrogeologic Assessment Plan, the purpose of this investigation was to: (i) evaluate the potential, if any, for migration of ash-related constituents from the on-site ash ponds and to conduct monitoring for groundwater constituents regulated by the Illinois Part 620 groundwater standards, as requested by the Illinois EPA; (ii) characterize the subsurface hydrogeology; and (iii) identify potable well use within 2,500 feet of the ash ponds. The results of this investigation are described in this Hydrogeologic Assessment Report.

1.2 Site Location and Description

The Will County facility (the Site) is located in Section 2, Township 36 North, Range 10 East, in the City of Romeoville, Will County, Illinois. Figure 1 provides a Site Location Map.

The Site includes four active ash ponds. The ponds are lined with 36" of geo-composite material; the total area of the four ash ponds is approximately 8 acres. Figure 2 shows the locations of the four ash ponds.

1.3 Regional Setting

The Site is located between the Chicago Sanitary and Ship Canal and the Des Plaines River east of the city of Romeoville. The surrounding land use consists of undeveloped land to the north, the Chicago Sanitary and Ship Canal to the east, a quarry to the south, and the Des Plaines River to the west.

Patrick Engineering Inc. (Patrick) conducted a review of publically available geological information from the Illinois State Geological Survey website. Based upon water well logs from the area, the geology beneath the Site consists of approximately 1 to 5 feet of unconsolidated deposits or fill, underlain by Silurian Dolomite to approximately 140 feet below ground surface, underlain by the Maquoketa shale. The Maquoketa shale is generally considered to be an aquitard that separates the shallow groundwater in the unconsolidated units and the Silurian dolomite from the underlying aquifers.

Groundwater flow in the shallow aquifer should be largely controlled by the Des Plaines River and the Chicago Sanitary and Ship Canal with groundwater likely flowing towards either of the rivers during most periods of the year. Groundwater flow in the deeper aquifers is controlled by the regional hydraulic gradient in these aquifers, which is to the southeast. The Site lies within the Joliet Depression, which is a cone of depression of the groundwater surface caused by the large withdrawals of the groundwater from the deeper aquifers due to industrial and municipal use in the area.

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2.0 HYDROGEOLOGIC ASSESSMENT METHODOLOGY

The following sections present the methodologies used to evaluate the potential for migration of ash-related constituents from the ash ponds and to monitor for all Part 620-regulated constituents, to characterize the subsurface hydrogeology, and to identify potable well use within 2,500 feet of the Site.

2.1 Evaluation of Ash-Related Constituents Migration Potential

The Illinois EPA requested that an evaluation of the potential for migration of ash-related constituents from the ash ponds and that monitoring for all Part 620-regulated constituents be performed in accordance with the groundwater standards included in 35 Illinois Administrative Code (IAC) Part 620, Subparts C and D. Accordingly, groundwater monitoring wells were installed at the Site in locations both upgradient and downgradient of the four ash ponds.

2.1.1 Installation of Groundwater Monitoring Wells

Patrick installed ten (10) groundwater monitoring wells spaced approximately 150 to 300 feet apart around the perimeter of the ash ponds. The well locations were selected so that both upgradient and downgradient wells were represented, based upon available data regarding the expected groundwater flow direction. The spacing of the well locations at the Site along the downgradient edge of the ash ponds was calculated so as to detect a groundwater plume emanating from a point source beneath the ash ponds. Figure 3 shows the location of the ten monitoring wells.

The well borings were advanced using hollow-stem augers to depths ranging from 10 to 20 feet below ground surface (bgs). Borings were terminated after the field geologist determined that the boring was installed approximately 10 feet past the first intersection of the groundwater table in order to ensure that a representative groundwater sample could be obtained. Upon termination of each boring, a 2-inch diameter, PVC well was installed in order to collect samples of the

groundwater in the uppermost aquifer. The monitoring wells were completed to approximately 3 feet above grade, with PVC casing, and were covered with a stick-up, steel well protector with a locking cap. Soil lithology was inspected and logged by an experienced geologist during the boring process. Boring logs with well construction information are included as Appendix A.

2.1.2 Initial Groundwater Sampling and Analytical Testing

The groundwater sampling event for the Site took place on December 13, 2010. The groundwater elevation in each of the ten wells was measured prior to sampling. Groundwater samples were collected from each well with a peristaltic pump, using established low-flow sampling techniques. Temperature, pH, and conductivity measurements were taken using a portable meter in all wells; refer to Table 1 for these field parameter results. All groundwater samples were filtered in the field using a disposable, 0.45µm, in-line filter to allow for the analytical testing of dissolved compounds. The samples were immediately placed on ice in a cooler and kept at a temperature of no higher than 4° F. The samples were transported to TestAmerica, an Illinois-EPA accredited analytical laboratory, in accordance with chain-of-custody procedures to maintain the integrity of the samples.

The analytical laboratory tested groundwater samples from each of the wells for the compounds listed in Table 2. Analytes tested include the inorganic compounds listed in 35 IAC 620.410(a), excluding both radium and the poly-aromatic hydrocarbons (PAHs) listed in 35 IAC 620.410(b).

2.2 Characterization of Subsurface Hydrogeology

The subsurface hydrogeology beneath the ash ponds was characterized by determining Site lithology and the groundwater flow patterns in the vicinity of the ash ponds as described below.

2.2.1 Site Lithology

The Site lithology was determined by logging soil samples collected from the soil borings created during the installation of the groundwater monitoring wells. The soil borings were

installed under the direction of an experienced geologist. Each boring was sampled at 2-foot intervals using a 2-inch O.D. split-spoon sampler (ASTM D 1586). Each soil sample was inspected and logged by the geologist during the boring process. Boring logs with well construction information are provided as Appendix A.

2.2.2 Topographic and Water Elevation Surveys

A survey crew measured both the top-of-casing and ground surface elevations of all installed monitoring wells and the groundwater elevations within each of the monitoring wells on December 13, 2010. The survey crew concurrently measured the water elevation in each of the ash ponds, the Chicago Sanitary and Ship Canal, and the Des Plaines River; Ash Pond 2 was inaccessible the day of the survey.

2.2.3 Hydraulic Testing of Selected Wells

Patrick conducted five *in situ* hydraulic conductivity tests on wells MW-1, MW-4, MW-6, MW-7, and MW-9 on December 22, 2010. The testing consisted of one rising-head and one falling-head slug test performed at each well. Using a data-logging pressure transducer, Patrick measured the rate of groundwater level recovery in the wells after either inserting a slug into, or removing a slug from, each monitoring well.

2.3 Identification of Potable Well Use

Natural Resource Technology, Inc. (NRT) has previously completed an investigation of potable water well use within 2,500 feet of the Will County ash ponds. MWG submitted the results of this investigation to the Illinois EPA by letter dated July 15, 2009. These results are summarized in Appendix B.

The following databases and sources of information were used in order to identify local community water sources and water well locations in the vicinity of the Site:

- Illinois State Geological Survey (ISGS) -Water Well Database Query;

• Illinois State Water Survey (ISWS) Private Well Database and water well construction report request; and

• Illinois Division of Public Water Supply web-based Geographic System (GIS) files.

3.0 HYDROGEOLOGIC ASSESSMENT RESULTS

3.1 Evaluation of Ash-Related Constituents Migration Potential

The analytical laboratory results for the hydrogeologic assessment are presented in Table 2. Full laboratory data packages from TestAmerica are provided as Appendix C. Manganese, boron, sulfate, and total dissolved solids (TDS) were detected in one or more monitoring wells at concentrations exceeding the Part 620 Class I Groundwater Quality Standards. In some cases, the highest concentrations of a given compound were found in the upgradient wells. Antimony, beryllium, cadmium, chromium, copper, cyanide, lead, mercury, silver, thallium, zinc, and nitrogen/nitrite were not detected in any of the groundwater samples.

A determination of the potential for the individual ash ponds to be contributing to the distribution of analytes in the underlying groundwater and the extent, if any, of such contribution cannot be made from the results of this single sampling event alone. To develop a true, statistically-significant upgradient background concentration for the various compounds will require a number of sequential sampling events over time. Based on a statistically developed background value, downgradient concentrations can be compared to the background value over time to determine the likelihood and extent of any constituent migration from the on-site ash ponds. A plan to develop such an analytical database through additional sampling is presented in the last section of this report.

3.2 Characterization of Subsurface Hydrogeology

The lithology of the Site is predominantly fine sand with fine to coarse gravel underlain by limestone bedrock at approximately 10 to 15 feet below ground surface. Refer to Figure 4 for a geologic cross-section of the Site.

The results of the topographic and water elevation surveys are presented in Table 3.

The uppermost groundwater unit at the Site is found at depths ranging from 8 to 11 feet bgs. The direction of groundwater flow appears to be variable; in the northern part of the ash pond area, groundwater appears to flow to the southeast, in the southern part of the ash pond area, groundwater appears to flow to the southwest. Patrick was unable to calculate a hydraulic gradient for the Site, due to the apparent complexity of the shallow flow system. The variability in the groundwater elevation data could be due to the fractured nature of the bedrock surface. The collected groundwater elevation data do not allow for a clear understanding of the potentiometric surface in the uppermost aquifer, therefore a groundwater elevation map is provided as Figure 5.

Patrick used the hydraulic testing data to calculate the hydraulic conductivity of the uppermost aquifer using the Bouwer and Rice method. Hydraulic conductivity calculations are provided in Appendix D. The hydraulic conductivity of Site soils ranged from 6.38×10^{-5} to 2.07×10^{-4} ft/second. The average hydraulic conductivity was 4.32×10^{-4} ft/second. Patrick was unable to calculate the groundwater velocity because a reliable hydraulic gradient could not be calculated (see previous paragraph).

3.3 Identification of Potable Well Use

As stated above, NRT has previously completed an investigation of potable water well use within 2,500 feet of the Site's ash ponds. MWG submitted the results of this investigation to the Illinois EPA by letter dated July 15, 2009. According to this letter, the only identified potable wells, with associated structures, are located between the Des Plaines River and the Chicago Sanitary and Ship Canal. These wells are more than 1,500 feet deep (see wells 8 and 9 in Appendix B.). Both of these wells are drilled more than 1,500 feet below ground surface and are screened below the Maquoketa shale, a significant aquitard separating shallower aquifers from the screened interval of the wells.

4.0 LONG-TERM MONITORING PLAN

In order to properly assess the groundwater monitoring data collected in this single sampling event, MWG will conduct a quarterly groundwater sampling program in which the same monitoring wells described in this report will be sampled for the identical analyte list employed during this investigation. MWG proposes to begin this quarterly monitoring program in March 2011, and will submit the results of the sampling program to the Illinois EPA on an ongoing, quarterly basis. MWG proposes to continue this program until sufficient statistically-significant data is available to properly assess the groundwater data. If the quarterly sampling results continue to show non-detect results for certain of the analytes, as was the case in this single sampling event, MWG may propose to Illinois EPA that these analytes be eliminated from future sampling events.

Table 1
GROUNDWATER FIELD PARAMETER DATA
Will County Station, Romeoville, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

Groundwater Field Paramter Data - Will County Station

Monitoring Well	Date	Time	Conductance (S/cm)	Temperature °C	pH
MW-01	12/13/2010	13:48	1.76	16.41	7.74
MW-01	12/13/2010	13:50	1.73	16.36	7.91
MW-01	12/13/2010	13:52	1.73	16.35	7.90
MW-01	12/13/2010	13:54	1.71	16.30	7.89
MW-01	12/13/2010	13:56	1.70	16.12	7.87
MW-01	12/13/2010	13:58	1.70	16.28	7.89
MW-02	12/13/2010	12:57	1.40	16.16	8.43
MW-02	12/13/2010	12:59	1.37	16.19	8.65
MW-02	12/13/2010	13:01	1.38	16.22	8.66
MW-02	12/13/2010	13:03	1.36	16.29	8.68
MW-02	12/13/2010	13:05	1.36	16.34	8.61
MW-02	12/13/2010	13:07	1.37	16.22	8.61
MW-02	12/13/2010	13:09	1.37	16.29	8.62
MW-03	12/13/2010	12:15	1.54	12.95	7.31
MW-03	12/13/2010	12:17	1.53	12.83	7.28
MW-03	12/13/2010	12:19	1.53	12.77	7.26
MW-03	12/13/2010	12:21	1.52	12.90	7.23
MW-03	12/13/2010	12:23	1.52	12.89	7.21
MW-03	12/13/2010	12:25	1.52	12.84	7.21
MW-04	12/13/2010	11:47	3.46	14.37	7.41
MW-04	12/13/2010	11:49	3.46	14.46	7.39
MW-04	12/13/2010	11:51	3.48	14.39	7.39
MW-04	12/13/2010	11:53	3.49	14.39	7.38
MW-04	12/13/2010	11:55	3.51	14.22	7.37
MW-05	12/13/2010	11:13	1.67	0.52	9.81
MW-05	12/13/2010	11:15	1.67	12.66	9.72
MW-05	12/13/2010	11:17	1.66	12.61	9.68
MW-05	12/13/2010	11:19	1.67	12.66	9.62
MW-05	12/13/2010	11:21	1.66	12.81	9.58
MW-05	12/13/2010	11:23	1.67	12.76	9.57
MW-05	12/13/2010	11:25	1.66	12.79	9.58
MW-06	12/31/2010	9:30	1.58	14.66	8.88
MW-06	12/13/2010	9:32	1.61	14.64	8.86
MW-06	12/13/2010	9:34	1.61	14.65	8.89
MW-06	12/13/2010	9:36	1.65	14.65	8.88

Table 1
GROUNDWATER FIELD PARAMETER DATA
Will County Station, Romeoville, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

Groundwater Field Paramter Data - Will County Station

Monitoring Well	Date	Time	Conductance (S/cm)	Temperature °C	pH
MW-06	12/13/2010	9:38	1.64	14.62	8.89
MW-06	12/13/2010	9:40	1.64	14.59	8.89
MW-07	12/13/2010	14:27	1.98	14.71	8.60
MW-07	12/13/2010	14:29	1.96	14.77	8.59
MW-07	12/13/2010	14:31	1.96	14.83	8.59
MW-07	12/13/2010	14:33	1.96	14.87	8.59
MW-07	12/13/2010	14:35	1.96	14.87	8.61
MW-07	12/13/2010	14:37	1.96	14.82	8.61
MW-07	12/13/2010	14:39	1.96	14.84	8.61
MW-08	12/13/2010	15:42	1.37	12.76	7.75
MW-08	12/13/2010	15:44	1.37	12.72	7.71
MW-08	12/13/2010	15:46	1.42	13.22	7.67
MW-08	12/13/2010	15:48	1.41	13.00	7.66
MW-08	12/13/2010	15:50	1.41	12.95	7.66
MW-08	12/13/2010	15:52	1.43	12.82	7.65
MW-09	12/13/2010	15:07	1.33	15.15	10.48
MW-09	12/13/2010	15:09	1.33	14.93	10.49
MW-09	12/13/2010	15:11	1.33	14.90	10.48
MW-09	12/13/2010	15:13	1.33	15.14	10.78
MW-09	12/13/2010	15:15	1.33	15.16	10.88
MW-09	12/13/2010	15:17	1.33	15.03	10.90
MW-09	12/13/2010	15:19	1.32	15.21	10.87
MW-09	12/13/2010	15:21	1.33	15.09	10.88
MW-10	12/13/2010	10:30	1.53	15.06	7.64
MW-10	12/13/2010	10:32	1.53	15.21	7.64
MW-10	12/13/2010	10:34	1.53	15.18	7.63
MW-10	12/13/2010	10:36	1.53	15.00	7.63
MW-10	12/13/2010	10:38	1.53	15.00	7.61
MW-10	12/13/2010	10:40	1.53	15.01	7.61

Notes:

* (S/cm) = Specific Conductivity measured in Seconds/Centimeters

Table 2
GROUNDWATER ANALYTICAL RESULTS
Will County, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Remediation Objective (mg/L)	MW-1 mg/L	MW-2 mg/L	MW-3 mg/L	MW-4 mg/L	MW-5 mg/L	MW-6 mg/L	MW-7 mg/L
Chemical Name		**Class I**	**12/13/10**	**12/13/10**	**12/13/10**	**12/13/10**	**12/13/10**	**12/13/10**	**12/13/10**
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	ND	0.0052	0.002	0.0027	0.0066	0.0018	0.004
Barium	Metals 6020	2.0	0.05	0.061	0.084	0.068	0.051	0.05	0.045
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	0.0011	ND	ND	0.0011	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	ND	0.37	0.83	ND	ND	0.23
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**0.2**	0.032	0.34	**0.52**	0.0079	0.073	0.12
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.0046	ND	0.0054	0.0048	ND	ND	0.0029
Selenium	Metals 6020	0.05	ND	ND	ND	ND	0.017	0.0062	ND
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	1.8	1.8	**2.7**	**3.7**	**2.6**	**2.7**	**4.7**
Sulfate	Dissolved 9038	400	**530**	**430**	330	**1500**	**580**	**500**	**610**
Chloride	Dissolved 9251	200	110	110	54	120	110	120	160
Nitrogen/Nitrate	Nitrogen By calc	10	ND	ND	ND	ND	0.27	ND	ND
Total Dissolved Solids	Dissolved 2540C	1200	1100	870	940	**2500**	1000	990	**1300**
Fluoride	Dissolved 4500 FC	4	0.71	0.62	0.5	0.52	0.41	0.85	0.96
Nitrogen/Nitrite	Dissolved 4500 NO2	NA	ND	ND	ND	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	NA	ND	ND	ND	ND	0.27	ND	ND

Notes:
Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
mg/L = milligrams per liter
-Determination of the potential for the individual ash ponds to be contributing to the distribution of analytes in the underlying groundwater cannot be made from the results of this single sampling event alone. To develop a true, statistically-significant upgradient background concentration for the various compounds will require a number of sequential sampling events over time. After a statistically developed background value is available, the downgradient concentrations can be compared to this background value over time to determine the likelihood of contaminant migration from the on-site ash ponds. A plan to develop such an analytical database through additional sampling is discussed in the last section of this report.

Table 2

GROUNDWATER ANALYTICAL RESULTS

Will County, Illinois

Midwest Generation

21053.070

Feb. 28, 2011

Chemical Name	Sample Analysis Method	Groundwater Remediation Objective (mg/L)	MW-8 mg/L	MW-9 mg/L	MW-10 mg/L
		Class I	**12/13/10**	**12/13/10**	**12/13/10**
Antimony	Metals 6020	0.006	ND	ND	ND
Arsenic	Metals 6020	0.05	0.0067	0.0059	0.0041
Barium	Metals 6020	2.0	0.069	0.025	0.098
Beryllium	Metals 6020	0.004	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND
Iron	Metals 6020	5.0	0.48	ND	0.32
Lead	Metals 6020	0.0075	ND	ND	ND
Manganese	Metals 6020	0.15	**0.33**	ND	**0.25**
Mercury	Mercury 7470A	0.002	ND	ND	ND
Nickel	Metals 6020	0.1	ND	ND	ND
Selenium	Metals 6020	0.05	ND	0.0036	ND
Silver	Metals 6020	0.05	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND
Boron	Metals 6020	2	1.7	**2.2**	**2.1**
Sulfate	Dissolved 9038	400	**440**	**410**	370
Chloride	Dissolved 9251	200	93	100	92
Nitrogen/Nitrate	Nitrogen By calc	10	ND	ND	ND
Total Dissolved Solids	Dissolved 2540C	1200	930	800	990
Fluoride	Dissolved 4500 FC	4	0.61	0.33	0.66
Nitrogen/Nitrite	Dissolved 4500 NO2	NA	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	NA	ND	0.44	ND

Notes:

Class I Groundwater Standards from 35 IAC Part 620

Bold values show exceedences of 35 IAC Part 620

ND-non detect

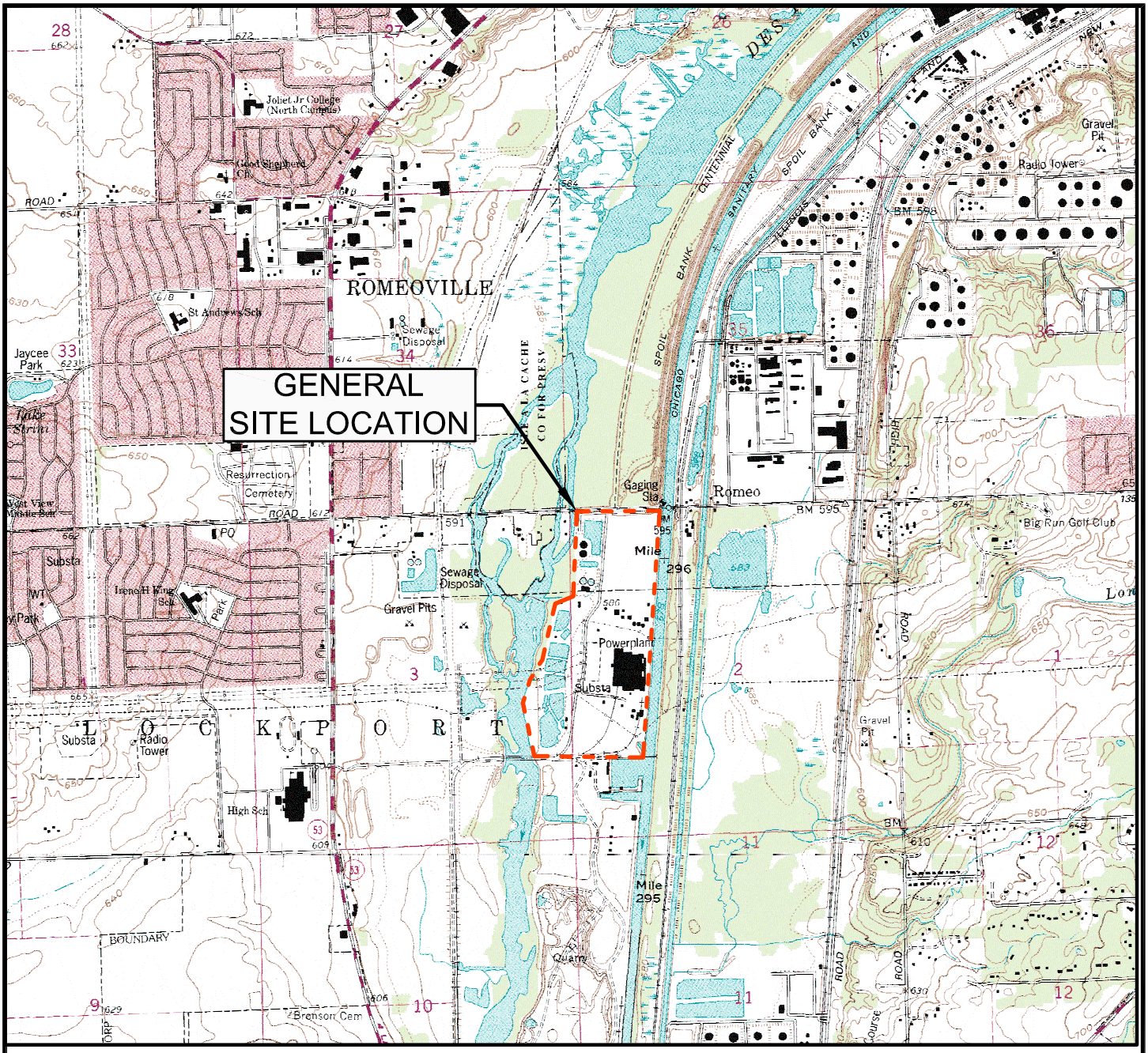
mg/L = milligrams per liter

-Determination of the potential for the individual ash ponds to be contributing to the distribution of analytes in the underlying groundwater cannot be made from the results of this single sampling event alone. To develop a true, statistically-significant upgradient background concentration for the various compounds will require a number of sequential sampling events over time. After a statistically developed background value is available, the downgradient concentrations can be compared to this background value over time to determine the likelihood of contaminant migration from the on-site ash ponds. A plan to develop such an analytical database through additional sampling is discussed in the last section of this report.

Table 3
WATER ELEVATION SURVEY DATA
Will County Station, Romeoville, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

PATRICK ENGINEERING	Water Elevation (feet)	Depth to Water (feet bgs)	Lid Elevation (feet)	Ground Elevation (feet)	Top of Riser Elevation (feet)
MONITORING WELLS					
MW-1	583.591	9.36	593.405	589.809	592.951
MW-2	583.702	10.29	594.416	590.621	593.992
MW-3	583.586	9.92	594.054	590.503	593.506
MW-4	583.599	10.65	594.765	591.215	594.249
MW-5	583.331	9.54	593.344	589.602	592.871
MW-6	582.018	10.95	593.521	589.772	592.968
MW-7	585.350	7.53	593.389	589.550	592.880
MW-8	582.483	10.23	593.173	589.641	592.713
MW-9	583.380	9.46	593.328	589.756	592.840
MW-10	580.352	10.63	591.266	591.314	590.982
ASH PONDS					
AP-1	589.842	NS	NS	NS	NS
AP-2	585.802	NS	NS	NS	NS
AP-3	589.428	NS	NS	NS	NS
AP-4	NS	NS	NS	NS	NS
AP-5	581.991	NS	NS	NS	NS
AP-6	582.195	NS	NS	NS	NS
AP-7	581.843	NS	NS	NS	NS
AP-8	NS	NS	NS	NS	NS
AP-9	5.433	NS	NS	NS	NS
River					
DuPage River	580.541	NS	NS	NS	NS

*Survey data taken on 12/6/10
NS = not surveyed
bgs = below ground surface



LEGEND

SITE BOUNDARY

N

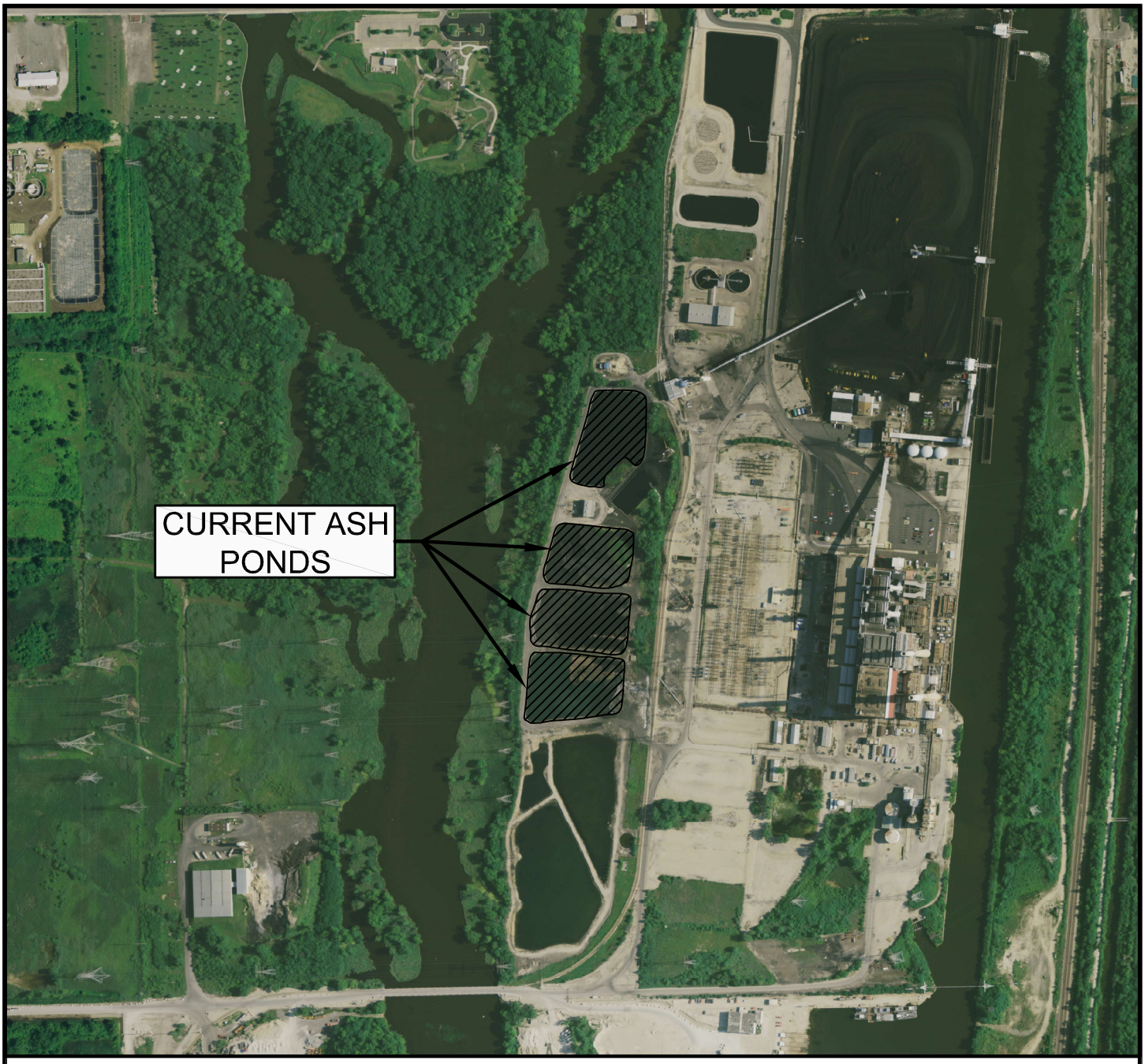
0 2,000'

GRAPHIC SCALE

NOTE:
THIS DRAWING WAS PREPARED USING ILLINOIS' ROMEOVILLE (1993) AND JOLIET (1993) 7.5 MINUTE-SERIES TOPOGRAPHIC QUADRANGLE MAP.

Date: FEB. 2011	FIGURE 1 SITE LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21053.070	**WILL COUNTY STATION ROMEOVILLE, ILLINOIS**	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_7246



LEGEND

ASH POND

N

0 600'

GRAPHIC SCALE

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

Date: FEB. 2011	FIGURE 2 ASH POND LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21053.070	**WILL COUNTY STATION ROMEOVILLE, ILLINOIS**	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_7247



LEGEND

MW-01 MONITORING WELL LOCATION

N

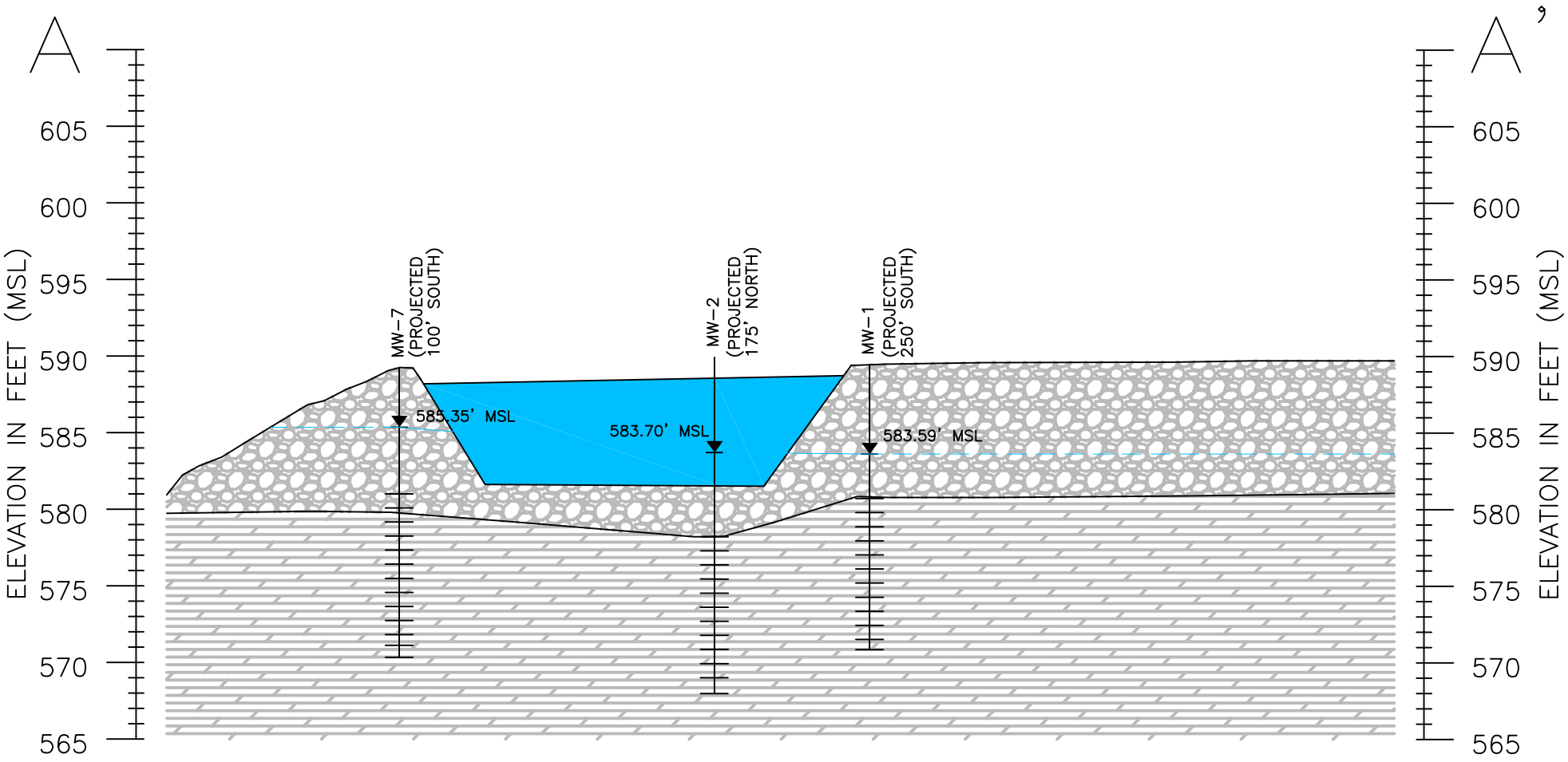
0 600'

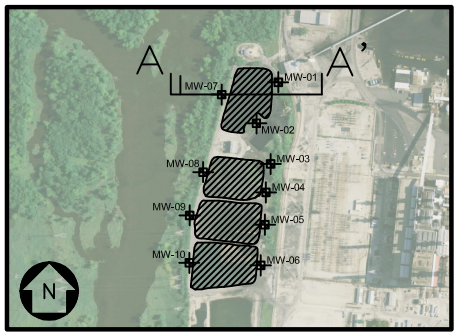
GRAPHIC SCALE

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

Date: FEB. 2011	FIGURE 3 MONITORING WELL LOCATION PLAN	PATRICK ENGINEERING INC.
Proj No.: 21053.070	**WILL COUNTY STATION ROMEOVILLE, ILLINOIS**	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_7248





CROSS SECTION A-A'
NOT TO SCALE

LEGEND

- GRAVEL
- DOLOMITIC LIMESTONE
- GROUNDWATER ELEVATION (FT. / MSL)

VERTICAL SCALE 10' 0
0 150'
HORIZONTAL SCALE

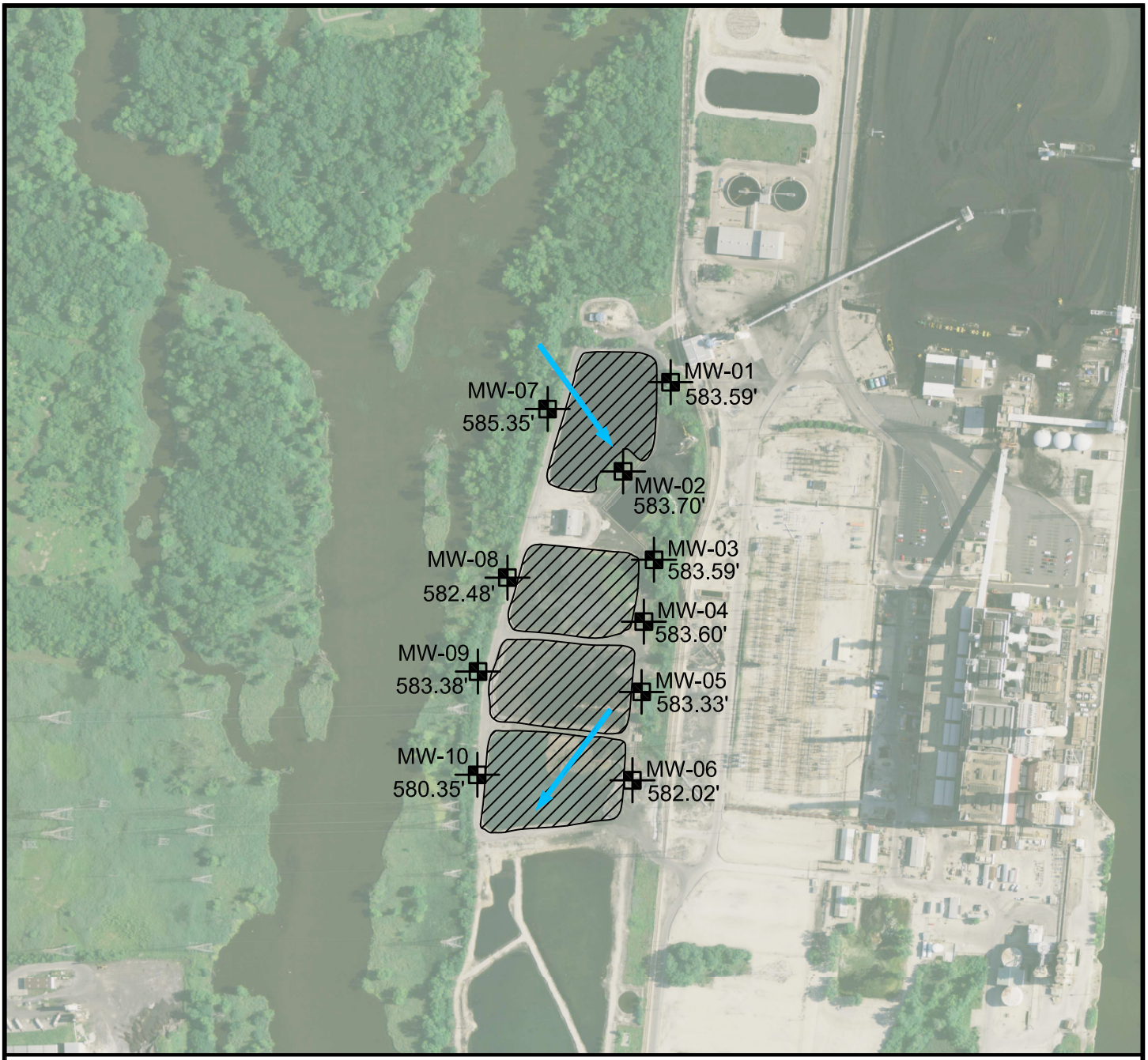
PATRICK ENGINEERING INC.
4970 Varsity Drive TEL. (630) 795-7200
Lisle, Illinois 60532-4101 FAX (630) 724-1681
http://www.patrickengineering.com
PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409

FIGURE 4
CROSS SECTION A-A' - SITE LITHOLOGY

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Date: FEB. 2011
Proj No.: 21053.070
App. By: RMF

MWG13-15_7249



LEGEND

MW-01
505.46'
MONITORING WELL LOCATION (NOVEMBER 2010)
WITH GROUNDWATER ELEVATION (FT. / MSL)

GROUNDWATER FLOW DIRECTION

N

0 600'

GRAPHIC SCALE

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

Date: FEB. 2011	FIGURE 5 GROUNDWATER ELEVATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21053.070	**WILL COUNTY STATION ROMEOVILLE, ILLINOIS**	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_7250

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-1-Wi** SHEET 1 OF 1
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **589.8**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
589.8	0.0		Black coal cinders, fine gravel, cobbles, crushed rock				
			FILL	SS-1 1.0-2.5 7"R	5 10 14		qu=NT
							Bentonite seal 2.0'-8.0'. Stickup protective cover installed.
				SS-2 3.5-5.0 10"R	4 9 15		qu=NT
584.8	5.0		Gravel, weathered limestone, silt				
583.8	6.0	▽	Saturated	SS-3 6.0-7.5 12"R	7 21 19		qu=NT
							Sand pack 8.0'-19.0'
			Weathered limestone bedrock	SS-4 8.5-10.0	50/4"		Set screen (slot 0.010") 9.0'-19.0'
579.8	10.0		End of Boring at 10.0'				
570.8	19.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/22/10** ENDED **10/25/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ 6.0
▽
▼

MWG13-15_7251

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-2-Wi** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **590.6**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
590.6	0.0		Black coal ash, brown gravely clay, sand, gray silty clay FILL	SS-1 1.0-2.5			Bentonite seal 2.0'-10.0'. Stickup protective cover installed. qu=NT
				SS-2 3.5-5.0 6"R	9 13 10		
			Rubble	SS-3 6.0-7.5 18"R	6 7 9		qu=NT
582.1	8.5		Black coal cinders, coal dust, clay fill	SS-4 8.5-10.0 16"R	5 7 7		qu=NT
580.6	10.0	▽	Wet				Sand pack 10.0'-22.0'
				SS-5 11.0-12.5	9 50/0"		qu=NT
578.6	12.0		Weathered limestone bedrock				Set screen (slot 0.010") 12.0'-22.0'
			End of Boring at 12.0'				Cored bedrock to 22.0'
568.6	22.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/21/10** ENDED **10/22/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **10.0**
▼
▼

MWG13-15_7252

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-3-Wi** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **590.5**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) * (1 2 3 4 5)	NOTES & TEST RESULTS
590.5	0.0		Black coal ash, gravel, coarse sand, crushed rock, limestone, rubble FILL				
				SS-1 1.0-2.5 15"R	10 10 12		qu=NT
							Bentonite seal 2.0'-6.5'. Stickup protective cover installed.
				SS-2 3.5-5.0 13"R	6 10 18		qu=NT
			Dry				
				SS-3 6.0-7.5 14"R	7 15 21		qu=NT
583.5	7.0		▽				Sand pack 6.5'-19.5'
583.0	7.5						Set screen (slot 0.010") 7.0'-17.0'
582.5	8.0		▽ Gray gravel, silt GC				
			Wet	SS-4 8.5-10.0 4"R	3 50/0"		qu=NT
580.5	10.0		Weathered limestone bedrock				
			End of Boring at 10.0'				Cored bedrock to 19.5'
571.0	19.5						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/20/10** ENDED **10/24/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **8.0**
▽ **7.0**
▼

MWG13-15_7253

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-4-Wi** SHEET 1 OF 1
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **591.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
591.2	0.0		Brown fine sand, black ash, crushed rock, fine to coarse gravel, ddry				
			FILL	SS-1 1.0-2.5 14"R	9 14 17		qu=NT
							Bentonite seal 2.0'-8.5'. Stickup protective cover installed.
				SS-2 3.5-5.0 6"R	16 50/3"		qu=NT
585.2	6.0		Gray silt, weathered limestone, moist to wet	SS-3 6.0-7.5 16"R	4 23 27		qu=NT
582.2	9.0		▽ Saturated	SS-4 8.5-10.0 1"R	50/2"		qu=NT
			Limestone bedrock, weathered				Sand pack 8.5'-19.5'
							Set screen (slot 0.010") 9.5'-19.5'
571.2	20.0		End of Boring at 20.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/18/10** ENDED **10/19/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **9.0**

MWG13-15_7254

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-5-Wi** SHEET 1 OF 1
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **589.6**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
589.6	0.0		Brown silty clay, fine gravel, coarse gravel, crushed limestone FILL				
				SS-1 1.0-2.5 14"R	4 6 10		qu=NT
			Dry				Bentonite seal 2.0'-8.0'. Stickup protective cover installed.
				SS-2 3.5-5.0 14"R	7 10 21		qu=NT
				SS-3 6.0-7.5 10"R	10 11 15		qu=NT
581.6	8.0						
581.1	8.5		▽ Brown gravel, clay, silt, wet GC				Sand pack 8.0'-19.0'
580.6	9.0		Weathered limestone bedrock	SS-4 8.5-10.0 4"R	8 50/0"		qu=NT Set screen (slot 0.010") 9.0'-19.0'
569.6	20.0		End of Boring at 20.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/20/10** ENDED **10/20/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ 8.5
▽
▽

MWG13-15_7255

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-6-Wi** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **589.8**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) * (1 2 3 4 5)	NOTES & TEST RESULTS
589.8	0.0		Crushed stone, brown medium sand, black coal cinders, dry FILL				
				SS-1 1.0-2.5 10"R	7 11 8		qu=NT
							Bentonite seal 3.0'-8.0'. Stickup protective cover installed.
				SS-2 3.5-5.0 10"R	6 14 13		qu=NT
				SS-3 6.0-7.5 11"R	4 7 16		qu=NT
581.8	8.0		Gray silty clay, coarse to fine gravel, trace coarse sand, wet				Set screen (slot 0.010") 8.0'-18.0'
580.8	9.0		▽ CL	SS-4 8.5-10.0 12"R	7 9 18		Sand pack 8.0'-18.0' qu=NT
579.3	10.5		Weathered limestone bedrock				Set up NX core barrel & cored bedrock to 18.0'
571.8	18.0		End of Boring at 18.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/12/10** ENDED **10/12/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **9.0**

MWG13-15_7256

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-7-WI** SHEET 1 OF 1
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **589.6**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
589.6	0.0		Crushed stone, gravel, silt, sand FILL				
				SS-1 1.0-2.5 10"R	7 7 4		qu=NT
			Rock rubble, dry				Bentonite seal 3.0'-6.0'. Stickup protective cover installed.
				SS-2 3.5-5.0 10"R	6 11 12		qu=NT
				SS-3 6.0-7.5 6"R	11 5 5		qu=NT Sand pack 6.0'-18.0'
582.6	7.0		Brown gravel, silt, coarse sand, saturated GC				
581.6	8.0	▽					Set screen (slot 0.010") 7.5'-17.5'
581.1	8.5		Weathered limestone bedrock	SS-4 8.5-10.0 0"R	50/2"		qu=NT Cored bedrock 9.0'-18.0'
571.6	18.0		End of Boring at 18.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/22/10** ENDED **10/22/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ 8.0

MWG13-15_7257

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-8-Wi** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **589.6**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
589.6	0.0		Dark brown clayey silt, dry				
589.1	0.5		CL				
			Coarse gravel, crushed rock, dry	SS-1 1.0-2.5 6"R	4 7 9		qu=NT
			FILL				
							Bentonite seal 3.0'-6.0'. Stickup protective cover installed.
				SS-2 3.5-5.0 10"R	5 13 10		qu=NT
			Crushed rock, silty gravel				
				SS-3 6.0-7.5 10"R	7 19 22		qu=NT
582.6	7.0		Moist				Sand pack 7.0'-19.0'
			Weathered limestone bedrock				
				SS-4 8.5-10.0 4"R	10 50/1"		qu=NT
							Set screen (slot 0.010") 9.0'-19.0'
570.6	19.0		End of Boring at 19.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/19/10** ENDED **10/19/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽
▼
▼

MWG13-15_7258

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-9-Wi** SHEET 1 OF 1
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **589.8**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
589.8	0.0		Crushed rock, coarse sand, some silt FILL				
				SS-1 1.0-2.5 14"R	4 7 9		qu=NT
							Bentonite seal 3.0'-8.0'. Stickup protective cover installed.
				SS-2 3.5-5.0 16"R	3 11 6		qu=NT
			Some brown silty clay				
583.8	6.0		Gray silty clay, fine and coarse gravel, some coarse sand GC	SS-3 6.0-7.5 16"R	4 11 13		qu=NT
							Sand pack 8.0'-19.0'
				SS-4 8.5-10.0 17"R	4 10 11		qu=NT Set screen (slot 0.010") 9.0'-19.0'
			Moist				
			Clayey gravel				
578.3	11.5		Weather limestone bedrock	SS-5 11.0-12.5 12"R	5 5 50/3"		qu=NT
							Cored bedrock to 22.0'
570.8	19.0		End of Boring at 19.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/19/10** ENDED **10/19/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **11.5'**
▼
▼

MWG13-15_7259

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-10-Wi** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Will County Station**

LOGGED BY **MPG**
GROUND ELEVATION **591.3**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
591.3	0.0		Crushed limestone, silt, gravel FILL				
				SS-1 1.0-2.5 4"R	7 10 12		Bentonite seal 2.0'-8.0'. Flush mount protective cover installed. qu=NT
				SS-2 3.5-5.0 14"R	13 18 8		
				SS-3 6.0-7.5 4"R	18 50/5"		qu=NT
				SS-4 8.5-10.0 4"R	13 17 50/1"		Sand pack 8.0'-20.0' qu=NT
581.3	10.0		▽ Weathered limestone, clay, sand, gravel GC				Set screen (slot 0.010") (slot 0.010") 10.0'-20.0' qu=NT
				SS-5 11.0-12.5 0"R	17 50/0"		
579.3	12.0		Weathered limestone bedrock				-21.0'
571.3	20.0		End of Boring at 20.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/21/10** ENDED **10/21/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ 10.0

MWG13-15_7260



LEGEND

- POTABLE WELL LOCATION (APPROXIMATE)
- ASH POND
- 2,500 FOOT RADIUS OF ASH POND SYSTEMS

NOTE:
REFER TO SUMMARY TABLE FOR SPECIFIC WELL INFORMATION.

SOURCE:
2005 DIGITAL ORTHOPHOTO FROM ILLINOIS NATURAL RESOURCES GEOSPATIAL DATA CLEARINGHOUSE
WELL LOCATIONS FROM ILLINOIS STATE GEOLOGICAL SURVEY, ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, AND ILLINOIS STATE WATER SURVEY.

N

0 600 1200
SCALE IN FEET

DRAWN BY: KNW DATE: 05/13/09
CHECKED BY: HMS DATE: 05/22/09
APPROVED BY: HMS DATE: 07/07/09
DRAWING NO: 1792-3-B01
REFERENCE: .

POTABLE WATER WELLS

WILL COUNTY GENERATING STATION
MIDWEST GENERATON
ROMEOVILLE, WILL COUNTY , ILLINOIS

NATURAL RESOURCE TECHNOLOGY

PROJECT NO.
1792/3.0

FIGURE NO.
1

MWG13-15_7261

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 500-29848-1

Job Description: Will County Ash Pond Assessments

For:
Midwest Generation EME LLC
529 E 135th Street
Romeoville, IL 60446-1538

Attention: Beckie Maddox

Approved for release.
Bonnie M Stadelmann
Project Manager II
12/28/2010 4:14 PM

Bonnie M Stadelmann
Project Manager II
bonnie.stadelmann@testamericainc.com
12/28/2010

cc: Andrew Gagnon
Ms. Maria Race

These test results meet all the requirements of NELAC for accredited parameters.

The Lab Certification ID#:
TestAmerica Chicago 100201

All questions regarding this test report should be directed to the TestAmerica Project Manager whose signature appears on this report. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.

TestAmerica Laboratories, Inc.
TestAmerica Chicago 2417 Bond Street, University Park, IL 60484
Tel (708) 534-5200 Fax (708) 534-5211 www.testamericainc.com

ACCREDITED IN ACCORDANCE WITH nelac

Job Narrative
500-29848-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

Metals
Method(s) 6020: The continuing calibration verification (CCV) and continuing calibration blank (CCB) at lines 91 and 92 in AD batch 102214 recovered above the upper control limit for Sb. The samples associated with this CCV and CCB were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 6020: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 500-29848-2 were outside control limits for Se. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Field Service / Mobile Lab
No analytical or quality issues were noted.

General Chemistry
Method(s) SM 4500 NO3 F: The nitrate continuing calibration verification (CCV) for 102133 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. MW-10 (500-29848-10)

No other analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Midwest Generation EME LLC Job Number: 500-29848-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
500-29848-1	**MW-01**				
Dissolved					
Barium		0.050	0.0025	mg/L	6020
Boron		1.8	0.25	mg/L	6020
Cobalt		0.0011	0.0010	mg/L	6020
Manganese		0.20	0.0025	mg/L	6020
Nickel		0.0046	0.0020	mg/L	6020
Sulfate-Dissolved		530	100	mg/L	9038
Chloride-Dissolved		110	10	mg/L	9251
Total Dissolved Solids-Dissolved		1100	10	mg/L	SM 2540C
Fluoride-Dissolved		0.71	0.10	mg/L	SM 4500 F C
500-29848-2	**MW-02**				
Dissolved					
Arsenic		0.0052	0.0010	mg/L	6020
Barium		0.061	0.0025	mg/L	6020
Boron		1.8	0.25	mg/L	6020
Manganese		0.032	0.0025	mg/L	6020
Sulfate-Dissolved		430	100	mg/L	9038
Chloride-Dissolved		110	10	mg/L	9251
Total Dissolved Solids-Dissolved		870	10	mg/L	SM 2540C
Fluoride-Dissolved		0.62	0.10	mg/L	SM 4500 F C
500-29848-3	**MW-03**				
Dissolved					
Arsenic		0.0020	0.0010	mg/L	6020
Barium		0.084	0.0025	mg/L	6020
Boron		2.7	0.25	mg/L	6020
Iron		0.37	0.10	mg/L	6020
Manganese		0.34	0.0025	mg/L	6020
Nickel		0.0054	0.0020	mg/L	6020
Sulfate-Dissolved		330	100	mg/L	9038
Chloride-Dissolved		54	2.0	mg/L	9251
Total Dissolved Solids-Dissolved		940	10	mg/L	SM 2540C
Fluoride-Dissolved		0.50	0.10	mg/L	SM 4500 F C

EXECUTIVE SUMMARY - Detections

Client: Midwest Generation EME LLC Job Number: 500-29848-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
500-29848-4	**MW-04**				
Dissolved					
Arsenic		0.0027	0.0010	mg/L	6020
Barium		0.068	0.0025	mg/L	6020
Boron		3.7	0.25	mg/L	6020
Cobalt		0.0011	0.0010	mg/L	6020
Iron		0.83	0.10	mg/L	6020
Manganese		0.52	0.0025	mg/L	6020
Nickel		0.0048	0.0020	mg/L	6020
Sulfate-Dissolved		1500	250	mg/L	9038
Chloride-Dissolved		120	10	mg/L	9251
Total Dissolved Solids-Dissolved		2500	10	mg/L	SM 2540C
Fluoride-Dissolved		0.52	0.10	mg/L	SM 4500 F C
500-29848-5	**MW-05**				
Dissolved					
Arsenic		0.0066	0.0010	mg/L	6020
Barium		0.051	0.0025	mg/L	6020
Boron		2.6	0.25	mg/L	6020
Manganese		0.0079	0.0025	mg/L	6020
Selenium		0.017	0.0025	mg/L	6020
Sulfate-Dissolved		580	100	mg/L	9038
Chloride-Dissolved		110	10	mg/L	9251
Nitrogen, Nitrate-Dissolved		0.27	0.10	mg/L	Nitrate by calc
Total Dissolved Solids-Dissolved		1000	10	mg/L	SM 2540C
Fluoride-Dissolved		0.41	0.10	mg/L	SM 4500 F C
Nitrogen, Nitrate Nitrite-Dissolved		0.27	0.10	mg/L	SM 4500 NO3 F
500-29848-6	**MW-06**				
Dissolved					
Arsenic		0.0018	0.0010	mg/L	6020
Barium		0.050	0.0025	mg/L	6020
Boron		2.7	0.25	mg/L	6020
Manganese		0.073	0.0025	mg/L	6020
Selenium		0.0062	0.0025	mg/L	6020
Sulfate-Dissolved		500	100	mg/L	9038
Chloride-Dissolved		120	10	mg/L	9251
Total Dissolved Solids-Dissolved		990	10	mg/L	SM 2540C
Fluoride-Dissolved		0.85	0.10	mg/L	SM 4500 F C

EXECUTIVE SUMMARY - Detections

Client: Midwest Generation EME LLC Job Number: 500-29848-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
500-29848-7	**MW-07**				
Dissolved					
Arsenic		0.0040	0.0010	mg/L	6020
Barium		0.045	0.0025	mg/L	6020
Boron		4.7	0.25	mg/L	6020
Iron		0.23	0.10	mg/L	6020
Manganese		0.12	0.0025	mg/L	6020
Nickel		0.0029	0.0020	mg/L	6020
Sulfate-Dissolved		610	100	mg/L	9038
Chloride-Dissolved		160	10	mg/L	9251
Total Dissolved Solids-Dissolved		1300	10	mg/L	SM 2540C
Fluoride-Dissolved		0.96	0.10	mg/L	SM 4500 F C
500-29848-8	**MW-08**				
Dissolved					
Arsenic		0.0067	0.0010	mg/L	6020
Barium		0.069	0.0025	mg/L	6020
Boron		1.7	0.25	mg/L	6020
Iron		0.48	0.10	mg/L	6020
Manganese		0.33	0.0025	mg/L	6020
Sulfate-Dissolved		440	100	mg/L	9038
Chloride-Dissolved		93	10	mg/L	9251
Total Dissolved Solids-Dissolved		930	10	mg/L	SM 2540C
Fluoride-Dissolved		0.61	0.10	mg/L	SM 4500 F C
500-29848-9	**MW-09**				
Dissolved					
Arsenic		0.0059	0.0010	mg/L	6020
Barium		0.025	0.0025	mg/L	6020
Boron		2.2	0.25	mg/L	6020
Selenium		0.0036	0.0025	mg/L	6020
Sulfate-Dissolved		410	100	mg/L	9038
Chloride-Dissolved		100	10	mg/L	9251
Total Dissolved Solids-Dissolved		800	10	mg/L	SM 2540C
Fluoride-Dissolved		0.33	0.10	mg/L	SM 4500 F C
Nitrogen, Nitrite-Dissolved		0.44	0.10	mg/L	SM 4500 NO2 B

EXECUTIVE SUMMARY - Detections

Client: Midwest Generation EME LLC Job Number: 500-29848-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
500-29848-10	**MW-10**				
Dissolved					
Arsenic		0.0041	0.0010	mg/L	6020
Barium		0.098	0.0025	mg/L	6020
Boron		2.1	0.25	mg/L	6020
Iron		0.32	0.10	mg/L	6020
Manganese		0.25	0.0025	mg/L	6020
Sulfate-Dissolved		370	100	mg/L	9038
Chloride-Dissolved		92	10	mg/L	9251
Total Dissolved Solids-Dissolved		990	10	mg/L	SM 2540C
Fluoride-Dissolved		0.66	0.10	mg/L	SM 4500 F C

METHOD SUMMARY

Client: Midwest Generation EME LLC Job Number: 500-29848-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Metals (ICP/MS)	TAL CHI	SW846 6020	
Preparation, Soluble	TAL CHI		Soluble Metals
Sample Filtration, Field			FIELD_FLTRD
Mercury (CVAA)	TAL CHI	SW846 7470A	
Preparation, Mercury	TAL CHI		SW846 7470A
Sample Filtration, Field			FIELD_FLTRD
Cyanide	TAL CHI	SW846 9014	
Cyanide, Distillation	TAL CHI		SW846 9010B
Sample Filtration, Field			FIELD_FLTRD
Sulfate, Turbidimetric	TAL CHI	SW846 9038	
Sample Filtration, Field			FIELD_FLTRD
Chloride	TAL CHI	SW846 9251	
Sample Filtration, Field			FIELD_FLTRD
Nitrogen, Nitrate-Nitrite	TAL CHI	SM Nitrate by calc	
Sample Filtration, Field			FIELD_FLTRD
Solids, Total Dissolved (TDS)	TAL CHI	SM SM 2540C	
Sample Filtration, Field			FIELD_FLTRD
Fluoride	TAL CHI	SM SM 4500 F C	
Sample Filtration, Field			FIELD_FLTRD
Nitrogen, Nitrite	TAL CHI	SM SM 4500 NO2 B	
Sample Filtration, Field			FIELD_FLTRD
Nitrogen, Nitrate	TAL CHI	SM SM 4500 NO3 F	
Sample Filtration, Field			FIELD_FLTRD

Lab References:

TAL CHI = TestAmerica Chicago

Method References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Midwest Generation EME LLC Job Number: 500-29848-1

Method	Analyst	Analyst ID
SW846 6020	Kolarczyk, Paul F	PFK
SW846 7470A	Roach, Jessica	JR
SW846 9014	Moore, Colleen L	CLM
SW846 9038	Boyd, Cheryl L	CLB
SW846 9251	Deb, Khona	KD
SM Nitrate by calc	Ficarello, Peter M	PMF
SM SM 2540C	Boyd, Cheryl L	CLB
SM SM 4500 F C	Moore, Colleen L	CLM
SM SM 4500 NO2 B	Moore, Colleen L	CLM
SM SM 4500 NO3 F	Ficarello, Peter M	PMF

SAMPLE SUMMARY

Client: Midwest Generation EME LLC Job Number: 500-29848-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
500-29848-1	MW-01	Water	12/13/2010 1400	12/14/2010 1255
500-29848-2	MW-02	Water	12/13/2010 1315	12/14/2010 1255
500-29848-3	MW-03	Water	12/13/2010 1230	12/14/2010 1255
500-29848-4	MW-04	Water	12/13/2010 1200	12/14/2010 1255
500-29848-5	MW-05	Water	12/13/2010 1130	12/14/2010 1255
500-29848-6	MW-06	Water	12/13/2010 0945	12/14/2010 1255
500-29848-7	MW-07	Water	12/13/2010 1445	12/14/2010 1255
500-29848-8	MW-08	Water	12/13/2010 1555	12/14/2010 1255
500-29848-9	MW-09	Water	12/13/2010 1525	12/14/2010 1255
500-29848-10	MW-10	Water	12/13/2010 1045	12/14/2010 1255

SAMPLE RESULTS

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Job Number: 500-29848-1

Client Sample ID: MW-01
Lab Sample ID: 500-29848-1

Date Sampled: 12/13/2010 1400
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1329	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Beryllium	<0.0010	mg/L	0.0010	1.0
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1805	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Antimony	<0.0030 ^	mg/L	0.0030	1.0
Arsenic	<0.0010	mg/L	0.0010	1.0
Barium	0.050	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	0.0011	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	0.20	mg/L	0.0025	1.0
Nickel	0.0046	mg/L	0.0020	1.0
Selenium	<0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1426	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Boron	1.8	mg/L	0.25	5.0
Method: Dissolved-7470A		Date Analyzed:	12/15/2010 1339	
Prep Method: 7470A		Date Prepared:	12/15/2010 0735	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/20/2010 1530	
Prep Method: 9010B		Date Prepared:	12/20/2010 1110	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/19/2010 2028	
Sulfate	530	mg/L	100	20
Method: Dissolved-9251		Date Analyzed:	12/28/2010 1239	
Chloride	110	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/17/2010 1343	
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/14/2010 2244	

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Job Number: 500-29848-1

Client Sample ID: MW-01
Lab Sample ID: 500-29848-1

Date Sampled: 12/13/2010 1400
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Total Dissolved Solids	1100	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/20/2010 1412	
Fluoride	0.71	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/15/2010 0941	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/17/2010 1141	
Nitrogen, Nitrate Nitrite	<0.10	mg/L	0.10	1.0

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Job Number: 500-29848-1

Client Sample ID: MW-02
Lab Sample ID: 500-29848-2

Date Sampled: 12/13/2010 1315
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1331	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Beryllium	<0.0010	mg/L	0.0010	1.0
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1807	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Antimony	<0.0030 ^	mg/L	0.0030	1.0
Arsenic	0.0052	mg/L	0.0010	1.0
Barium	0.061	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	0.032	mg/L	0.0025	1.0
Nickel	<0.0020	mg/L	0.0020	1.0
Selenium	<0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1427	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Boron	1.8	mg/L	0.25	5.0
Method: Dissolved-7470A		Date Analyzed:	12/15/2010 1340	
Prep Method: 7470A		Date Prepared:	12/15/2010 0735	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/20/2010 1530	
Prep Method: 9010B		Date Prepared:	12/20/2010 1110	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/19/2010 2029	
Sulfate	430	mg/L	100	20
Method: Dissolved-9251		Date Analyzed:	12/28/2010 1239	
Chloride	110	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/17/2010 1343	
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/14/2010 2253	

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Job Number: 500-29848-1

Client Sample ID: MW-02
Lab Sample ID: 500-29848-2

Date Sampled: 12/13/2010 1315
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Total Dissolved Solids	870	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/20/2010 1421	
Fluoride	0.62	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/15/2010 0941	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/17/2010 1143	
Nitrogen, Nitrate Nitrite	<0.10	mg/L	0.10	1.0

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Job Number: 500-29848-1

Client Sample ID: MW-03
Lab Sample ID: 500-29848-3

Date Sampled: 12/13/2010 1230
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1341	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Beryllium	<0.0010	mg/L	0.0010	1.0
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1825	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Antimony	<0.0030 ^	mg/L	0.0030	1.0
Arsenic	0.0020	mg/L	0.0010	1.0
Barium	0.084	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Selenium	<0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1205	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	0.37	mg/L	0.10	1.0
Manganese	0.34	mg/L	0.0025	1.0
Nickel	0.0054	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1433	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Boron	2.7	mg/L	0.25	5.0
Method: Dissolved-7470A		Date Analyzed:	12/15/2010 1342	
Prep Method: 7470A		Date Prepared:	12/15/2010 0735	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/20/2010 1530	
Prep Method: 9010B		Date Prepared:	12/20/2010 1110	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/19/2010 2030	
Sulfate	330	mg/L	100	20
Method: Dissolved-9251		Date Analyzed:	12/28/2010 1240	
Chloride	54	mg/L	2.0	1.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/17/2010 1343	

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Job Number: 500-29848-1

Client Sample ID: MW-03
Lab Sample ID: 500-29848-3

Date Sampled: 12/13/2010 1230
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/14/2010 2256	
Total Dissolved Solids	940	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/20/2010 1423	
Fluoride	0.50	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/15/2010 0942	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/17/2010 1145	
Nitrogen, Nitrate Nitrite	<0.10	mg/L	0.10	1.0

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Job Number: 500-29848-1

Client Sample ID: MW-04
Lab Sample ID: 500-29848-4

Date Sampled: 12/13/2010 1200
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1343	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Beryllium	<0.0010	mg/L	0.0010	1.0
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1828	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Antimony	<0.0030 ^	mg/L	0.0030	1.0
Arsenic	0.0027	mg/L	0.0010	1.0
Barium	0.068	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Selenium	<0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1207	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	0.0011	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	0.83	mg/L	0.10	1.0
Manganese	0.52	mg/L	0.0025	1.0
Nickel	0.0048	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1434	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Boron	3.7	mg/L	0.25	5.0
Method: Dissolved-7470A		Date Analyzed:	12/15/2010 1344	
Prep Method: 7470A		Date Prepared:	12/15/2010 0735	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/20/2010 1531	
Prep Method: 9010B		Date Prepared:	12/20/2010 1110	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/19/2010 2031	
Sulfate	1500	mg/L	250	50
Method: Dissolved-9251		Date Analyzed:	12/28/2010 1240	
Chloride	120	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/17/2010 1343	

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Job Number: 500-29848-1

Client Sample ID: MW-04
Lab Sample ID: 500-29848-4

Date Sampled: 12/13/2010 1200
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/14/2010 2259	
Total Dissolved Solids	2500	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/20/2010 1426	
Fluoride	0.52	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/15/2010 0942	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/17/2010 1147	
Nitrogen, Nitrate Nitrite	<0.10	mg/L	0.10	1.0

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Job Number: 500-29848-1

Client Sample ID: MW-05
Lab Sample ID: 500-29848-5

Date Sampled: 12/13/2010 1130
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1345	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Beryllium	<0.0010	mg/L	0.0010	1.0
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1830	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Antimony	<0.0030 ^	mg/L	0.0030	1.0
Arsenic	0.0066	mg/L	0.0010	1.0
Barium	0.051	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Selenium	0.017	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1209	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Manganese	0.0079	mg/L	0.0025	1.0
Nickel	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1435	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Boron	2.6	mg/L	0.25	5.0
Method: Dissolved-7470A		Date Analyzed:	12/15/2010 1345	
Prep Method: 7470A		Date Prepared:	12/15/2010 0735	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/20/2010 1531	
Prep Method: 9010B		Date Prepared:	12/20/2010 1110	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/19/2010 2032	
Sulfate	580	mg/L	100	20
Method: Dissolved-9251		Date Analyzed:	12/28/2010 1241	
Chloride	110	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/17/2010 1343	

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Job Number: 500-29848-1

Client Sample ID: MW-05
Lab Sample ID: 500-29848-5

Date Sampled: 12/13/2010 1130
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Nitrogen, Nitrate	0.27	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/14/2010 2302	
Total Dissolved Solids	1000	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/20/2010 1429	
Fluoride	0.41	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/15/2010 0942	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/17/2010 1149	
Nitrogen, Nitrate Nitrite	0.27	mg/L	0.10	1.0

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Job Number: 500-29848-1

Client Sample ID: MW-06
Lab Sample ID: 500-29848-6

Date Sampled: 12/13/2010 0945
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1833	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Antimony	<0.0030 ^	mg/L	0.0030	1.0
Arsenic	0.0018	mg/L	0.0010	1.0
Barium	0.050	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Selenium	0.0062	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1212	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Manganese	0.073	mg/L	0.0025	1.0
Nickel	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1436	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Boron	2.7	mg/L	0.25	5.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1534	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Beryllium	<0.0010	mg/L	0.0010	1.0
Method: Dissolved-7470A		Date Analyzed:	12/15/2010 1350	
Prep Method: 7470A		Date Prepared:	12/15/2010 0735	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/20/2010 1531	
Prep Method: 9010B		Date Prepared:	12/20/2010 1110	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/19/2010 2033	
Sulfate	500	mg/L	100	20
Method: Dissolved-9251		Date Analyzed:	12/28/2010 1241	
Chloride	120	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/17/2010 1343	

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Job Number: 500-29848-1

Client Sample ID: MW-06
Lab Sample ID: 500-29848-6

Date Sampled: 12/13/2010 0945
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/14/2010 2306	
Total Dissolved Solids	990	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/20/2010 1432	
Fluoride	0.85	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/15/2010 0942	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/17/2010 1151	
Nitrogen, Nitrate Nitrite	<0.10	mg/L	0.10	1.0

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Job Number: 500-29848-1

Client Sample ID: MW-07
Lab Sample ID: 500-29848-7

Date Sampled: 12/13/2010 1445
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1835	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Antimony	<0.0030 ^	mg/L	0.0030	1.0
Arsenic	0.0040	mg/L	0.0010	1.0
Barium	0.045	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Selenium	<0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1214	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	0.23	mg/L	0.10	1.0
Manganese	0.12	mg/L	0.0025	1.0
Nickel	0.0029	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1436	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Boron	4.7	mg/L	0.25	5.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1535	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Beryllium	<0.0010	mg/L	0.0010	1.0
Method: Dissolved-7470A		Date Analyzed:	12/15/2010 1352	
Prep Method: 7470A		Date Prepared:	12/15/2010 0735	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/20/2010 1532	
Prep Method: 9010B		Date Prepared:	12/20/2010 1110	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/19/2010 2036	
Sulfate	610	mg/L	100	20
Method: Dissolved-9251		Date Analyzed:	12/28/2010 1242	
Chloride	160	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/17/2010 1343	

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Job Number: 500-29848-1

Client Sample ID: MW-07
Lab Sample ID: 500-29848-7

Date Sampled: 12/13/2010 1445
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/14/2010 2309	
Total Dissolved Solids	1300	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/20/2010 1435	
Fluoride	0.96	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/15/2010 0943	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/17/2010 1154	
Nitrogen, Nitrate Nitrite	<0.10	mg/L	0.10	1.0

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Job Number: 500-29848-1

Client Sample ID: MW-08
Lab Sample ID: 500-29848-8

Date Sampled: 12/13/2010 1555
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1838	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Antimony	<0.0030 ^	mg/L	0.0030	1.0
Arsenic	0.0067	mg/L	0.0010	1.0
Barium	0.069	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Selenium	<0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1220	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	0.48	mg/L	0.10	1.0
Manganese	0.33	mg/L	0.0025	1.0
Nickel	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1437	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Boron	1.7	mg/L	0.25	5.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1536	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Beryllium	<0.0010	mg/L	0.0010	1.0
Method: Dissolved-7470A		Date Analyzed:	12/15/2010 1354	
Prep Method: 7470A		Date Prepared:	12/15/2010 0735	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/20/2010 1532	
Prep Method: 9010B		Date Prepared:	12/20/2010 1110	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/19/2010 2037	
Sulfate	440	mg/L	100	20
Method: Dissolved-9251		Date Analyzed:	12/28/2010 1242	
Chloride	93	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/17/2010 1343	

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Job Number: 500-29848-1

Client Sample ID: MW-08
Lab Sample ID: 500-29848-8

Date Sampled: 12/13/2010 1555
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/14/2010 2312	
Total Dissolved Solids	930	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/20/2010 1438	
Fluoride	0.61	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/15/2010 0943	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/17/2010 1156	
Nitrogen, Nitrate Nitrite	<0.10	mg/L	0.10	1.0

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Job Number: 500-29848-1

Client Sample ID: MW-09
Lab Sample ID: 500-29848-9

Date Sampled: 12/13/2010 1525
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1840	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Antimony	<0.0030 ^	mg/L	0.0030	1.0
Arsenic	0.0059	mg/L	0.0010	1.0
Barium	0.025	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Selenium	0.0036	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1222	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Manganese	<0.0025	mg/L	0.0025	1.0
Nickel	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1438	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Boron	2.2	mg/L	0.25	5.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1537	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Beryllium	<0.0010	mg/L	0.0010	1.0
Method: Dissolved-7470A		Date Analyzed:	12/15/2010 1355	
Prep Method: 7470A		Date Prepared:	12/15/2010 0735	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/20/2010 1533	
Prep Method: 9010B		Date Prepared:	12/20/2010 1110	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/19/2010 2038	
Sulfate	410	mg/L	100	20
Method: Dissolved-9251		Date Analyzed:	12/28/2010 1244	
Chloride	100	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/22/2010 1549	

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Job Number: 500-29848-1

Client Sample ID: MW-09
Lab Sample ID: 500-29848-9

Date Sampled: 12/13/2010 1525
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/14/2010 2315	
Total Dissolved Solids	800	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/20/2010 1451	
Fluoride	0.33	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/15/2010 0944	
Nitrogen, Nitrite	0.44	mg/L	0.10	5.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/22/2010 1046	
Nitrogen, Nitrate Nitrite	<0.10	mg/L	0.10	1.0

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Job Number: 500-29848-1

Client Sample ID: MW-10
Lab Sample ID: 500-29848-10

Date Sampled: 12/13/2010 1045
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1843	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Antimony	<0.0030 ^	mg/L	0.0030	1.0
Arsenic	0.0041	mg/L	0.0010	1.0
Barium	0.098	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Selenium	<0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1225	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	0.32	mg/L	0.10	1.0
Manganese	0.25	mg/L	0.0025	1.0
Nickel	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1439	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Boron	2.1	mg/L	0.25	5.0
Method: Dissolved-6020		Date Analyzed:	12/20/2010 1538	
Prep Method: Soluble Metals		Date Prepared:	12/17/2010 1051	
Beryllium	<0.0010	mg/L	0.0010	1.0
Method: Dissolved-7470A		Date Analyzed:	12/15/2010 1357	
Prep Method: 7470A		Date Prepared:	12/15/2010 0735	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/20/2010 1533	
Prep Method: 9010B		Date Prepared:	12/20/2010 1110	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/19/2010 2039	
Sulfate	370	mg/L	100	20
Method: Dissolved-9251		Date Analyzed:	12/28/2010 1244	
Chloride	92	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/17/2010 1346	

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Job Number: 500-29848-1

Client Sample ID: MW-10
Lab Sample ID: 500-29848-10

Date Sampled: 12/13/2010 1045
Date Received: 12/14/2010 1255
Client Matrix: Water

Analyte	Result/Qualifier		Unit	RL	Dilution
Nitrogen, Nitrate	<0.10		mg/L	0.10	1.0
Method: Dissolved-SM 2540C			Date Analyzed:	12/14/2010 2318	
Total Dissolved Solids	990		mg/L	10	1.0
Method: Dissolved-SM 4500 F C			Date Analyzed:	12/20/2010 1454	
Fluoride	0.66		mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B			Date Analyzed:	12/15/2010 0944	
Nitrogen, Nitrite	<0.020		mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F			Date Analyzed:	12/17/2010 1204	
Nitrogen, Nitrate Nitrite	<0.10	^	mg/L	0.10	1.0

DATA REPORTING QUALIFIERS

Client: Midwest Generation EME LLC Job Number: 500-29848-1

Lab Section	Qualifier	Description
Metals		
	^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
	F	MS or MSD exceeds the control limits
General Chemistry		
	^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.

QUALITY CONTROL RESULTS

Client: Midwest Generation EME LLC Job Number: 500-29848-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 500-101907					
LCS 500-101907/8-A	Lab Control Sample	T	Water	7470A	
MB 500-101907/7-A	Method Blank	T	Water	7470A	
500-29848-1	MW-01	D	Water	7470A	
500-29848-2	MW-02	D	Water	7470A	
500-29848-3	MW-03	D	Water	7470A	
500-29848-4	MW-04	D	Water	7470A	
500-29848-5	MW-05	D	Water	7470A	
500-29848-6	MW-06	D	Water	7470A	
500-29848-7	MW-07	D	Water	7470A	
500-29848-8	MW-08	D	Water	7470A	
500-29848-9	MW-09	D	Water	7470A	
500-29848-10	MW-10	D	Water	7470A	
Analysis Batch:500-101962					
LCS 500-101907/8-A	Lab Control Sample	T	Water	7470A	500-101907
MB 500-101907/7-A	Method Blank	T	Water	7470A	500-101907
500-29848-1	MW-01	D	Water	7470A	500-101907
500-29848-2	MW-02	D	Water	7470A	500-101907
500-29848-3	MW-03	D	Water	7470A	500-101907
500-29848-4	MW-04	D	Water	7470A	500-101907
500-29848-5	MW-05	D	Water	7470A	500-101907
500-29848-6	MW-06	D	Water	7470A	500-101907
500-29848-7	MW-07	D	Water	7470A	500-101907
500-29848-8	MW-08	D	Water	7470A	500-101907
500-29848-9	MW-09	D	Water	7470A	500-101907
500-29848-10	MW-10	D	Water	7470A	500-101907
Prep Batch: 500-102116					
LCS 500-102116/2-A	Lab Control Sample	S	Water	Soluble Metals	
MB 500-102116/1-A	Method Blank	S	Water	Soluble Metals	
500-29848-1	MW-01	D	Water	Soluble Metals	
500-29848-2	MW-02	D	Water	Soluble Metals	
500-29848-2DU	Duplicate	D	Water	Soluble Metals	
500-29848-2MS	Matrix Spike	D	Water	Soluble Metals	
500-29848-2MSD	Matrix Spike Duplicate	D	Water	Soluble Metals	
500-29848-3	MW-03	D	Water	Soluble Metals	
500-29848-4	MW-04	D	Water	Soluble Metals	
500-29848-5	MW-05	D	Water	Soluble Metals	
500-29848-6	MW-06	D	Water	Soluble Metals	
500-29848-7	MW-07	D	Water	Soluble Metals	
500-29848-8	MW-08	D	Water	Soluble Metals	
500-29848-9	MW-09	D	Water	Soluble Metals	
500-29848-10	MW-10	D	Water	Soluble Metals	

Client: Midwest Generation EME LLC Job Number: 500-29848-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:500-102144					
LCS 500-102116/2-A	Lab Control Sample	S	Water	6020	500-102116
MB 500-102116/1-A	Method Blank	S	Water	6020	500-102116
500-29848-1	MW-01	D	Water	6020	500-102116
500-29848-2	MW-02	D	Water	6020	500-102116
500-29848-2DU	Duplicate	D	Water	6020	500-102116
500-29848-2MS	Matrix Spike	D	Water	6020	500-102116
500-29848-2MSD	Matrix Spike Duplicate	D	Water	6020	500-102116
500-29848-3	MW-03	D	Water	6020	500-102116
500-29848-4	MW-04	D	Water	6020	500-102116
500-29848-5	MW-05	D	Water	6020	500-102116
Analysis Batch:500-102214					
LCS 500-102116/2-A	Lab Control Sample	S	Water	6020	500-102116
MB 500-102116/1-A	Method Blank	S	Water	6020	500-102116
500-29848-1	MW-01	D	Water	6020	500-102116
500-29848-2	MW-02	D	Water	6020	500-102116
500-29848-2DU	Duplicate	D	Water	6020	500-102116
500-29848-2MS	Matrix Spike	D	Water	6020	500-102116
500-29848-2MSD	Matrix Spike Duplicate	D	Water	6020	500-102116
500-29848-3	MW-03	D	Water	6020	500-102116
500-29848-4	MW-04	D	Water	6020	500-102116
500-29848-5	MW-05	D	Water	6020	500-102116
500-29848-6	MW-06	D	Water	6020	500-102116
500-29848-7	MW-07	D	Water	6020	500-102116
500-29848-8	MW-08	D	Water	6020	500-102116
500-29848-9	MW-09	D	Water	6020	500-102116
500-29848-10	MW-10	D	Water	6020	500-102116
Analysis Batch:500-102240					
500-29848-3	MW-03	D	Water	6020	500-102116
500-29848-4	MW-04	D	Water	6020	500-102116
500-29848-5	MW-05	D	Water	6020	500-102116
500-29848-6	MW-06	D	Water	6020	500-102116
500-29848-7	MW-07	D	Water	6020	500-102116
500-29848-8	MW-08	D	Water	6020	500-102116
500-29848-9	MW-09	D	Water	6020	500-102116
500-29848-10	MW-10	D	Water	6020	500-102116

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:500-102257					
LCS 500-102116/2-A	Lab Control Sample	S	Water	6020	500-102116
MB 500-102116/1-A	Method Blank	S	Water	6020	500-102116
500-29848-1	MW-01	D	Water	6020	500-102116
500-29848-2	MW-02	D	Water	6020	500-102116
500-29848-2DU	Duplicate	D	Water	6020	500-102116
500-29848-2MS	Matrix Spike	D	Water	6020	500-102116
500-29848-2MSD	Matrix Spike Duplicate	D	Water	6020	500-102116
500-29848-3	MW-03	D	Water	6020	500-102116
500-29848-4	MW-04	D	Water	6020	500-102116
500-29848-5	MW-05	D	Water	6020	500-102116
500-29848-6	MW-06	D	Water	6020	500-102116
500-29848-7	MW-07	D	Water	6020	500-102116
500-29848-8	MW-08	D	Water	6020	500-102116
500-29848-9	MW-09	D	Water	6020	500-102116
500-29848-10	MW-10	D	Water	6020	500-102116

Report Basis
D = Dissolved
S = Soluble
T = Total

Client: Midwest Generation EME LLC Job Number: 500-29848-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:500-101897					
LCS 500-101897/2	Lab Control Sample	T	Water	SM 2540C	
MB 500-101897/1	Method Blank	T	Water	SM 2540C	
500-29848-1	MW-01	D	Water	SM 2540C	
500-29848-1DU	Duplicate	D	Water	SM 2540C	
500-29848-1MS	Matrix Spike	D	Water	SM 2540C	
500-29848-2	MW-02	D	Water	SM 2540C	
500-29848-3	MW-03	D	Water	SM 2540C	
500-29848-4	MW-04	D	Water	SM 2540C	
500-29848-5	MW-05	D	Water	SM 2540C	
500-29848-6	MW-06	D	Water	SM 2540C	
500-29848-7	MW-07	D	Water	SM 2540C	
500-29848-8	MW-08	D	Water	SM 2540C	
500-29848-9	MW-09	D	Water	SM 2540C	
500-29848-10	MW-10	D	Water	SM 2540C	
Analysis Batch:500-102007					
LCS 500-102007/4	Lab Control Sample	T	Water	SM 4500 NO2 B	
MB 500-102007/3	Method Blank	T	Water	SM 4500 NO2 B	
500-29848-1	MW-01	D	Water	SM 4500 NO2 B	
500-29848-1MS	Matrix Spike	D	Water	SM 4500 NO2 B	
500-29848-1MSD	Matrix Spike Duplicate	D	Water	SM 4500 NO2 B	
500-29848-2	MW-02	D	Water	SM 4500 NO2 B	
500-29848-3	MW-03	D	Water	SM 4500 NO2 B	
500-29848-4	MW-04	D	Water	SM 4500 NO2 B	
500-29848-5	MW-05	D	Water	SM 4500 NO2 B	
500-29848-6	MW-06	D	Water	SM 4500 NO2 B	
500-29848-7	MW-07	D	Water	SM 4500 NO2 B	
500-29848-8	MW-08	D	Water	SM 4500 NO2 B	
500-29848-9	MW-09	D	Water	SM 4500 NO2 B	
500-29848-10	MW-10	D	Water	SM 4500 NO2 B	
Analysis Batch:500-102133					
LCS 500-102133/29	Lab Control Sample	T	Water	SM 4500 NO3 F	
MB 500-102133/28	Method Blank	T	Water	SM 4500 NO3 F	
500-29848-1	MW-01	D	Water	SM 4500 NO3 F	
500-29848-2	MW-02	D	Water	SM 4500 NO3 F	
500-29848-3	MW-03	D	Water	SM 4500 NO3 F	
500-29848-4	MW-04	D	Water	SM 4500 NO3 F	
500-29848-5	MW-05	D	Water	SM 4500 NO3 F	
500-29848-6	MW-06	D	Water	SM 4500 NO3 F	
500-29848-7	MW-07	D	Water	SM 4500 NO3 F	
500-29848-8	MW-08	D	Water	SM 4500 NO3 F	
500-29848-10	MW-10	D	Water	SM 4500 NO3 F	

Client: Midwest Generation EME LLC Job Number: 500-29848-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:500-102140					
500-29848-1	MW-01	D	Water	Nitrate by calc	
500-29848-2	MW-02	D	Water	Nitrate by calc	
500-29848-3	MW-03	D	Water	Nitrate by calc	
500-29848-4	MW-04	D	Water	Nitrate by calc	
500-29848-5	MW-05	D	Water	Nitrate by calc	
500-29848-6	MW-06	D	Water	Nitrate by calc	
500-29848-7	MW-07	D	Water	Nitrate by calc	
500-29848-8	MW-08	D	Water	Nitrate by calc	
500-29848-10	MW-10	D	Water	Nitrate by calc	
Analysis Batch:500-102195					
LCS 500-102195/4	Lab Control Sample	T	Water	9038	
MB 500-102195/3	Method Blank	T	Water	9038	
500-29848-1	MW-01	D	Water	9038	
500-29848-2	MW-02	D	Water	9038	
500-29848-3	MW-03	D	Water	9038	
500-29848-4	MW-04	D	Water	9038	
500-29848-5	MW-05	D	Water	9038	
500-29848-6	MW-06	D	Water	9038	
500-29848-7	MW-07	D	Water	9038	
500-29848-8	MW-08	D	Water	9038	
500-29848-9	MW-09	D	Water	9038	
500-29848-10	MW-10	D	Water	9038	
Prep Batch: 500-102232					
HLCS 500-102232/3-A	High Level Control Sample	T	Water	9010B	
LCS 500-102232/2-A	Lab Control Sample	T	Water	9010B	
LLCS 500-102232/4-A	Low Level Control Sample	T	Water	9010B	
MB 500-102232/1-A	Method Blank	T	Water	9010B	
500-29848-1	MW-01	D	Water	9010B	
500-29848-2	MW-02	D	Water	9010B	
500-29848-3	MW-03	D	Water	9010B	
500-29848-4	MW-04	D	Water	9010B	
500-29848-5	MW-05	D	Water	9010B	
500-29848-6	MW-06	D	Water	9010B	
500-29848-7	MW-07	D	Water	9010B	
500-29848-8	MW-08	D	Water	9010B	
500-29848-9	MW-09	D	Water	9010B	
500-29848-10	MW-10	D	Water	9010B	

Client: Midwest Generation EME LLC Job Number: 500-29848-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:500-102260					
LCS 500-102260/4	Lab Control Sample	T	Water	SM 4500 F C	
MB 500-102260/3	Method Blank	T	Water	SM 4500 F C	
500-29848-1	MW-01	D	Water	SM 4500 F C	
500-29848-1MS	Matrix Spike	D	Water	SM 4500 F C	
500-29848-1MSD	Matrix Spike Duplicate	D	Water	SM 4500 F C	
500-29848-2	MW-02	D	Water	SM 4500 F C	
500-29848-3	MW-03	D	Water	SM 4500 F C	
500-29848-4	MW-04	D	Water	SM 4500 F C	
500-29848-5	MW-05	D	Water	SM 4500 F C	
500-29848-6	MW-06	D	Water	SM 4500 F C	
500-29848-7	MW-07	D	Water	SM 4500 F C	
500-29848-8	MW-08	D	Water	SM 4500 F C	
500-29848-9	MW-09	D	Water	SM 4500 F C	
500-29848-10	MW-10	D	Water	SM 4500 F C	
Analysis Batch:500-102269					
HLCS 500-102232/3-A	High Level Control Sample	T	Water	9014	500-102232
LCS 500-102232/2-A	Lab Control Sample	T	Water	9014	500-102232
LLCS 500-102232/4-A	Low Level Control Sample	T	Water	9014	500-102232
MB 500-102232/1-A	Method Blank	T	Water	9014	500-102232
500-29848-1	MW-01	D	Water	9014	500-102232
500-29848-2	MW-02	D	Water	9014	500-102232
500-29848-3	MW-03	D	Water	9014	500-102232
500-29848-4	MW-04	D	Water	9014	500-102232
500-29848-5	MW-05	D	Water	9014	500-102232
500-29848-6	MW-06	D	Water	9014	500-102232
500-29848-7	MW-07	D	Water	9014	500-102232
500-29848-8	MW-08	D	Water	9014	500-102232
500-29848-9	MW-09	D	Water	9014	500-102232
500-29848-10	MW-10	D	Water	9014	500-102232
Analysis Batch:500-102427					
LCS 500-102427/23	Lab Control Sample	T	Water	SM 4500 NO3 F	
MB 500-102427/22	Method Blank	T	Water	SM 4500 NO3 F	
500-29848-9	MW-09	D	Water	SM 4500 NO3 F	
Analysis Batch:500-102452					
500-29848-9	MW-09	D	Water	Nitrate by calc	

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:500-102659					
LCS 500-102659/12	Lab Control Sample	T	Water	9251	
MB 500-102659/11	Method Blank	T	Water	9251	
500-29848-1	MW-01	D	Water	9251	
500-29848-2	MW-02	D	Water	9251	
500-29848-3	MW-03	D	Water	9251	
500-29848-4	MW-04	D	Water	9251	
500-29848-5	MW-05	D	Water	9251	
500-29848-6	MW-06	D	Water	9251	
500-29848-7	MW-07	D	Water	9251	
500-29848-8	MW-08	D	Water	9251	
500-29848-9	MW-09	D	Water	9251	
500-29848-10	MW-10	D	Water	9251	

Report Basis
D = Dissolved
T = Total

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Method Blank - Batch: 500-102116

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: MB 500-102116/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/17/2010 1313
Date Prepared: 12/17/2010 1051

Analysis Batch: 500-102144
Prep Batch: 500-102116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2121710BB.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Beryllium	<0.0010		0.0010

Method Blank - Batch: 500-102116

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: MB 500-102116/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/17/2010 1754
Date Prepared: 12/17/2010 1051

Analysis Batch: 500-102214
Prep Batch: 500-102116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2121710C.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Antimony	<0.0030	^	0.0030
Arsenic	<0.0010		0.0010
Barium	<0.0025		0.0025
Cadmium	<0.00050		0.00050
Chromium	<0.0050		0.0050
Cobalt	<0.0010		0.0010
Copper	<0.0020		0.0020
Iron	<0.10		0.10
Lead	<0.00050		0.00050
Manganese	<0.0025		0.0025
Nickel	<0.0020		0.0020
Selenium	<0.0025		0.0025
Silver	<0.00050		0.00050
Thallium	<0.0020		0.0020
Zinc	<0.020		0.020

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Method Blank - Batch: 500-102116

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: MB 500-102116/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/20/2010 1422
Date Prepared: 12/17/2010 1051

Analysis Batch: 500-102257
Prep Batch: 500-102116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2122010C.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Boron	<0.050		0.050

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Lab Control Sample - Batch: 500-102116

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: LCS 500-102116/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/17/2010 1315
Date Prepared: 12/17/2010 1051

Analysis Batch: 500-102144
Prep Batch: 500-102116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2121710BB.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Beryllium	0.0500	0.0469	94	80 - 120	

Lab Control Sample - Batch: 500-102116

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: LCS 500-102116/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/17/2010 1757
Date Prepared: 12/17/2010 1051

Analysis Batch: 500-102214
Prep Batch: 500-102116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2121710C.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony	0.500	0.445	89	80 - 120	^
Arsenic	0.100	0.0996	100	80 - 120	
Barium	0.500	0.494	99	80 - 120	
Cadmium	0.0500	0.0505	101	80 - 120	
Chromium	0.200	0.197	98	80 - 120	
Cobalt	0.500	0.497	99	80 - 120	
Copper	0.250	0.260	104	80 - 120	
Iron	1.00	0.923	92	80 - 120	
Lead	0.100	0.102	102	80 - 120	
Manganese	0.500	0.513	103	80 - 120	
Nickel	0.500	0.513	103	80 - 120	
Selenium	0.100	0.104	104	80 - 120	
Silver	0.0500	0.0504	101	80 - 120	
Thallium	0.100	0.106	106	80 - 120	
Zinc	0.500	0.520	104	80 - 120	

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Lab Control Sample - Batch: 500-102116

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: LCS 500-102116/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/20/2010 1423
Date Prepared: 12/17/2010 1051

Analysis Batch: 500-102257
Prep Batch: 500-102116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2122010C.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Boron	1.00	1.03	103	80 - 120	

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-102116

Method: 6020
Preparation: Soluble Metals Dissolved

MS Lab Sample ID:	500-29848-2	Analysis Batch: 500-102144	Instrument ID: ICPMS2
Client Matrix:	Water	Prep Batch: 500-102116	Lab File ID: MS2121710BB.csv
Dilution:	1.0		Initial Weight/Volume: 1.0 mL
Date Analyzed:	12/17/2010 1337		Final Weight/Volume: 1.0 mL
Date Prepared:	12/17/2010 1051		

MSD Lab Sample ID:	500-29848-2	Analysis Batch: 500-102144	Instrument ID: ICPMS2
Client Matrix:	Water	Prep Batch: 500-102116	Lab File ID: MS2121710BB.csv
Dilution:	1.0		Initial Weight/Volume: 1.0 mL
Date Analyzed:	12/17/2010 1339		Final Weight/Volume: 1.0 mL
Date Prepared:	12/17/2010 1051		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Beryllium	103	105	75 - 125	2	20		

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-102116

Method: 6020
Preparation: Soluble Metals Dissolved

MS Lab Sample ID: 500-29848-2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/17/2010 1815
Date Prepared: 12/17/2010 1051

Analysis Batch: 500-102214
Prep Batch: 500-102116

Instrument ID: ICPMS2
Lab File ID: MS2121710C.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

MSD Lab Sample ID: 500-29848-2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/17/2010 1817
Date Prepared: 12/17/2010 1051

Analysis Batch: 500-102214
Prep Batch: 500-102116

Instrument ID: ICPMS2
Lab File ID: MS2121710C.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Antimony	83	91	75 - 125	10	20	^	^
Arsenic	113	112	75 - 125	1	20		
Barium	98	99	75 - 125	1	20		
Cadmium	99	101	75 - 125	1	20		
Chromium	95	95	75 - 125	0	20		
Cobalt	94	94	75 - 125	0	20		
Copper	96	96	75 - 125	0	20		
Iron	90	90	75 - 125	1	20		
Lead	102	102	75 - 125	1	20		
Manganese	101	100	75 - 125	0	20		
Nickel	96	96	75 - 125	0	20		
Selenium	127	127	75 - 125	1	20	F	F
Silver	86	84	75 - 125	3	20		
Thallium	107	107	75 - 125	1	20		
Zinc	104	103	75 - 125	0	20		

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-102116

Method: 6020
Preparation: Soluble Metals Dissolved

MS Lab Sample ID:	500-29848-2	Analysis Batch:	500-102257	Instrument ID:	ICPMS2
Client Matrix:	Water	Prep Batch:	500-102116	Lab File ID:	MS2122010C.csv
Dilution:	5.0			Initial Weight/Volume:	1.0 mL
Date Analyzed:	12/20/2010 1429			Final Weight/Volume:	1.0 mL
Date Prepared:	12/17/2010 1051				

MSD Lab Sample ID:	500-29848-2	Analysis Batch:	500-102257	Instrument ID:	ICPMS2
Client Matrix:	Water	Prep Batch:	500-102116	Lab File ID:	MS2122010C.csv
Dilution:	5.0			Initial Weight/Volume:	1.0 mL
Date Analyzed:	12/20/2010 1432			Final Weight/Volume:	1.0 mL
Date Prepared:	12/17/2010 1051				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Boron	110	104	75 - 125	2	20		

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Duplicate - Batch: 500-102116

Method: 6020
Preparation: Soluble Metals Dissolved

Lab Sample ID: 500-29848-2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/17/2010 1335
Date Prepared: 12/17/2010 1051

Analysis Batch: 500-102144
Prep Batch: 500-102116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2121710BB.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Beryllium	<0.0010	<0.0010	NC	20	

Duplicate - Batch: 500-102116

Method: 6020
Preparation: Soluble Metals Dissolved

Lab Sample ID: 500-29848-2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/17/2010 1812
Date Prepared: 12/17/2010 1051

Analysis Batch: 500-102214
Prep Batch: 500-102116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2121710C.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Antimony	<0.0030	<0.0030	NC	20	^
Arsenic	0.0052	0.00522	0.4	20	
Barium	0.061	0.0589	3	20	
Cadmium	<0.00050	<0.00050	NC	20	
Chromium	<0.0050	<0.0050	NC	20	
Cobalt	<0.0010	<0.0010	NC	20	
Copper	<0.0020	<0.0020	NC	20	
Iron	<0.10	<0.10	NC	20	
Lead	<0.00050	<0.00050	NC	20	
Manganese	0.032	0.0338	4	20	
Nickel	<0.0020	<0.0020	NC	20	
Selenium	<0.0025	<0.0025	NC	20	
Silver	<0.00050	<0.00050	NC	20	
Thallium	<0.0020	<0.0020	NC	20	
Zinc	<0.020	<0.020	NC	20	

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Duplicate - Batch: 500-102116

Method: 6020
Preparation: Soluble Metals Dissolved

Lab Sample ID: 500-29848-2
Client Matrix: Water
Dilution: 5.0
Date Analyzed: 12/20/2010 1428
Date Prepared: 12/17/2010 1051

Analysis Batch: 500-102257
Prep Batch: 500-102116
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2122010C.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Boron	1.8	1.81	0.2	20	

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Method Blank - Batch: 500-101907

Method: 7470A
Preparation: 7470A

Lab Sample ID: MB 500-101907/7-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/15/2010 1323
Date Prepared: 12/15/2010 0735

Analysis Batch: 500-101962
Prep Batch: 500-101907
Units: mg/L

Instrument ID: HG6
Lab File ID: 121510R.CSV
Initial Weight/Volume: 25 mL
Final Weight/Volume: 25 mL

Analyte	Result	Qual	RL
Mercury	<0.00020		0.00020

Lab Control Sample - Batch: 500-101907

Method: 7470A
Preparation: 7470A

Lab Sample ID: LCS 500-101907/8-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/15/2010 1325
Date Prepared: 12/15/2010 0735

Analysis Batch: 500-101962
Prep Batch: 500-101907
Units: mg/L

Instrument ID: HG6
Lab File ID: 121510R.CSV
Initial Weight/Volume: 25 mL
Final Weight/Volume: 25 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.00200	0.00208	104	80 - 120	

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Method Blank - Batch: 500-102232

Method: 9014
Preparation: 9010B

Lab Sample ID: MB 500-102232/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/20/2010 1525
Date Prepared: 12/20/2010 1110

Analysis Batch: 500-102269
Prep Batch: 500-102232
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Cyanide, Total-Dissolved	<0.010		0.010

Client: Midwest Generation EME LLC Job Number: 500-29848-1

Lab Control Sample - Batch: 500-102232

Method: 9014
Preparation: 9010B

Lab Sample ID: LCS 500-102232/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/20/2010 1525
Date Prepared: 12/20/2010 1110

Analysis Batch: 500-102269
Prep Batch: 500-102232
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cyanide, Total-Dissolved	0.100	0.100	100	80 - 120	

High Level Control Sample - Batch: 500-102232

Method: 9014
Preparation: 9010B

Lab Sample ID: HLCS 500-102232/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/20/2010 1526
Date Prepared: 12/20/2010 1110

Analysis Batch: 500-102269
Prep Batch: 500-102232
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cyanide, Total-Dissolved	0.400	0.395	99	90 - 110	

Low Level Control Sample - Batch: 500-102232

Method: 9014
Preparation: 9010B

Lab Sample ID: LLCS 500-102232/4-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/20/2010 1526
Date Prepared: 12/20/2010 1110

Analysis Batch: 500-102269
Prep Batch: 500-102232
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cyanide, Total-Dissolved	0.0400	0.0416	104	75 - 125	

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Method Blank - Batch: 500-102195

Method: 9038
Preparation: N/A

Lab Sample ID: MB 500-102195/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/19/2010 2024
Date Prepared: N/A

Analysis Batch: 500-102195
Prep Batch: N/A
Units: mg/L

Instrument ID: SPEC3
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Sulfate-Dissolved	<5.0		5.0

Lab Control Sample - Batch: 500-102195

Method: 9038
Preparation: N/A

Lab Sample ID: LCS 500-102195/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/19/2010 2025
Date Prepared: N/A

Analysis Batch: 500-102195
Prep Batch: N/A
Units: mg/L

Instrument ID: SPEC3
Lab File ID: N/A
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate-Dissolved	20.0	18.8	94	80 - 120	

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Method Blank - Batch: 500-102659

Method: 9251
Preparation: N/A

Lab Sample ID: MB 500-102659/11
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/28/2010 1237
Date Prepared: N/A

Analysis Batch: 500-102659
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-12-28-13-5-1.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Chloride-Dissolved	<2.0		2.0

Lab Control Sample - Batch: 500-102659

Method: 9251
Preparation: N/A

Lab Sample ID: LCS 500-102659/12
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/28/2010 1238
Date Prepared: N/A

Analysis Batch: 500-102659
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-12-28-13-5-1.csv
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Dissolved	50.0	50.6	101	80 - 120	

Client: Midwest Generation EME LLC Job Number: 500-29848-1

Method Blank - Batch: 500-101897

Method: SM 2540C
Preparation: N/A

Lab Sample ID: MB 500-101897/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/14/2010 2238
Date Prepared: N/A

Analysis Batch: 500-101897
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Total Dissolved Solids-Dissolved	<10		10

Lab Control Sample - Batch: 500-101897

Method: SM 2540C
Preparation: N/A

Lab Sample ID: LCS 500-101897/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/14/2010 2241
Date Prepared: N/A

Analysis Batch: 500-101897
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Dissolved Solids-Dissolved	250	236	94	80 - 120	

Matrix Spike - Batch: 500-101897

Method: SM 2540C
Preparation: N/A

Lab Sample ID: 500-29848-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/14/2010 2250
Date Prepared: N/A

Analysis Batch: 500-101897
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Total Dissolved Solids-Dissolved	1100	250	1300	96	75 - 125	4

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Duplicate - Batch: 500-101897

Method: SM 2540C
Preparation: N/A

Lab Sample ID: 500-29848-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/14/2010 2247
Date Prepared: N/A

Analysis Batch: 500-101897
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Dissolved Solids-Dissolved	1100	1040	2	20	

Client: Midwest Generation EME LLC Job Number: 500-29848-1

Method Blank - Batch: 500-102260

Method: SM 4500 F C
Preparation: N/A

Lab Sample ID: MB 500-102260/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/20/2010 1331
Date Prepared: N/A

Analysis Batch: 500-102260
Prep Batch: N/A
Units: mg/L

Instrument ID: PC-Titrate
Lab File ID: 10122000.txt
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Fluoride-Dissolved	<0.10		0.10

Lab Control Sample - Batch: 500-102260

Method: SM 4500 F C
Preparation: N/A

Lab Sample ID: LCS 500-102260/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/20/2010 1334
Date Prepared: N/A

Analysis Batch: 500-102260
Prep Batch: N/A
Units: mg/L

Instrument ID: PC-Titrate
Lab File ID: 10122000.txt
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Fluoride-Dissolved	10.0	10.4	104	80 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-102260

Method: SM 4500 F C
Preparation: N/A

MS Lab Sample ID: 500-29848-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/20/2010 1415
Date Prepared: N/A

Analysis Batch: 500-102260
Prep Batch: N/A

Instrument ID: PC-Titrate
Lab File ID: 10122000.txt
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

MSD Lab Sample ID: 500-29848-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/20/2010 1418
Date Prepared: N/A

Analysis Batch: 500-102260
Prep Batch: N/A

Instrument ID: PC-Titrate
Lab File ID: 10122000.txt
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Fluoride-Dissolved	101	100	75 - 125	1	20		

Client: Midwest Generation EME LLC Job Number: 500-29848-1

Method Blank - Batch: 500-102007

Method: SM 4500 NO2 B
Preparation: N/A

Lab Sample ID: MB 500-102007/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/15/2010 0940
Date Prepared: N/A

Analysis Batch: 500-102007
Prep Batch: N/A
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Nitrogen, Nitrite-Dissolved	<0.020		0.020

Lab Control Sample - Batch: 500-102007

Method: SM 4500 NO2 B
Preparation: N/A

Lab Sample ID: LCS 500-102007/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/15/2010 0940
Date Prepared: N/A

Analysis Batch: 500-102007
Prep Batch: N/A
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrogen, Nitrite-Dissolved	0.100	0.0983	98	80 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-102007

Method: SM 4500 NO2 B
Preparation: N/A

MS Lab Sample ID: 500-29848-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/15/2010 0941
Date Prepared: N/A

Analysis Batch: 500-102007
Prep Batch: N/A

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

MSD Lab Sample ID: 500-29848-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/15/2010 0941
Date Prepared: N/A

Analysis Batch: 500-102007
Prep Batch: N/A

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Nitrogen, Nitrite-Dissolved	92	94	75 - 125	2	20		

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Method Blank - Batch: 500-102133

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: MB 500-102133/28
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/17/2010 1137
Date Prepared: N/A

Analysis Batch: 500-102133
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-12-17-12-27-19.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Nitrogen, Nitrate Nitrite-Dissolved	<0.10		0.10

Lab Control Sample - Batch: 500-102133

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: LCS 500-102133/29
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/17/2010 1139
Date Prepared: N/A

Analysis Batch: 500-102133
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-12-17-12-27-19.csv
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrogen, Nitrate Nitrite-Dissolved	1.00	0.990	99	80 - 120	

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Method Blank - Batch: 500-102427

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: MB 500-102427/22
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/22/2010 1036
Date Prepared: N/A

Analysis Batch: 500-102427
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-12-22-11-37-39.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Nitrogen, Nitrate Nitrite-Dissolved	<0.10		0.10

Lab Control Sample - Batch: 500-102427

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: LCS 500-102427/23
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/22/2010 1038
Date Prepared: N/A

Analysis Batch: 500-102427
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-12-22-11-37-39.csv
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrogen, Nitrate Nitrite-Dissolved	1.00	1.06	106	80 - 120	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

Chain of Custody Record

Lab Job #: 500-29848

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler: (3.3) (3.5)

(optional) Report To		(optional) Bill To	
Contact:	Andrew Gaynon	Contact:	
Company:	Patrick Eng.	Company:	
Address:	4985 Varsity Drive	Address:	
Address:	Lisle, IL 60532	Address:	
Phone:	630-795-7359	Phone:	
Fax:	630-724-9290	Fax:	
E-Mail:	AGaynon@Patrickeng.com	PO#/Reference#	

Client	Client Project #
Patrick Eng.	21053.070
Project Name	
Midwest Gen. Ashpond Study	
Project Location/State	**Lab Project #**
Will County, IL	
Sampler	**Lab PM**

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	—	Sulfuric Acid	Nitric Acid	Sodium Hydrox	—					Comments
							Parameter	Dissolved ROS, S, F, SO4, Cl	Dissolved NO3-NO2	Dissolved metals	Dissolved cyanide	Dissolved NO2					
1		MW-01	12/13/10	14:00	5	W		X	X	X	X	X					
2		MW-02		13:15													
3		MW-03		12:30													
4		MW-04		12:00													
5		MW-05		11:30													
6		MW-06		9:45													
7		MW-07		14:45													
8		MW-08		15:55													
9		MW-09		15:25													
10		MW-10		10:45													

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days X 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Dave Ng	Patrick Eng.	12/14/10	1255		TA	12/14/10	1255
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped
Hand Delivered PEI

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
Oil – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TAL-4124-500 (1209)

MWG13-15_7321

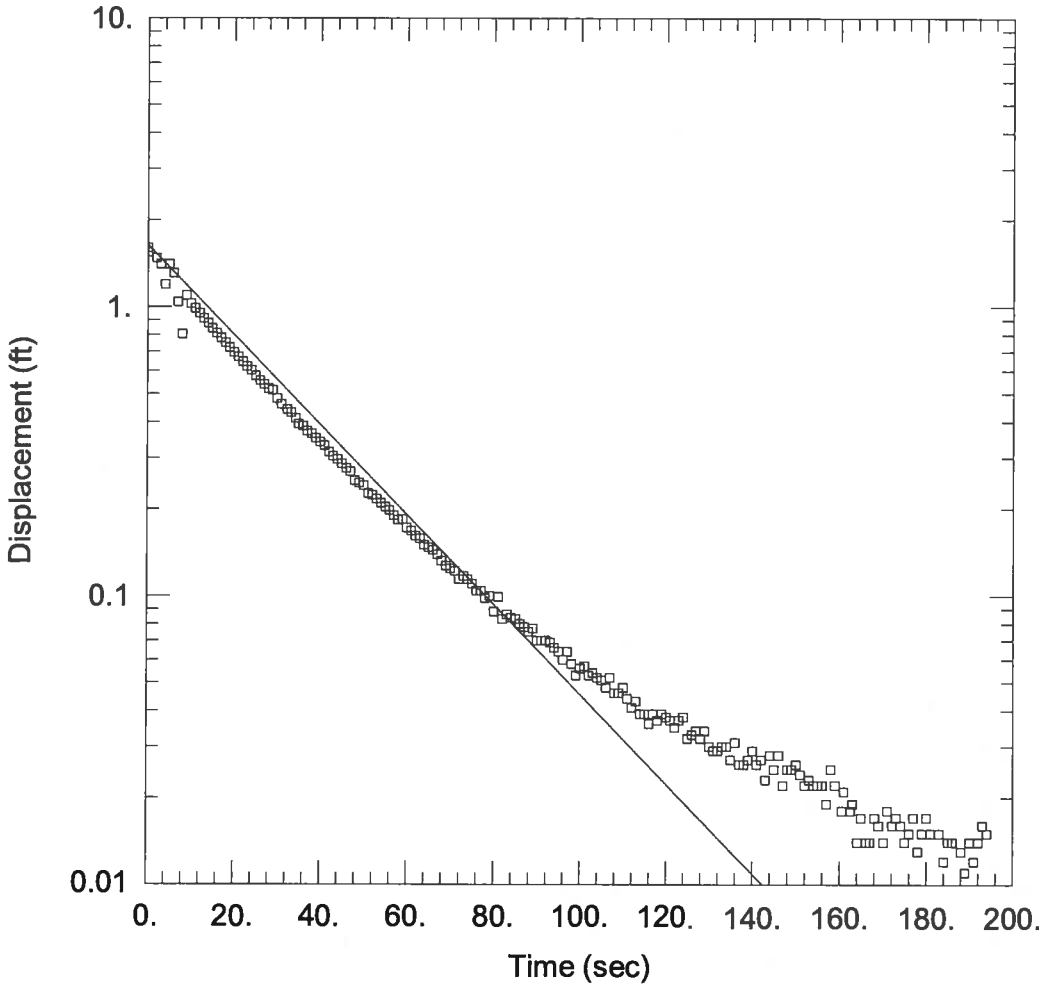
Login Sample Receipt Check List

Client: Midwest Generation EME LLC

Job Number: 500-29848-1

Login Number: 29848
List Source: TestAmerica Chicago
Creator: Lunt, Jeff T
List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	3.3,3.5
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	



WELL TEST ANALYSIS

Data Set: P:\...\will mw-1 d1.aqt
Date: 02/18/11 Time: 14:59:40

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Waukegan
Test Well: MW-1 (u2)
Test Date: 12/22/10

AQUIFER DATA

Saturated Thickness: 12.57 ft Anisotropy Ratio (Kz/Kr): 1.

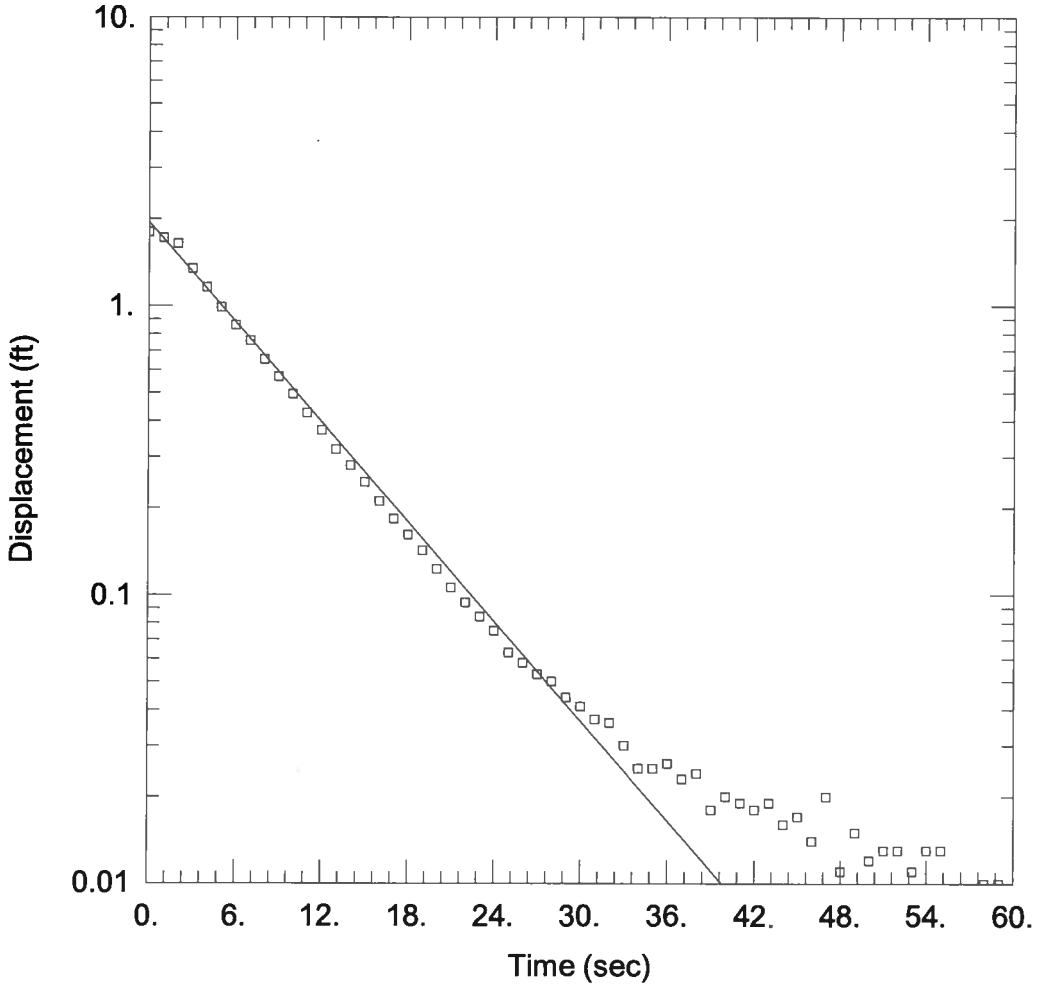
WELL DATA (MW-1 (d1))

Initial Displacement: 1.6 ft
Total Well Penetration Depth: 22. ft
Casing Radius: 0.2 ft
Static Water Column Height: 12.57 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.0002245 ft/sec y0 = 1.635 ft



WELL TEST ANALYSIS

Data Set: P:\...\will mw-1 u1.aqt
Date: 02/18/11 Time: 14:59:24

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Waukegan
Test Well: MW-1 (u2)
Test Date: 12/22/10

AQUIFER DATA

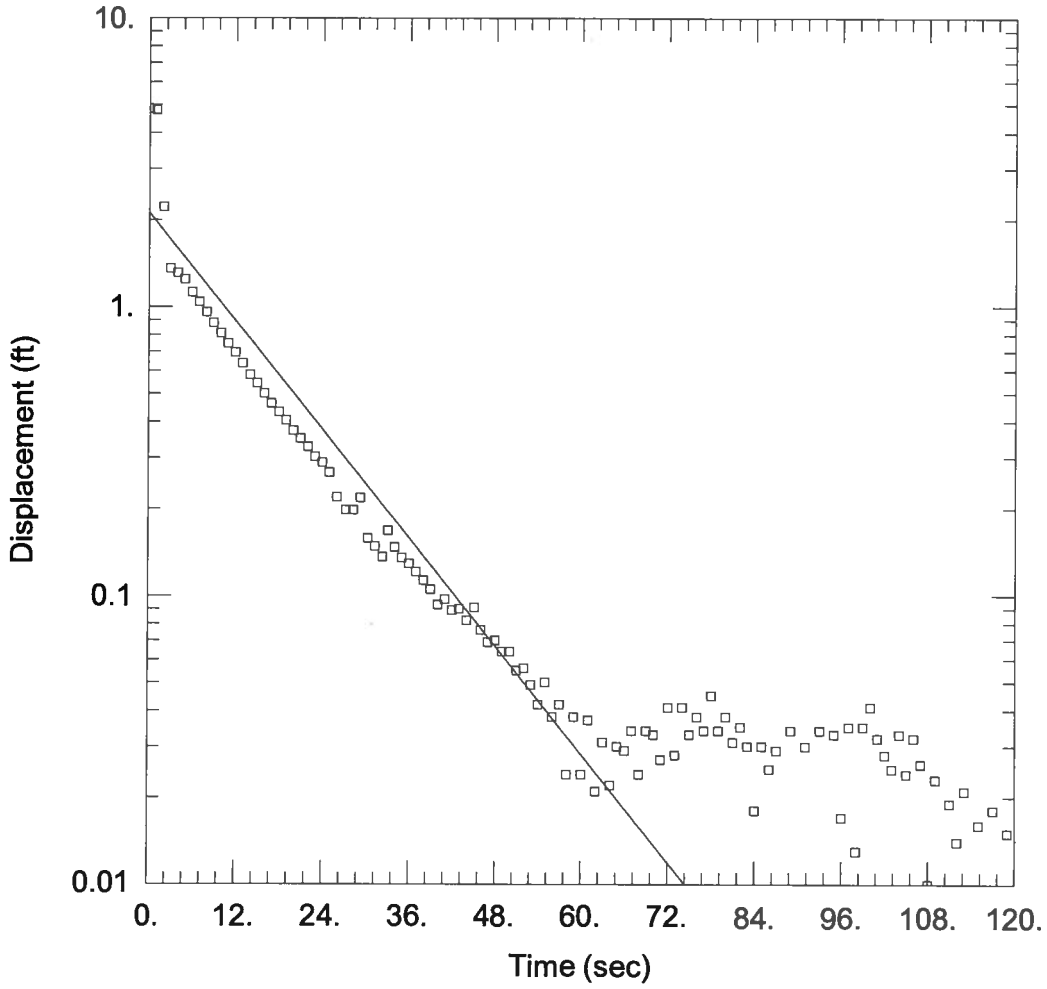
Saturated Thickness: 12.57 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-1 (u1))

Initial Displacement: 1.8 ft
Total Well Penetration Depth: 22. ft
Casing Radius: 0.2 ft
Static Water Column Height: 12.57 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0008312 ft/sec
y0 = 1.948 ft



WELL TEST ANALYSIS

Data Set: P:\...\will mw-4 d1.aqt
Date: 02/18/11 Time: 14:59:01

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Waukegan
Test Well: MW-1 (u2)
Test Date: 12/22/10

AQUIFER DATA

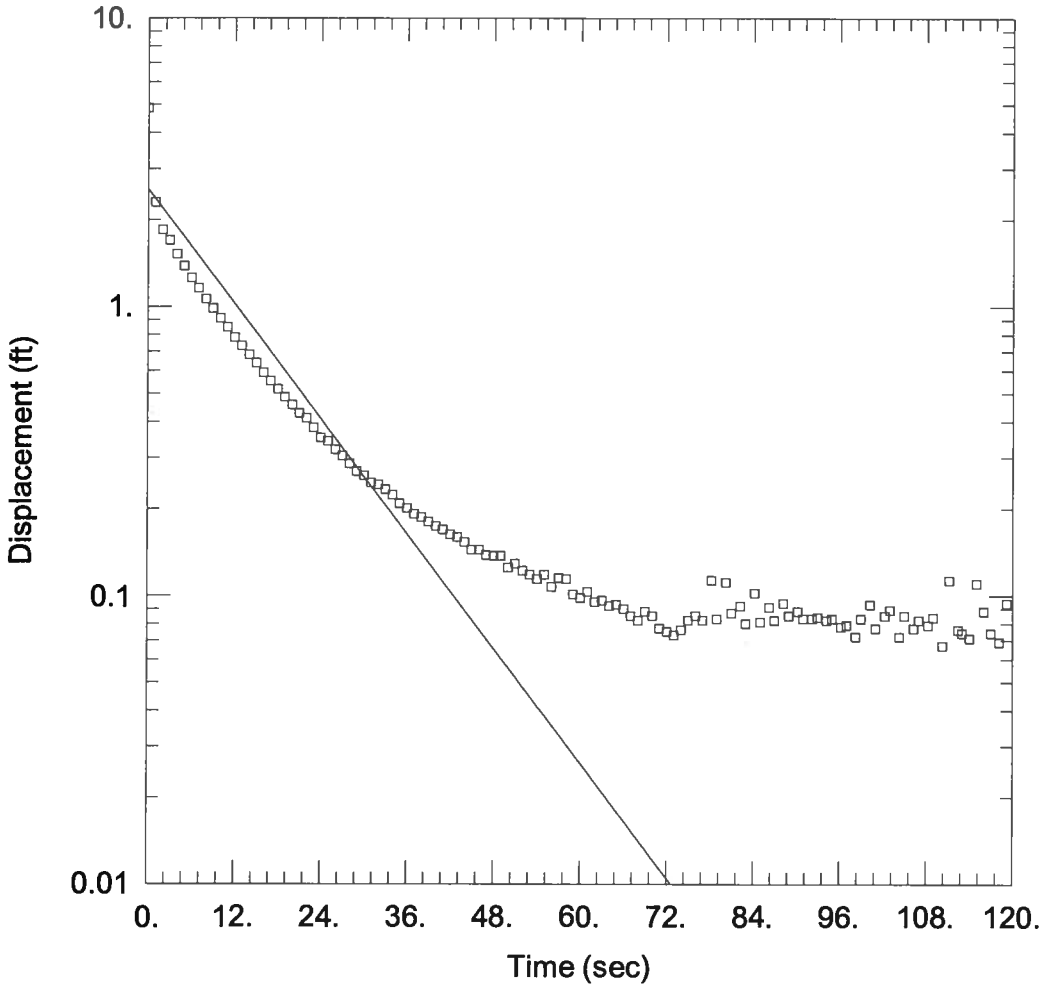
Saturated Thickness: 11.3 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-4 (d1))

Initial Displacement: 4.85 ft
Total Well Penetration Depth: 22.48 ft
Casing Radius: 0.2 ft
Static Water Column Height: 11.3 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0004525 ft/sec
y0 = 2.117 ft



WELL TEST ANALYSIS

Data Set: P:\...\will mw-4 u2.aqt
Date: 02/18/11 Time: 14:58:33

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Waukegan
Test Well: MW-1 (u2)
Test Date: 12/22/10

AQUIFER DATA

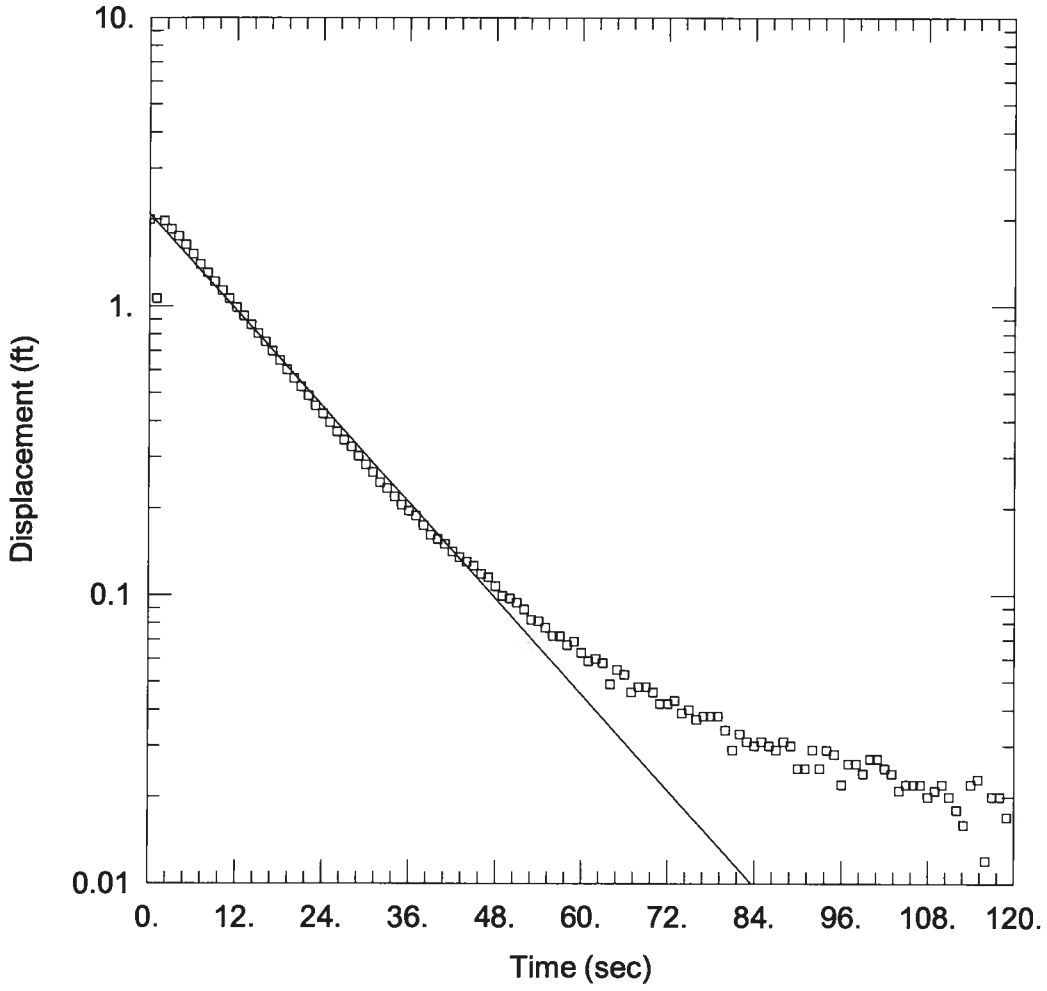
Saturated Thickness: 11.3 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-4 (u2))

Initial Displacement: 4.87 ft
Total Well Penetration Depth: 22.48 ft
Casing Radius: 0.2 ft
Static Water Column Height: 11.3 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0004797 ft/sec
y0 = 2.553 ft



WELL TEST ANALYSIS

Data Set: P:\...\will mw-6 u2.aqt
Date: 02/18/11 Time: 14:54:43

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Waukegan
Test Well: MW-1 (u2)
Test Date: 12/22/10

AQUIFER DATA

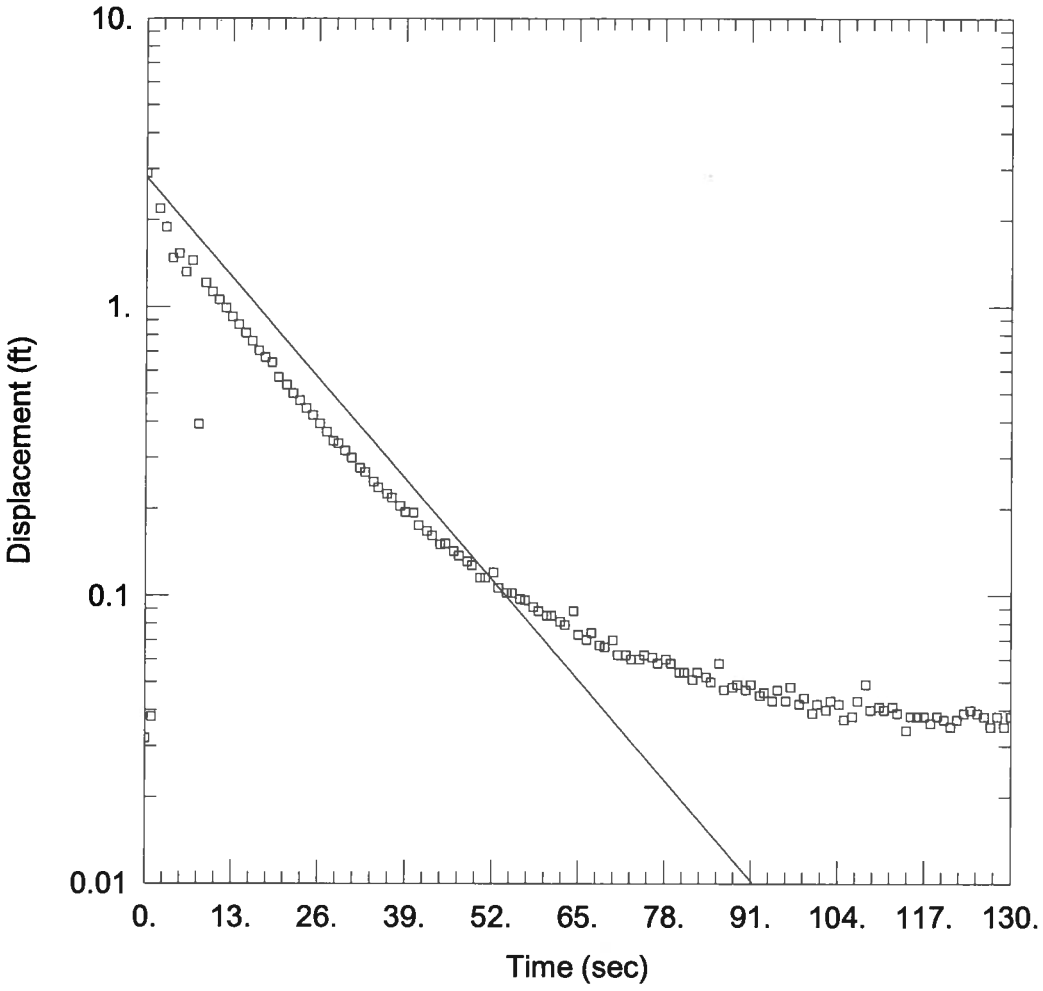
Saturated Thickness: 10.32 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-6 (u2))

Initial Displacement: 2. ft
Total Well Penetration Depth: 21.15 ft
Casing Radius: 0.2 ft
Static Water Column Height: 10.32 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0003977 ft/sec
y0 = 2.08 ft



WELL TEST ANALYSIS

Data Set: P:\...\will mw-6 d1.aqt
Date: 02/18/11 Time: 14:55:01

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Waukegan
Test Well: MW-1 (u2)
Test Date: 12/22/10

AQUIFER DATA

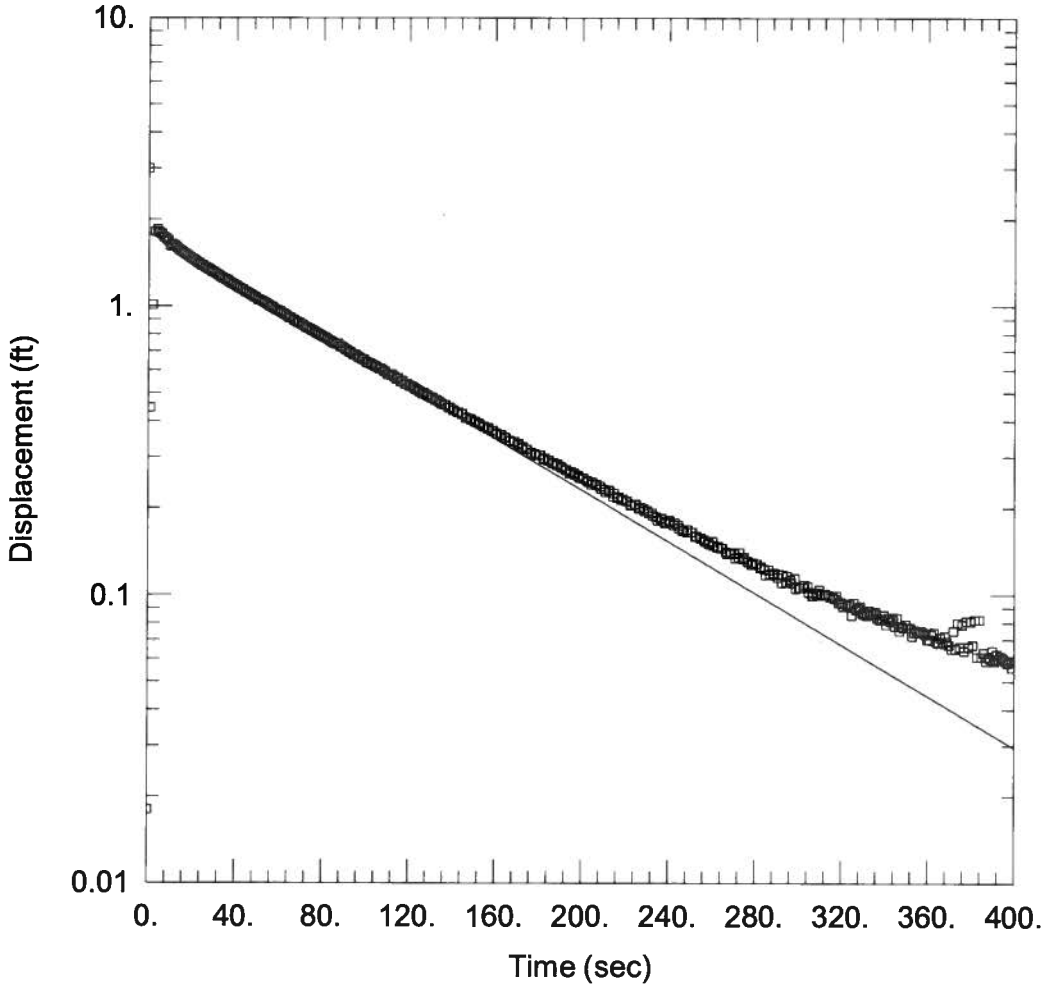
Saturated Thickness: 10.32 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-6 (d1))

Initial Displacement: 2.9 ft
Total Well Penetration Depth: 21.15 ft
Casing Radius: 0.2 ft
Static Water Column Height: 10.32 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0003843 ft/sec
y0 = 2.81 ft



WELL TEST ANALYSIS

Data Set: P:\...\will mw-7 d2.aqt
Date: 02/18/11 Time: 15:00:51

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Waukegan
Test Well: MW-1 (u2)
Test Date: 12/22/10

AQUIFER DATA

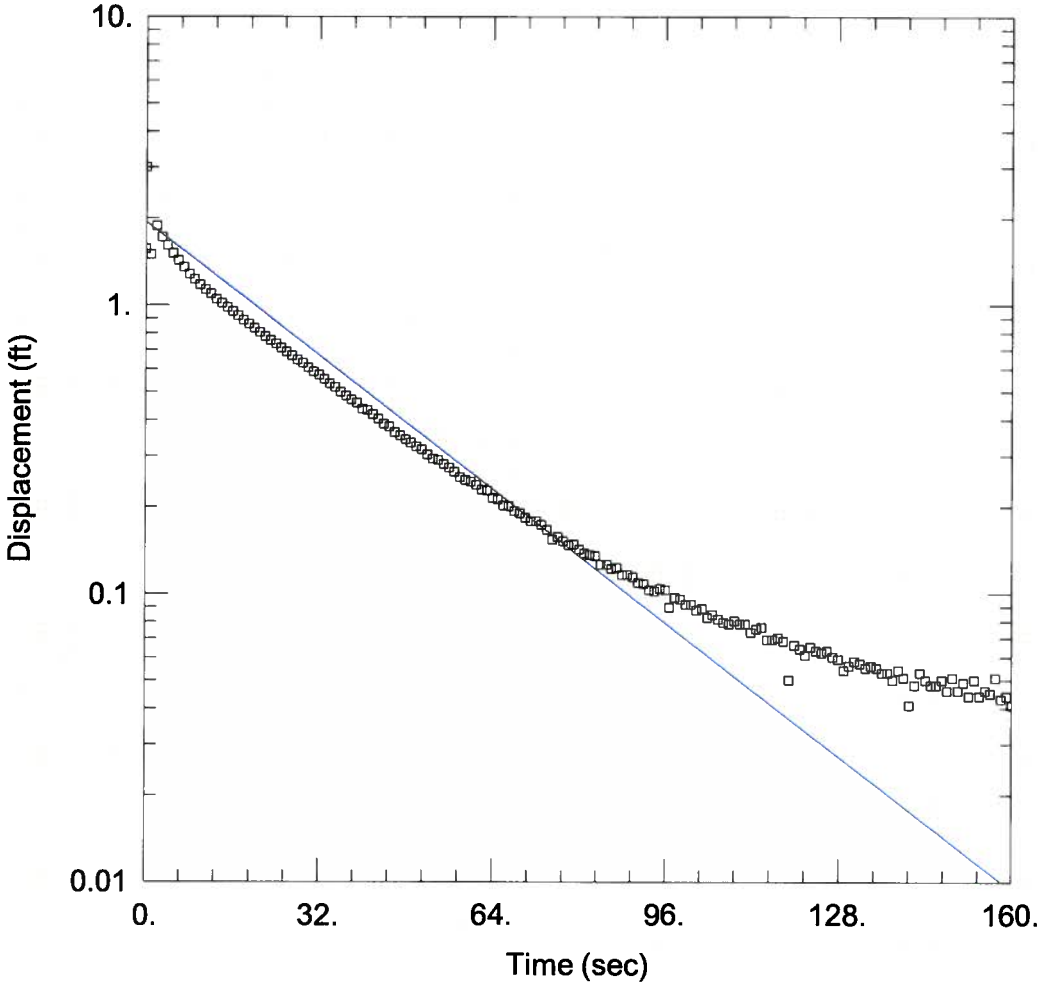
Saturated Thickness: 10.71 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-7 (d2))

Initial Displacement: 3. ft
Total Well Penetration Depth: 20.81 ft
Casing Radius: 0.2 ft
Static Water Column Height: 10.71 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 6.381E-5 ft/sec
y0 = 1.796 ft



WELL TEST ANALYSIS

Data Set: P:\...\will mw-7 u2.aqt
Date: 02/18/11 Time: 15:00:31

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Waukegan
Test Well: MW-1 (u2)
Test Date: 12/22/10

AQUIFER DATA

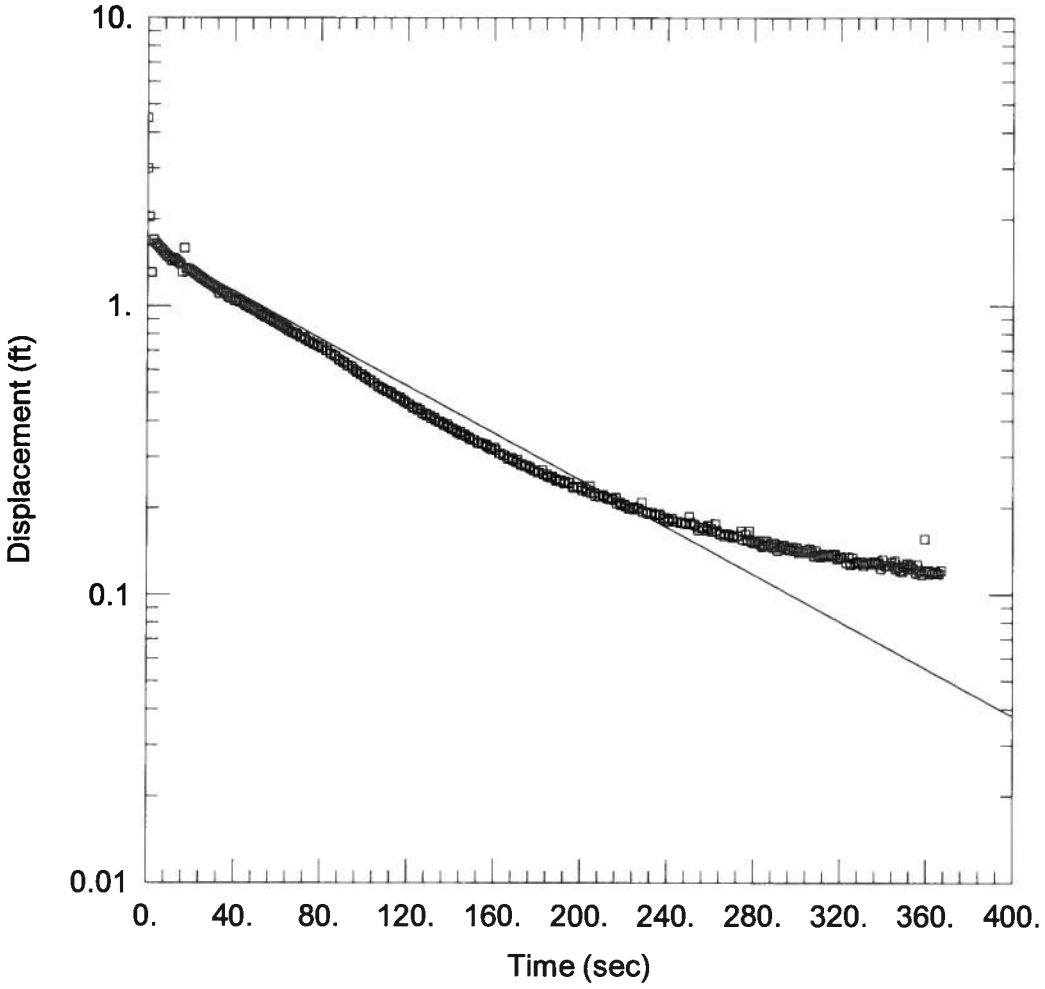
Saturated Thickness: 10.71 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-7 (u2))

Initial Displacement: 3. ft
Total Well Penetration Depth: 20.81 ft
Casing Radius: 0.2 ft
Static Water Column Height: 10.71 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0002072 ft/sec
y0 = 1.947 ft



WELL TEST ANALYSIS

Data Set: P:\...\will mw-9 d1.aqt
Date: 02/18/11 Time: 15:03:27

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Waukegan
Test Well: MW-1 (u2)
Test Date: 12/22/10

AQUIFER DATA

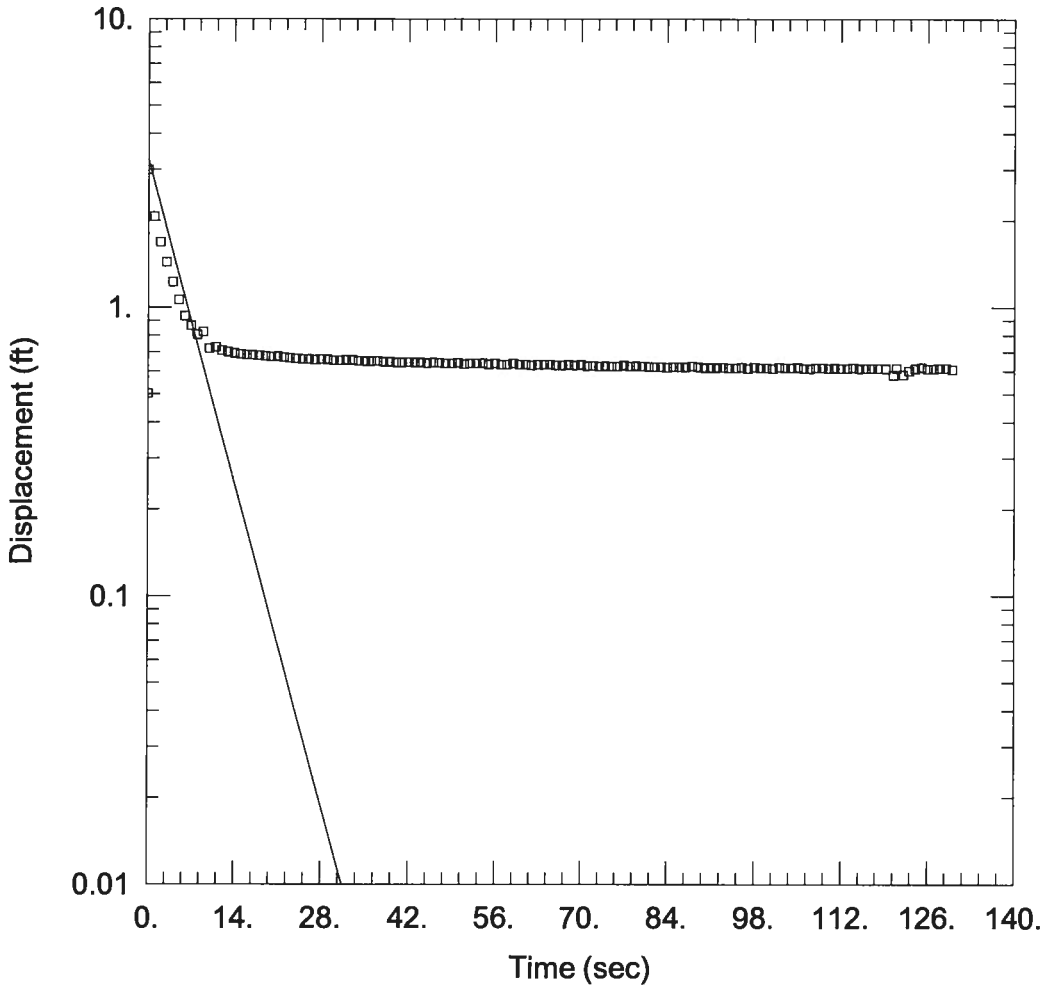
Saturated Thickness: 9.64 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-9 (d1))

Initial Displacement: 3. ft
Total Well Penetration Depth: 22.18 ft
Casing Radius: 0.2 ft
Static Water Column Height: 12.54 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 6.116E-5 ft/sec
y0 = 1.634 ft



WELL TEST ANALYSIS

Data Set: P:\...\will mw-9 u1.aqt
Date: 02/18/11 Time: 15:00:00

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Waukegan
Test Well: MW-1 (u2)
Test Date: 12/22/10

AQUIFER DATA

Saturated Thickness: 9.43 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-9 (u1))

Initial Displacement: 3. ft
Total Well Penetration Depth: 22. ft
Casing Radius: 0.2 ft
Static Water Column Height: 9.43 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.001217 ft/sec
y0 = 3.263 ft

Exhibit B4

COMMONWEALTH EDISON COMPANY

PHASE II ENVIRONMENTAL SITE ASSESSMENT

Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

ENSR
Consulting * Engineering * Remediation

December 1998
File Number 1801-023-710

PHASE II ENVIRONMENTAL SITE ASSESSMENT

Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

December 7, 1998

Prepared for:

Commonwealth Edison Company
One First National Plaza
10 South Dearborn, 35 FNW
Chicago, Illinois 60603

Prepared by:

ENSR Corporation
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Westmont, Illinois 60559
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EXECUTIVE SUMMARY

This report presents the results of the Phase II Environmental Site Assessment (Phase II ESA) conducted by ENSR Corporation (ENSR) in October 1998 at the Commonwealth Edison Company (ComEd) Will County Generating Station, located at 529 East Romeo Road in Romeoville, Illinois. Phase II ESA activities consisted of advancement of soil borings, installation of monitoring wells, and collection of surface and subsurface soil, sediment, and groundwater samples. The purpose of the Phase II ESA was to investigate the potential presence of contamination in the areas of environmental concern identified in the Phase I Environmental Site Assessment (Phase I ESA).

Based on the results of the Phase I ESA, 15 potential areas of concern were identified for further investigation. These areas of concern are identified in **Section 2.0**. Each of these areas of concern were investigated during the Phase II ESA activities. Eighteen soil borings were advanced and 5 monitoring wells were installed. Soil samples were collected from the borings and groundwater samples were collected from the monitoring wells. In addition, 23 surface soil samples and 14 sediment samples were collected at the facility.

These samples were submitted for analysis of benzene, toluene, ethyl benzene, and total xylenes (BTEX) using EPA Method 8260; polynuclear aromatic hydrocarbons (PNAs) using EPA Method 8310; polychlorinated biphenyls (PCBs) using EPA Method 8081; Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) using EPA Method series 6000 and 7000; and pH using EPA Method 9045.

In addition, the surface soil samples and sediment samples were also submitted for analysis of total petroleum hydrocarbons (TPH) using EPA Method 8015. Water quality field parameters, consisting of pH, specific conductivity, and temperature, were also recorded from the groundwater samples collected.

PNA constituents were detected above the Illinois Environmental Protection Agency (IEPA) cleanup objectives primarily in the surface soil samples collected at the facility. These surface soil samples were collected directly from a "stained" location in the identified potential areas of concern. Therefore, it was determined that the impact from these PNA constituents is relatively localized. However, PNA constituents were detected in soil samples collected from borings at approximately 3 feet below grade.

Arsenic was detected above the IEPA cleanup objective of 3 milligrams per kilogram (mg/kg) in samples collected throughout the facility. However, the concentrations of arsenic are within the range of arsenic detected by the EPA during a state wide soil survey in 1992. Lead was detected above the IEPA cleanup objective of 400 mg/kg in the sediment sample collected from the northern coal pile runoff pond, and in the surface soil samples collected from the surge hopper, areas surrounding the chimneys/precipitators, and stained transformers. In addition, chromium was detected above the IEPA cleanup objective of 420 mg/kg in the sediment sample collected from the northern coal pile runoff pond.

PCBs were detected above the IEPA cleanup objective of 1 mg/kg in samples collected from stained transformers, ash disposal area, coal handling area, and materials storage areas on the west side of the main building. The PCBs were only detected in the first 3 feet of soil.

It should be noted that TPH was detected throughout the site. Although a cleanup objective has not been established by the IEPA, TPH was detected at elevated concentrations (greater than 1,000 mg/kg) and would indicate impact by petroleum hydrocarbon compounds.

Based on the relatively low volatility of the constituents of concern detected above the IEPA cleanup objectives, the soil inhalation exposure pathway is not a likely contaminant exposure pathway. In addition, based on the facility's location immediately adjacent to two bodies of water, it is unlikely that the impacted groundwater beneath the facility would have any impact on these wells. Therefore, the groundwater ingestion is not a potential contaminant exposure pathway. However, emulsified oil droplets and an oil sheen were encountered during groundwater sampling activities in the vicinity of the ignition fuel and diesel fuel aboveground storage tanks (ASTs) located to the south of the coal pile.

The soil ingestion pathway is a potential exposure pathway during construction activities. Therefore, this pathway would need to allow for protection/prevention for the construction worker scenario.

Based on the current land use (industrial) and site conditions (analytical results and near surface bedrock), it is judged that the potential for human exposure to the constituents of concern from this facility is low. It should be noted that there is no requirement under Illinois environmental law to further investigate or remediate this property.

1.0 INTRODUCTION

1.1 General

ENSR Corporation (ENSR) was retained by Commonwealth Edison Company (ComEd) to conduct Phase II Environmental Site Assessment (Phase II ESA) activities on a "limited" portion of the 216 acre Will County Generating Station, located at 529 East Romeo Road in Romeoville, Illinois (**Figure 1, Site Location Map**).

The scope of the Phase II ESA activities were based on the preliminary results of the Phase I Environmental Site Assessment (Phase I ESA), with concurrence between ENSR and ComEd. Phase II ESA activities were conducted from October 15 to October 26, 1998, and included advancement of soil borings, installation of monitoring wells, and collection of surface and subsurface soil, sediment, and groundwater samples. **Figure 2** illustrates the layout of the facility.

1.2 Objectives and Scope

The purpose of the Phase II ESA was to investigate the potential presence of contamination in the areas of environmental concern identified in the Phase I ESA. The Phase II ESA adequately assessed the surface and/or subsurface conditions in the locations where sampling was conducted. The Phase II ESA is a tool for developing a conceptual site model to identify the presence and nature of potential contamination, describe potential contaminant migration pathways, and define potential exposure pathways in sampled areas. Based upon this and the information gathered during the Phase II ESA, and using the Illinois Environmental Protection Agency (IEPA) Tiered Approach to Cleanup Objectives (TACO) as guidance, it can be determined whether remediation is warranted in the locations sampled. The Phase II ESA alone is not an exhaustive investigation which can be used to determine the extent of contamination, nor the cost of any suggested remediation.

The objective of the Phase II ESA was to develop a conceptual site model to identify the presence and nature of potential contamination, describe potential contaminant migration pathways, and define potential exposure pathways. To meet this objective, ENSR implemented a "phased" assessment designed to provide increasing levels of information based upon obtained data. Recognizing that existing information for the facility and potential contamination was limited, the principal tasks completed during the Phase II ESA included the following:

- Soil boring advancement and soil sample collection;
- Monitoring well installation and groundwater sample collection;
- Collection of surface soil and sediment samples;
- Laboratory analysis of samples; and,
- Evaluation of analytical results and comparison to the IEPA Tier 1 Industrial/Commercial Soil Cleanup Objectives and IEPA Tier 1 Groundwater Cleanup Objectives.

The investigation consisted of the advancement of 18 soil borings and the installation of 5 monitoring wells at the potential areas of concern identified during the Phase I ESA. Soil samples were collected from the borings and groundwater samples were collected from the monitoring wells. These samples were submitted for analysis of benzene, toluene, ethyl benzene, and total xylenes (BTEX) using EPA Method 8260, polynuclear aromatic hydrocarbons (PNAs) using EPA Method 8310, polychlorinated biphenyls (PCBs) using EPA Method 8081, Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) using EPA Method series 6000 and 7000, and pH by EPA Method 9045. Water quality field parameters, consisting of pH, specific conductivity, and temperature, were also recorded from the groundwater samples collected.

In addition, 23 surface soil samples were collected from the identified potential areas of concern and 14 sediment samples were collected from selected ash/coal settling ponds or drainage ditches located at the facility. These samples were submitted for analysis of the previously referenced constituents as well as total petroleum hydrocarbons (TPH) using EPA Method 8015.

1.3 Report Organization

Section 1 introduces the principal subjects covered in this report, describes the purpose and scope of the Phase II ESA, and presents limitations of the Phase II ESA. **Section 2** provides information regarding the identified potential areas of concern and the methodologies used during the investigation. **Section 3** presents the results of the Phase II ESA. **Section 4** presents the data assessment of the Phase II ESA. **Tables** summarizing the analytical results and **Figures** illustrating the facility location and layout, as well as sampling locations, have been included under the appropriate headings.

Appendix A contains laboratory analytical reports. **Appendix B** contains boring logs and monitoring well construction diagrams. **Appendix C** contains monitoring well gauging and survey data.

1.4 Limitations

This report, including all attachments thereto, describes the results of ENSR's Phase II ESA conducted at the Will County Generating Station, which took place between October 15 and October 26, 1998. Many of the facts and conditions pertaining to this Phase II ESA are subject to change over time; accordingly, the evaluations and conclusions must be viewed within this context.

ENSR has performed this Phase II ESA in a professional manner using that degree of skill and care exercised for similar projects under similar conditions by reputable and competent environmental consultants. ENSR shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time this Phase II ESA was performed.

This report and all field data, notes, and laboratory test data (hereinafter collectively "Information") were prepared by ENSR solely for the benefit of ENSR's Client, ComEd. ENSR's Client may release this Information to third parties, who may use and rely upon the Information at their own discretion. However, any use of or reliance upon this Information by a party other than parties identified shall be solely at the risk of such third party and without legal recourse against ENSR, or its subsidiaries and affiliates, or their respective employees, officers or directors, regardless of whether the action in which recovery of damages is sought is based upon contract, tort (including the sole, concurrent or other negligence and strict liability of ENSR), statute or otherwise. This Information shall not be used or relied upon by a party which does not agree to be bound by the above statement.

2.0 INVESTIGATION METHODS

Prior to initiation of field investigations, a site reconnaissance was performed during the Phase I ESA to define the study area. Field investigation activities were subsequently conducted to obtain site specific information and data pertaining to site geology and hydrogeology, groundwater quality, soil properties, and potential contaminant source(s).

The sampling locations were recommended based on the preliminary Phase I ESA findings. A sampling location summary listing is presented in **Table 1**. A summary of the identified potential areas of concern is presented below.

1. **Ash Disposal Areas.** Three ash disposal areas are located on the southern portion of the facility. These areas are used to store ash prior to having it transported off-site. Two soil borings (B-1 and B-2) were advanced and one monitoring well (MW-1) was installed in the southeastern ash disposal area. Two soil borings were (B-3 and B-4) were advanced in the southwestern ash disposal area. One surface soil sample (S-1) was collected in the western ash disposal area by the Ash Settling Ponds.

2. **Stormwater Runoff Ponds.** There are 3 ponds at the facility which collect surface stormwater runoff. The ponds are located to the south of the main building and construction offices. One sediment sample (X-6) was collected from the pond located to the southwest of the construction offices. One sediment sample (X-7) was collected from the pond located to the south of the construction offices. One sediment sample (X-13) was collected from the pond located to the west of the construction offices.

3. **Ash Settling Ponds.** There are 4 ponds at the facility which are used to collect ash wastewater. The ponds are located on the western portion of the facility. One sediment sample (X-3) was collected from the southern pond, and one sediment sample (X-4) was collected from the pond directly north of the southern pond. In addition, one soil boring (B-5) was advanced and one monitoring well (MW-2) was installed between these two southern ponds. One sediment sample (X-5) was collected from the northern pond. One sediment sample (X-8) was collected from the pond located to the north of the Sluice Water Pump Building.

4. **Former Sulfur Dioxide Scrubber Ponds.** A former sulfur dioxide scrubber system was previously located in the southwestern corner of the facility. Two ponds associated with this former system are located to the south of the Ash Settling Ponds. One sediment sample (X-1) was collected from the western pond, and one sediment sample (X-2) was collected from the eastern pond.

5. **Sluice Water Pumping Area.** A Sluice Water Pump Building and Sluice Water Retention Pond, which are used to recycle sluice water back into the system, are located to the north of the southern Ash Settling Ponds. One surface soil sample (S-24) was collected on the west side of the building, and one sediment sample (X-14) was collected

from the pond.

6. **Sewage Treatment Plant.** A Sewage Treatment Plant is located to the north of the northern Ash Settling Pond. One soil boring (B-6) was advanced.

7. **Coal Handling Equipment.** Coal is received at the facility via barges on the Chicago Sanitary & Ship Canal located on the eastern end of the facility. The coal is stored at the coal pile at the northeastern corner of the facility. One soil boring (B-7) was advanced at the Car Dumper, which is located to the northeast of the Sewage Treatment Plant. One soil boring (B-9) was advanced to the southwest of the coal pile beneath an overhead conveyor from the Car Dumper. One surface soil sample (S-8) was collected at the Surge Hopper, which is located adjacent to the Chicago Sanitary & Ship Canal.

8. **Coal Pile Runoff Ponds/Ditches.** Two coal pile runoff ponds are located to the west of the coal pile. One sediment sample (X-9) was collected from the southern pond, and one sediment sample (X-10) was collected from the northern pond. In addition, one soil boring (B-8) was advanced and one monitoring well (MW-3) was installed. Two coal pile runoff ditches are also located to the west of the coal pile. One sediment sample (X-11) was collected from the western ditch and one sediment sample (X-12) was collected from the eastern ditch.

9. **Demineralized Water Aboveground Storage Tanks.** Two aboveground storage tanks (ASTs), used for the storage of demineralized water, are located at the northwestern corner of the facility. One soil boring (B-18) was advanced.

10. **Materials Storage Areas.** There are four materials storage areas located at the facility. One storage area is located to the north of the Coal Handling Tractor Garage, which is south of the coal pile. The primary concern at this storage area was drum storage. One surface soil sample (S-5) was collected and one soil boring (B-11) was installed. The second storage area is located near the southeast corner of the Switch Yard. The primary concern at this storage area was former drum storage. One soil boring (B-15) was advanced. The third storage area is located to the west of the Electric Shop, which is located on the west side of the main building. The primary concern at this storage area was drum storage. One soil boring (B-16) was advanced. The fourth storage area is located at the northeastern corner of the Switch Yard. The primary concern at this storage area was drum storage. One soil boring (B-17) was advanced and one surface soil sample (S-22) was collected.

11. **Oil/Water Separator.** One oil/water separator is located to the west of the main building and to the south of the fourth identified Materials Storage Area. One surface soil sample (S-21) was collected.

12. **Transformers.** Transformers with oil staining were observed throughout the facility. Soil samples were collected in 5 locations with the most significant staining. The first location contains the transformers on the west side of the Wastewater Treatment Plant,

which is located to the south of the coal runoff ponds. One surface soil sample (S-2) was collected. The second location contains the transformers on the north side of the Breaker House, which is located to the south of the coal pile. One surface soil sample (S-6) was collected. The third location contains the transformers to the north of the northern Crib House, which is located to the east of the main building. Two surface soil samples (S-9 and S-10) were collected. The fourth location contains the transformers to the south of the northern Crib House. One surface soil sample (S-11) was collected. The fifth location contains the transformers to the south of the Electric Shop, which is on the west side of the main building. Three surface soil samples (S-18 through S-20) were collected.

13. **Chimneys/Precipitators.** Two chimney units are located on the east side of the main building. Surface staining from the precipitator equipment was observed. Five surface soil samples (S-12 through S-16) were collected. In addition, one soil boring (B-13) was advanced and one monitoring well (MW-4) was installed to the south of the southern chimney.

14. **Gasoline Underground Storage Tank.** One 1,500 gallon underground storage tank (UST) is located at the northeast corner of the main building. This UST is used for the storage of gasoline. One soil boring (B-12) was advanced.

15. **Petroleum ASTs.** There are six ASTs located at the facility, which are used for the storage of petroleum products. Two of these ASTs have capacities of 12,500 gallons and are used for the storage of ignition fuel, and the third AST has a 15,000 gallon capacity is used for the storage of diesel fuel. A diesel fuel dispenser system is also located adjacent to these ASTs. One soil boring (B-10) was advanced and one monitoring well (MW-5) was installed. In addition, two surface samples (S-3 and S-4) were collected adjacent to the diesel fuel dispenser system Two diesel ASTs are located to the west of the construction offices. One soil boring (B-14) was advanced and one surface soil sample (S-17) was collected. One diesel AST is located at the Emergency Diesel Generator Building, which is located to the south of the coal pile. One surface soil sample (S-7) was collected.

2.1 Sampling Methods

All soil (surface and subsurface), sediment, and groundwater samples collected were submitted for analysis of BTEX and PNA constituents using EPA Methods 8260 and 8310, respectively, PCBs using EPA Method 8081, RCRA metals using EPA Method series 6000 and 7000, and pH by EPA Method 9045. In addition, surface soil and sediment samples were submitted for TPH using EPA Method 8015. A sample summary listing is presented in **Table 1**.

The sample glassware used to contain the samples retained for laboratory analysis were provided pre-cleaned from National Environmental Laboratories, Inc. (NET) of Bartlett, Illinois. Each sample was labeled with the project number, project location, client, sample number, sample depth, date, time, and requested analysis. The soil samples were stored on ice in the

field in a cooler and shipped via courier under chain-of-custody to NET. Standard chain-of-custody procedures were maintained from the time of sample collection until delivery to the analytical laboratory.

2.1.1 Sediment Sampling

Fourteen sediment samples (X-1 through X-14) were collected at the facility. The sediment sample locations are illustrated on **Figure 3**. Sediment samples were collected using a stainless steel hand shovel. All sampling equipment was decontaminated between each sediment sample location using the procedure outlined in **Section 2.3**.

2.1.2 Surface Soil Sampling

Twenty-three surface soil samples (S-1 through S-22 and S-24) were collected at the facility. The surface soil sample locations are illustrated on **Figure 4**. Surface soil samples were collected using a stainless steel hand shovel. All sampling equipment was decontaminated between each sediment sample location using the procedure outlined in **Section 2.3**.

2.1.3 Soil Borings and Subsurface Soil Sampling

Eighteen soil borings (B-1 through B-18) were advanced at the facility. The soil borings locations are illustrated on **Figure 5**. The soil borings were advanced by Fox Drilling, Inc. (Fox) of Itasca, Illinois, utilizing Geoprobe direct-push drilling techniques. The soil borings were advanced to a maximum depth of 3 feet below grade. All soil borings were backfilled with soil cuttings, and completed at surface grade with the appropriate material (i.e., concrete, asphalt). All sampling equipment was decontaminated between each soil boring location using the procedure outlined in **Section 2.3**.

Soil samples were collected by advancing by a hydraulically-driven stainless steel pre-probe. Soil samples were collected using a 2.0-inch diameter acetate lined soil sampler. Soil samples were continuously collected from the surface to the bottom of the soil borings. The soil samples were visually inspected and field classified using the general guidelines of the Unified Soil Classification System (USCS) and the American Society for Testing and Materials (ASTM) Test Method ASTM D2488 for soil classification.

Each soil sample was field screened for the presence of VOCs using a photoionization detector (PID) and standard headspace screening methods. The PID readings indicate relative levels of VOCs in the vapor headspace, but do not represent actual concentrations which may exist in the soil. The PID has a detection range of 1.0 part per million volume (ppmv) to 2,500 ppmv. The soil sample which exhibited the highest PID reading, or if no PID readings were detected, from directly above the field-interpreted groundwater level, was retained from each boring for laboratory analysis.

2.1.4 Monitoring Wells and Groundwater Sampling

Five monitoring wells (MW-1 through MW-5) were installed at the facility. The monitoring well locations are illustrated on **Figure 5**. The monitoring wells were installed by Fox utilizing hollow-stem augers and rotary drilling techniques. When bedrock was encountered, the monitoring wells were completed using rotary wash rock coring techniques. The monitoring wells were installed to a maximum depth of 12 feet below grade. Fluids generated during monitoring well installation and groundwater sampling were discharged to the ground surface in proximity to each sampling location. All sampling equipment was decontaminated between each soil boring location using the procedure outlined in **Section 2.3**.

The monitoring wells were installed through the working space within hollow stem augers. The monitoring wells were constructed of 2-inch diameter Schedule 40 PVC 0.010-inch slotted continuous wrap well screen and solid riser. A filter pack consisting of clean silica sand was placed surrounding the well screen to filter out fine soil particles from the formation adjacent to the screen. The filter pack extends from the bottom of the soil boring to approximately 1-foot above the top of the well screen. A bentonite pellet seal was placed on top of the sand pack and hydrated with distilled water to prevent surface water infiltration. The annular space above the bentonite seal was filled with a neat bentonite and cement grout to approximately 6-inches below grade. The monitoring wells were completed at grade and an 8-inch diameter steel protective road box was placed over each monitoring well and set in concrete at grade. The monitoring wells were capped with expandable well caps and equipped with locks to prevent unauthorized access. A monitoring well construction diagram is included in **Appendix A**.

After the installation of the monitoring wells, approximately three to five well volumes of groundwater was removed from each monitoring well, or until the groundwater was relatively free from sediment, using a peristaltic pump. One groundwater sample was collected from each monitoring well and submitted for laboratory analysis. In addition, water quality field parameters consisting of pH, specific conductivity, and temperature were measured and recorded during sample collection.

2.2 Monitoring Well Gauging and Survey

Each monitoring well was gauged using an electronic interface probe in order to determine the presence or absence of liquid-phase hydrocarbons (LPHCs) and depth to groundwater. In addition, each monitoring well's top of casing and ground surface location was surveyed relative to an arbitrary benchmark assigned an elevation of 100 feet.

2.3 Equipment Decontamination

The drill rig and associated tooling, and sampling equipment were decontaminated prior to mobilization and before leaving the site. To minimize the potential for cross-

contamination, drilling and sampling equipment were decontaminated between each use. Decontamination of drilling equipment consisted of steam cleaning. Sampling equipment, including split spoons and stainless steel sampling equipment, were decontaminated before each use by washing with a solution of Alconox (phosphate based detergent) and potable water, and rinsing with distilled water. Decontamination fluids generated during equipment decontamination were discharged to the ground surface in proximity to each sampling location.

3.0 INVESTIGATION FINDINGS

The findings of the subsurface investigation, soil and groundwater sampling, monitoring well gauging, survey, and chemical analysis, are presented below. Analytical results are summarized in **Table 2** through **Table 5**. The analytical reports and chain-of-custody forms are included in **Appendix B**.

Analytical results were compared against the cleanup objectives as presented in 35 Illinois Administrative Code (IAC) Section 742.Appendix B: Table B-Tier 1 Soil Remediation Objectives for Commercial/Industrial Properties, and 35 IAC Section 742.Appendix B: Table E-Tier 1 Groundwater Remediation Objectives for the Direct Ingestion of Groundwater Portion of the Groundwater Ingestion Route.

Soil analytical results for the RCRA metals are shown as totals. Therefore, the soil component of the groundwater ingestion exposure route has not been considered. In addition, the groundwater beneath the site is classified as Class I, therefore the Class I baseline was used.

3.1 Sediment

BTEX. The analytical results indicated that BTEX constituents were not detected above the laboratory method detection limits.

TPH. The analytical results indicated that TPH as diesel was detected at concentrations ranging from 475 milligrams per kilogram (mg/kg) in sample X-12 to 16,700 mg/kg in sample X-11. TPH as oil was detected at concentrations of 434 mg/kg in sample X-8 and 2,750 mg/kg in sample X-7. However, cleanup objectives for TPH have not been established by the IEPA. TPH as gasoline was not detected above the laboratory method detection limits.

PNAs. The analytical results indicated that benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene were detected in samples X-9 and X-12 at concentrations above the IEPA cleanup objectives. It should be noted that samples X-9, X-11, and X-12 had elevated detection limits due to matrix interference. These elevated detection limits are above the cleanup objectives for benzo(a)anthracene, benzo(a)pyrene, and dibenzo(a,h)anthracene, and consequently, there is a possibility that the concentrations are actually above the cleanup objectives. Refer to **Table 2** for PNA results.

PCBs. The analytical results indicated that PCBs were detected in the sediment samples collected. However, these concentrations were not above the IEPA cleanup objective of 1.0 mg/kg.

Metals. The analytical results indicated that arsenic, chromium, and lead were detected at concentrations above the IEPA cleanup objective of 3 mg/kg, 420 mg/kg, and 400 mg/kg, respectively. Arsenic was detected at concentrations ranging from 3.4 mg/kg in sample X-6 to 24 mg/kg in sample X-1. However, the concentrations of arsenic are within the range of arsenic

(0.35 mg/kg to 24 mg/kg) detected by the EPA during a state wide soil survey in 1992. Chromium and lead were detected in sample X-9 at a concentration of 680 mg/kg and 874 mg/kg, respectively.

pH. pH values ranged from 7.32 in sample X-7 to 10.22 in sample X-4.

Analytical results are summarized in **Table 2**, and sampling locations are illustrated on **Figure 3**. The analytical report and chain-of-custody forms are included in **Appendix B**.

3.2 Surface Soil

BTEX. The analytical results indicated that BTEX constituents were detected in the surface soil samples collected. However, these concentrations were not above the IEPA cleanup objectives.

TPH. The analytical results indicated that TPH as gasoline was detected at concentrations ranging from 224 mg/kg in sample S-15 to 292 mg/kg in sample S-14, and TPH as diesel was detected at concentrations ranging from 1,090 mg/kg in sample S-10 to 188,000 mg/kg in sample S-4. TPH as oil was detected at concentrations ranging from 110 mg/kg in sample S-1 to 933,000 mg/kg in sample S-5. However, cleanup objectives for TPH have not been established by the IEPA.

PNAs. The analytical results indicated that benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-c,d)pyrene were detected in samples S-5, S-9 through S-12, S-14 through S-16, S-18 through S-20, and S-22 at concentrations above the IEPA cleanup objectives. It should be noted that samples S-1 through S-8, S-13, and S-17 through S-19 had elevated detection limits due to matrix interference. These elevated detection limits are above the cleanup objectives for benzo (a)anthracene, benzo(a)pyrene, and dibenzo(a,h)anthracene, and consequently, there is a possibility that the concentrations are actually above the cleanup objectives. Refer to **Table 3** for PNA results.

PCBs. The analytical results indicated that PCBs were detected at concentrations above the IEPA cleanup objective of 1.0 mg/kg. These concentrations ranged from 1.48 mg/kg in sample S-6 to 7.52 mg/kg in sample S-2.

Metals. The analytical results indicated that arsenic and lead were detected at concentrations above the IEPA cleanup objectives of 3 mg/kg and 400 mg/kg, respectively. Arsenic was detected at concentrations ranging from 3.8 mg/kg in sample S-17 to 23 mg/kg in sample S-18. However, the concentrations of arsenic are within the range of arsenic (0.35 mg/kg to 24 mg/kg) detected by the EPA during a state wide soil survey in 1992. Lead was detected at concentrations ranging from 496 mg/kg in sample S-16 to 1,130 mg/kg in sample S-8 and S-10.

pH. pH values ranged from 5.78 in sample S-2 to 9.94 in sample S-3.

Analytical results are summarized in **Table 3**, and sampling locations are illustrated on **Figure 4**. The analytical report and chain-of-custody forms are included in **Appendix B**.

3.3 Subsurface Soil

Bedrock was encountered at approximately 1 foot to 3 feet below grade. Fill material, consisting of coal ash and gravel, was the primary material encountered above the bedrock. Native soil was encountered in B-18 and consisted of a light brown silty clay to bedrock at 3 feet below grade. Soil boring logs are included in **Appendix A**.

The PID readings obtained from the soil samples collected ranged from 1.1 ppmv in B-5 (0 to 1 feet below grade) to 51.8 ppmv in B-10 (0 to 1 feet below grade). The PID field screening results are recorded on the boring logs in **Appendix A**.

BTEX. The analytical results indicated that BTEX constituents were detected in the subsurface soil samples collected. However, these concentrations were not above the IEPA cleanup objectives.

PNAs. The analytical results indicated that benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene were detected in B-2, B-12, B-13, and B-15 through B-17 at concentrations above the IEPA cleanup objectives. It should be noted that B-7, B-9 through B-11, B-13, and B-16 had elevated detection limits due to matrix interference. These elevated detection limits are above the cleanup objectives for benzo(a)anthracene, benzo(a)pyrene, and dibenzo(a,h)anthracene, and consequently, there is a possibility that the concentrations are actually above the cleanup objectives. Refer to **Table 4** for PNA results.

PCBs. The analytical results indicated that PCBs were detected at concentrations above the IEPA cleanup objective of 1.0 mg/kg. These concentrations ranged from 1.1 mg/kg in B-1 to 41.3 mg/kg in B-11.

Metals. The analytical results indicated that arsenic was detected at concentrations above the IEPA cleanup objective of 3 mg/kg. Arsenic was detected at concentrations ranging from 3.9 mg/kg in B-11 to 11 mg/kg in B-17. However, the concentrations of arsenic are within the range of arsenic (0.35 mg/kg to 24 mg/kg) detected by the EPA during a state wide soil survey in 1992.

pH. pH values ranged from 7.79 in B-9 to 9.44 in B-8.

Analytical results are summarized in **Table 4**, and soil boring locations are illustrated on **Figure 5**. The analytical report and chain-of-custody forms are included in **Appendix B**.

3.4 Groundwater

The groundwater elevations ranged from 3.6 feet in MW-3 to 8.95 feet in MW-4. LPHC was not detected in any of the monitoring wells. However, emulsified oil droplets and an oil sheen were

encountered in MW-5 during groundwater sampling activities. Based on the gauging data, the apparent groundwater flow direction beneath the facility has been calculated to be to the east (**Figure 6**, **Groundwater Elevation Map**). Monitoring well gauging data is included in **Appendix C**.

Water quality field parameters consisting of pH, specific conductivity, and temperature were measured. The recorded measurements are summarized in **Table 5**.

BTEX. The analytical results indicated that benzene was detected at a concentration above the IEPA cleanup objective of 0.005 milligrams per liter (mg/l) in MW-5. Benzene was detected at a concentration of 0.031 mg/l.

PNAs. The analytical results indicated that naphthalene was detected at a concentration above the IEPA cleanup objective of 0.025 mg/l in MW-5. Naphthalene was detected at a concentration of 0.46 mg/l. It should be noted that MW-5 had an elevated detection limit due to matrix interference. These elevated detection limits are above the cleanup objectives for benzo(a)anthracene, benzo(b)fluoranthene, chrysene, and pyrene, and consequently, there is a possibility that the concentrations are actually above the cleanup objectives.

PCBs. The analytical results indicated that PCBs were not detected above the laboratory method detection limits.

Metals. The analytical results indicated that lead was detected at a concentration above the IEPA cleanup objective of 0.0075 milligrams per liter (mg/l). Lead was detected at a concentration of 0.0148 mg/l in MW-2. It should be noted that laboratory detection limit for cadmium was at 0.01 mg/l which is above the cleanup objective of 0.005 mg/l. Consequently, there is a possibility that the concentrations are actually above the cleanup objective.

Analytical results are summarized in **Table 5**, and monitoring well locations are illustrated on **Figure 5**. The analytical report and chain-of-custody forms are included in **Appendix B**.

4.0 DATA ASSESSMENT

4.1 Extent of Contamination

Based on the results of the subsurface investigation conducted, the following determinations and assessments were made regarding the extent of contamination at the facility. The following conclusions are subject to the Limitations presented in **Section 1.4**. In addition, although arsenic was detected above the IEPA cleanup objective, the concentrations of arsenic are within the range of arsenic detected by the EPA during a state wide soil survey in 1992. However, it should be noted that soil analytical results for the RCRA metals are shown as totals. Therefore, the soil component of the groundwater ingestion exposure route has not been considered.

4.1.1 Sediment

Arsenic, chromium, lead, and PNA constituents listed as benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene, were the constituents of concern detected at concentrations above the IEPA cleanup objectives.

PNA constituents were detected above the IEPA cleanup objectives in the following locations:

- **Coal Pile Runoff Ponds.** The southern pond located west of the coal pile (X-9).
- **Coal Pile Runoff Ditches.** The western ditch located west of the coal pile (X-12).

It should be noted that due to matrix interference in samples X-9, X-11, and X-12, benzo(a)anthracene, benzo(a)pyrene, and dibenzo(a,h)anthracene had elevated detection limits. Consequently, there is a possibility that the concentrations are actually above the cleanup objectives. These samples were collected from the southern coal pile runoff pond (X-9), the eastern coal pile runoff ditch (X-11), and the western coal pile runoff ditch (X-12).

Arsenic was detected above the IEPA cleanup objective, at a maximum concentration of 24 mg/kg in the following locations:

- **Former Sulfur Dioxide Scrubber Ponds.** The western Former Sulfur Dioxide Scrubber Pond (X-1).
- **Ash Settling Ponds.** The three Ash Settling Ponds (X-3 through X-4) located south of the Sluice Water Pump Building and the one Ash Settling Pond (X-8) located north of the Sluice Water Pump Building.
- **Stormwater Runoff Ponds.** The Stormwater Runoff Ponds (X-6 and X-7) located south and southwest of the construction offices.
- **Coal Pile Runoff Ponds.** The southern pond located west of the coal pile (X-9) and the northern pond (X-10). It should be noted that chromium and lead were also

detected above the IEPA cleanup objectives of 420 mg/kg and 400 mg/kg, respectively, in this area (X-10) at a maximum concentration of 680 mg/kg and 874 mg/kg, respectively.

- **Sluice Water Pumping Area.** The pond located at the Sluice Water Pumping Building (X-14).

4.1.2 Surface Soil

Arsenic, lead, PCBs, and PNA constituents listed as benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-c,d)pyrene, were the constituents of concern detected at concentrations above the IEPA cleanup objectives.

PNA constituents were detected above the IEPA cleanup objectives in the following locations:

- **Materials Storage Areas.** Storage area located to the north of the Coal Handling Tractor Garage (S-5).
- **Transformers.** Transformers to the north of the northern Crib House (S-9 and S-10), transformers to the south of the northern Crib House (S-11), and transformers to the south of the Electric Shop, which is on the west side of the main building (S-18 through S-20).
- **Chimney/Precipitators.** Chimney unit located on the east side of the main building (S-12, and S-14 through S-16).

It should be noted that due to matrix interference in samples S-1 through S-8, S-13, and S-17 through S-19, benzo (a)anthracene, benzo(a)pyrene, and dibenzo(a,h)anthracene had elevated detection limits. Consequently, there is a possibility that the concentrations are actually above the cleanup objectives. These samples were collected from the Ash Disposal Area (S-1), transformers located on the west side of the Wastewater Treatment Plant (S-2), diesel AST dispenser system on the south side of the coal pile (S-3 and S-4), storage area north of the Coal Handling Tractor Garage (S-5), Emergency Diesel Generator Building (S-7), Surge Hopper (S-8), chimneys/precipitators (S-13), diesel ASTs located west of the construction offices (S-17), transformers to the south of the Electric Shop on the west side of the main building (S-18 and S-19).

Arsenic was detected above the IEPA cleanup objective, at a maximum concentration of 23 mg/kg in the following locations:

- **Ash Disposal Areas.** Western ash disposal area by the Ash Settling Ponds (S-1).
- **Transformers.** Transformers to the north of the northern Crib House (S-10), transformers to the south of the northern Crib House (S-11), and transformers to the south of the Electric Shop, which is on the west side of the main building (S-18 and S-20).
- **Chimney/Precipitators.** Chimney unit located on the east side of the main building (S-12 through S-16).

- **Petroleum ASTs.** Diesel ASTs located west of the construction offices (S-17).
- **Oil/Water Separator.** Oil/water separator is located to the west of the main building (S-21).
- **Materials Storage Areas.** Storage area is located at the northeastern corner of the Switch Yard. (S-22).

Lead was detected above the IEPA cleanup objective, at a maximum concentration of 1,130 mg/kg in the following locations:

- **Coal Handling Equipment.** Surge Hopper located adjacent to the Chicago Sanitary & Ship Canal (S-8).
- **Transformers.** Transformers to the north of the northern Crib House (S-10) and transformers to the south of the Electric Shop, which is on the west side of the main building (S-20).
- **Chimney/Precipitators.** Chimney unit located on the east side of the main building (S-14 and S-16).

PCBs were detected above the IEPA cleanup objective in the following locations:

- **Transformers.** Transformers located on the west side of the Wastewater Treatment Plant (S-2), transformers on the north side of the Breaker House, which is located to the south of the coal pile (S-6), and transformers to the south of the Electric Shop, which is on the west side of the main building (S-18).

It should be noted that due to matrix interference, samples S-5 and S-19 had elevated detection limits. Consequently, there is a possibility that PCB concentrations are actually above the cleanup objective of 1.0 mg/kg. These samples were collected from the storage area north of the Coal Handling Tractor Garage (S-5) and the transformers to the south of the Electric Shop on the west side of the main building (S-19).

4.1.3 Subsurface Soil

Arsenic, PCBs, and PNA constituents listed as benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene, were the constituents of concern detected at concentrations above the IEPA cleanup objectives.

PNA constituents were detected above the IEPA cleanup objectives in the following locations:

- **Ash Disposal Areas.** The southeastern ash disposal area (B-2).
- **Gasoline UST.** The gasoline UST system (B-12).
- **Chimneys/Precipitators.** South of the southern chimney (B-13).
- **Materials Storage Areas.** The storage area located near the southeast corner of the Switch Yard (B-15), the storage area located west of the Electric Shop (B-16), and the storage area located at the northeastern corner of the Switch Yard (B-17).

It should be noted that due to matrix interference in samples B-7, B-9 through B-11, B-13, and B-16, benzo(a)anthracene, benzo(a)pyrene, and dibenzo(a,h)anthracene had elevated detection limits. Consequently, there is a possibility that the concentrations are actually above the cleanup objectives. These samples were collected from the Car Dumper (B-7), beneath the overhead Car Dumper conveyor southwest of the coal pile (B-9), diesel fuel dispenser system south of the coal pile (B-10), storage area north of the Coal Handling Tractor Garage (B-11), south of the southern chimney (B-13), and storage area located west of the Electric Shop (B-16).

Arsenic was detected above the IEPA cleanup objective, at a maximum concentration of 11 mg/kg in the following locations:

- **Ash Disposal Areas.** The southeastern ash disposal area (B-1 and B-2) and the southwestern ash disposal area (B-3 and B-4).
- **Ash Settling Ponds.** The Ash Settling Ponds south of the Sluice Water Pump Building (B-5).
- **Sewage Treatment Plant.** The Sewage Treatment Plant north of the northern Ash Settling Pond (B-6).
- **Coal Handling Equipment.** The Car Dumper (B-7) and beneath the overhead Car Dumper conveyor southwest of the coal pile (B-9).
- **Coal Pile Runoff Ponds.** The northern coal pile runoff pond (B-8).
- **Materials Storage Areas.** Storage area north of the Coal Handling Tractor Garage (B-11), the storage area located west of the Electric Shop (B-16), and the storage area located at the northeastern corner of the Switch Yard (B-17).
- **Gasoline UST.** The gasoline UST system (B-12).
- **Chimneys/Precipitators.** South of the southern chimney (B-13).
- **Demineralized Water ASTs.** The demineralized water ASTs at the northwestern corner of the facility (B-18).

PCBs were detected above the IEPA cleanup objective in the following locations:

- **Ash Disposal Areas.** The southeastern ash disposal area (B-1).
- **Coal Handling Equipment.** Beneath the overhead Car Dumper conveyor southwest of the coal pile (B-9).
- **Materials Storage Areas.** Storage area north of the Coal Handling Tractor Garage (B-11) and the storage area located west of the Electric Shop (B-16).

4.1.4 Groundwater

Lead, benzene, and naphthalene were the constituents of concern detected at concentrations above the IEPA cleanup objectives. In addition, emulsified oil droplets and an oil sheen were encountered in MW-5 during groundwater sampling activities.

Benzene and naphthalene were detected above the IEPA cleanup objectives in the following locations:

- **Petroleum ASTs.** Diesel AST and dispenser system south of the coal pile (MW-5).

Lead was detected above the IEPA cleanup objective, at a maximum concentration of 0.0148 mg/l in the following locations:

- **Ash Settling Ponds.** The three Ash Settling Ponds located south of the Sluice Water Pump Building (MW-2).

It should be noted that laboratory detection limit for cadmium was at 0.01 mg/l which is above the cleanup objective of 0.005 mg/l. Consequently, there is a possibility that the concentrations are actually above the cleanup objective.

4.2 Potential Contaminant Exposure Pathways

Based on the above-referenced assessment, potential exposure pathways by which humans may be exposed to the constituents of concern have been identified at the facility. Potential sources, fate and transport mechanisms, and exposure media were considered in determining these potential exposure pathways. An identified potential exposure pathway does not imply that exposure is occurring, only that the potential exists for exposure.

4.2.1 Soil Ingestion

The soil ingestion pathway includes the first three feet within ground surface. Therefore, based on the analytical results, soil ingestion is a potential contaminant exposure pathway. Soil ingestion occurs when soil containing elevated concentrations of the constituents of concern are ingested into the body. The facility is an industrial site and direct contact and ultimately ingestion of the impacted soil is not likely to occur. However, construction activities would increase the possibility of exposure. Therefore, this pathway would need to allow for protection/prevention for the construction worker scenario.

4.2.2 Soil Inhalation

The soil inhalation pathway includes the first ten feet within ground surface. However, bedrock was encountered at approximately 4 feet below grade. Therefore, based on the analytical results, soil inhalation is a potential contaminant exposure pathway. Soil inhalation occurs when elevated concentrations of the constituents of concern are inhaled into the body. However, the highly volatile constituents (i.e., BTEX, TPH as gasoline), were not detected at concentrations above the IEPA cleanup objectives. The constituents that were detected at concentrations above the IEPA cleanup objectives (i.e., metals, semi-volatiles, PCBs), are not considered highly volatile. Based on the relatively low volatility of the detected constituents of concern, this pathway would not likely be an effective exposure pathway.

4.2.3 Groundwater Ingestion

The groundwater ingestion pathway includes groundwater being used as a potable source of water. The Village of Romeoville receives its potable water via 10 municipal potable water supply wells. Based on the facility's location immediately adjacent to two bodies of water, it is unlikely that the impacted groundwater beneath the facility would have any impact on these wells.

Based on the current land use (industrial) and site conditions (analytical results and soil types), it is judged that the potential for human exposure to the constituents of concern from this facility is low. However, personnel working at the facility could be susceptible to exposure due to accidental soil ingestion due to activities such as construction. Such exposure may result from contact with contaminated subsurface or surface materials previously located beneath a protective barrier (i.e., concrete cap, building). Additionally, emulsified oil droplets and an oil sheen were encountered in MW-5 during groundwater sampling activities.

There is no requirement under Illinois environmental law to further investigate or remediate this property.

TABLES

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

Table 1

Sampling Locations and Analyses Summary

Commonwealth Edison Company
Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

Sampling Locations[1]		Sampling Parameters	Sampling Depth (in feet)	Date Collected
Sediment Sample Identification				
X-1	Former Sulfur Dioxide Scrubber Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/20/98
X-2	Former Sulfur Dioxide Scrubber Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/20/98
X-3	Ash Settling Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/19/98
X-4	Ash Settling Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/19/98
X-5	Ash Settling Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/19/98
X-6	Stormwater Runoff Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/20/98
X-7	Stormwater Runoff Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/20/98
X-8	Stormwater Runoff Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/19/98
X-9	Coal Pile Runoff Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/19/98
X-10	Coal Pile Runoff Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/19/98
X-11	Coal Pile Runoff Ditches	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/19/98
X-12	Coal Pile Runoff Ditches	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/19/98
X-13	Stormwater Runoff Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/20/98
X-14	Sluice Water Pumping Area	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/19/98
Boring Identification				
B-1	Ash Disposal Areas	BTEX, PNAs, PCBs, RCRA metals, pH	0-3	10/15/98
B-2	Ash Disposal Areas	BTEX, PNAs, PCBs, RCRA metals, pH	0-3	10/15/98
B-3	Ash Disposal Areas	BTEX, PNAs, PCBs, RCRA metals, pH	0-1	10/15/98
B-4	Ash Disposal Areas	BTEX, PNAs, PCBs, RCRA metals, pH	0-2	10/15/98
B-5	Ash Settling Ponds	BTEX, PNAs, PCBs, RCRA metals, pH	0-1	10/15/98
B-6	Sewage Treatment Plant	BTEX, PNAs, PCBs, RCRA metals, pH	0-2	10/15/98
B-7	Coal Handling Equipment	BTEX, PNAs, PCBs, RCRA metals, pH	0-1	10/15/98
B-8	Coal Pile Runoff Ponds	BTEX, PNAs, PCBs, RCRA metals, pH	0-1	10/15/98
B-9	Coal Handling Equipment	BTEX, PNAs, PCBs, RCRA metals, pH	0-1	10/15/98
B-10	Petroleum ASTs	BTEX, PNAs, PCBs, RCRA metals, pH	0-1	10/15/98
B-11	Materials Storage Areas	BTEX, PNAs, PCBs, RCRA metals, pH	0-1	10/15/98
B-12	Gasoline UST	BTEX, PNAs, PCBs, RCRA metals, pH	0-2	10/15/98
B-13	Chimneys/Precipitators	BTEX, PNAs, PCBs, RCRA metals, pH	0-1	10/15/98
B-14	Petroleum ASTs	BTEX, PNAs, PCBs, RCRA metals, pH	0-1	10/15/98
B-15	Materials Storage Areas	BTEX, PNAs, PCBs, RCRA metals, pH	0-1	10/15/98
B-16	Materials Storage Areas	BTEX, PNAs, PCBs, RCRA metals, pH	0-1	10/15/98
B-17	Materials Storage Areas	BTEX, PNAs, PCBs, RCRA metals, pH	0-1	10/15/98
B-18	Demineralized Water ASTs	BTEX, PNAs, PCBs, RCRA metals, pH	0-3	10/15/98

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Table 1

Sampling Locations and Analyses Summary

Commonwealth Edison Company
Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

Sampling Locations		Sampling Parameters	Sampling Depth (in feet)	Date Collected
Surface Soil Sample Identification				
S-1	Ash Disposal Areas	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-2	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-3	Petroleum ASTs	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-4	Petroleum ASTs	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-5	Materials Storage Areas	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-6	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-7	Petroleum ASTs	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-8	Coal Handling Equipment	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-9	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-10	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-11	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-12	Chimneys/Precipitators	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-13	Chimneys/Precipitators	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-14	Chimneys/Precipitators	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-15	Chimneys/Precipitators	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-16	Chimneys/Precipitators	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-17	Petroleum ASTs	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-18	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-19	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-20	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-21	Oil/Water Separator	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-22	Materials Storage Areas	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
S-24	Sluice Water Pumping Area	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/16/98
Monitoring Well Sample Identification				
MW-1 (B-2)	Ash Disposal Areas	BTEX, PNAs, PCBs, RCRA metals	NA	10/26/98
MW-2 (B-5)	Ash Settling Ponds	BTEX, PNAs, PCBs, RCRA metals	NA	10/26/98
MW-3 (B-8)	Coal Pile Runoff Ponds	BTEX, PNAs, PCBs, RCRA metals	NA	10/26/98
MW-4 (B-13)	Chimneys/Precipitators	BTEX, PNAs, PCBs, RCRA metals	NA	10/26/98
MW-5 (B-10)	Petroleum ASTs	BTEX, PNAs, PCBs, RCRA metals	NA	10/26/98

Notes:

BTEX was analyzed using EPA Method 8260.

PNAs were analyzed using EPA Method 8310

PCBs were analyzed using EPA Method 8081.

RCRA metals were analyzed using EPA Method series 6000 and 7000.

pH was measured using EPA Method 9045.

(1) Sampling locations are referenced in the Phase II Environmental Site Assessment Report in Section 2.0.

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Table 2
Sediment Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

Sample I.D.	X-1	X-2	X-3	X-4	X-5	X-6	X-7	IEPA Soil
Lab I.D.	499082	499083	499073	499074	499075	499084	499085	Cleanup
Sample Date	10/20/98	10/20/98	10/19/98	10/19/98	10/19/98	10/20/98	10/20/98	Objectives
Parameters								
BTEX								
Benzene	< 0.01	< 0.006	< 0.007	< 0.008	< 0.01	< 0.007	< 0.01	**0.03**
Toluene	< 0.01	< 0.006	< 0.007	< 0.008	< 0.01	< 0.007	< 0.01	**12**
Ethyl Benzene	< 0.01	< 0.006	< 0.007	< 0.008	< 0.01	< 0.007	< 0.01	**13**
Total Xylenes	< 0.01	< 0.006	< 0.007	< 0.008	< 0.01	< 0.007	< 0.01	**150**
TPH								
Gasoline	< 120	< 62	< 70	< 80	< 120	< 75	< 130	**NA[1]**
Diesel	< 120	< 62	< 70	< 80	< 120	< 75	< 130	**NA**
Oil	< 120	< 62	< 70	< 80	< 120	< 75	2,750	**NA**
PNAs								
Acenaphthene	< 0.050	< 0.025	< 0.028	< 0.032	< 0.048	0.033	< 0.051	**570**
Acenaphthylene	< 0.050	< 0.025	< 0.028	< 0.032	< 0.048	< 0.030	< 0.051	**NA**
Anthracene	< 0.10	< 0.049	< 0.056	< 0.064	< 0.095	0.084	< 0.10	**12,000**
Benzo(a)anthracene	< 0.0453	< 0.012	< 0.0160	< 0.101	< 0.110	0.25	0.35	**2**
Benzo(a)pyrene	< 0.020	< 0.0057	< 0.0065	< 0.0074	< 0.0451	0.19	0.51	**0.8**
Benzo(b)fluoranthene	0.02	0.0046	< 0.0051	< 0.0058	< 0.0678	0.16	0.48	**5**
Benzo(g,h,i)perylene	< 0.10	< 0.049	< 0.056	< 0.064	< 0.095	0.14	0.51	**NA**
Benzo(k)fluoranthene	< 0.0649	< 0.0065	< 0.0048	< 0.0054	< 0.0267	0.11	0.3	**49**
Chrysene	< 0.07	< 0.04	< 0.04	< 0.05	< 0.11	0.25	0.45	**160**
Dibenzo(a,h)anthracene	< 0.01	< 0.007	< 0.008	< 0.01	< 0.01	0.021	0.061	**0.8**
Fluoranthene	< 0.050	< 0.025	< 0.028	< 0.032	0.076	0.52	1	**4,300**
Fluorene	< 0.18	< 0.054	< 0.028	< 0.032	< 0.048	0.049	< 0.13	**560**
Indeno(1,2,3-c,d)pyrene	< 0.021	< 0.011	< 0.012	< 0.014	< 0.021	0.1	0.4	**8**
Naphthalene	0.15	< 0.031	< 0.035	< 0.040	< 0.060	< 0.037	< 0.063	**84**
Phenanthrene	< 0.10	< 0.049	< 0.056	< 0.064	< 0.095	0.24	0.3	**NA**
Pyrene	< 0.050	< 0.025	< 0.028	< 0.032	0.057	0.49	0.83	**4,200**
RCRA Metals[2]								
Arsenic	**24**	2.2	**6.2**	**11**	**7.9**	**3.4**	**13**	**3**
Barium	4,730	173	3,090	4,320	2,860	195	2,780	**14,000**
Cadmium	4.2	< 0.62	0.73	1.1	< 1.2	< 0.75	2.1	**200**
Chromium	52	3	20	22	31	11	43	**420**
Lead	70	< 4.9	39	46	31	21	130	**400**
Mercury	0.4	< 0.049	< 0.056	< 0.064	< 0.095	0.082	0.35	**61**
Selenium	2.2	< 0.31	0.56	0.67	0.81	< 0.37	0.73	**1,000**
Silver	< 5.0	3.7	3.5	3.8	< 4.8	3	< 5.1	**1,000**
Total PCBs	< 0.10	< 0.049	< 0.056	< 0.064	< 0.095	< 0.060	< 0.10	**1**
pH	8.75	9.05	9.81	10.22	8.97	7.55	7.32	**NA**

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Table 2
Sediment Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

Sample I.D.	X-8	X-9	X-10	X-11	X-12	X-13	X-14	IEPA Soil
Lab I.D.	499076	499077	499078	499079	499080	499086	499081	Cleanup
Sample Date	10/19/98	10/19/98	10/19/98	10/19/98	10/19/98	10/20/98	10/19/98	Objectives
Parameters								
BTEX								
Benzene	< 0.009	< 0.02	< 0.006	< 0.007	< 0.007	< 0.007	< 0.01	**0.03**
Toluene	< 0.009	< 0.02	< 0.006	< 0.007	< 0.007	< 0.007	< 0.01	**12**
Ethyl Benzene	< 0.009	< 0.02	< 0.006	< 0.007	< 0.007	< 0.007	< 0.01	**13**
Total Xylenes	< 0.009	< 0.02	< 0.006	< 0.007	< 0.007	< 0.007	< 0.01	**150**
TPH								
Gasoline	< 92	< 240	< 622	< 734	< 69	< 66	< 120	**NA**
Diesel	< 92	3,380	3,000	16,700	475	< 66	< 120	**NA**
Oil	434	< 240	< 622	< 734	< 69	< 66	< 120	**NA**
PNAs								
Acenaphthene	< 0.037	< 0.97	< 0.025	1.4	< 0.94	< 0.026	< 0.046	**570**
Acenaphthylene	< 0.037	< 0.97	< 0.025	< 0.58	< 0.94	< 0.026	< 0.046	**NA**
Anthracene	< 0.14	8.7	< 0.46	< 15	2.9	< 0.052	< 0.092	**12,000**
Benzo(a)anthracene	< 0.94	**16**	< 0.21	**< 5.9**	**< 9.2**	< 0.058	< 0.0477	**2**
Benzo(a)pyrene	< 0.29	**14**	< 0.041	**< 0.81**	**2.2**	0.052	0.018	**0.8**
Benzo(b)fluoranthene	< 0.40	**12**	< 0.073	< 0.93	1.9	0.047	0.015	**5**
Benzo(g,h,i)perylene	< 0.074	11	< 0.050	< 1.2	< 1.9	< 0.052	< 0.092	**NA**
Benzo(k)fluoranthene	< 0.40	8.3	< 0.057	< 1.1	< 2.2	0.05	< 0.014	**49**
Chrysene	0.29	17	< 0.04	< 0.8	1.5	0.047	< 0.07	**160**
Dibenzo(a,h)anthracene	< 0.033	**< 1.6**	< 0.016	< 0.2	< 0.3	< 0.008	< 0.01	**0.8**
Fluoranthene	< 0.26	58	< 0.30	< 13	6.2	0.12	< 0.046	**4,300**
Fluorene	< 0.11	8.7	0.15	7.8	1.6	< 0.026	< 0.046	**560**
Indeno(1,2,3-c,d)pyrene	< 0.016	7.8	< 0.011	< 0.26	0.82	0.042	< 0.020	**8**
Naphthalene	0.26	< 1.2	< 0.031	< 0.74	< 1.2	0.037	< 0.058	**84**
Phenanthrene	0.22	42	0.14	< 15	4.1	0.063	< 0.092	**NA**
Pyrene	0.28	49	< 0.52	< 19	3.8	0.11	< 0.046	**4,200**
RCRA Metals[2]								
Arsenic	**8.3**	**9.7**	**12**	2.5	1.9	3	**5.3**	**3**
Barium	2,020	5,830	92	470	329	669	2,350	**14,000**
Cadmium	< 0.92	3.7	0.87	0.78	1.9	1.3	1.2	**200**
Chromium	12	**680**	19	7.6	11	22	32	**420**
Lead	26	**874**	20	16	12	262	30	**400**
Mercury	< 0.074	< 0.19	< 0.050	< 0.059	< 0.055	0.063	< 0.092	**61**
Selenium	< 0.46	< 1.2	< 0.31	< 0.37	< 0.34	< 0.33	< 0.58	**1,000**
Silver	< 3.7	< 9.7	< 2.5	< 2.9	< 2.7	< 2.6	< 4.6	**1,000**
Total PCBs	< 0.074	< 0.19	< 0.050	< 0.059	0.15	1	< 0.092	**1**
pH	8.67	7.82	8.72	7.65	8.11	7.71	9.17	**NA**

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table B: Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties.

(1) NA indicates not applicable, cleanup objectives have not been established for these parameters.
(2) Results are shown as totals, therefore the soil component of the groundwater ingestion exposure route has not been considered

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Table 3
Surface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

Sample I.D.	S-1	S-2	S-3	S-4	S-5	S-6	IEPA Soil
Lab I.D.	498660	498662	498663	498664	498665	498666	Cleanup
Sample Date	10/16/98	10/16/98	10/16/98	10/16/98	10/16/98	10/16/98	Objectives
Parameters							
BTEX							
Benzene	< 0.008	< 0.005	< 0.006	< 0.006	< 0.006	< 0.007	**0.03**
Toluene	< 0.008	< 0.005	< 0.006	< 0.006	< 0.006	< 0.007	**12**
Ethyl Benzene	< 0.008	< 0.005	< 0.006	< 0.006	< 0.006	< 0.007	**13**
Total Xylenes	< 0.008	< 0.005	0.0099	< 0.006	< 0.006	< 0.007	**150**
TPH							
Gasoline	< 78	< 528	< 585	< 1,290	< 1,270	< 67	**NA[1]**
Diesel	< 78	< 528	38,700	188,000	< 1,270	< 67	**NA**
Oil	110	126,000	< 585	< 1,290	933,000	741	**NA**
PNAs							
Acenaphthene	0.081	< 9.2	< 3.0	14	< 4.5	< 0.86	**570**
Acenaphthylene	< 0.06	< 1.7	< 16	< 6.2	< 4.5	< 2.4	**NA**
Anthracene	< 0.284	< 3.4	< 44	< 88	< 9.2	< 6.7	**12,000**
Benzo(a)anthracene	**< 2.7**	**< 8.8**	**< 18**	**< 23**	**< 16**	**< 27**	**2**
Benzo(a)pyrene	< 0.203	< 0.39	< 0.70	< 0.64	**< 4.3**	< 2.0	**0.8**
Benzo(b)fluoranthene	0.1	< 0.30	< 0.55	< 1.9	**5.3**	0.74	**5**
Benzo(g,h,i)perylene	< 0.1	< 3.4	< 6.1	< 3.1	< 9.2	< 1.7	**NA**
Benzo(k)fluoranthene	< 0.075	< 0.29	< 0.52	< 0.57	3.4	< 1.2	**49**
Chrysene	< 0.11	< 2	< 8.1	< 15	< 7	< 1.37	**160**
Dibenzo(a,h)anthracene	< 0.076	< 0.5	**< 0.9**	< 0.5	**< 1**	**< 1.1**	**0.8**
Fluoranthene	0.66	< 6.5	< 27	< 258	23	5.8	**4,300**
Fluorene	0.12	< 1.7	< 25	98	< 9.1	2.1	**560**
Indeno(1,2,3-c,d)pyrene	< 0.098	< 0.73	< 1.3	< 0.66	4.3	< 1.2	**8**
Naphthalene	0.2	< 2.1	< 34	< 22	< 5.8	2.4	**84**
Phenanthrene	0.36	6.5	39	245	15	3.6	**NA**
Pyrene	0.41	< 14	< 94	< 12	19	3.5	**4,200**
RCRA Metals[2]							
Arsenic	**4.8**	2.9	2.5	2.1	< 1.5	< 1.6	**3**
Barium	1,720	475	175	348	443	510	**14,000**
Cadmium	1	1.6	< 0.58	4.1	0.67	3.1	**200**
Chromium	16	11	5	10	7.1	7.1	**420**
Lead	23	190	23	15	19	21	**400**
Mercury	0.062	< 0.042	< 0.047	< 0.052	< 0.051	0.067	**61**
Selenium	0.45	0.26	< 0.29	< 0.32	< 0.32	< 0.34	**1,000**
Silver	< 3.1	< 2.1	< 2.3	< 2.6	< 2.5	< 2.7	**1,000**
Total PCBs	< 0.062	**7.52**	< 0.047	< 0.39	**< 2.3**	**1.48**	**1**
pH	9.50	5.78	9.94	7.50	7.06	7.75	**NA**

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Table 3
Surface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

Sample I.D.	S-7	S-8	S-9	S-10	S-11	S-12	IEPA Soil
Lab I.D.	498667	498668	498669	498670	498671	498672	Cleanup
Sample Date	10/16/98	10/16/98	10/16/98	10/16/98	10/16/98	10/16/98	Objectives
Parameters							
BTEX							
Benzene	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	**0.03**
Toluene	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	**12**
Ethyl Benzene	0.0072	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	**13**
Total Xylenes	< 0.007	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	**150**
TPH							
Gasoline	< 67	< 583	< 63	239	< 56	< 1,020	**NA**
Diesel	< 67	< 583	< 63	1,090	< 56	< 1,020	**NA**
Oil	1,680	3,090	8,460	< 57	215	67,000	**NA**
PNAs							
Acenaphthene	< 0.92	< 2.7	12	< 5.6	< 0.22	< 0.72	**570**
Acenaphthylene	< 2.8	< 11	< 1.1	< 1.0	< 0.22	< 0.72	**NA**
Anthracene	< 0.53	< 6.9	28	3.9	1.1	< 1.5	**12,000**
Benzo(a)anthracene	**< 20**	**< 18**	**73**	**16**	**4.6**	**3.8**	**2**
Benzo(a)pyrene	**< 0.83**	< 0.70	**71**	**6.4**	**4.7**	**2.6**	**0.8**
Benzo(b)fluoranthene	< 1.3	< 2.1	**57**	**14**	4.1	4.6	**5**
Benzo(g,h,i)perylene	< 0.53	< 1.4	53	11	4.1	5.6	**NA**
Benzo(k)fluoranthene	< 0.20	< 3.6	37	6.8	2.7	2.6	**49**
Chrysene	< 2.0	1.8	67	11	4.5	3.2	**160**
Dibenzo(a,h)anthracene	**< 1.0**	< 0.55	**7.8**	**1.4**	0.62	0.44	**0.8**
Fluoranthene	< 1.5	< 6.7	177	23	9.4	5.3	**4,300**
Fluorene	< 1.1	< 4.0	15	2.5	0.5	< 0.72	**560**
Indeno(1,2,3-c,d)pyrene	< 0.48	< 0.60	**38**	**9.2**	3.9	3.7	**8**
Naphthalene	< 1.2	< 10	4	< 1.3	< 0.28	< 0.90	**84**
Phenanthrene	1	6.4	90	15	3.8	2.2	**NA**
Pyrene	< 0.69	8.3	139	17	7.2	5.6	**4,200**
RCRA Metals							
Arsenic	< 1.6	< 1.4	3	**5.9**	**7.7**	**7.1**	**3**
Barium	427	595	796	1,380	2,680	549	**14,000**
Cadmium	< 0.67	3.6	2.3	40	1.7	3.5	**200**
Chromium	2.8	12	20	84	88	25	**420**
Lead	13	**1,130**	27	**1,130**	89	132	**400**
Mercury	< 0.053	0.063	0.087	0.14	< 0.045	1	**61**
Selenium	< 0.33	< 0.29	0.67	3.8	< 0.28	0.33	**1,000**
Silver	< 2.7	< 2.3	< 2.5	< 2.3	2.6	5.3	**1,000**
Total PCBs	< 0.053	< 0.047	0.204	0.448	0.045	0.39	**1**
pH	7.54	6.49	7.64	6.95	8.99	6.64	**NA**

Table 3
Surface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

Sample I.D. / Lab I.D. / Sample Date	S-13 498673 10/16/98	S-14 498674 10/16/98	S-15 498675 10/16/98	S-16 498676 10/16/98	S-17 498677 10/16/98	S-18 498678 10/16/98	IEPA Soil Cleanup Objectives
Parameters							
BTEX							
Benzene	< 0.005	< 0.005	< 0.006	< 0.006	< 0.006	< 0.01	**0.03**
Toluene	< 0.005	< 0.005	< 0.006	< 0.006	< 0.006	< 0.01	**12**
Ethyl Benzene	< 0.005	< 0.005	< 0.006	< 0.006	< 0.006	< 0.01	**13**
Total Xylenes	< 0.005	< 0.005	< 0.006	< 0.006	< 0.006	< 0.01	**150**
TPH							
Gasoline	< 5,300	292	224	< 591	< 573	< 1,190	**NA**
Diesel	< 5,300	< 52	< 55	< 591	85,600	< 1,190	**NA**
Oil	146,000	5,180	5,130	45,200	< 573	179,000	**NA**
PNAs							
Acenaphthene	< 1.8	< 4.2	< 5.6	1.7	3.4	< 12	**570**
Acenaphthylene	< 1.8	< 2.1	< 1.3	< 0.38	< 2.1	< 3.8	**NA**
Anthracene	< 3.6	7.3	< 2.6	3.3	< 44	12	**12,000**
Benzo(a)anthracene	**< 5.7**	**18**	**8.5**	**6.1**	**< 4.4**	**< 26**	**2**
Benzo(a)pyrene	< 0.42	**8.4**	**6.1**	**5.3**	< 0.48	**19**	**0.8**
Benzo(b)fluoranthene	< 1.7	**19**	**9.8**	**5.8**	< 0.37	**17**	**5**
Benzo(g,h,i)perylene	< 3.6	21	5.9	4.6	< 4.1	13	**NA**
Benzo(k)fluoranthene	< 1.1	< 13	4.7	3.2	< 0.35	7.9	**49**
Chrysene	< 3	22	8.4	5.9	< 3	< 17	**160**
Dibenzo(a,h)anthracene	< 0.5	**3.1**	**0.84**	< 0.64	< 0.6	**2.6**	**0.8**
Fluoranthene	< 1.8	55	24	17	< 26	55	**4,300**
Fluorene	< 1.8	< 5.6	1.7	1.7	8.8	6	**560**
Indeno(1,2,3-c,d)pyrene	< 0.77	**15**	5.2	3.8	< 0.89	**12**	**8**
Naphthalene	< 2.2	< 2.6	< 1.7	0.69	< 2.6	< 4.8	**84**
Phenanthrene	< 3.6	26	17	12	< 19	43	**NA**
Pyrene	< 1.8	34	18	14	< 67	41	**4,200**
RCRA Metals							
Arsenic	**4.6**	**21**	**5.8**	**6.4**	**3.8**	**23**	**3**
Barium	498	166	2,090	1,300	275	1,580	**14,000**
Cadmium	2.3	8.7	4.8	3.7	2.5	16	**200**
Chromium	51	104	50	93	29	69	**420**
Lead	117	**498**	132	**496**	42	180	**400**
Mercury	0.064	0.2	0.1	0.47	< 0.046	0.12	**61**
Selenium	0.6	6.6	0.31	0.45	0.72	1.3	**1,000**
Silver	< 2.1	2.4	< 2.2	< 2.4	< 2.3	< 4.8	**1,000**
Total PCBs	0.59	0.55	0.39	0.93	< 0.046	**2.03**	**1**
pH	6.52	6.50	8.52	7.42	7.32	8.07	**NA**

MWG13-15_5731

Table 3
Surface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

	Sample I.D.	S-19	S-20	S-21	S-22	S-24	IEPA Soil
	Lab I.D.	498679	498680	498681	498682	498661	Cleanup
	Sample Date	10/16/98	10/16/98	10/16/98	10/16/98	10/16/98	Objectives
Parameters							
BTEX							
Benzene		< 0.006	< 0.005	< 0.005	< 0.005	< 0.005	0.03
Toluene		< 0.006	< 0.005	< 0.005	< 0.005	< 0.005	12
Ethyl Benzene		< 0.006	< 0.005	< 0.005	0.0081	< 0.005	13
Total Xylenes		< 0.006	< 0.005	0.01	< 0.005	< 0.005	150
TPH							
Gasoline		< 554	< 51	< 521	< 521	< 52	NA
Diesel		< 554	< 51	< 521	< 521	< 52	NA
Oil		65,400	520	15,100	78,200	< 52	NA
PNAs							
Acenaphthene		< 2.0	< 0.36	< 0.50	< 1.4	< 0.021	570
Acenaphthylene		< 2.0	< 0.36	< 0.50	< 1.4	< 0.021	NA
Anthracene		< 4.0	< 0.74	< 1.6	< 2.7	< 0.042	12,000
Benzo(a)anthracene		< 2.8	1.9	< 0.85	2.4	< 0.046	2
Benzo(a)pyrene		2.1	1.2	< 0.11	1.4	< 0.022	0.8
Benzo(b)fluoranthene		3.1	0.88	< 0.30	1.3	0.021	5
Benzo(g,h,i)perylene		< 4.0	0.84	< 1.0	< 2.7	< 0.042	NA
Benzo(k)fluoranthene		1.8	0.63	< 18	0.64	< 0.017	49
Chrysene		< 3	1	< 0.75	< 2	< 0.03	160
Dibenzo(a,h)anthracene		0.62	0.14	< 0.15	< 0.4	< 0.006	0.8
Fluoranthene		3.5	3.2	< 2.5	2.4	0.04	4,300
Fluorene		< 2.0	< 0.36	< 0.82	< 1.4	< 0.021	560
Indeno(1,2,3-c,d)pyrene		3	0.76	< 0.22	0.81	0.014	8
Naphthalene		< 2.5	< 0.45	< 0.62	< 1.7	< 0.026	84
Phenanthrene		< 4.0	1.9	2.6	< 2.7	< 0.042	NA
Pyrene		6	2.5	< 1.0	2.6	0.037	4,200
RCRA Metals							
Arsenic		1.6	4.9	7.1	5.2	0.96	3
Barium		68	1,730	927	448	20	14,000
Cadmium		1.9	1.3	1.7	0.97	0.69	200
Chromium		7.6	39	22	11	3.6	420
Lead		11	1,020	61	22	7.9	400
Mercury		< 0.044	0.052	< 0.042	< 0.042	< 0.042	61
Selenium		< 0.28	< 0.25	< 0.26	< 0.26	< 2.6	1,000
Silver		< 2.2	2.4	< 2.1	2.3	2.2	1,000
Total PCBs		< 4.4	0.143	0.156	0.25	< 0.042	1
pH		6.60	7.71	6.52	8.79	9.07	NA

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table B: Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties.

(1) NA indicates not applicable, cleanup objectives have not been established for these parameters.

(2) Results are shown as totals, therefore the soil component of the groundwater ingestion exposure route has not been considered

r:chicago\project\h171\comed\fossil\willcounty\table(surface).xls

MWG13-15_5732

Table 4
Subsurface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

Sample I.D.	B-1	B-2	B-3	B-4	B-5	B-6	
Lab I.D.	498406	498407	498409	498408	498410	498411	IEPA Soil
Sample Date	10/15/98	10/15/98	10/15/98	10/15/98	10/15/98	10/15/98	Cleanup
Sample Depth (feet)	0-3	0-3	0-1	0-2	0-1	0-2	Objectives
Parameters							
BTEX							
Benzene	< 0.006	< 0.005	< 0.006	< 0.006	< 0.005	< 0.006	**0.03**
Toluene	< 0.006	< 0.005	< 0.006	< 0.006	< 0.005	< 0.006	**12**
Ethyl Benzene	< 0.006	< 0.005	< 0.006	< 0.006	< 0.005	< 0.006	**13**
Total Xylenes	< 0.006	< 0.005	< 0.006	< 0.006	< 0.005	< 0.006	**150**
PNAs							
Acenaphthene	< 0.1	< 1.1	< 0.1	< 0.065	< 0.161	< 0.1	**570**
Acenaphthylene	< 0.1	< 1.1	< 0.1	< 0.023	< 0.1	< 0.1	**NA[1]**
Anthracene	< 0.2	< 2.2	< 0.2	< 0.045	< 0.2	< 0.2	**12,000**
Benzo(a)anthracene	0.49	1.4	< 0.016	< 0.174	< 1.0	< 0.36	**2**
Benzo(a)pyrene	0.65	1.4	< 0.123	0.119	< 0.099	0.16	**0.8**
Benzo(b)fluoranthene	0.55	1.3	< 0.136	0.125	< 0.02	0.15	**5**
Benzo(g,h,i)perylene	0.55	< 2.2	< 0.2	0.148	< 0.2	< 0.2	**NA**
Benzo(k)fluoranthene	0.32	0.84	< 0.02	0.072	< 0.028	0.11	**49**
Chrysene	0.62	< 2	< 0.2	0.125	< 0.2	0.6	**160**
Dibenzo(a,h)anthracene	0.073	< 0.4	< 0.04	0.016	< 0.049	< 0.04	**0.8**
Fluoranthene	1	2.3	0.335	0.253	< 0.49	0.16	**4,300**
Fluorene	< 0.1	< 1.1	< 0.1	< 0.027	< 0.1	< 0.1	**560**
Indeno(1,2,3-c,d)pyrene	0.47	1	< 0.0658	0.097	< 0.049	0.068	**8**
Naphthalene	< 0.1	< 1.36	< 0.152	< 0.028	< 0.14	< 0.15	**84**
Phenanthrene	0.52	< 2.2	< 0.2	0.1	< 0.2	< 0.2	**NA**
Pyrene	0.95	2	0.315	0.225	< 0.89	0.23	**4,200**
RCRA Metals[2]							
Arsenic	**4.6**	**4.9**	**4.9**	**5.3**	**7.1**	**5.2**	**3**
Barium	1,180	992	158	634	1,530	885	**14,000**
Cadmium	0.85	0.85	0.85	1.2	1.1	< 0.57	**200**
Chromium	17	17	12	11	12	19	**420**
Lead	66	36	21	18	38	20	**400**
Mercury	0.091	0.11	< 0.049	< 0.045	< 0.044	< 0.045	**61**
Selenium	< 0.31	< 0.27	< 0.30	< 0.28	< 0.27	< 0.28	**1,000**
Silver	< 2.5	< 2.2	< 2.4	< 2.3	< 2.2	< 2.3	**1,000**
Total PCBs	**1.1**	0.055	0.054	0.093	< 0.044	< 0.045	**1**
pH	8.63	9.14	8.11	8.83	8.73	8.82	**NA**

MWG13-15_5733

Table 4
Subsurface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

Sample I.D.	B-7	B-8	B-9	B-10	B-11	B-12	
Lab I.D.	498412	498413	498414	498415	498416	498417	IEPA Soil
Sample Date	10/15/98	10/15/98	10/15/98	10/15/98	10/15/98	10/15/98	Cleanup
Sample Depth (feet)	0-1	0-1	0-1	0-1	0-1	0-2	Objectives
Parameters							
BTEX							
Benzene	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.006	**0.03**
Toluene	< 0.006	< 0.005	< 0.008	0.053	< 0.006	< 0.006	**12**
Ethyl Benzene	< 0.006	< 0.005	< 0.008	< 0.006	< 0.006	< 0.006	**13**
Total Xylenes	< 0.006	< 0.005	< 0.008	0.058	< 0.006	< 0.006	**150**
PNAs							
Acenaphthene	< 0.58	< 0.021	< 3.1	< 2.8	< 2.3	< 2.2	**570**
Acenaphthylene	< 0.58	< 0.021	< 3.1	< 7.0	< 2.3	< 2.2	**NA**
Anthracene	< 1.1	< 0.042	< 7.3	< 25	< 8.0	4.5	**12,000**
Benzo(a)anthracene	**< 2.3**	0.11	**< 19**	**< 3.3**	**< 7.4**	**13**	**2**
Benzo(a)pyrene	< 0.32	0.059	**< 3.4**	**< 1.6**	**< 1.3**	**12**	**0.8**
Benzo(b)fluoranthene	0.53	0.054	< 1.5	< 0.44	< 1.4	**9.9**	**5**
Benzo(g,h,i)perylene	< 1.1	0.067	< 6.2	< 4.9	< 4.6	9	**NA**
Benzo(k)fluoranthene	< 0.45	0.041	< 6.9	< 1.6	< 2.2	6.6	**49**
Chrysene	< 0.8	0.07	< 5	< 4	< 3	13	**160**
Dibenzo(a,h)anthracene	< 0.2	0.008	**< 0.9**	< 0.7	**< 1.1**	**1.2**	**0.8**
Fluoranthene	0.97	0.13	< 4.2	< 20	< 5.1	30	**4,300**
Fluorene	< 0.58	< 0.021	< 3.1	< 7.7	< 2.3	2.3	**560**
Indeno(1,2,3-c,d)pyrene	< 0.24	0.04	< 1.3	< 1.1	< 1.0	7.6	**8**
Naphthalene	< 0.71	< 0.027	< 3.9	< 7.4	< 2.9	< 2.8	**84**
Phenanthrene	< 1.1	0.064	< 6.2	< 7.1	< 4.6	17	**NA**
Pyrene	0.68	0.1	4.8	< 21	< 2.3	23	**4,200**
RCRA Metals							
Arsenic	**6.7**	**7.4**	**3.2**	1.4	**3.1**	**3.5**	**3**
Barium	294	361	988	295	476	696	**14,000**
Cadmium	1.4	1	< 0.77	4.5	0.85	0.93	**200**
Chromium	12	13	6.9	5	9.9	24	**420**
Lead	16	19	23	12	23	100	**400**
Mercury	< 0.045	< 0.042	< 0.062	< 0.049	< 0.046	0.062	**61**
Selenium	< 0.28	< 0.27	< 0.39	< 0.31	< 0.29	0.87	**1,000**
Silver	< 2.3	< 2.1	< 3.1	< 2.5	< 2.3	< 2.2	**1,000**
Total PCBs	0.046	< 0.042	**1.3**	< 0.049	**2.54**	0.074	**1**
pH	9.30	9.44	7.79	8.21	8.29	8.03	**NA**

MWG13-15_5734

Table 4
Subsurface Soil Sampling
Soil Analytical Results In Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

Sample I.D.	B-13	B-14	B-15	B-16	B-17	B-18	
Lab I.D.	498418	498419	498420	498421	498422	498423	IEPA Soil
Sample Date	10/15/98	10/15/98	10/15/98	10/15/98	10/15/98	10/15/98	Cleanup
Sample Depth (feet)	0-1	0-1	0-1	0-1	0-1	0-3	Objectives
Parameters							
BTEX							
Benzene	< 0.006	< 0.005	< 0.005	< 0.006	< 0.008	< 0.006	**0.03**
Toluene	< 0.006	< 0.005	< 0.005	< 0.006	< 0.008	< 0.006	**12**
Ethyl Benzene	< 0.006	< 0.005	< 0.005	< 0.006	< 0.008	< 0.006	**13**
Total Xylenes	< 0.006	< 0.005	< 0.005	< 0.006	< 0.008	< 0.006	**150**
PNAs							
Acenaphthene	< 2.3	< 0.66	< 0.727	< 0.66	< 0.1	0.036	**570**
Acenaphthylene	< 2.3	< 0.66	< 0.22	< 0.66	< 0.1	< 0.023	**NA**
Anthracene	< 4.5	< 1.3	0.71	< 1.3	0.43	0.091	**12,000**
Benzo(a)anthracene	**< 3.6**	0.9	**2.4**	**< 3.3**	< 0.91	0.09	**2**
Benzo(a)pyrene	**3.2**	0.68	**2.5**	**3.3**	**1.3**	0.08	**0.8**
Benzo(b)fluoranthene	2.7	0.68	2.1	2.6	0.68	0.051	**5**
Benzo(g,h,i)perylene	< 4.5	< 1.3	2	2.5	0.71	< 0.045	**NA**
Benzo(k)fluoranthene	1.7	0.43	1.2	1.9	0.47	0.033	**49**
Chrysene	< 3	< 0.9	2	2.8	0.73	0.061	**160**
Dibenzo(a,h)anthracene	< 0.7	< 0.2	< 0.21	0.29	0.076	< 0.018	**0.8**
Fluoranthene	5.8	1.5	6.4	7.7	2.2	0.205	**4,300**
Fluorene	< 2.3	< 0.66	0.58	< 0.66	0.17	0.052	**560**
Indeno(1,2,3-c,d)pyrene	1.7	0.64	1.6	2.3	0.75	0.04	**8**
Naphthalene	< 2.8	< 0.81	< 0.27	< 0.84	0.15	< 0.028	**84**
Phenanthrene	< 4.5	< 1.3	3.9	4.6	1.2	0.22	**NA**
Pyrene	4.9	1.3	4.9	6.4	1.7	0.16	**4,200**
RCRA Metals							
Arsenic	**6.6**	1.3	2.5	**3.2**	**11**	**7.6**	**3**
Barium	1,130	69	163	1,980	2,660	420	**14,000**
Cadmium	6.1	< 0.55	< 0.54	0.66	2.2	0.74	**200**
Chromium	74	4.8	9.7	20	33	15	**420**
Lead	113	12	36	37	56	22	**400**
Mercury	0.35	< 0.044	0.096	0.73	0.33	< 0.045	**61**
Selenium	< 0.28	< 0.27	< 0.27	< 0.28	0.5	< 0.28	**1,000**
Silver	4.3	< 2.2	2.8	3.2	< 3.3	< 2.3	**1,000**
Total PCBs	0.404	< 0.044	0.29	**41.3**	0.86	< 0.045	**1**
pH	8.74	9.22	9.20	9.42	8.09	8.32	**NA**

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table B: Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties

(1) NA indicates not applicable, cleanup objectives have not been established for these parameters.
(2) Results are shown as totals, therefore the soil component of the groundwater ingestion exposure route has not been considered.

Table 5
Groundwater Sampling
Groundwater Analytical Results in Milligrams per Liter (mg/l)
Commonwealth Edison Company - Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

Sample I.D. Lab I.D. Sample Date	MW-1 (B-2) 499952 10/26/98	MW-2 (B-5) 499953 10/26/98	MW-3 (B-8) 499954 10/26/98	MW-4 (B-13) 499955 10/26/98	MW-5 (B-10) 499956 10/26/98	IEPA Groundwater (Class I) Cleanup Objectives
Parameters						
BTEX						
Benzene	< 0.001	< 0.001	< 0.001	< 0.001	**0.031**	**0.005**
Toluene	< 0.001	< 0.001	< 0.001	< 0.001	0.037	**1.0**
Ethyl Benzene	< 0.001	< 0.001	< 0.001	< 0.001	0.066	**0.7**
Total Xylenes	< 0.001	< 0.001	0.0016	< 0.001	0.058	**10.0**
PNAs						
Acenaphthene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.051	**0.42**
Acenaphthylene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0020	**NA[1]**
Anthracene	< 0.0005	< 0.0005	< 0.0013	< 0.0005	< 0.17	**2.1**
Benzo(a)anthracene	< 0.00013	< 0.00013	< 0.00013	< 0.00013	**< 0.020**	**0.00013**
Benzo(a)pyrene	< 0.00023	< 0.00023	< 0.00023	< 0.00023	< 0.00023	**0.0002**
Benzo(b)fluoranthene	< 0.00018	< 0.00018	< 0.00018	< 0.00018	**< 0.0022**	**0.00018**
Benzo(g,h,i)perylene	< 0.00076	< 0.00076	< 0.00076	< 0.00076	< 0.00076	**NA**
Benzo(k)fluoranthene	< 0.00017	< 0.00017	< 0.00017	< 0.00017	< 0.00017	**0.00017**
Chrysene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	**< 0.013**	**0.0015**
Dibenzo(a,h)anthracene	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	**0.0003**
Fluoranthene	< 0.0005	< 0.0005	< 0.00087	< 0.0005	< 0.17	**0.28**
Fluorene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.19	**0.28**
Indeno(1,2,3-c,d)pyrene	< 0.00043	< 0.00043	< 0.00043	< 0.00043	< 0.00043	**0.00043**
Naphthalene	< 0.0005	< 0.0005	< 0.0020	< 0.0005	**0.46**	**0.025**
Phenanthrene	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.30	**NA**
Pyrene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	**< 0.28**	**0.21**
RCRA Metals						
Arsenic	< 0.0050	0.0054	< 0.0050	< 0.0050	< 0.0050	**0.05**
Barium	0.059	0.379	0.137	0.069	0.157	**2.0**
Cadmium	**< 0.010**	**< 0.010**	**< 0.010**	**< 0.010**	**< 0.010**	**0.005**
Chromium	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	**0.1**
Lead	< 0.0050	**0.0148**	< 0.0050	< 0.0050	< 0.0050	**0.0075**
Mercury	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	**0.002**
Selenium	< 0.0050	< 0.0050	< 0.0050	0.0102	< 0.0050	**0.05**
Silver	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	**0.05**
Total PCBs	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	**0.0005**
pH	6.87	7.80	7.09	7.34	6.62	**NA**
Specific Conductivity (mol)	150.7	96.0	0.235	103.1	144.4	**NA**
Temperature (C)	18.3	19.4	17.2	18.3	20.0	**NA**

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table E: Tier 1 Groundwater Remediation Objectives for the Groundwater Component of the Groundwater Ingestion Route.

[1] NA indicates not applicable, cleanup objectives have not been established for these parameters.

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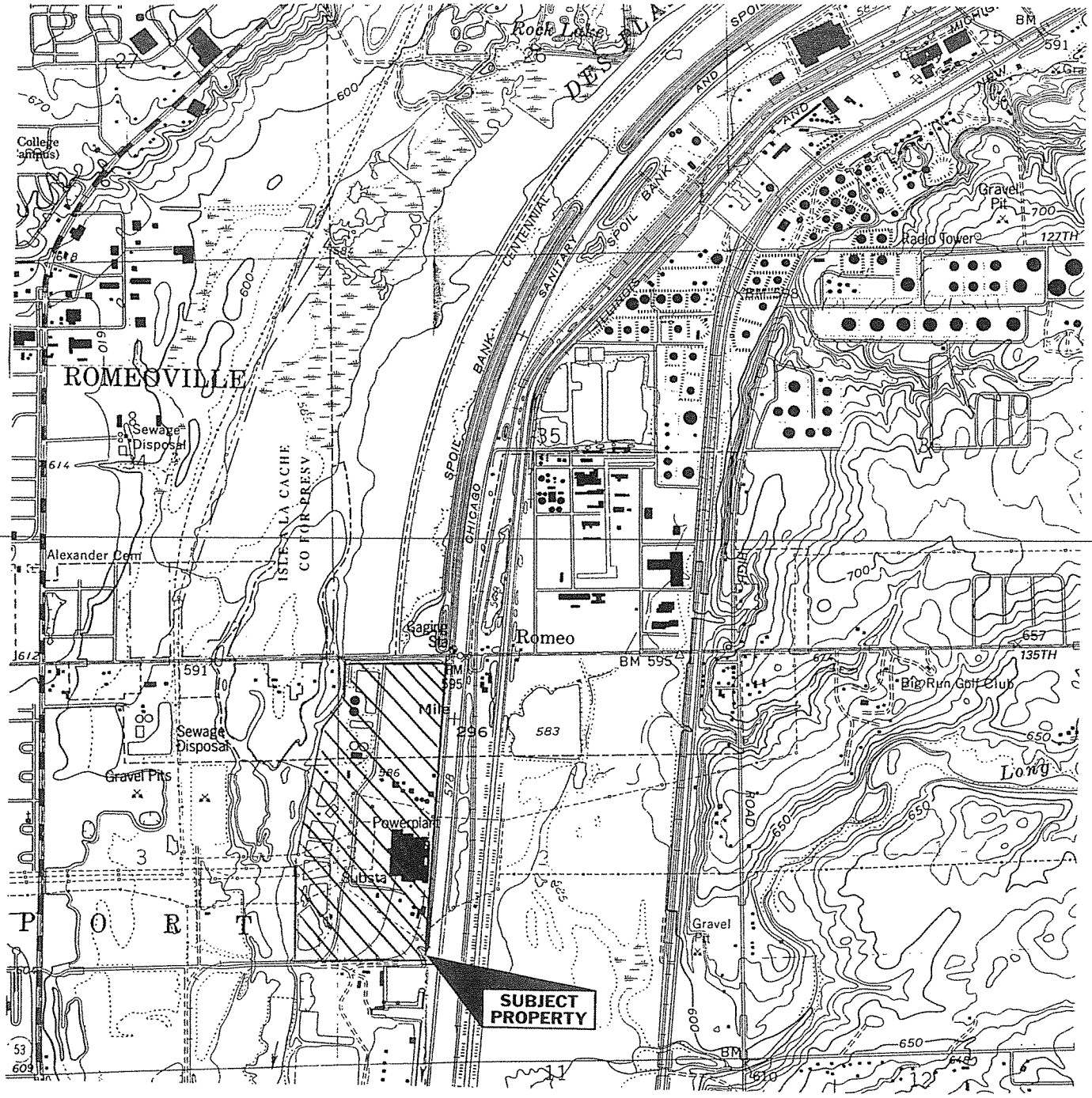
MWG13-15_5736

FIGURES

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Will County Generating Station
529 East Romeo Road
Romeoville, Illinois



SCALE 1:24,000

1 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

Contour interval 5 feet

Dwg No: WAUKEGANSL1

N

U.S.G.S.
ROMEOVILLE, IL

SITE LOCATION MAP

WILL COUNTY GENERATING STATION
529 EAST ROMEO ROAD
ROMEOVILLE, ILLINOIS

COMMONWEALTH EDISON COMPANY

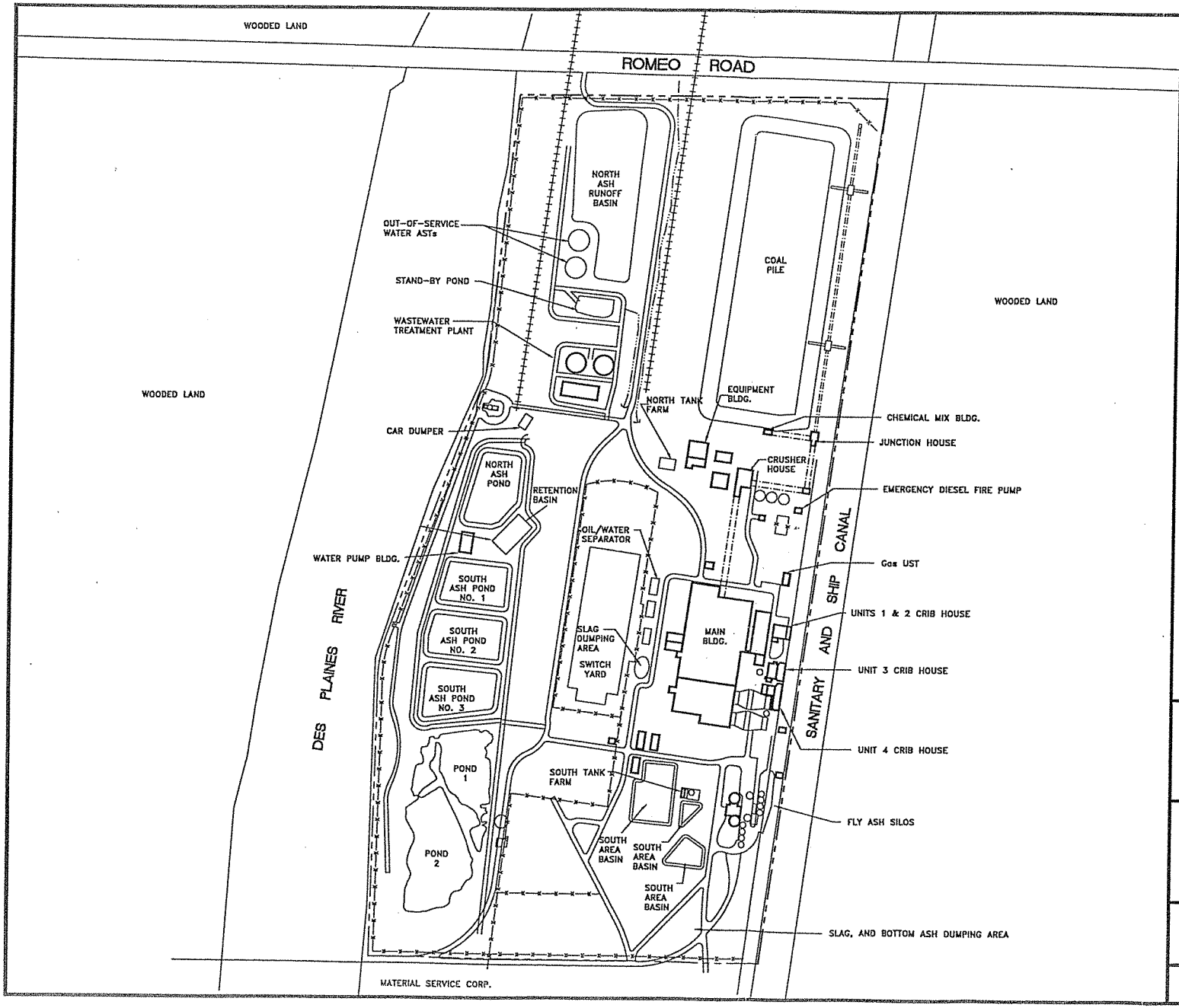
November 1998 File No: 1801-023-710

FIGURE 1

ENSR

MWG13-15_5738

MWG13-15_5739



LEGEND:

- PROPERTY BOUNDARY
- FENCE
- CONVEYOR LINE
- RAILROAD LINE
- DRAINAGE DITCH

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: WillcntySP1.dwg

WILL COUNTY GENERATING STATION
529 EAST ROMEO ROAD
ROMEOVILLE, ILLINOIS

COMMOMNWEALTH EDISON COMPANY

November 1998 File No: 1801-023-710

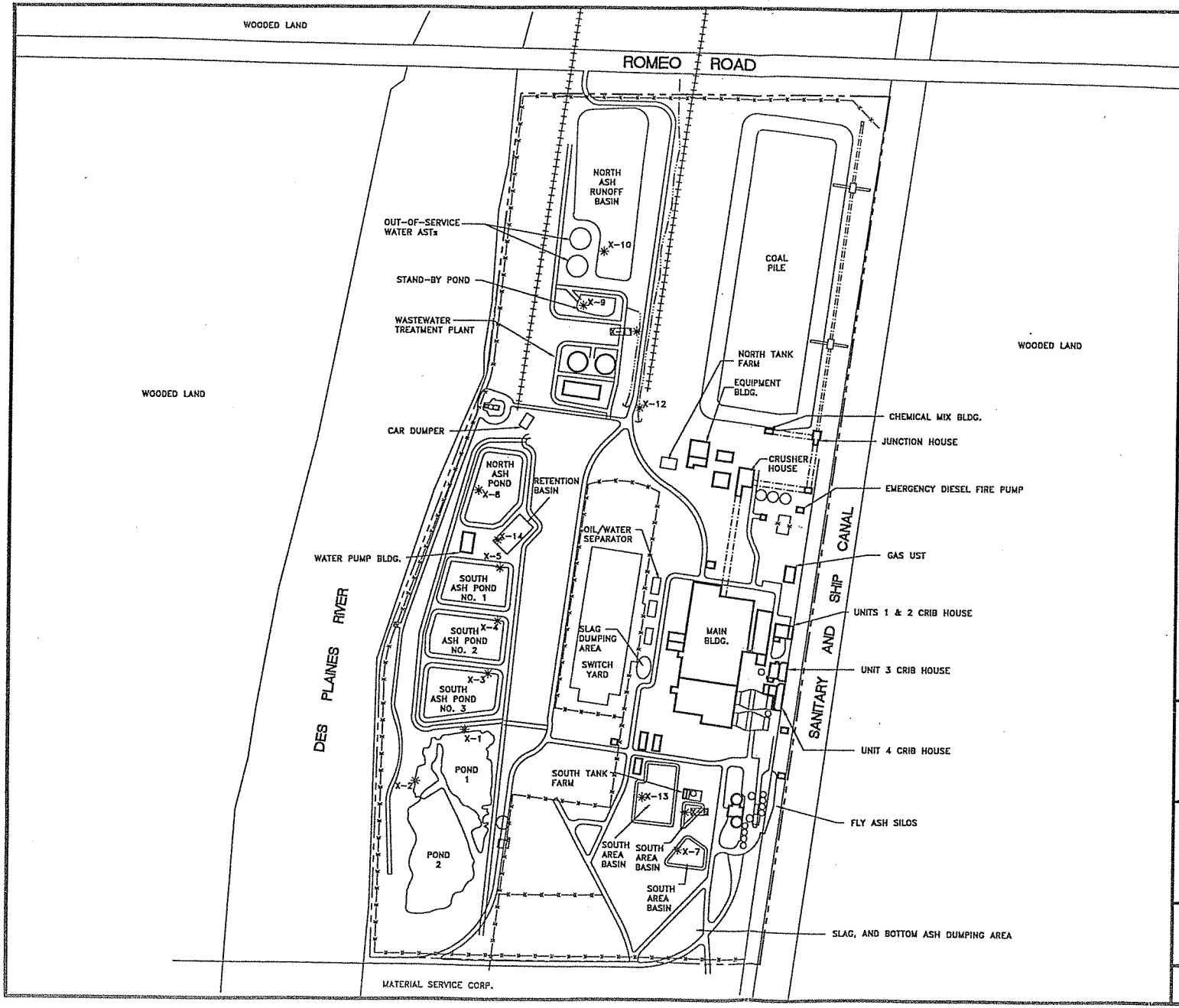
SITE PLAN

N

NOT TO SCALE

FIGURE 2

ENSR



LEGEND:

- PROPERTY BOUNDARY
- FENCE
- CONVEYOR LINE
- RAILROAD LINE
- DRAINAGE DITCH
- X-1 SEDIMENT SAMPLE

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: WillcntySS1.dwg

WILL COUNTY GENERATING STATION
529 EAST ROMEO ROAD
ROMEOVILLE, ILLINOIS

COMMOMNWEALTH EDISON COMPANY

November 1998 File No: 1801-023-710

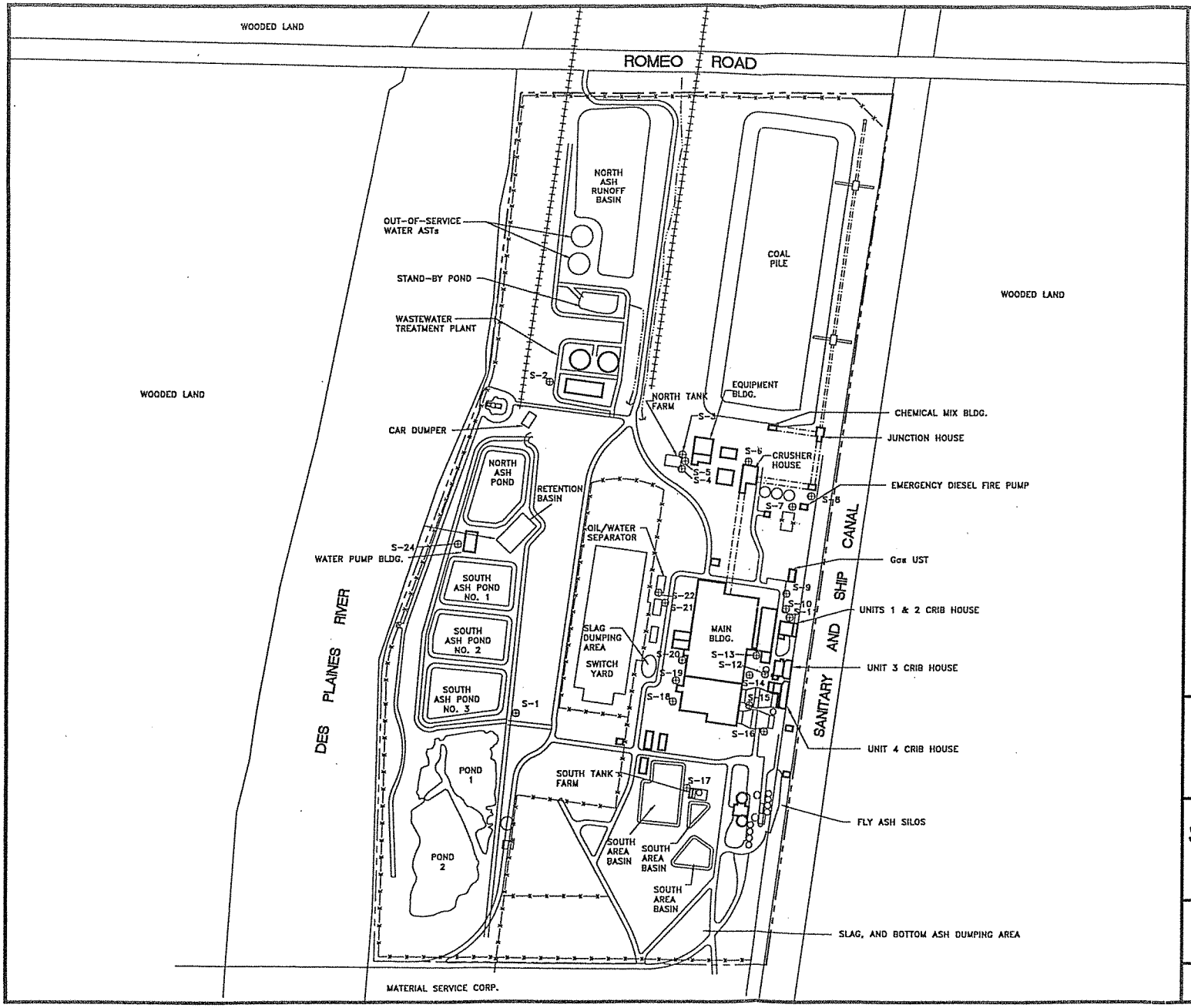
SEDIMENT SAMPLE SITE PLAN

N

NOT TO SCALE

FIGURE 3

ENSR



LEGEND:

- PROPERTY BOUNDARY
- FENCE
- CONVEYOR LINE
- RAILROAD LINE
- DRAINAGE DITCH
- ⊕ S-1 SURFACE SOIL SAMPLE

MWG13-15_5741

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: WillcntySP1.d

WILL COUNTY GENERATING STATION
529 EAST ROMEO ROAD
ROMEOVILLE, ILLINOIS

COMMOMNWEALTH EDISON COMPANY

November 1998 File No: 1801-023-71(

SURFACE SOIL SAMPLE SITE PLAN

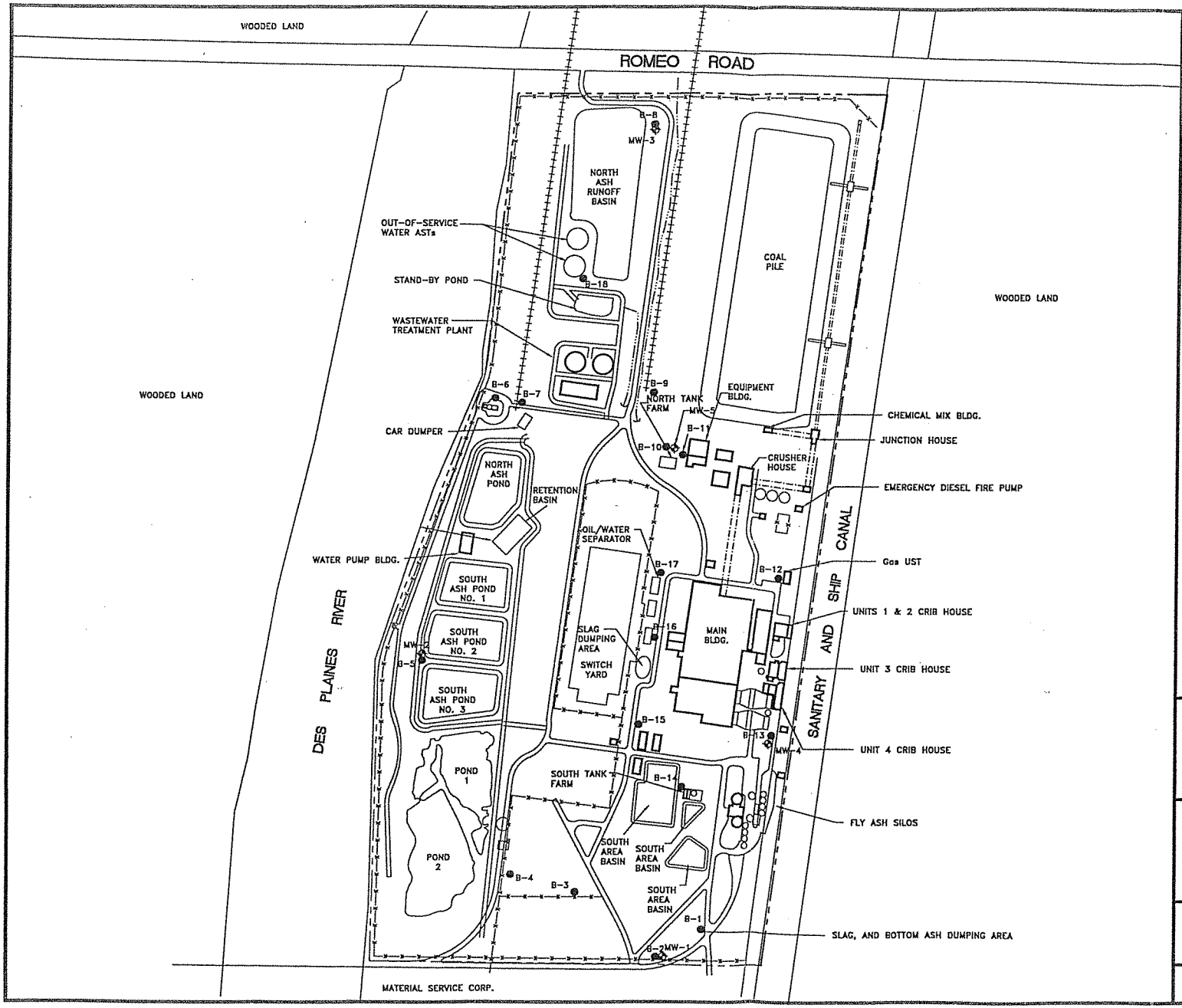
N

NOT TO SCALE

FIGURE 4

ENSR

MWG13-15_5742



LEGEND:

- PROPERTY BOUNDARY
- FENCE
- CONVEYOR LINE
- RAILROAD LINE
- DRAINAGE DITCH
- MW-1 MONITORING WELL
- B-1 SOIL BORING

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: SB1

WILL COUNTY GENERATING STATION
529 EAST ROMEO ROAD
ROMEOVILLE, ILLINOIS

COMMOMNWEALTH EDISON COMPANY

November 1998 File No: 1801-023-710

SOIL BORING/ MONITORING WELL SITE PLAN

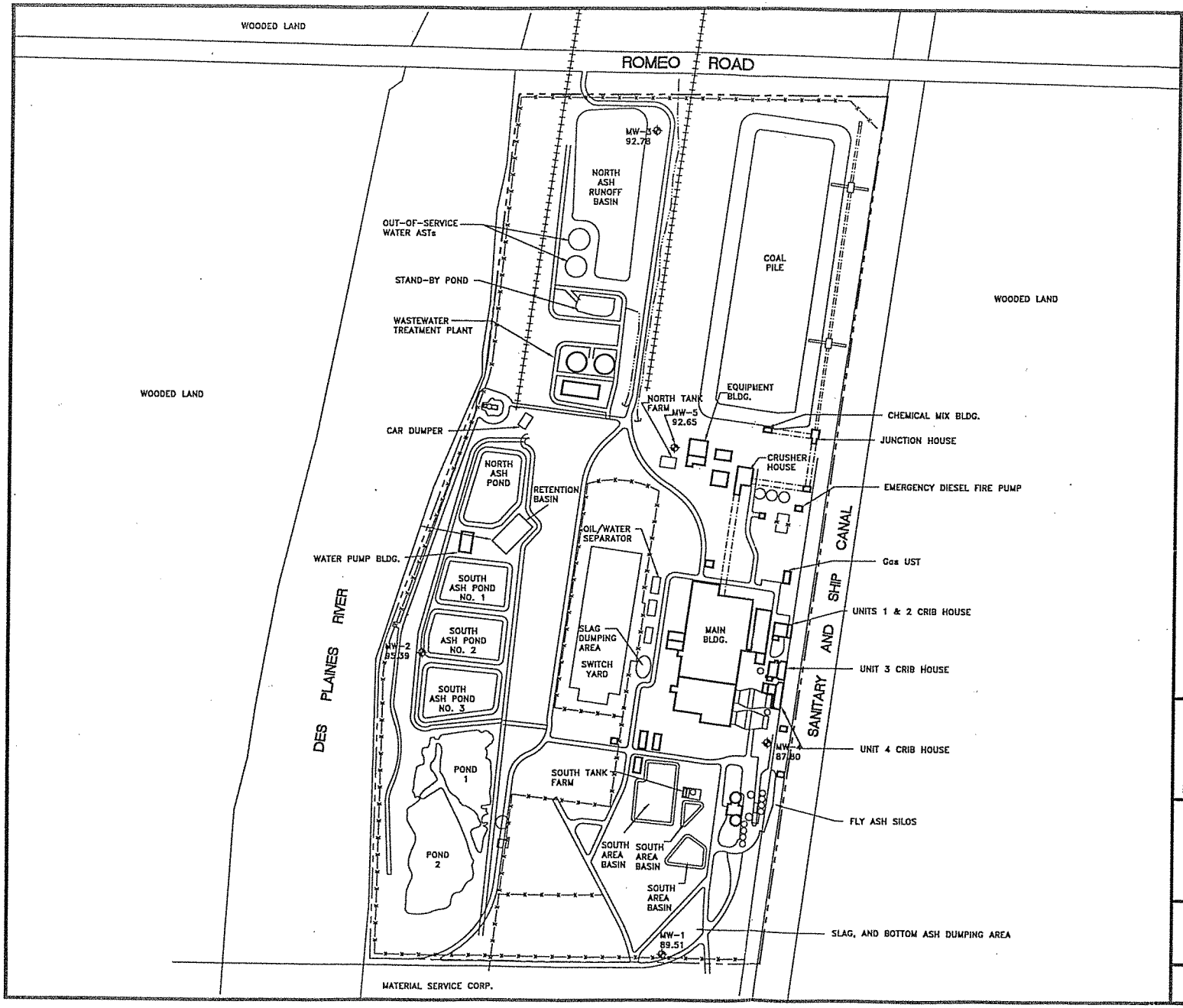
N

NOT TO SCALE

FIGURE 5

ENSR

MWG13-15_5743



LEGEND:

- PROPERTY BOUNDARY
- FENCE
- CONVEYOR LINE
- RAILROAD LINE
- DRAINAGE DITCH
- MW-1 89.51 MONITORING WELL

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: GW

WILL COUNTY GENERATING STATION
529 EAST ROMEO ROAD
ROMEOVILLE, ILLINOIS

COMMOMNWEALTH EDISON COMPANY

November 1998 File No: 1801-023-710

GROUNDWATER ELEVATION MAP

N

NOT TO SCALE

FIGURE 6

ENSR

A

APPENDIX A

Boring Logs and Monitoring Well Construction Diagrams

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

ENSR®

Log of Borehole B-1

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
1		Coal ash with gravel, pieces of brick, and orange clay	1	acetate	100	13.8	PNAs/BETX/pH/PCBs/ RCRA Metals
2							
3 / 1		End of Borehole Refusal at 3' (hard rock)					
4							
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/15/98

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Log of Borehole B-2

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0–2 / 0–1		Top six inches gravel Botom 2.5 feet coal ash	1	acetate	100	3.4	PNAs/BETX/pH/PCBs/ RCRA Metals
3 / 1		End of Borehole Refusal at 3' (hard rock)					
4–15 / 1–4							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/15/98**

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Log of Borehole B-3

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		Fill Coal ash with clay and brick	1	acetate	100	NA	PNAs/BETX/pH/PCBs/ RCRA Metals
1		End of Borehole					
2		Refusal at 1' (hard rock)					
3 / 1							
4							
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/15/98

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Log of Borehole B-4

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
1		*Fill* Gravel	1	acetate	100	2.0	PNAs/BETX/pH/PCBs/ RCRA Metals
2		Light brown-black ash					
		End of Borehole					
3 / 1		Refusal at 2'					
4							
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/15/98**

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Log of Borehole B-5

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		Fill					
		Coal ash w/ orange clay and brick	1	acetate	100	1.1	PNAs/BETX/pH/PCBs/ RCRA Metals
1		Black silt/ash, dry					
		End of Borehole					
2		Refusal at 1' 4"					
3 / 1							
4							
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/15/98**

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Log of Borehole B-6

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		2" organic material					
1		Gravel with light brown-black silt	1	acetate	100	NA	PNAs/BETX/pH/PCBs/ RCRA Metals
2		End of Borehole					
		Refusal at 2' (hard rock)					
3 / 1							
4							
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By: Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/15/98**

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Log of Borehole B-7

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
ft / m 0 / 0		Ground Surface					
		Fill Gravel w/ coal ash	1	acetate	100	<1	PNAs/BETX/pH/PCBs/ RCRA Metals
1		End of Borehole Refusal at 1' (hard rock)					
2							
3 / 1							
4							
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/15/98

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Log of Borehole B-8

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		Fill Gravel fill	1	acetate	100	<1	PNAs/BETX/pH/PCBs/ RCRA Metals
1		End of Borehole Refusal at 1'(hard rock)					
2							
3 / 1							
4							
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/15/98**

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Log of Borehole B-9

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		Coal	1	acetate	100	0.0	0 - 1 PNAs/BETX/pH/PCBs/ RCRA Metals
1		End of Borehole					
2							
3 / 1							
4							
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/15/98

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Log of Borehole B-10

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
ft m		Ground Surface					
0 0		Coal and gravel, odor	1	acetate	100	51.8	0 - 1 PNAs/BETX/pH/PCBs/ RCRA Metals
1		End of Borehole Refusal at 1'					
2							
3 1							
4							
5							
6 2							
7							
8							
9							
10 3							
11							
12							
13 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/15/98

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Log of Borehole B-11

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		Coal and gravel	1	acetate	100	11.1	PNAs/BETX/pH/PCBs/ RCRA Metals
1		End of Borehole					
2		Refusal at 1'					
3 / 1							
4							
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By: Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/15/98

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Log of Borehole B-12

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
1		Coal and gravel	1	acetate	100	2.0	PNAs/BETX/pH/PCBs/ RCRA Metals
2		End of Borehole					
		Refusal at 2'					
3 / 1							
4							
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/15/98

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Log of Borehole B-13

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		Fill					
1		Coal, brown-black silt, gravel	1	acetate	100	2.2	0 - 1 PNAs/BETX/pH/PCBs/ RCRA Metals
2		End of Borehole					
		Refusal at 1'					
3 / 1							
4							
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By: Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/15/98

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Log of Borehole B-14

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth ft / m	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		Gravel and gray silt	1	acetate	100	4.3	0 - 1 PNAs/BETX/pH/PCBs/ RCRA Metals
1		End of Borehole					
2		Refusal at 6"					
3 / 1							
4							
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/15/98

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Log of Borehole B-15

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		Gravel Fill Gravel, trace gray silty clay	1	acetate	100		0 - 1 PNAs/BETX/pH/PCBs/ RCRA Metals
1		End of Borehole Refusal					
2							
3 / 1							
4							
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/15/98

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Log of Borehole B-16

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		Gravel and black silt	1	acetate	100	4.3	0 - 1 PNAs/BETX/pH/PCBs/ RCRA Metals
1		End of Borehole Refusal at 1'					
2							
3 / 1							
4							
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/15/98

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Log of Borehole B-18

Project No: 1801-023-710

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Will County Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0 – 2		***Silty Clay (CL)*** Light brown-brown silty clay	1	acetate	100	2.2	PNAs/BETX/pH/PCBs/ RCRA Metals
3 / 1		End of Borehole Refusal at 3'					
4 – 15 / 1 – 4							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/15/98

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Project No: 1801-023-710 Client: Commonwealth Edison Site: Will Cty Power Station

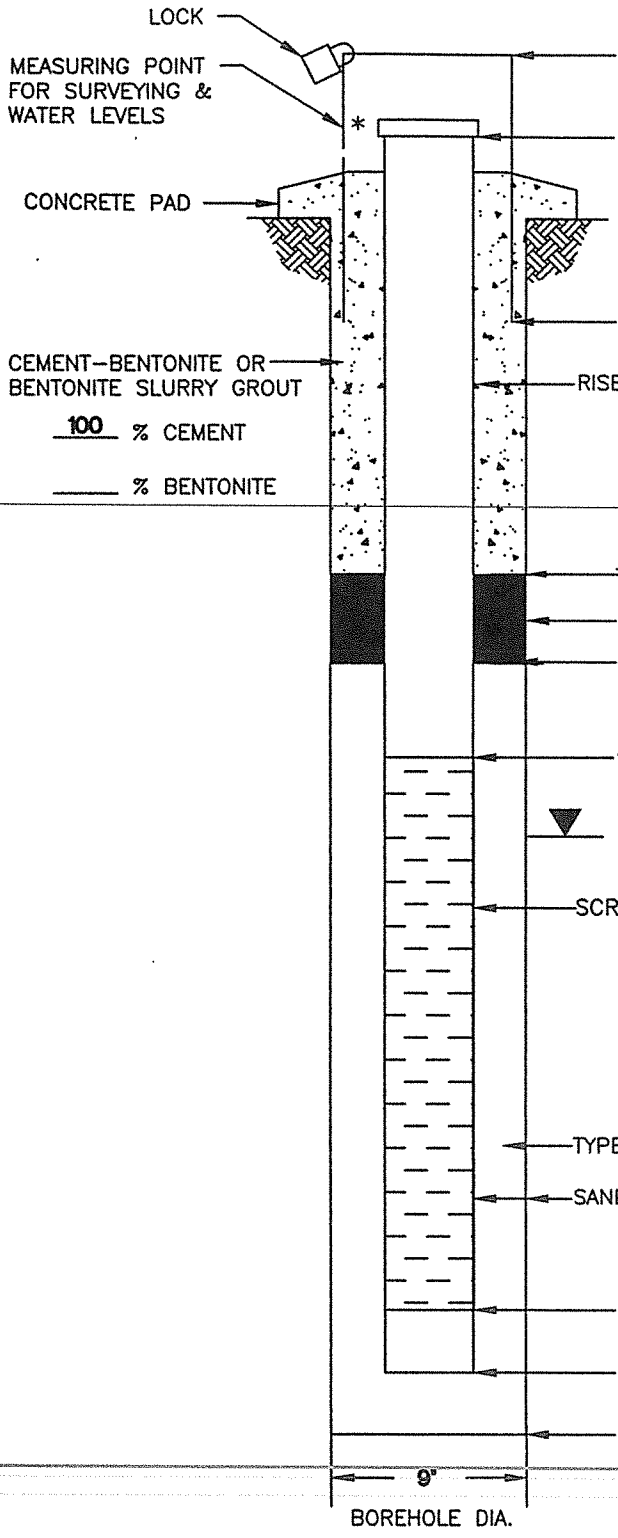
WELL No: MW-1/B-2

Well Location: Adjacent to B2, near main entrance

Date Installed: 10/16/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: B. Buckley

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	97.95
TOP OF RISER PIPE	0.49	97.46
GROUND SURFACE (G.S.)	0.00	97.95
BOTTOM OF STEEL GUARD	0.67	97.28
RISER PIPE:		
LENGTH 6.0		
INSIDE DIAMETER (ID) 2.07		
TYPE OF MATERIAL PVC Sch. 40		
TOP OF BENTONITE SEAL	1.0	96.95
BENTONITE SEAL THICKNESS	3.0	94.45
TOP OF SAND	4.0	93.95
TOP OF SCREEN	5.83	92.12
STABILIZED WATER LEVEL	7.67 (8.16 FROM G.S.)	89.79
SCREEN:		
LENGTH 5'		
INSIDE DIAMETER (ID) 2.07"		
SLOT SIZE 0.010		
TYPE OF MATERIAL PVC Sch.40		
TYPE/SIZE OF SAND Otz.#5		
SAND PACK THICKNESS 3.0"		
BOTTOM OF SCREEN	10.83	87.12
BOTTOM OF TAILPIPE LENGTH 2"	10.83	87.12
BOTTOM OF BOREHOLE	11.0	86.95

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/16/98
Date

ENSR™

MWG13-15_5764

Project No: 1801-023-710 Client: Commonwealth Edison Site: Will Cty Power Station

WELL No: MW-2/B-5

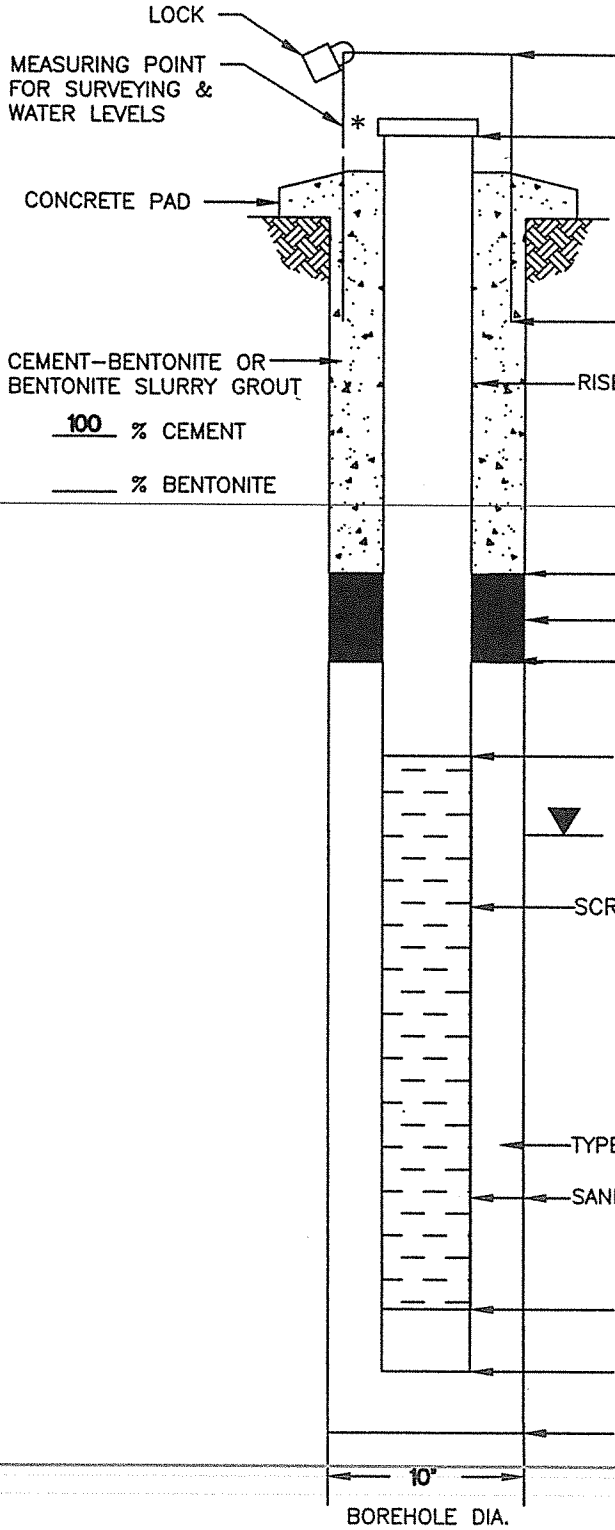
Well Location: Between Ponds 3 and 4 adjacent to B5

Date Installed: 10/19/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4"

Inspector: B. Buckley

MONITORING WELL CONSTRUCTION DETAIL



		DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD		0.00	101.20
TOP OF RISER PIPE		0.41	100.79
GROUND SURFACE (G.S.)		0.00	101.20
BOTTOM OF STEEL GUARD		0.67	100.53
RISER PIPE:			
LENGTH	7.0		
INSIDE DIAMETER (ID)	2.07		
TYPE OF MATERIAL	PVC Sch. 40		
TOP OF BENTONITE SEAL		1.0	100.20
BENTONITE SEAL THICKNESS		4.0	98.2
TOP OF SAND		5.0	96.2
TOP OF SCREEN		7.0	94.2
STABILIZED WATER LEVEL		9.0 (9.41 FROM G.S.)	91.79
SCREEN:			
LENGTH	5'		
INSIDE DIAMETER (ID)	2.07"		
SLOT SIZE	0.010		
TYPE OF MATERIAL	PVC Sch.40		
TYPE/SIZE OF SAND	Otz.#5		
SAND PACK THICKNESS	3.0"		
BOTTOM OF SCREEN		11.83	89.37
BOTTOM OF TAILPIPE LENGTH	2"	11.83	89.37
BOTTOM OF BOREHOLE		12.0	89.2

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/16/98
Date

ENSR™

MWG13-15_5765

Project No: 1801-023-710 Client: Commonwealth Edison Site: Will Cty Power Station

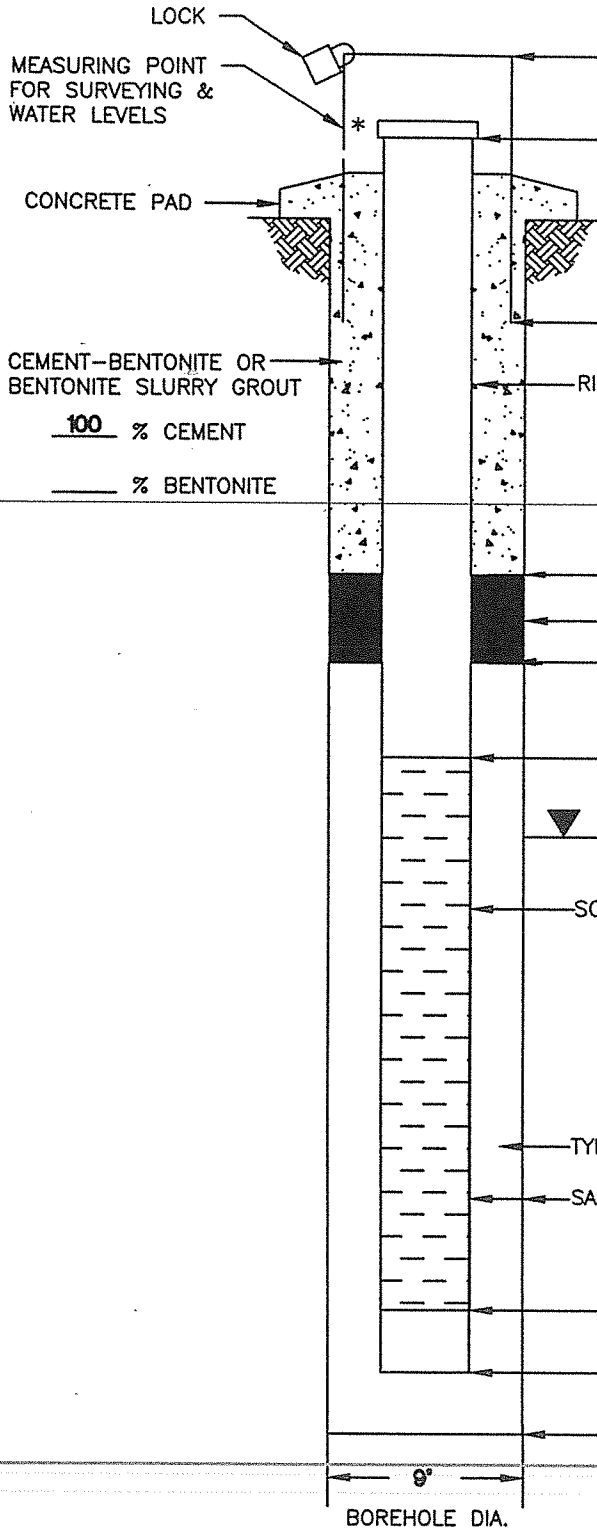
WELL No: MW-3/B-8

Well Location: Adjacent to B8, NE corner of Pond 10

Date Installed: 10/19/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: B. Buckley

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	96.71
TOP OF RISER PIPE	0.33	96.38
GROUND SURFACE (G.S.)	0.00	96.71
BOTTOM OF STEEL GUARD	0.67	96.04
RISER PIPE:		
LENGTH 4.5		
INSIDE DIAMETER (ID) 2.07		
TYPE OF MATERIAL PVC Sch. 40		
TOP OF BENTONITE SEAL	1.0	95.71
BENTONITE SEAL THICKNESS	2.0	94.71
TOP OF SAND	3.0	93.71
TOP OF SCREEN	4.83	91.88
STABILIZED WATER LEVEL	2.0 (2.33 FROM G.S.)	94.38
SCREEN:		
LENGTH 5		
INSIDE DIAMETER (ID) 2.07"		
SLOT SIZE 0.010		
TYPE OF MATERIAL PVC Sch.40		
TYPE/SIZE OF SAND Qtz.#5		
SAND PACK THICKNESS 3.0"		
BOTTOM OF SCREEN	9.83	86.88
BOTTOM OF TAILPIPE LENGTH 2"	9.83	86.88
BOTTOM OF BOREHOLE	10.0	86.71

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/19/98
Date

ENSR™

MWG13-15_5766

Project No: 1801-023-710 Client: Commonwealth Edison Site: Will City Power Station

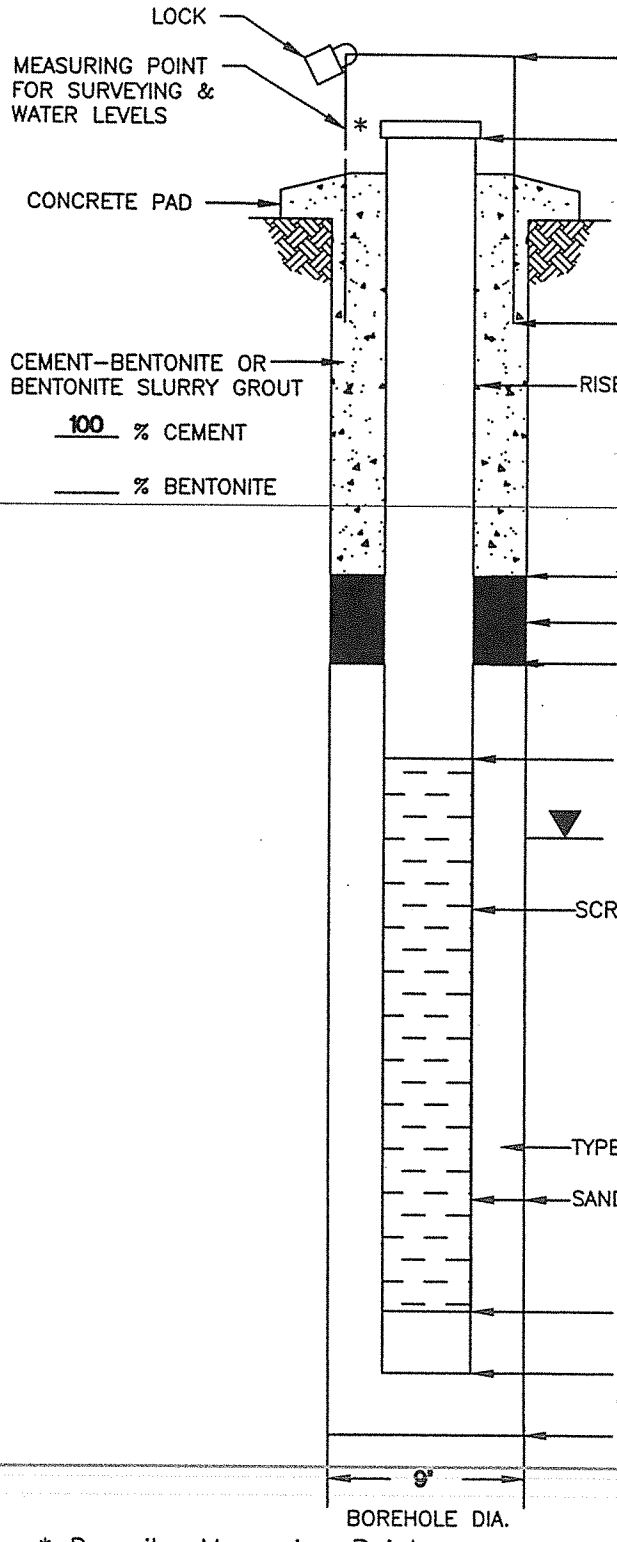
WELL No: MW-4/B-13

Well Location: South of Precipitators, adjacent to B13, south of Chimney #2

Date Installed: 10/20/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: B. Buckley

MONITORING WELL CONSTRUCTION DETAIL



		DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD		0.00	97.22
TOP OF RISER PIPE		0.47	96.75
GROUND SURFACE (G.S.)		0.00	97.22
BOTTOM OF STEEL GUARD		0.67	96.55
RISER PIPE:			
LENGTH	5.53		
INSIDE DIAMETER (ID)	2.07		
TYPE OF MATERIAL	PVC Sch. 40		
TOP OF BENTONITE SEAL		1.0	96.22
BENTONITE SEAL THICKNESS		2.5	94.72
TOP OF SAND		4.0	93.22
TOP OF SCREEN		6.0	91.22
STABILIZED WATER LEVEL		9.25 (9.72 FROM G.S.)	87.5
SCREEN:			
LENGTH	4.83		
INSIDE DIAMETER (ID)	2.07"		
SLOT SIZE	0.010		
TYPE OF MATERIAL	PVC Sch.40		
TYPE/SIZE OF SAND	Otz #5		
SAND PACK THICKNESS	3.0"		
BOTTOM OF SCREEN		10.83	86.39
BOTTOM OF TAILPIPE LENGTH	2"	10.83	86.39
BOTTOM OF BOREHOLE		11.0	86.22

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/20/98
Date

ENSR™

MWG13-15_5767

Project No: 1301-023-710 Client: Commonwealth Edison Site: Will Cty Power Station

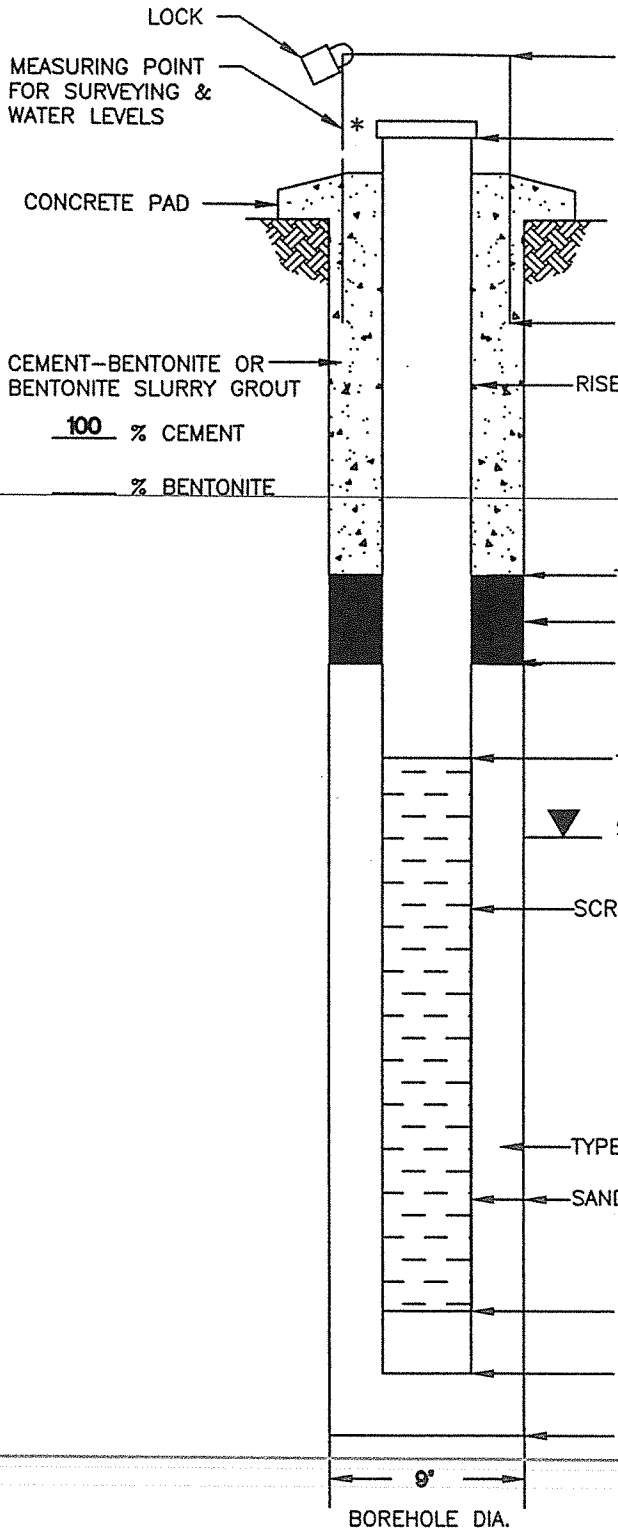
WELL No: MW-5/B-10

Well Location: Adjacent to B10, near ASTs

Date Installed: 10/21/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: B. Buckley

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	97.01
TOP OF RISER PIPE	0.36	96.65
GROUND SURFACE (G.S.)	0.00	97.01
BOTTOM OF STEEL GUARD	0.67	96.34
RISER PIPE:		
LENGTH 2.64		
INSIDE DIAMETER (ID) 2.07		
TYPE OF MATERIAL PVC Sch. 40		
TOP OF BENTONITE SEAL	0.5	96.51
BENTONITE SEAL THICKNESS	1.5	95.76
TOP OF SAND	2.0	95.01
TOP OF SCREEN	3.0	94.01
STABILIZED WATER LEVEL	1.0 (1.36 FROM G.S.)	95.65
SCREEN:		
LENGTH 9.83		
INSIDE DIAMETER (ID) 2.07"		
SLOT SIZE 0.010		
TYPE OF MATERIAL PVC Sch.40		
TYPE/SIZE OF SAND Otz.#5		
SAND PACK THICKNESS 3.0"		
BOTTOM OF SCREEN	12.83	84.18
BOTTOM OF TAILPIPE LENGTH 2"	12.83	84.18
BOTTOM OF BOREHOLE	13.0	84.01

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/21/98
Date

ENSR™

MWG13-15_5768

APPENDIX B

Analytical Reports

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
Tel: (630) 289-3100
Fax: (630) 289-5445

Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13470

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Will County; 1801-023-710

Sample Number	Sample Description	Date Taken	Date Received
498660	S1	10/16/1998	10/16/1998
498661	S24	10/16/1998	10/16/1998
498662	S2	10/16/1998	10/16/1998
498663	S3	10/16/1998	10/16/1998
498664	S4	10/16/1998	10/16/1998
498665	S5	10/16/1998	10/16/1998
498666	S6	10/16/1998	10/16/1998
498667	S7	10/16/1998	10/16/1998
498668	S8	10/16/1998	10/16/1998
498669	S9	10/16/1998	10/16/1998
498670	S10	10/16/1998	10/16/1998
498671	S11	10/16/1998	10/16/1998
~~498672~~	~~S12~~	~~10/16/1998~~	~~10/16/1998~~
498673	S13	10/16/1998	10/16/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
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(800) 807-2877

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13470

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Will County; 1801-023-710

Sample Number	Sample Description	Date Taken	Date Received
498674	S14	10/16/1998	10/16/1998
498675	S15	10/16/1998	10/16/1998
498676	S16	10/16/1998	10/16/1998
498677	S17	10/16/1998	10/16/1998
498678	S18	10/16/1998	10/16/1998
498679	S19	10/16/1998	10/16/1998
498680	S20	10/16/1998	10/16/1998
498681	S21	10/16/1998	10/16/1998
498682	S22	10/16/1998	10/16/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

NET® NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498660

NET Job No.: 98.13470

Sample Description: S1
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 08:10
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.50		units	10/23/1998	0.10	nwg		182	SW 9045B
Solids, Total	64.1		%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	4.8		mg/kg dw	11/04/1998	0.78	mhp	231	670	SW 7060
Barium, ICP	1,720		mg/kg dw	11/02/1998	1.6	jtt	1161	2176	SW 6010B
Cadmium, ICP	1.0		mg/kg dw	11/02/1998	0.78	jtt	1161	2162	SW 6010B
Chromium, ICP	16		mg/kg dw	11/02/1998	3.1	jtt	1161	2147	SW 6010B
Lead, ICP	23		mg/kg dw	11/04/1998	6.2	kdw	1161	2392	SW 6010B
Mercury, CVAA	0.062		mg/kg dw	11/02/1998	0.062	sep	665	769	SW 7471A
Selenium, GFAA	0.45		mg/kg dw	11/04/1998	0.39	mhp	231	557	SW 7740
Silver, AA	<3.1		mg/kg dw	10/30/1998	3.1	sep	488	568	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/28/1998		rmp	243		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<78		mg/kg dw	11/02/1998	78	out	243	488	SW 8015M
TPH as Diesel	<78		mg/kg dw	11/02/1998	78	out	243	488	SW 8015M
TPH as Oil	110		mg/kg dw	11/02/1998	78	out	243	488	SW 8015M
N-octacosane (TPH surr)	123.0		%	11/02/1998		out	243	488	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.008		mg/kg dw	10/29/1998	0.008	jap		63	SW 8260A
Ethylbenzene	<0.008		mg/kg dw	10/29/1998	0.008	jap		63	SW 8260A
Toluene	<0.008		mg/kg dw	10/29/1998	0.008	jap		63	SW 8260A
Xylenes, Total	<0.008		mg/kg dw	10/29/1998	0.008	jap		63	SW 8260A
Dibromofluoromethane (Surr)	113.0		%	10/29/1998	81-129	jap		63	SW 8260A
Toluene-d8 (Surr)	83.6		%	10/29/1998	74-129	jap		63	SW 8260A
4-Bromofluoromethane (Surr)	67.4	R	%	10/29/1998	70-130	jap		63	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/29/1998		mmv	764		SW 3540C

R : Surrogate recovery verified by re-analysis

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(800) 807-2877

ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498660

NET Job No.: 98.13470

Sample Description: S1
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 08:10
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS		ELV							
Acenaphthene	0.081		mg/kg dw	11/05/1998	0.031	kdw	764	1827	SW 8310
Acenaphthylene	<0.06		mg/kg dw	11/05/1998	0.031	kdw	764	1827	SW 8310
Anthracene	<0.284		mg/kg dw	11/05/1998	0.062	kdw	764	1827	SW 8310
Benzo(a)anthracene	<2.7		mg/kg dw	11/05/1998	0.0041	kdw	764	1827	SW 8310
Benzo(b)fluoranthene	0.10		mg/kg dw	11/05/1998	0.0056	kdw	764	1827	SW 8310
Benzo(k)fluoranthene	<0.075		mg/kg dw	11/05/1998	0.0053	kdw	764	1827	SW 8310
Benzo(a)pyrene	<0.203		mg/kg dw	11/05/1998	0.0072	kdw	764	1827	SW 8310
Benzo(ghi)perylene	<0.1		mg/kg dw	11/05/1998	0.062	kdw	764	1827	SW 8310
Chrysene	<0.11		mg/kg dw	11/05/1998	0.05	kdw	764	1827	SW 8310
Dibenzo(a,h)anthracene	<0.076		mg/kg dw	11/05/1998	0.009	kdw	764	1827	SW 8310
Fluoranthene	0.66		mg/kg dw	11/05/1998	0.031	kdw	764	1827	SW 8310
Fluorene	0.12		mg/kg dw	11/05/1998	0.031	kdw	764	1827	SW 8310
Indeno(1,2,3-cd)pyrene	<0.098		mg/kg dw	11/05/1998	0.013	kdw	764	1827	SW 8310
Naphthalene	0.20		mg/kg dw	11/05/1998	0.039	kdw	764	1827	SW 8310
Phenanthrene	0.36		mg/kg dw	11/05/1998	0.062	kdw	764	1827	SW 8310
Pyrene	0.41		mg/kg dw	11/05/1998	0.031	kdw	764	1827	SW 8310
Surr: p-Terphenyl	Masked			11/05/1998	43-125	kdw	764	1827	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			10/28/1998	COMPLETE	wna	377		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.062		mg/kg dw	11/06/1998	0.062	tls	377	53	SW 8082
PCB-1221	<0.062		mg/kg dw	11/06/1998	0.062	tls	377	53	SW 8082
PCB-1232	<0.062		mg/kg dw	11/06/1998	0.062	tls	377	53	SW 8082
PCB-1242	<0.062		mg/kg dw	11/06/1998	0.062	tls	377	53	SW 8082
PCB-1248	<0.062		mg/kg dw	11/06/1998	0.062	tls	377	53	SW 8082
PCB-1254	<0.062		mg/kg dw	11/06/1998	0.062	tls	377	53	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498660

NET Job No.: 98.13470

Sample Description: S1
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 08:10
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.062	mg/kg dw	11/06/1998	0.062	tls	377	53	SW 8082
Decachlorobiphenyl (Surr)	101.0	%	11/06/1998	NA	tls	377	53	SW 8082
2,4,5,6-TCMX (Surr)	76.0	%	11/06/1998	NA	tls	377	53	SW 8082

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(800) 807-2877

ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498661

NET Job No.: 98.13470

Sample Description: S24
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 08:15
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.07		units	10/23/1998	0.10	nwg		182	SW 9045B
Solids, Total	96.2		%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	0.96		mg/kg dw	11/04/1998	0.52	mhp	231	670	SW 7060
Barium, ICP	20		mg/kg dw	11/02/1998	1.0	jtt	1161	2176	SW 6010B
Cadmium, ICP	0.69		mg/kg dw	11/02/1998	0.52	jtt	1161	2162	SW 6010B
Chromium, ICP	3.6		mg/kg dw	11/02/1998	2.1	jtt	1161	2147	SW 6010B
Lead, ICP	7.9		mg/kg dw	11/04/1998	4.2	kdw	1161	2392	SW 6010B
Mercury, CVAA	<0.042		mg/kg dw	11/02/1998	0.042	sep	665	769	SW 7471A
Selenium, GFAA	<2.6	MX	mg/kg dw	11/05/1998	0.26	mhp	231	557	SW 7740
Silver, AA	2.2		mg/kg dw	10/30/1998	2.1	sep	488	568	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/28/1998		rmp	243		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<52		mg/kg dw	11/02/1998	52	out	243	488	SW 8015M
TPH as Diesel	<52		mg/kg dw	11/02/1998	52	out	243	488	SW 8015M
TPH as Oil	<52		mg/kg dw	11/02/1998	52	out	243	488	SW 8015M
N-octacosane (TPH surr)	118.0		%	11/02/1998		out	243	488	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.005		mg/kg dw	10/29/1998	0.005	pll		66	SW 8260A
Ethylbenzene	<0.005		mg/kg dw	10/29/1998	0.005	pll		66	SW 8260A
Toluene	<0.005		mg/kg dw	10/29/1998	0.005	pll		66	SW 8260A
Xylenes, Total	<0.005		mg/kg dw	10/29/1998	0.005	pll		66	SW 8260A
Dibromofluoromethane (Surr)	98.0		%	10/29/1998	81-129	pll		66	SW 8260A
Toluene-d8 (Surr)	94.0		%	10/29/1998	74-129	pll		66	SW 8260A
4-Bromofluoromethane (Surr)	100.0		%	10/29/1998	70-130	pll		66	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/29/1998		mmv	764		SW 3540C

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498661

NET Job No.: 98.13470

Sample Description: S24
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 08:15
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.021		mg/kg dw	11/03/1998	0.021	kdw	764	1824	SW 8310
Acenaphthylene	<0.021		mg/kg dw	11/03/1998	0.021	kdw	764	1824	SW 8310
Anthracene	<0.042		mg/kg dw	11/03/1998	0.042	kdw	764	1824	SW 8310
Benzo(a)anthracene	<0.046	MX	mg/kg dw	11/03/1998	0.0027	kdw	764	1824	SW 8310
Benzo(b)fluoranthene	0.021		mg/kg dw	11/03/1998	0.0037	kdw	764	1824	SW 8310
Benzo(k)fluoranthene	<0.017	MX	mg/kg dw	11/03/1998	0.0035	kdw	764	1824	SW 8310
Benzo(a)pyrene	<0.022	MX	mg/kg dw	11/03/1998	0.0048	kdw	764	1824	SW 8310
Benzo(ghi)perylene	<0.042		mg/kg dw	11/03/1998	0.042	kdw	764	1824	SW 8310
Chrysene	<0.03		mg/kg dw	11/03/1998	0.03	kdw	764	1824	SW 8310
Dibenzo(a,h)anthracene	<0.006		mg/kg dw	11/03/1998	0.006	kdw	764	1824	SW 8310
Fluoranthene	0.040		mg/kg dw	11/03/1998	0.021	kdw	764	1824	SW 8310
Fluorene	<0.021		mg/kg dw	11/03/1998	0.021	kdw	764	1824	SW 8310
Indeno(1,2,3-cd)pyrene	0.014		mg/kg dw	11/03/1998	0.0089	kdw	764	1824	SW 8310
Naphthalene	<0.026		mg/kg dw	11/03/1998	0.026	kdw	764	1824	SW 8310
Phenanthrene	<0.042		mg/kg dw	11/03/1998	0.042	kdw	764	1824	SW 8310
Pyrene	0.037		mg/kg dw	11/03/1998	0.021	kdw	764	1824	SW 8310
Surr: p-Terphenyl	102.4		%	11/03/1998	43-125	kdw	764	1824	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			10/28/1998	COMPLETE	wna	377		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.042		mg/kg dw	11/06/1998	0.042	tls	377	53	SW 8082
PCB-1221	<0.042		mg/kg dw	11/06/1998	0.042	tls	377	53	SW 8082
PCB-1232	<0.042		mg/kg dw	11/06/1998	0.042	tls	377	53	SW 8082
PCB-1242	<0.042		mg/kg dw	11/06/1998	0.042	tls	377	53	SW 8082
PCB-1248	<0.042		mg/kg dw	11/06/1998	0.042	tls	377	53	SW 8082
PCB-1254	<0.042		mg/kg dw	11/06/1998	0.042	tls	377	53	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498661

NET Job No.: 98.13470

Sample Description: S24
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 08:15
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.042	mg/kg dw	11/06/1998	0.042	tls	377	53	SW 8082
Decachlorobiphenyl (Surr)	89.0	%	11/06/1998	NA	tls	377	53	SW 8082
2,4,5,6-TCMX (Surr)	84.0	%	11/06/1998	NA	tls	377	53	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498662

NET Job No.: 98.13470

Sample Description: S2
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 08:25
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	5.78	units	10/23/1998	0.10	nwg		182	SW 9045B
Solids, Total	94.7	%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	2.9	mg/kg dw	11/06/1998	0.53	jtt	233	671	SW 7060
Barium, ICP	475	mg/kg dw	11/02/1998	1.1	jtt	1161	2176	SW 6010B
Cadmium, ICP	1.6	mg/kg dw	11/02/1998	0.53	jtt	1161	2162	SW 6010B
Chromium, ICP	11	mg/kg dw	11/02/1998	2.1	jtt	1161	2147	SW 6010B
Lead, ICP	190	mg/kg dw	11/04/1998	4.2	kdw	1161	2392	SW 6010B
Mercury, CVAA	<0.042	mg/kg dw	11/02/1998	0.042	sep	665	769	SW 7471A
Selenium, GFAA	0.26	mg/kg dw	11/05/1998	0.26	mhp	233	558	SW 7740
Silver, AA	<2.1	mg/kg dw	11/02/1998	2.1	sep	489	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/28/1998		rmp	243		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<528	mg/kg dw	11/02/1998	53	out	243	488	SW 8015M
TPH as Diesel	<528	mg/kg dw	11/02/1998	53	out	243	488	SW 8015M
TPH as Oil	126,000 PT	mg/kg dw	11/02/1998	53	out	243	488	SW 8015M
N-octacosane (TPH surr)	Diluted out		11/02/1998		out	243	488	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	10/29/1998	0.005	pll		66	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/29/1998	0.005	pll		66	SW 8260A
Toluene	<0.005	mg/kg dw	10/29/1998	0.005	pll		66	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/29/1998	0.005	pll		66	SW 8260A
Dibromofluoromethane (Surr)	108.0	%	10/29/1998	81-129	pll		66	SW 8260A
Toluene-d8 (Surr)	80.0	%	10/29/1998	74-129	pll		66	SW 8260A
4-Bromofluoromethane (Surr)	92.0	%	10/29/1998	70-130	pll		66	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/29/1998		mmv	764		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498662

NET Job No.: 98.13470

Sample Description: S2
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 08:25
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<9.2	mg/kg dw	11/04/1998	0.021	keh	764	1829	SW 8310
Acenaphthylene	<1.7	mg/kg dw	11/04/1998	0.021	keh	764	1829	SW 8310
Anthracene	<3.4	mg/kg dw	11/04/1998	0.042	keh	764	1829	SW 8310
Benzo(a)anthracene	<8.8	mg/kg dw	11/04/1998	0.0027	keh	764	1829	SW 8310
Benzo(b)fluoranthene	<0.30	mg/kg dw	11/04/1998	0.0038	keh	764	1829	SW 8310
Benzo(k)fluoranthene	<0.29	mg/kg dw	11/04/1998	0.0036	keh	764	1829	SW 8310
Benzo(a)pyrene	<0.39	mg/kg dw	11/04/1998	0.0049	keh	764	1829	SW 8310
Benzo(ghi)perylene	<3.4	mg/kg dw	11/04/1998	0.042	keh	764	1829	SW 8310
Chrysene	<2	mg/kg dw	11/04/1998	0.03	keh	764	1829	SW 8310
Dibenzo(a,h)anthracene	<0.5	mg/kg dw	11/04/1998	0.006	keh	764	1829	SW 8310
Fluoranthene	<6.5	mg/kg dw	11/04/1998	0.021	keh	764	1829	SW 8310
Fluorene	<1.7	mg/kg dw	11/04/1998	0.021	keh	764	1829	SW 8310
Indeno(1,2,3-cd)pyrene	<0.73	mg/kg dw	11/04/1998	0.0091	keh	764	1829	SW 8310
Naphthalene	<2.1	mg/kg dw	11/04/1998	0.026	keh	764	1829	SW 8310
Phenanthrene	6.5	mg/kg dw	11/04/1998	0.042	keh	764	1829	SW 8310
Pyrene	<14	mg/kg dw	11/04/1998	0.021	keh	764	1829	SW 8310
Surr: p-Terphenyl	Diluted out		11/04/1998	43-125	keh	764	1829	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	377		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.08	mg/kg dw	11/06/1998	0.042	tls	377	53	SW 8082
PCB-1221	<0.08	mg/kg dw	11/06/1998	0.042	tls	377	53	SW 8082
PCB-1232	<0.08	mg/kg dw	11/06/1998	0.042	tls	377	53	SW 8082
PCB-1242	0.23	mg/kg dw	11/06/1998	0.042	tls	377	53	SW 8082
PCB-1248	<0.08	mg/kg dw	11/06/1998	0.042	tls	377	53	SW 8082
PCB-1254	<0.08	mg/kg dw	11/06/1998	0.042	tls	377	53	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498662

NET Job No.: 98.13470

Sample Description: S2
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 08:25
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	7.29	mg/kg dw	11/08/1998	0.042	tls	377	59	SW 8082
Decachlorobiphenyl (Surr)	112.0	%	11/06/1998	NA	tls	377	53	SW 8082
2,4,5,6-TCMX (Surr)	78.0	%	11/06/1998	NA	tls	377	53	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498663

NET Job No.: 98.13470

Sample Description: S3
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 08:40
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.94	units	10/23/1998	0.10	nwg		182	SW 9045B
Solids, Total	85.5	%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	2.5	mg/kg dw	11/04/1998	0.58	mhp	231	670	SW 7060
Barium, ICP	175	mg/kg dw	11/03/1998	1.2	jtt	1161	2176	SW 6010B
Cadmium, ICP	<0.58	mg/kg dw	11/02/1998	0.58	jtt	1161	2162	SW 6010B
Chromium, ICP	5.0	mg/kg dw	11/02/1998	2.3	jtt	1161	2147	SW 6010B
Lead, ICP	23	mg/kg dw	11/04/1998	4.7	kdw	1161	2392	SW 6010B
Mercury, CVAA	<0.047	mg/kg dw	11/02/1998	0.047	sep	665	769	SW 7471A
Selenium, GFAA	<0.29	mg/kg dw	11/04/1998	0.29	mhp	231	557	SW 7740
Silver, AA	<2.3	mg/kg dw	11/02/1998	2.3	sep	489	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/28/1998		rmp	243		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<585	mg/kg dw	11/02/1998	58	out	243	488	SW 8015M
TPH as Diesel	38,700 PT	mg/kg dw	11/02/1998	58	out	243	488	SW 8015M
TPH as Oil	<585	mg/kg dw	11/02/1998	58	out	243	488	SW 8015M
N-octacosane (TPH surr)	Diluted out		11/02/1998		out	243	488	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/29/1998	0.006	pll		66	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/29/1998	0.006	pll		66	SW 8260A
Toluene	<0.006	mg/kg dw	10/29/1998	0.006	pll		66	SW 8260A
Xylenes, Total	0.0099	mg/kg dw	10/29/1998	0.006	pll		66	SW 8260A
Dibromofluoromethane (Surr)	100.0	%	10/29/1998	81-129	pll		66	SW 8260A
Toluene-d8 (Surr)	92.0	%	10/29/1998	74-129	pll		66	SW 8260A
4-Bromofluoromethane (Surr)	98.0	%	10/29/1998	70-130	pll		66	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/26/1998		mmv	760		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the diesel range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498663

NET Job No.: 98.13470

Sample Description: S3
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 08:40
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<3.0	mg/kg dw	11/04/1998	0.023	keh	760	1829	SW 8310
Acenaphthylene	<16	mg/kg dw	11/04/1998	0.023	keh	760	1829	SW 8310
Anthracene	<44	mg/kg dw	11/04/1998	0 047	keh	760	1829	SW 8310
Benzo(a)anthracene	<18	mg/kg dw	11/04/1998	0.0030	keh	760	1829	SW 8310
Benzo(b)fluoranthene	<0.55	mg/kg dw	11/04/1998	0.0042	keh	760	1829	SW 8310
Benzo(k)fluoranthene	<0.52	mg/kg dw	11/04/1998	0.0040	keh	760	1829	SW 8310
Benzo(a)pyrene	<0.70	mg/kg dw	11/04/1998	0.0054	keh	760	1829	SW 8310
Benzo(ghi)perylene	<6.1	mg/kg dw	11/04/1998	0.047	keh	760	1829	SW 8310
Chrysene	<8.1	mg/kg dw	11/04/1998	0.04	keh	760	1829	SW 8310
Dibenzo(a,h)anthracene	<0.9	mg/kg dw	11/04/1998	0.007	keh	760	1829	SW 8310
Fluoranthene	<27	mg/kg dw	11/04/1998	0.023	keh	760	1829	SW 8310
Fluorene	<25	mg/kg dw	11/04/1998	0.023	keh	760	1829	SW 8310
Indeno(1,2,3-cd)pyrene	<1.3	mg/kg dw	11/04/1998	0.010	keh	760	1829	SW 8310
Naphthalene	<34	mg/kg dw	11/04/1998	0.029	keh	760	1829	SW 8310
Phenanthrene	39	mg/kg dw	11/04/1998	0.047	keh	760	1829	SW 8310
Pyrene	<94	mg/kg dw	11/04/1998	0.023	keh	760	1829	SW 8310
Surr: p-Terphenyl	Diluted out		11/04/1998	43-125	keh	760	1829	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	377		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.047	mg/kg dw	11/06/1998	0.047	tls	377	53	SW 8082
PCB-1221	<0.047	mg/kg dw	11/06/1998	0.047	tls	377	53	SW 8082
PCB-1232	<0.047	mg/kg dw	11/06/1998	0.047	tls	377	53	SW 8082
PCB-1242	<0.047	mg/kg dw	11/06/1998	0.047	tls	377	53	SW 8082
PCB-1248	<0.047	mg/kg dw	11/06/1998	0.047	tls	377	53	SW 8082
PCB-1254	<0.047	mg/kg dw	11/06/1998	0.047	tls	377	53	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498663

NET Job No.: 98.13470

Sample Description: S3
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 08:40
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	<0.047	mg/kg dw	11/06/1998	0.047	tls	377 53	SW 8082
Decachlorobiphenyl (Surr)	73.0	%	11/06/1998	NA	tls	377 53	SW 8082
2,4,5,6-TCMX (Surr)	60.0	%	11/06/1998	NA	tls	377 53	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498664

NET Job No.: 98.13470

Sample Description: S4
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 08:50
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.50	units	10/23/1998	0.10	nwg		182	SW 9045B
Solids, Total	77.6	%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	2.1	mg/kg dw	11/04/1998	0.64	mhp	231	670	SW 7060
Barium, ICP	348	mg/kg dw	11/03/1998	1.3	jtt	1161	2176	SW 6010B
Cadmium, ICP	4.1	mg/kg dw	11/02/1998	0.64	jtt	1161	2162	SW 6010B
Chromium, ICP	10	mg/kg dw	11/02/1998	2.6	jtt	1161	2147	SW 6010B
Lead, ICP	15	mg/kg dw	11/04/1998	5.2	kdw	1161	2392	SW 6010B
Mercury, CVAA	<0.052	mg/kg dw	11/02/1998	0.052	sep	665	769	SW 7471A
Selenium, GFAA	<0.32	mg/kg dw	11/04/1998	0.32	mhp	231	557	SW 7740
Silver, AA	<2.6	mg/kg dw	11/02/1998	2.6	sep	489	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/28/1998		rmp	243		SW 8015M
TPH-MODIFIED 8015								
TPH as Gas	<1,290	mg/kg dw	11/02/1998	64	out	243	488	SW 8015M
TPH as Diesel	188,000 PT	mg/kg dw	11/02/1998	64	out	243	488	SW 8015M
TPH as Oil	<1,290	mg/kg dw	11/02/1998	64	out	243	488	SW 8015M
N-octacosane (TPH surr)	Diluted out	mg/kg dw	11/02/1998		out	243	488	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/28/1998	0.006	jap		63	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/28/1998	0.006	jap		63	SW 8260A
Toluene	<0.006	mg/kg dw	10/28/1998	0.006	jap		63	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/28/1998	0.006	jap		63	SW 8260A
Dibromofluoromethane (Surr)	103.6	%	10/28/1998	81-129	jap		63	SW 8260A
Toluene-d8 (Surr)	93.4	%	10/28/1998	74-129	jap		63	SW 8260A
4-Bromofluoromethane (Surr)	103.2	%	10/28/1998	70-130	jap		63	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/26/1998		mmv	760		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the diesel range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498664

NET Job No.: 98.13470

Sample Description: S4
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 08:50
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	14	mg/kg dw	11/04/1998	0.026	kdw	760	1828	SW 8310
Acenaphthylene	<6.2	mg/kg dw	11/04/1998	0.026	kdw	760	1828	SW 8310
Anthracene	<88	mg/kg dw	11/04/1998	0.052	kdw	760	1828	SW 8310
Benzo(a)anthracene	<23	mg/kg dw	11/04/1998	0.0034	kdw	760	1828	SW 8310
Benzo(b)fluoranthene	<1.9	mg/kg dw	11/04/1998	0.0046	kdw	760	1828	SW 8310
Benzo(k)fluoranthene	<0.57	mg/kg dw	11/04/1998	0.0044	kdw	760	1828	SW 8310
Benzo(a)pyrene	<0.64	mg/kg dw	11/04/1998	0.0059	kdw	760	1828	SW 8310
Benzo(ghi)perylene	<3.1	mg/kg dw	11/04/1998	0.052	kdw	760	1828	SW 8310
Chrysene	<15	mg/kg dw	11/04/1998	0.04	kdw	760	1828	SW 8310
Dibenzo(a,h)anthracene	<0.5	mg/kg dw	11/04/1998	0.008	kdw	760	1828	SW 8310
Fluoranthene	<258	mg/kg dw	11/06/1998	0.026	keh	760	1831	SW 8310
Fluorene	98	mg/kg dw	11/04/1998	0.026	kdw	760	1828	SW 8310
Indeno(1,2,3-cd)pyrene	<0.66	mg/kg dw	11/04/1998	0.011	kdw	760	1828	SW 8310
Naphthalene	<22	mg/kg dw	11/04/1998	0.032	kdw	760	1828	SW 8310
Phenanthrene	245	mg/kg dw	11/06/1998	0.052	keh	760	1831	SW 8310
Pyrene	<12	mg/kg dw	11/04/1998	0.026	kdw	760	1828	SW 8310
Surr: p-Terphenyl	Diluted out		11/04/1998	43-125	kdw	760	1828	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	377		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.39	mg/kg dw	11/06/1998	0.052	tls	377	53	SW 8082
PCB-1221	<0.39	mg/kg dw	11/06/1998	0.052	tls	377	53	SW 8082
PCB-1232	<0.39	mg/kg dw	11/06/1998	0.052	tls	377	53	SW 8082
PCB-1242	<0.39	mg/kg dw	11/06/1998	0.052	tls	377	53	SW 8082
PCB-1248	<0.39	mg/kg dw	11/06/1998	0.052	tls	377	53	SW 8082
PCB-1254	<0.39	mg/kg dw	11/06/1998	0.052	tls	377	53	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498664

NET Job No.: 98.13470

Sample Description: S4
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 08:50
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	<0.39	mg/kg dw	11/06/1998	0.052	tls	377 53	SW 8082
Decachlorobiphenyl (Surr)	93.0	%	11/06/1998	NA	tls	377 53	SW 8082
2,4,5,6-TCMX (Surr)	70.0	%	11/06/1998	NA	tls	377 53	SW 8082

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498665

NET Job No.: 98.13470

Sample Description: S5
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 09:00
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	7.06	units	10/23/1998	0.10	nwg	182	SW 9045B
Solids, Total	79.0	%	11/02/1998	0.1	efw	2513	SM 2540
Arsenic, GFAA	<1.5 MX	mg/kg dw	11/04/1998	0.63	mhp	231 670	SW 7060
Barium, ICP	443	mg/kg dw	11/03/1998	1.3	jtt	1161 2176	SW 6010B
Cadmium, ICP	0.67	mg/kg dw	11/02/1998	0.63	jtt	1161 2162	SW 6010B
Chromium, ICP	7.1	mg/kg dw	11/02/1998	2.5	jtt	1161 2147	SW 6010B
Lead, ICP	19	mg/kg dw	11/04/1998	5.1	kdw	1161 2392	SW 6010B
Mercury, CVAA	<0.051	mg/kg dw	11/02/1998	0.051	sep	665 769	SW 7471A
Selenium, GFAA	<0.32	mg/kg dw	11/04/1998	0.32	mhp	231 557	SW 7740
Silver, AA	<2.5	mg/kg dw	11/02/1998	2.5	sep	489 569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/28/1998		rmp	243	SW 8015M
TPH MODIFIED 8015							
TPH as Gas	<1,270	mg/kg dw	11/02/1998	63	out	243 488	SW 8015M
TPH as Diesel	<1,270	mg/kg dw	11/02/1998	63	out	243 488	SW 8015M
TPH as Oil	933,000 PT	mg/kg dw	11/02/1998	63	out	243 488	SW 8015M
N-octacosane (TPH surr)	Diluted out		11/02/1998		out	243 488	SW 8015M
UST VOLATILES NON-AQUEOUS							
Benzene	<0.006	mg/kg dw	10/30/1998	0.006	pll	67	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/30/1998	0.006	pll	67	SW 8260A
Toluene	<0.006	mg/kg dw	10/30/1998	0.006	pll	67	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/30/1998	0.006	pll	67	SW 8260A
Dibromofluoromethane (Surr)	94.0	%	10/30/1998	81-129	pll	67	SW 8260A
Toluene-d8 (Surr)	74.0	%	10/30/1998	74-129	pll	67	SW 8260A
4-Bromofluoromethane (Surr)	82.0	%	10/30/1998	70-130	pll	67	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/26/1998		mmv	760	SW 3540C

MX : Dilution required due to sample matrix; analyte is not detected.
PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

NET® NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498665

NET Job No.: 98.13470

Sample Description: S5
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 09:00
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<4.5	mg/kg dw	11/05/1998	0.025	keh	760	1829	SW 8310
Acenaphthylene	<4.5	mg/kg dw	11/05/1998	0.025	keh	760	1829	SW 8310
Anthracene	<9.2	mg/kg dw	11/05/1998	0.051	keh	760	1829	SW 8310
Benzo(a)anthracene	<16	mg/kg dw	11/05/1998	0.0033	keh	760	1829	SW 8310
Benzo(b)fluoranthene	5.3	mg/kg dw	11/05/1998	0.0046	keh	760	1829	SW 8310
Benzo(k)fluoranthene	3.4	mg/kg dw	11/05/1998	0.0043	keh	760	1829	SW 8310
Benzo(a)pyrene	<4.3	mg/kg dw	11/05/1998	0.0058	keh	760	1829	SW 8310
Benzo(ghi)perylene	<9.2	mg/kg dw	11/05/1998	0.051	keh	760	1829	SW 8310
Chrysene	<7	mg/kg dw	11/05/1998	0.04	keh	760	1829	SW 8310
Dibenzo(a,h)anthracene	<1	mg/kg dw	11/05/1998	0.008	keh	760	1829	SW 8310
Fluoranthene	23	mg/kg dw	11/05/1998	0.025	keh	760	1829	SW 8310
Fluorene	<9.1	mg/kg dw	11/05/1998	0.025	keh	760	1829	SW 8310
Indeno(1,2,3-cd)pyrene	4.3	mg/kg dw	11/05/1998	0.011	keh	760	1829	SW 8310
Naphthalene	<5.8	mg/kg dw	11/05/1998	0.032	keh	760	1829	SW 8310
Phenanthrene	15	mg/kg dw	11/05/1998	0.051	keh	760	1829	SW 8310
Pyrene	19	mg/kg dw	11/05/1998	0.025	keh	760	1829	SW 8310
Surr: p-Terphenyl	Diluted out		11/05/1998	43-125	keh	760	1829	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	377		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<2.3	mg/kg dw	11/06/1998	0.051	tls	377	53	SW 8082
PCB-1221	<2.3	mg/kg dw	11/06/1998	0.051	tls	377	53	SW 8082
PCB-1232	<2.3	mg/kg dw	11/06/1998	0.051	tls	377	53	SW 8082
PCB-1242	<2.3	mg/kg dw	11/06/1998	0.051	tls	377	53	SW 8082
PCB-1248	<2.3	mg/kg dw	11/06/1998	0.051	tls	377	53	SW 8082
PCB-1254	<2.3	mg/kg dw	11/06/1998	0.051	tls	377	53	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498665

NET Job No.: 98.13470

Sample Description: S5
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 09:00
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<2.3	mg/kg dw	11/06/1998	0.051	tls	377	53	SW 8082
Decachlorobiphenyl (Surr)	108.0	%	11/06/1998	NA	tls	377	53	SW 8082
2,4,5,6-TCMX (Surr)	59.0	%	11/06/1998	NA	tls	377	53	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498666

NET Job No.: 98.13470

Sample Description: S6
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 09:10
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.75		units	10/23/1998	0.10	nwg		182	SW 9045B
Solids, Total	74.5		%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	<1.6	MX	mg/kg dw	11/04/1998	0.67	mhp	231	670	SW 7060
Barium, ICP	510		mg/kg dw	11/02/1998	1.3	jtt	1161	2176	SW 6010B
Cadmium, ICP	3.1		mg/kg dw	11/02/1998	0.67	jtt	1161	2162	SW 6010B
Chromium, ICP	7.1		mg/kg dw	11/02/1998	2.7	jtt	1161	2147	SW 6010B
Lead, ICP	21		mg/kg dw	11/04/1998	5.4	kdw	1161	2392	SW 6010B
Mercury, CVAA	0.067		mg/kg dw	11/02/1998	0.054	sep	665	769	SW 7471A
Selenium, GFAA	<0.34		mg/kg dw	11/05/1998	0.34	mhp	231	558	SW 7740
Silver, AA	<2.7		mg/kg dw	11/02/1998	2.7	sep	489	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/28/1998		rmp	243		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<67		mg/kg dw	11/02/1998	67	out	243	488	SW 8015M
TPH as Diesel	<67		mg/kg dw	11/02/1998	67	out	243	488	SW 8015M
TPH as Oil	741		mg/kg dw	11/02/1998	67	out	243	488	SW 8015M
N-octacosane (TPH surr)	114.0		%	11/02/1998		out	243	488	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.007		mg/kg dw	10/29/1998	0.007	pll		66	SW 8260A
Ethylbenzene	<0.007		mg/kg dw	10/29/1998	0.007	pll		66	SW 8260A
Toluene	<0.007		mg/kg dw	10/29/1998	0.007	pll		66	SW 8260A
Xylenes, Total	<0.007		mg/kg dw	10/29/1998	0.007	pll		66	SW 8260A
Dibromofluoromethane (Surr)	124.0		%	10/29/1998	81-129	pll		66	SW 8260A
Toluene-d8 (Surr)	58.0	R	%	10/29/1998	74-129	pll		66	SW 8260A
4-Bromofluoromethane (Surr)	54.0	R	%	10/29/1998	70-130	pll		66	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/26/1998		mmv	760		SW 3540C

MX : Dilution required due to sample matrix; analyte is not detected.
R : Surrogate recovery verified by re-analysis.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498666

NET Job No.: 98.13470

Sample Description: S6
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 09:10
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.86	mg/kg dw	11/05/1998	0.027	kdw	760	1827	SW 8310
Acenaphthylene	<2.4	mg/kg dw	11/05/1998	0.027	kdw	760	1827	SW 8310
Anthracene	<6.7	mg/kg dw	11/05/1998	0.054	kdw	760	1827	SW 8310
Benzo(a)anthracene	<27	mg/kg dw	11/05/1998	0.0035	kdw	760	1827	SW 8310
Benzo(b)fluoranthene	0.74	mg/kg dw	11/05/1998	0.0048	kdw	760	1827	SW 8310
Benzo(k)fluoranthene	<1.2	mg/kg dw	11/05/1998	0.0046	kdw	760	1827	SW 8310
Benzo(a)pyrene	<2.0	mg/kg dw	11/05/1998	0.0062	kdw	760	1827	SW 8310
Benzo(ghi)perylene	<1.7	mg/kg dw	11/05/1998	0.054	kdw	760	1827	SW 8310
Chrysene	<1.37	mg/kg dw	11/05/1998	0.04	kdw	760	1827	SW 8310
Dibenzo(a,h)anthracene	<1.1	mg/kg dw	11/05/1998	0.008	kdw	760	1827	SW 8310
Fluoranthene	5.8	mg/kg dw	11/05/1998	0.027	kdw	760	1827	SW 8310
Fluorene	2.1	mg/kg dw	11/05/1998	0.027	kdw	760	1827	SW 8310
Indeno(1,2,3-cd)pyrene	<1.2	mg/kg dw	11/05/1998	0.012	kdw	760	1827	SW 8310
Naphthalene	2.4	mg/kg dw	11/05/1998	0.034	kdw	760	1827	SW 8310
Phenanthrene	3.6	mg/kg dw	11/05/1998	0.054	kdw	760	1827	SW 8310
Pyrene	3.5	mg/kg dw	11/05/1998	0.027	kdw	760	1827	SW 8310
Surr: p-Terphenyl	Diluted out		11/05/1998	43-125	kdw	760	1827	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	377		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.054	mg/kg dw	11/06/1998	0.054	tls	377	53	SW 8082
PCB-1221	<0.054	mg/kg dw	11/06/1998	0.054	tls	377	53	SW 8082
PCB-1232	<0.054	mg/kg dw	11/06/1998	0.054	tls	377	53	SW 8082
PCB-1242	<0.054	mg/kg dw	11/06/1998	0.054	tls	377	53	SW 8082
PCB-1248	<0.054	mg/kg dw	11/06/1998	0.054	tls	377	53	SW 8082
PCB-1254	<0.054	mg/kg dw	11/06/1998	0.054	tls	377	53	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498666

NET Job No.: 98.13470

Sample Description: S6
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 09:10
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	1.48	mg/kg dw	11/08/1998	0.054	tls	377	59	SW 8082
Decachlorobiphenyl (Surr)	95.0	%	11/06/1998	NA	tls	377	53	SW 8082
2,4,5,6-TCMX (Surr)	76.0	%	11/06/1998	NA	tls	377	53	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498667

NET Job No.: 98.13470

Sample Description: S7
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 09:20
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.54		units	10/23/1998	0.10	nwg		182	SW 9045B
Solids, Total	74.9		%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	<1.6	MX	mg/kg dw	11/04/1998	0.67	mhp	232	670	SW 7060
Barium, ICP	427		mg/kg dw	11/04/1998	1.3	jtt	1162	2178	SW 6010B
Cadmium, ICP	<0.67		mg/kg dw	11/04/1998	0.67	jtt	1162	2165	SW 6010B
Chromium, ICP	2.8		mg/kg dw	11/04/1998	2.7	jtt	1162	2150	SW 6010B
Lead, ICP	13		mg/kg dw	11/04/1998	5.3	kdw	1162	2392	SW 6010B
Mercury, CVAA	<0.053		mg/kg dw	11/02/1998	0.053	sep	665	769	SW 7471A
Selenium, GFAA	<0.33		mg/kg dw	11/05/1998	0.33	mhp	232	558	SW 7740
Silver, AA	<2.7		mg/kg dw	11/02/1998	2.7	sep	489	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/28/1998		rmp	242		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<67		mg/kg dw	11/02/1998	67	out	242	488	SW 8015M
TPH as Diesel	<67		mg/kg dw	11/02/1998	67	out	242	488	SW 8015M
TPH as Oil	1,680	PT	mg/kg dw	11/02/1998	67	out	242	488	SW 8015M
N-octacosane (TPH surr)	89.0		%	11/02/1998		out	242	488	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.007		mg/kg dw	10/30/1998	0.007	pll		68	SW 8260A
Ethylbenzene	<0.007		mg/kg dw	10/30/1998	0.007	pll		68	SW 8260A
Toluene	0.0072		mg/kg dw	10/30/1998	0.007	pll		68	SW 8260A
Xylenes, Total	<0.007		mg/kg dw	10/30/1998	0.007	pll		68	SW 8260A
Dibromofluoromethane (Surr)	120.0		%	10/30/1998	81-129	pll		68	SW 8260A
Toluene-d8 (Surr)	70.0	R	%	10/30/1998	74-129	pll		68	SW 8260A
4-Bromofluoromethane (Surr)	66.0	R	%	10/30/1998	70-130	pll		68	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/26/1998		mmv	760		SW 3540C

MX : Dilution required due to sample matrix; analyte is not detected.
PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.
R : Surrogate recovery verified by re-analysis

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498667

NET Job No.: 98.13470

Sample Description: S7
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 09:20
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.92	mg/kg dw	11/03/1998	0.027	kdw	760	1828	SW 8310
Acenaphthylene	<2.8	mg/kg dw	11/03/1998	0.027	kdw	760	1828	SW 8310
Anthracene	<0.53	mg/kg dw	11/03/1998	0.053	kdw	760	1828	SW 8310
Benzo(a)anthracene	<20	mg/kg dw	11/03/1998	0.0035	kdw	760	1828	SW 8310
Benzo(b)fluoranthene	<1.3	mg/kg dw	11/03/1998	0.0048	kdw	760	1828	SW 8310
Benzo(k)fluoranthene	<0.20	mg/kg dw	11/03/1998	0.0045	kdw	760	1828	SW 8310
Benzo(a)pyrene	<0.83	mg/kg dw	11/03/1998	0.0061	kdw	760	1828	SW 8310
Benzo(ghi)perylene	<0.53	mg/kg dw	11/03/1998	0.053	kdw	760	1828	SW 8310
Chrysene	<2.0	mg/kg dw	11/03/1998	0.04	kdw	760	1828	SW 8310
Dibenzo(a,h)anthracene	<1.0	mg/kg dw	11/03/1998	0.008	kdw	760	1828	SW 8310
Fluoranthene	<1.5	mg/kg dw	11/03/1998	0.027	kdw	760	1828	SW 8310
Fluorene	<1.1	mg/kg dw	11/03/1998	0.027	kdw	760	1828	SW 8310
Indeno(1,2,3-cd)pyrene	<0.48	mg/kg dw	11/03/1998	0.011	kdw	760	1828	SW 8310
Naphthalene	<1.2	mg/kg dw	11/03/1998	0.033	kdw	760	1828	SW 8310
Phenanthrene	1.0	mg/kg dw	11/03/1998	0.053	kdw	760	1828	SW 8310
Pyrene	<0.69	mg/kg dw	11/03/1998	<0.027	kdw	760	1828	SW 8310
Surr: p-Terphenyl	Masked		11/03/1998	43-125	kdw	760	1828	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	377		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.053	mg/kg dw	11/06/1998	0.053	tls	377	53	SW 8082
PCB-1221	<0.053	mg/kg dw	11/06/1998	0.053	tls	377	53	SW 8082
PCB-1232	<0.053	mg/kg dw	11/06/1998	0.053	tls	377	53	SW 8082
PCB-1242	<0.053	mg/kg dw	11/06/1998	0.053	tls	377	53	SW 8082
PCB-1248	<0.053	mg/kg dw	11/06/1998	0.053	tls	377	53	SW 8082
PCB-1254	<0.053	mg/kg dw	11/06/1998	0.053	tls	377	53	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498667

NET Job No.: 98.13470

Sample Description: S7
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 09:20
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.053	mg/kg dw	11/06/1998	0.053	tls	377	53	SW 8082
Decachlorobiphenyl (Surr)	65.0	%	11/06/1998	NA	tls	377	53	SW 8082
2,4,5,6-TCMX (Surr)	52.0	%	11/06/1998	NA	tls	377	53	SW 8082

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498668

NET Job No.: 98.13470

Sample Description: S8
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 09:25
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	6.49		units	10/23/1998	0.10	nwg		182	SW 9045B
Solids, Total	85.7		%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	<1.4	MX	mg/kg dw	11/04/1998	0.58	mhp	232	670	SW 7060
Barium, ICP	595		mg/kg dw	11/04/1998	1.2	jtt	1162	2178	SW 6010B
Cadmium, ICP	3.6		mg/kg dw	11/04/1998	0.58	jtt	1162	2165	SW 6010B
Chromium, ICP	12		mg/kg dw	11/04/1998	2.3	jtt	1162	2150	SW 6010B
Lead, ICP	1,130		mg/kg dw	11/04/1998	4.7	jtt	1162	2388	SW 6010B
Mercury, CVAA	0.063		mg/kg dw	11/02/1998	0.047	sep	665	769	SW 7471A
Selenium, GFAA	<0.29		mg/kg dw	11/05/1998	0.29	mhp	232	558	SW 7740
Silver, AA	<2.3		mg/kg dw	11/02/1998	2.3	sep	489	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/28/1998		rmp	242		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<583		mg/kg dw	11/02/1998	58	out	242	488	SW 8015M
TPH as Diesel	<583		mg/kg dw	11/02/1998	58	out	242	488	SW 8015M
TPH as Oil	3,090	PT	mg/kg dw	11/02/1998	58	out	242	488	SW 8015M
N-octacosane (TPH surr)	Diluted out			11/02/1998		out	242	488	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	10/30/1998	0.006	pll		68	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	10/30/1998	0.006	pll		68	SW 8260A
Toluene	<0.006		mg/kg dw	10/30/1998	0.006	pll		68	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	10/30/1998	0.006	pll		68	SW 8260A
Dibromofluoromethane (Surr)	100.0		%	10/30/1998	81-129	pll		68	SW 8260A
Toluene-d8 (Surr)	76.0		%	10/30/1998	74-129	pll		68	SW 8260A
4-Bromofluoromethane (Surr)	86.0		%	10/30/1998	70-130	pll		68	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/26/1998		mmv	760		SW 3540C

MX : Dilution required due to sample matrix; analyte is not detected.
PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498668

NET Job No.: 98.13470

Sample Description: S8
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 09:25
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.7	mg/kg dw	11/04/1998	0.023	kdw	760	1828	SW 8310
Acenaphthylene	<11	mg/kg dw	11/04/1998	0.023	kdw	760	1828	SW 8310
Anthracene	<6.9	mg/kg dw	11/04/1998	0.047	kdw	760	1828	SW 8310
Benzo(a)anthracene	<18	mg/kg dw	11/04/1998	0.0030	kdw	760	1828	SW 8310
Benzo(b)fluoranthene	<2.1	mg/kg dw	11/04/1998	0.0042	kdw	760	1828	SW 8310
Benzo(k)fluoranthene	<3.6	mg/kg dw	11/04/1998	0.0040	kdw	760	1828	SW 8310
Benzo(a)pyrene	<0.70	mg/kg dw	11/04/1998	0.0054	kdw	760	1828	SW 8310
Benzo(ghi)perylene	<1.4	mg/kg dw	11/04/1998	0.047	kdw	760	1828	SW 8310
Chrysene	1.8	mg/kg dw	11/04/1998	0.04	kdw	760	1828	SW 8310
Dibenzo(a,h)anthracene	<0.55	mg/kg dw	11/04/1998	0.007	kdw	760	1828	SW 8310
Fluoranthene	<6.7	mg/kg dw	11/04/1998	0.023	kdw	760	1828	SW 8310
Fluorene	<4.0	mg/kg dw	11/04/1998	0.023	kdw	760	1828	SW 8310
Indeno(1,2,3-cd)pyrene	<0.60	mg/kg dw	11/04/1998	0.010	kdw	760	1828	SW 8310
Naphthalene	<10	mg/kg dw	11/04/1998	0.029	kdw	760	1828	SW 8310
Phenanthrene	6.4	mg/kg dw	11/04/1998	0.047	kdw	760	1828	SW 8310
Pyrene	8.3	mg/kg dw	11/04/1998	0.023	kdw	760	1828	SW 8310
Surr: p-Terphenyl	Diluted out		11/04/1998	43-125	kdw	760	1828	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	377		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.047	mg/kg dw	11/07/1998	0.047	tls	377	53	SW 8082
PCB-1221	<0.047	mg/kg dw	11/07/1998	0.047	tls	377	53	SW 8082
PCB-1232	<0.047	mg/kg dw	11/07/1998	0.047	tls	377	53	SW 8082
PCB-1242	<0.047	mg/kg dw	11/07/1998	0.047	tls	377	53	SW 8082
PCB-1248	<0.047	mg/kg dw	11/07/1998	0.047	tls	377	53	SW 8082
PCB-1254	<0.047	mg/kg dw	11/07/1998	0.047	tls	377	53	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498668

NET Job No.: 98.13470

Sample Description: S8
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 09:25
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	<0.047	mg/kg dw	11/07/1998	0.047	tls	377 53	SW 8082
Decachlorobiphenyl (Surr)	59.0	%	11/07/1998	NA	tls	377 53	SW 8082
2,4,5,6-TCMX (Surr)	56.0	%	11/07/1998	NA	tls	377 53	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498669

NET Job No.: 98.13470

Sample Description: S9
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:00
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.64		units	10/23/1998	0.10	nwg		183	SW 9045B
Solids, Total	79.1		%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	3.0		mg/kg dw	11/04/1998	0.63	mhp	232	670	SW 7060
Barium, ICP	796		mg/kg dw	11/04/1998	1.3	jtt	1162	2178	SW 6010B
Cadmium, ICP	2.3		mg/kg dw	11/04/1998	0.63	jtt	1162	2165	SW 6010B
Chromium, ICP	20		mg/kg dw	11/04/1998	2.5	jtt	1162	2150	SW 6010B
Lead, ICP	27		mg/kg dw	11/04/1998	5.1	jtt	1162	2388	SW 6010B
Mercury, CVAA	0.087		mg/kg dw	11/02/1998	0.051	sep	665	769	SW 7471A
Selenium, GFAA	0.67		mg/kg dw	11/05/1998	0.32	mhp	232	558	SW 7740
Silver, AA	<2.5		mg/kg dw	11/02/1998	2.5	sep	489	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/28/1998		rmp	242		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<63		mg/kg dw	11/02/1998	63	out	242	488	SW 8015M
TPH as Diesel	<63		mg/kg dw	11/02/1998	63	out	242	488	SW 8015M
TPH as Oil	8,460	PT	mg/kg dw	11/02/1998	63	out	242	488	SW 8015M
N-octacosane (TPH surr)	62.0		%	11/02/1998		out	242	488	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	10/30/1998	0.006	pll		68	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	10/30/1998	0.006	pll		68	SW 8260A
Toluene	<0.006		mg/kg dw	10/30/1998	0.006	pll		68	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	10/30/1998	0.006	pll		68	SW 8260A
Dibromofluoromethane (Surr)	96.0		%	10/30/1998	81-129	pll		68	SW 8260A
Toluene-d8 (Surr)	86.0		%	10/30/1998	74-129	pll		68	SW 8260A
4-Bromofluoromethane (Surr)	86.0		%	10/30/1998	70-130	pll		68	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/26/1998		mmv	760		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

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ANALYTICAL REPORT

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740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498669

NET Job No.: 98.13470

Sample Description: S9
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:00
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	12		mg/kg dw	11/03/1998	0.025	kdw	760	1828	SW 8310
Acenaphthylene	<1.1	MX	mg/kg dw	11/03/1998	0.025	kdw	760	1828	SW 8310
Anthracene	28		mg/kg dw	11/03/1998	0.051	kdw	760	1828	SW 8310
Benzo(a)anthracene	73		mg/kg dw	11/03/1998	0.0033	kdw	760	1828	SW 8310
Benzo(b)fluoranthene	57		mg/kg dw	11/03/1998	0.0046	kdw	760	1828	SW 8310
Benzo(k)fluoranthene	37		mg/kg dw	11/03/1998	0.0043	kdw	760	1828	SW 8310
Benzo(a)pyrene	71		mg/kg dw	11/03/1998	0.0058	kdw	760	1828	SW 8310
Benzo(ghi)perylene	53		mg/kg dw	11/03/1998	0.051	kdw	760	1828	SW 8310
Chrysene	67		mg/kg dw	11/03/1998	0.04	kdw	760	1828	SW 8310
Dibenzo(a,h)anthracene	7.8		mg/kg dw	11/03/1998	0.008	kdw	760	1828	SW 8310
Fluoranthene	177		mg/kg dw	11/05/1998	0.025	kdw	760	1827	SW 8310
Fluorene	15		mg/kg dw	11/03/1998	0.025	kdw	760	1828	SW 8310
Indeno(1,2,3-cd)pyrene	38		mg/kg dw	11/03/1998	0.011	kdw	760	1828	SW 8310
Naphthalene	4.0		mg/kg dw	11/03/1998	0.032	kdw	760	1828	SW 8310
Phenanthrene	90		mg/kg dw	11/03/1998	0.051	kdw	760	1828	SW 8310
Pyrene	139		mg/kg dw	11/05/1998	0.025	kdw	760	1827	SW 8310
Surr: p-Terphenyl	Diluted out			11/03/1998	43-125	kdw	760	1828	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			10/28/1998	COMPLETE	wna	377		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.051		mg/kg dw	11/07/1998	0.051	tls	377	53	SW 8082
PCB-1221	<0.051		mg/kg dw	11/07/1998	0.051	tls	377	53	SW 8082
PCB-1232	<0.051		mg/kg dw	11/07/1998	0.051	tls	377	53	SW 8082
PCB-1242	0.094		mg/kg dw	11/07/1998	0.051	tls	377	53	SW 8082
PCB-1248	<0.051		mg/kg dw	11/07/1998	0.051	tls	377	53	SW 8082
PCB-1254	<0.051		mg/kg dw	11/07/1998	0.051	tls	377	53	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498669

NET Job No.: 98.13470

Sample Description: S9
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:00
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	0.11	mg/kg dw	11/07/1998	0.051	tls	377	53	SW 8082
Decachlorobiphenyl (Surr)	87.0	%	11/07/1998	NA	tls	377	53	SW 8082
2,4,5,6-TCMX (Surr)	78.0	%	11/07/1998	NA	tls	377	53	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498670

NET Job No.: 98.13470

Sample Description: S10
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:05
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	6.95		units	10/23/1998	0.10	nwg		183	SW 9045B
Solids, Total	87.1		%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	5.9		mg/kg dw	11/04/1998	0.57	mhp	232	670	SW 7060
Barium, ICP	1,380		mg/kg dw	11/04/1998	1.1	jtt	1162	2178	SW 6010B
Cadmium, ICP	40		mg/kg dw	11/04/1998	0.57	jtt	1162	2165	SW 6010B
Chromium, ICP	84		mg/kg dw	11/04/1998	2.3	jtt	1162	2150	SW 6010B
Lead, ICP	1,130		mg/kg dw	11/04/1998	4.6	jtt	1162	2388	SW 6010B
Mercury, CVAA	0.14		mg/kg dw	11/02/1998	0.046	sep	665	769	SW 7471A
Selenium, GFAA	3.8		mg/kg dw	11/05/1998	0.29	mhp	232	558	SW 7740
Silver, AA	<2.3		mg/kg dw	11/02/1998	2.3	sep	489	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/28/1998		rmp	242		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	239	PT	mg/kg dw	11/02/1998	57	out	242	488	SW 8015M
TPH as Diesel	1,090	PT	mg/kg dw	11/02/1998	57	out	242	488	SW 8015M
TPH as Oil	<57		mg/kg dw	11/02/1998	57	out	242	488	SW 8015M
N-octacosane (TPH surr)	65.0		%	11/02/1998		out	242	488	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	10/30/1998	0.006	pll		68	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	10/30/1998	0.006	pll		68	SW 8260A
Toluene	<0.006		mg/kg dw	10/30/1998	0.006	pll		68	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	10/30/1998	0.006	pll		68	SW 8260A
Dibromofluoromethane (Surr)	86.0		%	10/30/1998	81-129	pll		68	SW 8260A
Toluene-d8 (Surr)	80.0		%	10/30/1998	74-129	pll		68	SW 8260A
4-Bromofluoromethane (Surr)	94.0		%	10/30/1998	70-130	pll		68	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/26/1998		mmv	760		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the gas/diesel range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
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Westmont, IL 60559

11/11/1998

Sample No. : 498670

NET Job No.: 98.13470

Sample Description: S10
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:05
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<5.6	mg/kg dw	11/05/1998	0.023	keh	760	1829	SW 8310
Acenaphthylene	<1.0	mg/kg dw	11/05/1998	0.023	keh	760	1829	SW 8310
Anthracene	3.9	mg/kg dw	11/05/1998	0.046	keh	760	1829	SW 8310
Benzo(a)anthracene	16	mg/kg dw	11/05/1998	0.0030	keh	760	1829	SW 8310
Benzo(b)fluoranthene	14	mg/kg dw	11/05/1998	0.0041	keh	760	1829	SW 8310
Benzo(k)fluoranthene	6.8	mg/kg dw	11/05/1998	0.0039	keh	760	1829	SW 8310
Benzo(a)pyrene	6.4	mg/kg dw	11/05/1998	0.0053	keh	760	1829	SW 8310
Benzo(ghi)perylene	11	mg/kg dw	11/05/1998	0.046	keh	760	1829	SW 8310
Chrysene	11	mg/kg dw	11/05/1998	0.03	keh	760	1829	SW 8310
Dibenzo(a,h)anthracene	1.4	mg/kg dw	11/05/1998	0.007	keh	760	1829	SW 8310
Fluoranthene	23	mg/kg dw	11/05/1998	0.023	keh	760	1829	SW 8310
Fluorene	2.5	mg/kg dw	11/05/1998	0.023	keh	760	1829	SW 8310
Indeno(1,2,3-cd)pyrene	9.2	mg/kg dw	11/05/1998	0.0099	keh	760	1829	SW 8310
Naphthalene	<1.3	mg/kg dw	11/05/1998	0.029	keh	760	1829	SW 8310
Phenanthrene	15	mg/kg dw	11/05/1998	0.046	keh	760	1829	SW 8310
Pyrene	17	mg/kg dw	11/05/1998	0.023	keh	760	1829	SW 8310
Surr: p-Terphenyl	Diluted out		11/05/1998	43-125	keh	760	1829	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	377		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.046	mg/kg dw	11/07/1998	0.046	tls	377	53	SW 8082
PCB-1221	<0.046	mg/kg dw	11/07/1998	0.046	tls	377	53	SW 8082
PCB-1232	<0.046	mg/kg dw	11/07/1998	0.046	tls	377	53	SW 8082
PCB-1242	0.149	mg/kg dw	11/07/1998	0.046	tls	377	53	SW 8082
PCB-1248	<0.046	mg/kg dw	11/07/1998	0.046	tls	377	53	SW 8082
PCB-1254	0.299	mg/kg dw	11/07/1998	0.046	tls	377	53	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498670

NET Job No.: 98.13470

Sample Description: S10
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:05
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	<0.046	mg/kg dw	11/07/1998	0.046	tls	377 53	SW 8082
Decachlorobiphenyl (Surr)	100.0	%	11/07/1998	NA	tls	377 53	SW 8082
2,4,5,6-TCMX (Surr)	85.0	%	11/07/1998	NA	tls	377 53	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498671

NET Job No.: 98.13470

Sample Description: S11
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:10
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.99	units	10/23/1998	0.10	nwg		183	SW 9045B
Solids, Total	89.4	%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	7.7	mg/kg dw	11/04/1998	0.56	mhp	232	670	SW 7060
Barium, ICP	2,680	mg/kg dw	11/04/1998	1.1	jtt	1162	2178	SW 6010B
Cadmium, ICP	1.7	mg/kg dw	11/04/1998	0.56	jtt	1162	2165	SW 6010B
Chromium, ICP	88	mg/kg dw	11/04/1998	2.2	jtt	1162	2150	SW 6010B
Lead, ICP	89	mg/kg dw	11/04/1998	4.5	jtt	1162	2388	SW 6010B
Mercury, CVAA	<0.045	mg/kg dw	11/02/1998	0.045	sep	665	769	SW 7471A
Selenium, GFAA	<0.28	mg/kg dw	11/05/1998	0.28	mhp	232	558	SW 7740
Silver, AA	2.6	mg/kg dw	11/02/1998	2.2	sep	489	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/28/1998		rmp	242		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<56	mg/kg dw	11/02/1998	56	out	242	488	SW 8015M
TPH as Diesel	<56	mg/kg dw	11/02/1998	56	out	242	488	SW 8015M
TPH as Oil	215	mg/kg dw	11/02/1998	56	out	242	488	SW 8015M
N-octacosane (TPH surr)	71.0	%	11/02/1998		out	242	488	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/30/1998	0.006	pll		67	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/30/1998	0.006	pll		67	SW 8260A
Toluene	<0.006	mg/kg dw	10/30/1998	0.006	pll		67	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/30/1998	0.006	pll		67	SW 8260A
Dibromofluoromethane (Surr)	84.0	%	10/30/1998	81-129	pll		67	SW 8260A
Toluene-d8 (Surr)	82.0	%	10/30/1998	74-129	pll		67	SW 8260A
4-Bromofluoromethane (Surr)	86.0	%	10/30/1998	70-130	pll		67	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/26/1998		mmv	760		SW 3540C

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498671

NET Job No.: 98.13470

Sample Description: S11
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:10
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.22	mg/kg dw	10/30/1998	0.022	kdw	760	1821	SW 8310
Acenaphthylene	<0.22	mg/kg dw	10/30/1998	0.022	kdw	760	1821	SW 8310
Anthracene	1.1	mg/kg dw	10/30/1998	0.045	kdw	760	1821	SW 8310
Benzo(a)anthracene	4.6	mg/kg dw	10/30/1998	0.0029	kdw	760	1821	SW 8310
Benzo(b)fluoranthene	4.1	mg/kg dw	10/30/1998	0.0040	kdw	760	1821	SW 8310
Benzo(k)fluoranthene	2.7	mg/kg dw	10/30/1998	0.0038	kdw	760	1821	SW 8310
Benzo(a)pyrene	4.7	mg/kg dw	10/30/1998	0.0051	kdw	760	1821	SW 8310
Benzo(ghi)perylene	4.1	mg/kg dw	10/30/1998	0.045	kdw	760	1821	SW 8310
Chrysene	4.5	mg/kg dw	10/30/1998	0.03	kdw	760	1821	SW 8310
Dibenzo(a,h)anthracene	0.62	mg/kg dw	10/30/1998	0.007	kdw	760	1821	SW 8310
Fluoranthene	9.4	mg/kg dw	10/30/1998	0.022	kdw	760	1821	SW 8310
Fluorene	0.50	mg/kg dw	10/30/1998	0.022	kdw	760	1821	SW 8310
Indeno(1,2,3-cd)pyrene	3.9	mg/kg dw	10/30/1998	0.0096	kdw	760	1821	SW 8310
Naphthalene	<0.28	mg/kg dw	10/30/1998	0.028	kdw	760	1821	SW 8310
Phenanthrene	3.8	mg/kg dw	10/30/1998	0.045	kdw	760	1821	SW 8310
Pyrene	7.2	mg/kg dw	10/30/1998	0.022	kdw	760	1821	SW 8310
Surr: p-Terphenyl	Masked		10/30/1998	43-125	kdw	760	1821	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	377		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.045	mg/kg dw	11/07/1998	0.045	tls	377	59	SW 8082
PCB-1221	<0.045	mg/kg dw	11/11/1998	0.045	tls	377	62	SW 8082
PCB-1232	<0.045	mg/kg dw	11/07/1998	0.045	tls	377	59	SW 8082
PCB-1242	<0.045	mg/kg dw	11/07/1998	0.045	tls	377	59	SW 8082
PCB-1248	<0.045	mg/kg dw	11/07/1998	0.045	tls	377	59	SW 8082
PCB-1254	<0.045	mg/kg dw	11/07/1998	0.045	tls	377	59	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498671

NET Job No.: 98.13470

Sample Description: S11
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:10
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	0.045	mg/kg dw	11/07/1998	0.045	tls	377	59	SW 8082
Decachlorobiphenyl (Surr)	113.0	%	11/07/1998	NA	tls	377	59	SW 8082
2,4,5,6-TCMX (Surr)	101.0	%	11/07/1998	NA	tls	377	59	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498672

NET Job No.: 98.13470

Sample Description: S12
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:15
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	6.64	units	10/23/1998	0.10	nwg		183	SW 9045B
Solids, Total	98.4	%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	7.1	mg/kg dw	11/04/1998	0.51	mhp	232	670	SW 7060
Barium, ICP	549	mg/kg dw	11/04/1998	1.0	jtt	1162	2178	SW 6010B
Cadmium, ICP	3.5	mg/kg dw	11/04/1998	0.51	jtt	1162	2165	SW 6010B
Chromium, ICP	25	mg/kg dw	11/04/1998	2.0	jtt	1162	2150	SW 6010B
Lead, ICP	132	mg/kg dw	11/04/1998	4.1	jtt	1162	2388	SW 6010B
Mercury, CVAA	1.0	mg/kg dw	11/02/1998	0.041	sep	665	769	SW 7471A
Selenium, GFAA	0.33	mg/kg dw	11/05/1998	0.25	mhp	232	558	SW 7740
Silver, AA	5.3	mg/kg dw	11/02/1998	2.0	sep	492	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/28/1998		rmp	242		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<1,020	mg/kg dw	11/02/1998	51	out	242	488	SW 8015M
TPH as Diesel	<1,020	mg/kg dw	11/02/1998	51	out	242	488	SW 8015M
TPH as Oil	67,000 PT	mg/kg dw	11/02/1998	51	out	242	488	SW 8015M
N-octacosane (TPH surr)	Diluted out	mg/kg dw	11/02/1998		out	242	488	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	10/30/1998	0.005	pll		68	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/30/1998	0.005	pll		68	SW 8260A
Toluene	<0.005	mg/kg dw	10/30/1998	0.005	pll		68	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/30/1998	0.005	pll		68	SW 8260A
Dibromofluoromethane (Surr)	104.0	%	10/30/1998	81-129	pll		68	SW 8260A
Toluene-d8 (Surr)	82.0	%	10/30/1998	74-129	pll		68	SW 8260A
4-Bromofluoromethane (Surr)	88.0	%	10/30/1998	70-130	pll		68	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/26/1998		mmv	760		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498672

NET Job No.: 98.13470

Sample Description: S12
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:15
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.72	mg/kg dw	11/03/1998	0.020	kdw	760	1828	SW 8310
Acenaphthylene	<0.72	mg/kg dw	11/03/1998	0.020	kdw	760	1828	SW 8310
Anthracene	<1.5	mg/kg dw	11/03/1998	0.041	kdw	760	1828	SW 8310
Benzo(a)anthracene	3.8	mg/kg dw	11/04/1998	0.0026	kdw	760	1827	SW 8310
Benzo(b)fluoranthene	4.6	mg/kg dw	11/03/1998	0.0037	kdw	760	1828	SW 8310
Benzo(k)fluoranthene	2.6	mg/kg dw	11/03/1998	0.0035	kdw	760	1828	SW 8310
Benzo(a)pyrene	2.6	mg/kg dw	11/03/1998	0.0047	kdw	760	1828	SW 8310
Benzo(ghi)perylene	5.6	mg/kg dw	11/03/1998	0.041	kdw	760	1828	SW 8310
Chrysene	3.2	mg/kg dw	11/03/1998	0.03	kdw	760	1828	SW 8310
Dibenzo(a,h)anthracene	0.44	mg/kg dw	11/03/1998	0.006	kdw	760	1828	SW 8310
Fluoranthene	5.3	mg/kg dw	11/03/1998	0.020	kdw	760	1828	SW 8310
Fluorene	<0.72	mg/kg dw	11/03/1998	0.020	kdw	760	1828	SW 8310
Indeno(1,2,3-cd)pyrene	3.7	mg/kg dw	11/03/1998	0.0087	kdw	760	1828	SW 8310
Naphthalene	<0.90	mg/kg dw	11/03/1998	0.025	kdw	760	1828	SW 8310
Phenanthrene	2.2	mg/kg dw	11/03/1998	0.041	kdw	760	1828	SW 8310
Pyrene	5.6	mg/kg dw	11/03/1998	0.020	kdw	760	1828	SW 8310
Surr: p-Terphenyl	Diluted out		11/03/1998	43-125	kdw	760	1828	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	378		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.08	mg/kg dw	11/08/1998	0.041	tls	378	59	SW 8082
PCB-1221	<0.08	mg/kg dw	11/08/1998	0.041	tls	378	59	SW 8082
PCB-1232	<0.08	mg/kg dw	11/08/1998	0.041	tls	378	59	SW 8082
PCB-1242	<0.08	mg/kg dw	11/08/1998	0.041	tls	378	59	SW 8082
PCB-1248	<0.08	mg/kg dw	11/08/1998	0.041	tls	378	59	SW 8082
PCB-1254	0.39	mg/kg dw	11/08/1998	0.041	tls	378	59	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498672

NET Job No.: 98.13470

Sample Description: S12
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:15
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.08	mg/kg dw	11/08/1998	0.041	tls	378	59	SW 8082
Decachlorobiphenyl (Surr)	84.0	%	11/08/1998	NA	tls	378	59	SW 8082
2,4,5,6-TCMX (Surr)	86.0	%	11/08/1998	NA	tls	378	59	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498673

NET Job No.: 98.13470

Sample Description: S13
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:25
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	6.52	units	10/23/1998	0.10	nwg		183	SW 9045B
Solids, Total	94.4	%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	4.6	mg/kg dw	11/06/1998	0.53	jtt	233	671	SW 7060
Barium, ICP	498	mg/kg dw	11/04/1998	1.1	jtt	1162	2178	SW 6010B
Cadmium, ICP	2.3	mg/kg dw	11/04/1998	0.53	jtt	1162	2165	SW 6010B
Chromium, ICP	51	mg/kg dw	11/04/1998	2.1	jtt	1162	2150	SW 6010B
Lead, ICP	117	mg/kg dw	11/04/1998	4.2	jtt	1162	2388	SW 6010B
Mercury, CVAA	0.064	mg/kg dw	11/02/1998	0.042	sep	665	769	SW 7471A
Selenium, GFAA	0.60	mg/kg dw	11/05/1998	0.26	mhp	233	558	SW 7740
Silver, AA	<2.1	mg/kg dw	11/04/1998	2.1	sep	491	571	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/28/1998		rmp	242		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<5,300	mg/kg dw	11/02/1998	53	out	242	488	SW 8015M
TPH as Diesel	<5,300	mg/kg dw	11/02/1998	53	out	242	488	SW 8015M
TPH as Oil	146,000 PT	mg/kg dw	11/02/1998	53	out	242	488	SW 8015M
N-octacosane (TPH surr)	Diluted out	mg/kg dw	11/02/1998		out	242	488	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	10/30/1998	0.005	pll		67	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/30/1998	0.005	pll		67	SW 8260A
Toluene	<0.005	mg/kg dw	10/30/1998	0.005	pll		67	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/30/1998	0.005	pll		67	SW 8260A
Dibromofluoromethane (Surr)	94.0	%	10/30/1998	81-129	pll		67	SW 8260A
Toluene-d8 (Surr)	80.0	%	10/30/1998	74-129	pll		67	SW 8260A
4-Bromofluoromethane (Surr)	90.0	%	10/30/1998	70-130	pll		67	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/26/1998		mmv	761		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498673

NET Job No.: 98.13470

Sample Description: S13
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:25
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<1.8	mg/kg dw	11/07/1998	0.021	keh	761	1832	SW 8310
Acenaphthylene	<1.8	mg/kg dw	11/07/1998	0.021	keh	761	1832	SW 8310
Anthracene	<3.6	mg/kg dw	11/07/1998	0.042	keh	761	1832	SW 8310
Benzo(a)anthracene	<5.7	mg/kg dw	11/07/1998	0.0028	keh	761	1832	SW 8310
Benzo(b)fluoranthene	<1.7	mg/kg dw	11/07/1998	0.0038	keh	761	1832	SW 8310
Benzo(k)fluoranthene	<1.1	mg/kg dw	11/07/1998	0.0036	keh	761	1832	SW 8310
Benzo(a)pyrene	<0.42	mg/kg dw	11/07/1998	0.0049	keh	761	1832	SW 8310
Benzo(ghi)perylene	<3.6	mg/kg dw	11/07/1998	0.042	keh	761	1832	SW 8310
Chrysene	<3	mg/kg dw	11/07/1998	0.03	keh	761	1832	SW 8310
Dibenzo(a,h)anthracene	<0.5	mg/kg dw	11/07/1998	0.006	keh	761	1832	SW 8310
Fluoranthene	<1.8	mg/kg dw	11/07/1998	0.021	keh	761	1832	SW 8310
Fluorene	<1.8	mg/kg dw	11/07/1998	0.021	keh	761	1832	SW 8310
Indeno(1,2,3-cd)pyrene	<0.77	mg/kg dw	11/07/1998	0.0091	keh	761	1832	SW 8310
Naphthalene	<2.2	mg/kg dw	11/07/1998	0.026	keh	761	1832	SW 8310
Phenanthrene	<3.6	mg/kg dw	11/07/1998	0.042	keh	761	1832	SW 8310
Pyrene	<1.8	mg/kg dw	11/07/1998	0.021	keh	761	1832	SW 8310
Surr: p-Terphenyl	Diluted out		11/07/1998	43-125	keh	761	1832	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	378		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.17	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
PCB-1221	<0.17	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
PCB-1232	<0.17	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
PCB-1242	<0.17	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
PCB-1248	<0.17	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
PCB-1254	0.59	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498673

NET Job No.: 98.13470

Sample Description: S13
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:25
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.17	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
Decachlorobiphenyl (Surr)	81.0	%	11/08/1998	NA	tls	378	59	SW 8082
2,4,5,6-TCMX (Surr)	82.0	%	11/08/1998	NA	tls	378	59	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498674

NET Job No.: 98.13470

Sample Description: S14
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:30
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	6.50		units	10/23/1998	0.10	nwg		183	SW 9045B
Solids, Total	96.3		%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	21		mg/kg dw	11/04/1998	0.52	mhp	232	670	SW 7060
Barium, ICP	166		mg/kg dw	11/04/1998	1.0	jtt	1162	2178	SW 6010B
Cadmium, ICP	8.7		mg/kg dw	11/04/1998	0.52	jtt	1162	2165	SW 6010B
Chromium, ICP	104		mg/kg dw	11/04/1998	2.1	jtt	1162	2150	SW 6010B
Lead, ICP	498		mg/kg dw	11/04/1998	4.2	jtt	1162	2388	SW 6010B
Mercury, CVAA	0.20		mg/kg dw	11/02/1998	0.042	sep	665	769	SW 7471A
Selenium, GFAA	6.6	M+	mg/kg dw	11/05/1998	0.26	mhp	232	558	SW 7740
Silver, AA	2.4		mg/kg dw	11/04/1998	2.1	sep	491	571	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/28/1998		rmp	242		SW 8015M
~~TPH MODIFIED 8015~~									
TPH as Gas	292	PT	mg/kg dw	11/02/1998	52	out	242	488	SW 8015M
TPH as Diesel	<52		mg/kg dw	11/02/1998	52	out	242	488	SW 8015M
TPH as Oil	5,180	PT	mg/kg dw	11/02/1998	52	out	242	488	SW 8015M
N-octacosane (TPH surr)	42.0		%	11/02/1998		out	242	488	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.005		mg/kg dw	10/30/1998	0.005	pll		67	SW 8260A
Ethylbenzene	<0.005		mg/kg dw	10/30/1998	0.005	pll		67	SW 8260A
Toluene	<0.005		mg/kg dw	10/30/1998	0.005	pll		67	SW 8260A
Xylenes, Total	<0.005		mg/kg dw	10/30/1998	0.005	pll		67	SW 8260A
Dibromofluoromethane (Surr)	100.0		%	10/30/1998	81-129	pll		67	SW 8260A
Toluene-d8 (Surr)	70.0	R	%	10/30/1998	74-129	pll		67	SW 8260A
4-Bromofluoromethane (Surr)	74.0		%	10/30/1998	70-130	pll		67	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/26/1998		mmv	761		SW 3540C

M+ : Analyte quantified by MSA due to low spike recovery.
PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the gas/oil range.
R : Surrogate recovery verified by re-analysis

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498674

NET Job No.: 98.13470

Sample Description: S14
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:30
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<4.2	mg/kg dw	10/31/1998	0:021	kdw	761	1822	SW 8310
Acenaphthylene	<2.1	mg/kg dw	10/31/1998	0.021	kdw	761	1822	SW 8310
Anthracene	7.3	mg/kg dw	10/31/1998	0.042	kdw	761	1822	SW 8310
Benzo(a)anthracene	18	mg/kg dw	10/31/1998	0.0027	kdw	761	1822	SW 8310
Benzo(b)fluoranthene	19	mg/kg dw	10/31/1998	0.0037	kdw	761	1822	SW 8310
Benzo(k)fluoranthene	<13	mg/kg dw	10/31/1998	0.0035	kdw	761	1822	SW 8310
Benzo(a)pyrene	8.4	mg/kg dw	10/31/1998	0.0048	kdw	761	1822	SW 8310
Benzo(ghi)perylene	21	mg/kg dw	10/31/1998	0.042	kdw	761	1822	SW 8310
Chrysene	22	mg/kg dw	10/31/1998	0.03	kdw	761	1822	SW 8310
Dibenzo(a,h)anthracene	3.1	mg/kg dw	10/31/1998	0.006	kdw	761	1822	SW 8310
Fluoranthene	55	mg/kg dw	10/31/1998	0.021	kdw	761	1822	SW 8310
Fluorene	<5.6	mg/kg dw	10/31/1998	0.021	kdw	761	1822	SW 8310
Indeno(1,2,3-cd)pyrene	15	mg/kg dw	10/31/1998	0.0089	kdw	761	1822	SW 8310
Naphthalene	<2.6	mg/kg dw	10/31/1998	0.026	kdw	761	1822	SW 8310
Phenanthrene	26	mg/kg dw	10/31/1998	0.042	kdw	761	1822	SW 8310
Pyrene	34	mg/kg dw	10/31/1998	0.021	kdw	761	1822	SW 8310
Surr: p-Terphenyl	Diluted out		10/31/1998	43-125	kdw	761	1822	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	378		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.2	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
PCB-1221	<0.2	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
PCB-1232	<0.2	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
PCB-1242	<0.2	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
PCB-1248	<0.2	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
PCB-1254	0.55	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498674

NET Job No.: 98.13470

Sample Description: S14
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:30
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.2	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
Decachlorobiphenyl (Surr)	107.0	%	11/08/1998	NA	tls	378	59	SW 8082
2,4,5,6-TCMX (Surr)	82.0	%	11/08/1998	NA	tls	378	59	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498675

NET Job No.: 98.13470

Sample Description: S15
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:35
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.52		units	10/23/1998	0.10	nwg		183	SW 9045B
Solids, Total	90.9		%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	5.8		mg/kg dw	11/04/1998	0.55	mhp	232	670	SW 7060
Barium, ICP	2,090		mg/kg dw	11/04/1998	1.1	jtt	1162	2178	SW 6010B
Cadmium, ICP	4.8		mg/kg dw	11/04/1998	0.55	jtt	1162	2165	SW 6010B
Chromium, ICP	50		mg/kg dw	11/04/1998	2.2	jtt	1162	2150	SW 6010B
Lead, ICP	132		mg/kg dw	11/04/1998	4.4	jtt	1162	2388	SW 6010B
Mercury, CVAA	0.10		mg/kg dw	11/02/1998	0.044	sep	665	769	SW 7471A
Selenium, GFAA	0.31		mg/kg dw	11/05/1998	0.28	mhp	232	558	SW 7740
Silver, AA	<2.2		mg/kg dw	11/04/1998	2.2	sep	491	571	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/28/1998		rmp	242		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	224	PT	mg/kg dw	11/02/1998	55	out	242	488	SW 8015M
TPH as Diesel	<55		mg/kg dw	11/02/1998	55	out	242	488	SW 8015M
TPH as Oil	5,130	PT	mg/kg dw	11/02/1998	55	out	242	488	SW 8015M
N-octacosane (TPH surr)	57.0		%	11/02/1998		out	242	488	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	10/30/1998	0.006	pll		65	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	10/30/1998	0.006	pll		65	SW 8260A
Toluene	<0.006		mg/kg dw	10/30/1998	0.006	pll		65	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	10/30/1998	0.006	pll		65	SW 8260A
Dibromofluoromethane (Surr)	94.0		%	10/30/1998	81-129	pll		65	SW 8260A
Toluene-d8 (Surr)	82.0		%	10/30/1998	74-129	pll		65	SW 8260A
4-Bromofluoromethane (Surr)	70.0		%	10/30/1998	70-130	pll		65	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/26/1998		mmv	761		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the gas/oil range.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498675

NET Job No.: 98.13470

Sample Description: S15
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:35
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<5.6	mg/kg dw	11/05/1998	0.022	keh	761	1829	SW 8310
Acenaphthylene	<1.3	mg/kg dw	11/05/1998	0.022	keh	761	1829	SW 8310
Anthracene	<2.6	mg/kg dw	11/05/1998	0.044	keh	761	1829	SW 8310
Benzo(a)anthracene	8.5	mg/kg dw	11/05/1998	0.0029	keh	761	1829	SW 8310
Benzo(b)fluoranthene	9.8	mg/kg dw	11/05/1998	0.0040	keh	761	1829	SW 8310
Benzo(k)fluoranthene	4.7	mg/kg dw	11/05/1998	0.0037	keh	761	1829	SW 8310
Benzo(a)pyrene	6.1	mg/kg dw	11/05/1998	0.0051	keh	761	1829	SW 8310
Benzo(ghi)perylene	5.9	mg/kg dw	11/05/1998	0.044	keh	761	1829	SW 8310
Chrysene	8.4	mg/kg dw	11/05/1998	0.03	keh	761	1829	SW 8310
Dibenzo(a,h)anthracene	0.84	mg/kg dw	11/05/1998	0.007	keh	761	1829	SW 8310
Fluoranthene	24	mg/kg dw	11/05/1998	0.022	keh	761	1829	SW 8310
Fluorene	1.7	mg/kg dw	11/05/1998	0.022	keh	761	1829	SW 8310
Indeno(1,2,3-cd)pyrene	5.2	mg/kg dw	11/05/1998	0.0095	keh	761	1829	SW 8310
Naphthalene	<1.7	mg/kg dw	11/05/1998	0.028	keh	761	1829	SW 8310
Phenanthrene	17	mg/kg dw	11/05/1998	0.044	keh	761	1829	SW 8310
Pyrene	18	mg/kg dw	11/05/1998	0.022	keh	761	1829	SW 8310
Surr: p-Terphenyl	Diluted out		11/05/1998	43-125	keh	761	1829	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	378		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.2	mg/kg dw	11/08/1998	0.044	tls	378	59	SW 8082
PCB-1221	<0.2	mg/kg dw	11/08/1998	0.044	tls	378	59	SW 8082
PCB-1232	<0.2	mg/kg dw	11/08/1998	0.044	tls	378	59	SW 8082
PCB-1242	<0.2	mg/kg dw	11/08/1998	0.044	tls	378	59	SW 8082
PCB-1248	<0.2	mg/kg dw	11/08/1998	0.044	tls	378	59	SW 8082
PCB-1254	<0.2	mg/kg dw	11/08/1998	0.044	tls	378	59	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498675

NET Job No.: 98.13470

Sample Description: S15
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:35
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	0.39	mg/kg dw	11/08/1998	0.044	tls	378	59	SW 8082
Decachlorobiphenyl (Surr)	116.0	%	11/08/1998	NA	tls	378	59	SW 8082
2,4,5,6-TCMX (Surr)	94.0	%	11/08/1998	NA	tls	378	59	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498676

NET Job No.: 98.13470

Sample Description: S16
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:45
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	7.42	units	10/23/1998	0.10	nwg	183	SW 9045B
Solids, Total	84.6	%	11/02/1998	0.1	efw	2513	SM 2540
Arsenic, GFAA	6.4	mg/kg dw	11/04/1998	0.59	mhp	232 670	SW 7060
Barium, ICP	1,300	mg/kg dw	11/04/1998	1.2	jtt	1162 2178	SW 6010B
Cadmium, ICP	3.7	mg/kg dw	11/04/1998	0.59	jtt	1162 2165	SW 6010B
Chromium, ICP	93	mg/kg dw	11/04/1998	2.4	jtt	1162 2150	SW 6010B
Lead, ICP	496	mg/kg dw	11/04/1998	4.7	jtt	1162 2388	SW 6010B
Mercury, CVAA	0.47	mg/kg dw	11/02/1998	0.047	sep	665 769	SW 7471A
Selenium, GFAA	0.45	mg/kg dw	11/05/1998	0.30	mhp	232 558	SW 7740
Silver, AA	<2.4	mg/kg dw	11/04/1998	2.4	sep	491 571	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/28/1998		rmp	242	SW 8015M
TPH MODIFIED 8015							
TPH as Gas	<591	mg/kg dw	11/02/1998	59	out	242 488	SW 8015M
TPH as Diesel	<591	mg/kg dw	11/02/1998	59	out	242 488	SW 8015M
TPH as Oil	45,200 PT	mg/kg dw	11/02/1998	59	out	242 488	SW 8015M
N-octacosane (TPH surr)	Diluted out	mg/kg dw	11/02/1998		out	242 488	SW 8015M
UST VOLATILES NON-AQUEOUS							
Benzene	<0.006	mg/kg dw	10/30/1998	0.006	pll	67	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/30/1998	0.006	pll	67	SW 8260A
Toluene	<0.006	mg/kg dw	10/30/1998	0.006	pll	67	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/30/1998	0.006	pll	67	SW 8260A
Dibromofluoromethane (Surr)	84.0	%	10/30/1998	81-129	pll	67	SW 8260A
Toluene-d8 (Surr)	80.0	%	10/30/1998	74-129	pll	67	SW 8260A
4-Bromofluoromethane (Surr)	88.0	%	10/30/1998	70-130	pll	67	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/26/1998		mmv	761	SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498676

NET Job No.: 98.13470

Sample Description: S16
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:45
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	1.7	mg/kg dw	11/04/1998	0.024	kdw	761	1828	SW 8310
Acenaphthylene	<0.38	mg/kg dw	11/04/1998	0.024	kdw	761	1828	SW 8310
Anthracene	3.3	mg/kg dw	11/04/1998	0.047	kdw	761	1828	SW 8310
Benzo(a)anthracene	6.1	mg/kg dw	11/04/1998	0.0031	kdw	761	1828	SW 8310
Benzo(b)fluoranthene	5.8	mg/kg dw	11/04/1998	0.0043	kdw	761	1828	SW 8310
Benzo(k)fluoranthene	3.2	mg/kg dw	11/04/1998	0.0040	kdw	761	1828	SW 8310
Benzo(a)pyrene	5.3	mg/kg dw	11/04/1998	0.0054	kdw	761	1828	SW 8310
Benzo(ghi)perylene	4.6	mg/kg dw	11/04/1998	0.047	kdw	761	1828	SW 8310
Chrysene	5.9	mg/kg dw	11/04/1998	0.04	kdw	761	1828	SW 8310
Dibenzo(a,h)anthracene	<0.64	mg/kg dw	11/04/1998	0.007	kdw	761	1828	SW 8310
Fluoranthene	17	mg/kg dw	11/04/1998	0.024	kdw	761	1828	SW 8310
Fluorene	1.7	mg/kg dw	11/04/1998	0.024	kdw	761	1828	SW 8310
Indeno(1,2,3-cd)pyrene	3.8	mg/kg dw	11/04/1998	0.010	kdw	761	1828	SW 8310
Naphthalene	0.69	mg/kg dw	11/04/1998	0.030	kdw	761	1828	SW 8310
Phenanthrene	12	mg/kg dw	11/04/1998	0.047	kdw	761	1828	SW 8310
Pyrene	14	mg/kg dw	11/04/1998	0.024	kdw	761	1828	SW 8310
Surr: p-Terphenyl	Diluted out		11/04/1998	43-125	kdw	761	1828	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	378		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.2	mg/kg dw	11/08/1998	0.047	tls	378	59	SW 8082
PCB-1221	<0.2	mg/kg dw	11/08/1998	0.047	tls	378	59	SW 8082
PCB-1232	<0.2	mg/kg dw	11/08/1998	0.047	tls	378	59	SW 8082
PCB-1242	<0.2	mg/kg dw	11/08/1998	0.047	tls	378	59	SW 8082
PCB-1248	<0.2	mg/kg dw	11/08/1998	0.047	tls	378	59	SW 8082
PCB-1254	<0.2	mg/kg dw	11/08/1998	0.047	tls	378	59	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498676

NET Job No.: 98.13470

Sample Description: S16
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 10:45
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	0.93	mg/kg dw	11/08/1998	0.047	tls	378 59	SW 8082
Decachlorobiphenyl (Surr)	96.0	%	11/08/1998	NA	tls	378 59	SW 8082
2,4,5,6-TCMX (Surr)	90.0	%	11/08/1998	NA	tls	378 59	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498677

NET Job No.: 98.13470

Sample Description: S17
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:10
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.32	units	10/23/1998	0.10	nwg		183	SW 9045B
Solids, Total	87.2	%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	3.8	mg/kg dw	11/06/1998	0.57	jtt	233	671	SW 7060
Barium, ICP	275	mg/kg dw	11/05/1998	1.1	kdw	1163	2184	SW 6010B
Cadmium, ICP	2.5	mg/kg dw	11/05/1998	0.57	jtt	1163	2172	SW 6010B
Chromium, ICP	29	mg/kg dw	11/05/1998	2.3	jtt	1163	2157	SW 6010B
Lead, ICP	42	mg/kg dw	11/05/1998	4.6	jtt	1163	2395	SW 6010B
Mercury, CVAA	<0.046	mg/kg dw	11/02/1998	0.046	sep	665	769	SW 7471A
Selenium, GFAA	0.72	mg/kg dw	11/05/1998	0.29	mhp	233	558	SW 7740
Silver, AA	<2.3	mg/kg dw	11/02/1998	2.3	sep	490	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/28/1998		rmp	242		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<573	mg/kg dw	11/02/1998	57	out	242	488	SW 8015M
TPH as Diesel	85,600 PT	mg/kg dw	11/02/1998	57	out	242	488	SW 8015M
TPH as Oil	<573	mg/kg dw	11/02/1998	57	out	242	488	SW 8015M
N-octacosane (TPH surr)	Diluted out	mg/kg dw	11/02/1998		out	242	488	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/30/1998	0.006	pll		67	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/30/1998	0.006	pll		67	SW 8260A
Toluene	<0.006	mg/kg dw	10/30/1998	0.006	pll		67	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/30/1998	0.006	pll		67	SW 8260A
Dibromofluoromethane (Surr)	92.0	%	10/30/1998	81-129	pll		67	SW 8260A
Toluene-d8 (Surr)	88.0	%	10/30/1998	74-129	pll		67	SW 8260A
4-Bromofluoromethane (Surr)	92.0	%	10/30/1998	70-130	pll		67	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/26/1998		mmv	761		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the diesel range.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498677

NET Job No.: 98.13470

Sample Description: S17
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:10
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	3.4	mg/kg dw	11/05/1998	0.023	keh	761	1829	SW 8310
Acenaphthylene	<2.1	mg/kg dw	11/05/1998	0.023	keh	761	1829	SW 8310
Anthracene	<44	mg/kg dw	11/05/1998	0.046	keh	761	1829	SW 8310
Benzo(a)anthracene	<4.4	mg/kg dw	11/05/1998	0.0030	keh	761	1829	SW 8310
Benzo(b)fluoranthene	<0.37	mg/kg dw	11/05/1998	0.0041	keh	761	1829	SW 8310
Benzo(k)fluoranthene	<0.35	mg/kg dw	11/05/1998	0.0039	keh	761	1829	SW 8310
Benzo(a)pyrene	<0.48	mg/kg dw	11/05/1998	0.0053	keh	761	1829	SW 8310
Benzo(ghi)perylene	<4.1	mg/kg dw	11/05/1998	0.046	keh	761	1829	SW 8310
Chrysene	<3	mg/kg dw	11/05/1998	0.03	keh	761	1829	SW 8310
Dibenzo(a,h)anthracene	<0.6	mg/kg dw	11/05/1998	0.007	keh	761	1829	SW 8310
Fluoranthene	<26	mg/kg dw	11/05/1998	0.023	keh	761	1829	SW 8310
Fluorene	8.8	mg/kg dw	11/05/1998	0.023	keh	761	1829	SW 8310
Indeno(1,2,3-cd)pyrene	<0.89	mg/kg dw	11/05/1998	0.0099	keh	761	1829	SW 8310
Naphthalene	<2.6	mg/kg dw	11/05/1998	0.029	keh	761	1829	SW 8310
Phenanthrene	<19	mg/kg dw	11/05/1998	0.046	keh	761	1829	SW 8310
Pyrene	<67	mg/kg dw	11/05/1998	0.023	keh	761	1829	SW 8310
Surr: p-Terphenyl	Diluted out		11/05/1998	43-125	keh	761	1829	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	378		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.046	mg/kg dw	11/08/1998	0.046	tls	378	61	SW 8082
PCB-1221	<0.046	mg/kg dw	11/08/1998	0.046	tls	378	61	SW 8082
PCB-1232	<0.046	mg/kg dw	11/08/1998	0.046	tls	378	61	SW 8082
PCB-1242	<0.046	mg/kg dw	11/08/1998	0.046	tls	378	61	SW 8082
PCB-1248	<0.046	mg/kg dw	11/08/1998	0.046	tls	378	61	SW 8082
PCB-1254	<0.046	mg/kg dw	11/08/1998	0.046	tls	378	61	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498677

NET Job No.: 98.13470

Sample Description: S17
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:10
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.046	mg/kg dw	11/08/1998	0.046	tls	378	61	SW 8082
Decachlorobiphenyl (Surr)	90.0	%	11/08/1998	NA	tls	378	61	SW 8082
2,4,5,6-TCMX (Surr)	78.0	%	11/08/1998	NA	tls	378	61	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498678

NET Job No.: 98.13470

Sample Description: S18
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:15
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	8.07	units	10/23/1998	0.10	nwg	183	SW 9045B
Solids, Total	41.9	%	11/02/1998	0.1	efw	2513	SM 2540
Arsenic, GFAA	23	mg/kg dw	11/06/1998	1.2	jtt	233 671	SW 7060
Barium, ICP	1,580	mg/kg dw	11/05/1998	2.4	kdw	1163 2184	SW 6010B
Cadmium, ICP	16	mg/kg dw	11/05/1998	1.2	jtt	1163 2172	SW 6010B
Chromium, ICP	69	mg/kg dw	11/05/1998	4.8	jtt	1163 2157	SW 6010B
Lead, ICP	180	mg/kg dw	11/05/1998	9.5	jtt	1163 2395	SW 6010B
Mercury, CVAA	0.12	mg/kg dw	11/02/1998	0.095	sep	665 769	SW 7471A
Selenium, GFAA	1.3	mg/kg dw	11/05/1998	0.60	mhp	233 558	SW 7740
Silver, AA	<4.8	mg/kg dw	11/02/1998	4.8	sep	490 569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/28/1998		rmp	242	SW 8015M
TPH MODIFIED 8015							
TPH as Gas	<1,190	mg/kg dw	11/02/1998	120	out	242 488	SW 8015M
TPH as Diesel	<1,190	mg/kg dw	11/02/1998	120	out	242 488	SW 8015M
TPH as Oil	179,000 PT	mg/kg dw	11/02/1998	120	out	242 488	SW 8015M
N-octacosane (TPH surr)	Diluted out	mg/kg dw	11/02/1998		out	242 488	SW 8015M
UST VOLATILES NON-AQUEOUS							
Benzene	<0.01	mg/kg dw	10/30/1998	0.01	pll	65	SW 8260A
Ethylbenzene	<0.01	mg/kg dw	10/30/1998	0.01	pll	65	SW 8260A
Toluene	<0.01	mg/kg dw	10/30/1998	0.01	pll	65	SW 8260A
Xylenes, Total	<0.01	mg/kg dw	10/30/1998	0.01	pll	65	SW 8260A
Dibromofluoromethane (Surr)	90.0	%	10/30/1998	81-129	pll	65	SW 8260A
Toluene-d8 (Surr)	82.0	%	10/30/1998	74-129	pll	65	SW 8260A
4-Bromofluoromethane (Surr)	48.0 R	%	10/30/1998	70-130	pll	65	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/26/1998		mmv	761	SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.
R : Surrogate recovery verified by re-analysis

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
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11/11/1998

Sample No. : 498678

NET Job No.: 98.13470

Sample Description: S18
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:15
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<12	mg/kg dw	11/05/1998	0.048	keh	761	1829	SW 8310
Acenaphthylene	<3.8	mg/kg dw	11/05/1998	0.048	keh	761	1829	SW 8310
Anthracene	12	mg/kg dw	11/05/1998	0.095	keh	761	1829	SW 8310
Benzo(a)anthracene	<26	mg/kg dw	11/05/1998	0.0062	keh	761	1829	SW 8310
Benzo(b)fluoranthene	17	mg/kg dw	11/05/1998	0.0086	keh	761	1829	SW 8310
Benzo(k)fluoranthene	7.9	mg/kg dw	11/05/1998	0.0081	keh	761	1829	SW 8310
Benzo(a)pyrene	19	mg/kg dw	11/05/1998	0.011	keh	761	1829	SW 8310
Benzo(ghi)perylene	13	mg/kg dw	11/05/1998	0.095	keh	761	1829	SW 8310
Chrysene	<17	mg/kg dw	11/05/1998	0.07	keh	761	1829	SW 8310
Dibenzo(a,h)anthracene	2.6	mg/kg dw	11/05/1998	0.01	keh	761	1829	SW 8310
Fluoranthene	55	mg/kg dw	11/05/1998	0.048	keh	761	1829	SW 8310
Fluorene	6.0	mg/kg dw	11/05/1998	0.048	keh	761	1829	SW 8310
Indeno(1,2,3-cd)pyrene	12	mg/kg dw	11/05/1998	0.021	keh	761	1829	SW 8310
Naphthalene	<4.8	mg/kg dw	11/05/1998	0.060	keh	761	1829	SW 8310
Phenanthrene	43	mg/kg dw	11/05/1998	0.095	keh	761	1829	SW 8310
Pyrene	41	mg/kg dw	11/05/1998	0.048	keh	761	1829	SW 8310
Surr: p-Terphenyl	Diluted out		11/05/1998	43-125	keh	761	1829	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	378		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.5	mg/kg dw	11/11/1998	0.095	tls	378	62	SW 8082
PCB-1221	<0.5	mg/kg dw	11/11/1998	0.095	tls	378	62	SW 8082
PCB-1232	<0.5	mg/kg dw	11/11/1998	0.095	tls	378	62	SW 8082
PCB-1242	<0.5	mg/kg dw	11/11/1998	0.095	tls	378	62	SW 8082
PCB-1248	<0.5	mg/kg dw	11/11/1998	0.095	tls	378	62	SW 8082
PCB-1254	<0.5	mg/kg dw	11/11/1998	0.095	tls	378	62	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
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11/11/1998

Sample No. : 498678

NET Job No.: 98.13470

Sample Description: S18
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:15
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	2.03	mg/kg dw	11/11/1998	0.095	tls	378 62	SW 8082
Decachlorobiphenyl (Surr)	106.0	%	11/09/1998	NA	tls	378 61	SW 8082
2,4,5,6-TCMX (Surr)	108.0	%	11/09/1998	NA	tls	378 61	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498679

NET Job No.: 98.13470

Sample Description: S19
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:20
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	6.60	units	10/23/1998	0.10	nwg		184	SW 9045B
Solids, Total	90.2	%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	1.6	mg/kg dw	11/06/1998	0.55	mhp	232	672	SW 7060
Barium, ICP	68	mg/kg dw	11/05/1998	1.1	kdw	1163	2184	SW 6010B
Cadmium, ICP	1.9	mg/kg dw	11/05/1998	0.55	jtt	1163	2172	SW 6010B
Chromium, ICP	7.6	mg/kg dw	11/05/1998	2.2	jtt	1163	2157	SW 6010B
Lead, ICP	11	mg/kg dw	11/05/1998	4.4	jtt	1163	2395	SW 6010B
Mercury, CVAA	<0.044	mg/kg dw	11/02/1998	0.044	sep	665	769	SW 7471A
Selenium, GFAA	<0.28	mg/kg dw	11/05/1998	0.28	mhp	232	558	SW 7740
Silver, AA	<2.2	mg/kg dw	11/02/1998	2.2	sep	490	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/28/1998		rmp	242		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<554	mg/kg dw	11/02/1998	55	out	242	488	SW 8015M
TPH as Diesel	<554	mg/kg dw	11/02/1998	55	out	242	488	SW 8015M
TPH as Oil	65,400 PT	mg/kg dw	11/02/1998	55	out	242	488	SW 8015M
N-octacosane (TPH surr)	Diluted out	mg/kg dw	11/02/1998		out	242	488	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/30/1998	0.006	pll		65	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/30/1998	0.006	pll		65	SW 8260A
Toluene	<0.006	mg/kg dw	10/30/1998	0.006	pll		65	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/30/1998	0.006	pll		65	SW 8260A
Dibromofluoromethane (Surr)	88.0	%	10/30/1998	81-129	pll		65	SW 8260A
Toluene-d8 (Surr)	86.0	%	10/30/1998	74-129	pll		65	SW 8260A
4-Bromofluoromethane (Surr)	76.0	%	10/30/1998	70-130	pll		65	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/26/1998		mmv	761		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498679

NET Job No.: 98.13470

Sample Description: S19
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:20
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.0	mg/kg dw	11/05/1998	0.022	keh	761	1829	SW 8310
Acenaphthylene	<2.0	mg/kg dw	11/05/1998	0.022	keh	761	1829	SW 8310
Anthracene	<4.0	mg/kg dw	11/05/1998	0.044	keh	761	1829	SW 8310
Benzo(a)anthracene	<2.8	mg/kg dw	11/05/1998	0.0029	keh	761	1829	SW 8310
Benzo(b)fluoranthene	3.1	mg/kg dw	11/05/1998	0.0040	keh	761	1829	SW 8310
Benzo(k)fluoranthene	1.8	mg/kg dw	11/05/1998	0.0038	keh	761	1829	SW 8310
Benzo(a)pyrene	2.1	mg/kg dw	11/05/1998	0.0051	keh	761	1829	SW 8310
Benzo(ghi)perylene	<4.0	mg/kg dw	11/05/1998	0.044	keh	761	1829	SW 8310
Chrysene	<3	mg/kg dw	11/05/1998	0.03	keh	761	1829	SW 8310
Dibenzo(a,h)anthracene	0.62	mg/kg dw	11/05/1998	0.007	keh	761	1829	SW 8310
Fluoranthene	3.5	mg/kg dw	11/05/1998	0.022	keh	761	1829	SW 8310
Fluorene	<2.0	mg/kg dw	11/05/1998	0.022	keh	761	1829	SW 8310
Indeno(1,2,3-cd)pyrene	3.0	mg/kg dw	11/05/1998	0.0095	keh	761	1829	SW 8310
Naphthalene	<2.5	mg/kg dw	11/05/1998	0.028	keh	761	1829	SW 8310
Phenanthrene	<4.0	mg/kg dw	11/05/1998	0.044	keh	761	1829	SW 8310
Pyrene	6.0	mg/kg dw	11/05/1998	0.022	keh	761	1829	SW 8310
Surr: p-Terphenyl	Diluted out		11/05/1998	43-125	keh	761	1829	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	378		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<4.4	mg/kg dw	11/09/1998	0.044	tls	378	61	SW 8082
PCB-1221	<4.4	mg/kg dw	11/09/1998	0.044	tls	378	61	SW 8082
PCB-1232	<4.4	mg/kg dw	11/09/1998	0.044	tls	378	61	SW 8082
PCB-1242	<4.4	mg/kg dw	11/09/1998	0.044	tls	378	61	SW 8082
PCB-1248	<4.4	mg/kg dw	11/09/1998	0.044	tls	378	61	SW 8082
PCB-1254	<4.4	mg/kg dw	11/09/1998	0.044	tls	378	61	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498679

NET Job No.: 98.13470

Sample Description: S19
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:20
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<4.4	mg/kg dw	11/09/1998	0.044	tls	378	61	SW 8082
Decachlorobiphenyl (Surr)	110.0	%	11/09/1998	NA	tls	378	61	SW 8082
2,4,5,6-TCMX (Surr)	71.0	%	11/09/1998	NA	tls	378	61	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498680

NET Job No.: 98.13470

Sample Description: S20
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:25
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.71		units	10/23/1998	0.10	nwg		184	SW 9045B
Solids, Total	98.2		%	11/02/1998	0.1	efw		2513	SM 2540
Arsenic, GFAA	4.9		mg/kg dw	11/06/1998	0.51	jtt	233	671	SW 7060
Barium, ICP	1,730		mg/kg dw	11/05/1998	1.0	kdw	1163	2184	SW 6010B
Cadmium, ICP	1.3		mg/kg dw	11/05/1998	0.51	jtt	1163	2172	SW 6010B
Chromium, ICP	39		mg/kg dw	11/05/1998	2.0	jtt	1163	2157	SW 6010B
Lead, ICP	1,020		mg/kg dw	11/05/1998	4.1	jtt	1163	2395	SW 6010B
Mercury, CVAA	0.052		mg/kg dw	11/02/1998	0.041	sep	665	769	SW 7471A
Selenium, GFAA	<0.25		mg/kg dw	11/05/1998	0.25	mhp	233	558	SW 7740
Silver, AA	2.4		mg/kg dw	11/02/1998	2.0	sep	490	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/28/1998		rmp	242		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<51		mg/kg dw	11/02/1998	51	out	242	488	SW 8015M
TPH as Diesel	<51		mg/kg dw	11/02/1998	51	out	242	488	SW 8015M
TPH as Oil	520	PT	mg/kg dw	11/02/1998	51	out	242	488	SW 8015M
N-octacosane (TPH surr)	82.0		%	11/02/1998		out	242	488	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.005		mg/kg dw	10/30/1998	0.005	pll		67	SW 8260A
Ethylbenzene	<0.005		mg/kg dw	10/30/1998	0.005	pll		67	SW 8260A
Toluene	<0.005		mg/kg dw	10/30/1998	0.005	pll		67	SW 8260A
Xylenes, Total	<0.005		mg/kg dw	10/30/1998	0.005	pll		67	SW 8260A
Dibromofluoromethane (Surr)	94.0		%	10/30/1998	81-129	pll		67	SW 8260A
Toluene-d8 (Surr)	94.0		%	10/30/1998	74-129	pll		67	SW 8260A
4-Bromofluoromethane (Surr)	100.0		%	10/30/1998	70-130	pll		67	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/26/1998		mmv	761		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498680

NET Job No.: 98.13470

Sample Description: S20
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:25
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.36	mg/kg dw	11/03/1998	0.020	kdw	761	1828	SW 8310
Acenaphthylene	<0.36	mg/kg dw	11/03/1998	0.020	kdw	761	1828	SW 8310
Anthracene	<0.74	mg/kg dw	11/03/1998	0.041	kdw	761	1828	SW 8310
Benzo(a)anthracene	1.9	mg/kg dw	11/03/1998	0.0026	kdw	761	1828	SW 8310
Benzo(b)fluoranthene	0.88	mg/kg dw	11/03/1998	0.0037	kdw	761	1828	SW 8310
Benzo(k)fluoranthene	0.63	mg/kg dw	11/03/1998	0.0035	kdw	761	1828	SW 8310
Benzo(a)pyrene	1.2	mg/kg dw	11/03/1998	0.0047	kdw	761	1828	SW 8310
Benzo(ghi)perylene	0.84	mg/kg dw	11/03/1998	0.041	kdw	761	1828	SW 8310
Chrysene	1.0	mg/kg dw	11/03/1998	0.03	kdw	761	1828	SW 8310
Dibenzo(a,h)anthracene	0.14	mg/kg dw	11/03/1998	0.006	kdw	761	1828	SW 8310
Fluoranthene	3.2	mg/kg dw	11/03/1998	0.020	kdw	761	1828	SW 8310
Fluorene	<0.36	mg/kg dw	11/03/1998	0.020	kdw	761	1828	SW 8310
Indeno(1,2,3-cd)pyrene	0.76	mg/kg dw	11/03/1998	0.0088	kdw	761	1828	SW 8310
Naphthalene	<0.45	mg/kg dw	11/03/1998	0.025	kdw	761	1828	SW 8310
Phenanthrene	1.9	mg/kg dw	11/03/1998	0.041	kdw	761	1828	SW 8310
Pyrene	2.5	mg/kg dw	11/03/1998	0.020	kdw	761	1828	SW 8310
Surr: p-Terphenyl	Diluted out		11/03/1998	43-125	kdw	761	1828	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wma	378		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.041	mg/kg dw	11/09/1998	0.041	tls	378	61	SW 8082
PCB-1221	<0.041	mg/kg dw	11/09/1998	0.041	tls	378	61	SW 8082
PCB-1232	<0.041	mg/kg dw	11/09/1998	0.041	tls	378	61	SW 8082
PCB-1242	<0.041	mg/kg dw	11/09/1998	0.041	tls	378	61	SW 8082
PCB-1248	<0.041	mg/kg dw	11/09/1998	0.041	tls	378	61	SW 8082
PCB-1254	<0.041	mg/kg dw	11/09/1998	0.041	tls	378	61	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498680

NET Job No.: 98.13470

Sample Description: S20
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:25
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	0.143	mg/kg dw	11/09/1998	0.041	tls	378	61	SW 8082
Decachlorobiphenyl (Surr)	90.0	%	11/09/1998	NA	tls	378	61	SW 8082
2,4,5,6-TCMX (Surr)	87.0	%	11/09/1998	NA	tls	378	61	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498681

NET Job No.: 98.13470

Sample Description: S21
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:35
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	6.52	units	10/23/1998	0.10	nwg	184	SW 9045B
Solids, Total	96.0	%	11/02/1998	0.1	efw	2514	SM 2540
Arsenic, GFAA	7.1	mg/kg dw	11/06/1998	0.52	jtt	233 671	SW 7060
Barium, ICP	927	mg/kg dw	11/05/1998	1.0	kdw	1163 2184	SW 6010B
Cadmium, ICP	1.7	mg/kg dw	11/05/1998	0.52	jtt	1163 2172	SW 6010B
Chromium, ICP	22	mg/kg dw	11/05/1998	2.1	jtt	1163 2157	SW 6010B
Lead, ICP	61	mg/kg dw	11/05/1998	4.2	jtt	1163 2395	SW 6010B
Mercury, CVAA	<0.042	mg/kg dw	11/02/1998	0.042	sep	665 769	SW 7471A
Selenium, GFAA	<0.26	mg/kg dw	11/05/1998	0.26	mhp	233 558	SW 7740
Silver, AA	<2.1	mg/kg dw	11/02/1998	2.1	sep	490 569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/28/1998		rmp	242	SW 8015M
TPH MODIFIED 8015							
TPH as Gas	<521	mg/kg dw	11/02/1998	52	out	242 488	SW 8015M
TPH as Diesel	<521	mg/kg dw	11/02/1998	52	out	242 488	SW 8015M
TPH as Oil	15,100 PT	mg/kg dw	11/02/1998	52	out	242 488	SW 8015M
N-octacosane (TPH surr)	Diluted out	mg/kg dw	11/02/1998		out	242 488	SW 8015M
UST VOLATILES NON-AQUEOUS							
Benzene	<0.005	mg/kg dw	10/30/1998	0.005	pll	67	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/30/1998	0.005	pll	67	SW 8260A
Toluene	<0.005	mg/kg dw	10/30/1998	0.005	pll	67	SW 8260A
Xylenes, Total	0.010	mg/kg dw	10/30/1998	0.005	pll	67	SW 8260A
Dibromofluoromethane (Surr)	92.0	%	10/30/1998	81-129	pll	67	SW 8260A
Toluene-d8 (Surr)	84.0	%	10/30/1998	74-129	pll	67	SW 8260A
4-Bromofluoromethane (Surr)	92.0	%	10/30/1998	70-130	pll	67	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/26/1998		mmv	761	SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

MWG13-15_5837

NET NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498681

NET Job No.: 98.13470

Sample Description: S21
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:35
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.50	mg/kg dw	11/05/1998	0.021	kdw	761	1827	SW 8310
Acenaphthylene	<0.50	mg/kg dw	11/05/1998	0.021	kdw	761	1827	SW 8310
Anthracene	<1.6	mg/kg dw	11/05/1998	0.042	kdw	761	1827	SW 8310
Benzo(a)anthracene	<0.85	mg/kg dw	11/05/1998	0.0027	kdw	761	1827	SW 8310
Benzo(b)fluoranthene	<0.30	mg/kg dw	11/05/1998	0.0038	kdw	761	1827	SW 8310
Benzo(k)fluoranthene	<18	mg/kg dw	11/05/1998	0.0035	kdw	761	1827	SW 8310
Benzo(a)pyrene	<0.11	mg/kg dw	11/05/1998	0.0048	kdw	761	1827	SW 8310
Benzo(ghi)perylene	<1.0	mg/kg dw	11/05/1998	0.042	kdw	761	1827	SW 8310
Chrysene	<0.75	mg/kg dw	11/05/1998	0.03	kdw	761	1827	SW 8310
Dibenzo(a,h)anthracene	<0.15	mg/kg dw	11/05/1998	0.006	kdw	761	1827	SW 8310
Fluoranthene	<2.5	mg/kg dw	11/05/1998	0.021	kdw	761	1827	SW 8310
Fluorene	<0.82	mg/kg dw	11/05/1998	0.021	kdw	761	1827	SW 8310
Indeno(1,2,3-cd)pyrene	<0.22	mg/kg dw	11/05/1998	0.0090	kdw	761	1827	SW 8310
Naphthalene	<0.62	mg/kg dw	11/05/1998	0.026	kdw	761	1827	SW 8310
Phenanthrene	2.6	mg/kg dw	11/05/1998	0.042	kdw	761	1827	SW 8310
Pyrene	<1.0	mg/kg dw	11/05/1998	0.021	kdw	761	1827	SW 8310
Surr: p-Terphenyl	Diluted out		11/05/1998	43-125	kdw	761	1827	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/28/1998	COMPLETE	wna	378		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.042	mg/kg dw	11/09/1998	0.042	tls	378	61	SW 8082
PCB-1221	<0.042	mg/kg dw	11/09/1998	0.042	tls	378	61	SW 8082
PCB-1232	<0.042	mg/kg dw	11/09/1998	0.042	tls	378	61	SW 8082
PCB-1242	<0.042	mg/kg dw	11/09/1998	0.042	tls	378	61	SW 8082
PCB-1248	<0.042	mg/kg dw	11/09/1998	0.042	tls	378	61	SW 8082
PCB-1254	<0.042	mg/kg dw	11/09/1998	0.042	tls	378	61	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498681

NET Job No.: 98.13470

Sample Description: S21
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:35
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	0.156	mg/kg dw	11/09/1998	0.042	tls	378	61	SW 8082
Decachlorobiphenyl (Surr)	87.0	%	11/09/1998	NA	tls	378	61	SW 8082
2,4,5,6-TCMX (Surr)	82.0	%	11/09/1998	NA	tls	378	61	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498682

NET Job No.: 98.13470

Sample Description: S22
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:40
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.79	units	10/23/1998	0.10	nwg		184	SW 9045B
Solids, Total	95.9	%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	5.2	mg/kg dw	11/06/1998	0.52	jtt	233	671	SW 7060
Barium, ICP	448	mg/kg dw	11/05/1998	1.0	kdw	1163	2184	SW 6010B
Cadmium, ICP	0.97	mg/kg dw	11/05/1998	0.52	jtt	1163	2172	SW 6010B
Chromium, ICP	11	mg/kg dw	11/05/1998	2.1	jtt	1163	2157	SW 6010B
Lead, ICP	22	mg/kg dw	11/05/1998	4.2	jtt	1163	2395	SW 6010B
Mercury, CVAA	<0.042	mg/kg dw	11/02/1998	0.042	sep	665	769	SW 7471A
Selenium, GFAA	<0.26	mg/kg dw	11/05/1998	0.26	mhp	233	558	SW 7740
Silver, AA	2.3	mg/kg dw	11/02/1998	2.1	sep	490	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/28/1998		rmp	242		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<521	mg/kg dw	11/02/1998	52	out	242	488	SW 8015M
TPH as Diesel	<521	mg/kg dw	11/02/1998	52	out	242	488	SW 8015M
TPH as Oil	78,200 PT	mg/kg dw	11/02/1998	52	out	242	488	SW 8015M
N-octacosane (TPH surr)	Diluted out	mg/kg dw	11/02/1998		out	242	488	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	10/30/1998	0.005	pll		67	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/30/1998	0.005	pll		67	SW 8260A
Toluene	0.0081	mg/kg dw	10/30/1998	0.005	pll		67	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/30/1998	0.005	pll		67	SW 8260A
Dibromofluoromethane (Surr)	96.0	%	10/30/1998	81-129	pll		67	SW 8260A
Toluene-d8 (Surr)	84.0	%	10/30/1998	74-129	pll		67	SW 8260A
4-Bromofluoromethane (Surr)	92.0	%	10/30/1998	70-130	pll		67	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/26/1998		mmv	761		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

MWG13-15_5841

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

Sample No. : 498682

NET Job No.: 98.13470

Sample Description: S22
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:40
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<1.4	mg/kg dw	11/05/1998	0.021	kdw	761	1827	SW 8310
Acenaphthylene	<1.4	mg/kg dw	11/05/1998	0.021	kdw	761	1827	SW 8310
Anthracene	<2.7	mg/kg dw	11/05/1998	0.042	kdw	761	1827	SW 8310
Benzo(a)anthracene	2.4	mg/kg dw	11/05/1998	0.0027	kdw	761	1827	SW 8310
Benzo(b)fluoranthene	1.3	mg/kg dw	11/05/1998	0.0038	kdw	761	1827	SW 8310
Benzo(k)fluoranthene	0.64	mg/kg dw	11/05/1998	0.0035	kdw	761	1827	SW 8310
Benzo(a)pyrene	1.4	mg/kg dw	11/05/1998	0.0048	kdw	761	1827	SW 8310
Benzo(ghi)perylene	<2.7	mg/kg dw	11/05/1998	0.042	kdw	761	1827	SW 8310
Chrysene	<2	mg/kg dw	11/05/1998	0.03	kdw	761	1827	SW 8310
Dibenzo(a,h)anthracene	<0.4	mg/kg dw	11/05/1998	0.006	kdw	761	1827	SW 8310
Fluoranthene	2.4	mg/kg dw	11/05/1998	0.021	kdw	761	1827	SW 8310
Fluorene	<1.4	mg/kg dw	11/05/1998	0.021	kdw	761	1827	SW 8310
Indeno(1,2,3-cd)pyrene	0.81	mg/kg dw	11/05/1998	0.0090	kdw	761	1827	SW 8310
Naphthalene	<1.7	mg/kg dw	11/05/1998	0.026	kdw	761	1827	SW 8310
Phenanthrene	<2.7	mg/kg dw	11/05/1998	0.042	kdw	761	1827	SW 8310
Pyrene	2.6	mg/kg dw	11/05/1998	0.021	kdw	761	1827	SW 8310
Surr: p-Terphenyl	Diluted out		11/05/1998	43-125	kdw	761	1827	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/29/1998	COMPLETE	wna	378		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.042	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
PCB-1221	<0.042	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
PCB-1232	<0.042	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
PCB-1242	<0.042	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
PCB-1248	<0.042	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082
PCB-1254	<0.042	mg/kg dw	11/08/1998	0.042	tls	378	59	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

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11/11/1998

Sample No. : 498682

NET Job No.: 98.13470

Sample Description: S22
ComEd-Will County; 1801-023-710

Date Taken: 10/16/1998
Time Taken: 11:40
IEPA Cert. No. 100221

Date Received: 10/16/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	0.25	mg/kg dw	11/08/1998	0.042	tls	378 59	SW 8082
Decachlorobiphenyl (Surr)	86.0	%	11/08/1998	NA	tls	378 59	SW 8082
2,4,5,6-TCMX (Surr)	89.0	%	11/08/1998	NA	tls	378 59	SW 8082

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CONTINUING CALIBRATION VERIFICATION

ENSR
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Westmont, IL 60559

Mr. Wei-Lin Feng

11/11/1998

NET Job Number: 98.13470

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
pH, Non-Aqueous	182	7.00	7.00	100.0
pH, Non-Aqueous	183	7.00	7.00	100.0
pH, Non-Aqueous	184	7.00	7.00	100.0
Arsenic, GFAA	670	0.0250	0.0258	103.2
Arsenic, GFAA	671	0.0250	0.0262	104.8
Arsenic, GFAA	672	0.0250	0.0256	102.4
Barium, ICP	2176	2.00	2.15	107.5
Barium, ICP	2178	2.00	1.91	95.5
Barium, ICP	2184	2.00	2.00	100.0
Cadmium, ICP	2162	1.00	1.07	107.0
Cadmium, ICP	2165	1.00	0.967	96.7
Cadmium, ICP	2172	1.00	0.997	99.7
Chromium, ICP	2147	2.00	2.13	106.5
Chromium, ICP	2150	2.00	1.94	97.0
Chromium, ICP	2157	2.00	1.90	95.0
Lead, ICP	2388	2.00	1.89	94.5
Lead, ICP	2392	2.00	1.90	95.0
Lead, ICP	2395	2.00	1.98	99.0
Selenium, GFAA	557	0.0500	0.0504	100.8
Selenium, GFAA	558	0.0500	0.0484	96.8
Silver, AA	568	0.500	0.489	97.8
Silver, AA	569	0.50	0.489	97.8
Silver, AA	571	0.50	0.497	99.4
UST VOLATILES NON-AQUEOUS				
Benzene	63	50.0	49.6	99.2
Ethylbenzene	63	50.0	49.5	99.0
Toluene	63	50.0	48.7	97.4
Xylenes, Total	63	150	147	98.0
UST VOLATILES NON-AQUEOUS				
Benzene	65	50.0	52.0	104.0
Ethylbenzene	65	50.0	49.0	98.0
Toluene	65	50.0	51.0	102.0
Xylenes, Total	65	150	143	95.3
UST VOLATILES NON-AQUEOUS				

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13470

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Benzene	66	50.0	52.0	104.0
Ethylbenzene	66	50.0	52.0	104.0
Toluene	66	50.0	50.0	100.0
Xylenes, Total	66	150	154	102.7
UST VOLATILES NON-AQUEOUS				
Benzene	67	50.0	50.0	100.0
Ethylbenzene	67	50.0	51.0	102.0
Toluene	67	50.0	51.0	102.0
Xylenes, Total	67	150	152	101.3
UST VOLATILES NON-AQUEOUS				
Benzene	68	50.0	53.0	106.0
Ethylbenzene	68	50.0	54.0	108.0
Toluene	68	50.0	52.0	104.0
Xylenes, Total	68	150	162	108.0
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1821	5000	4,860	97.2
Acenaphthylene	1821	5000	5,174	103.5
Anthracene	1821	5000	5,262	105.2
Benzo(a)anthracene	1821	5000	5,218	104.4
Benzo(b)fluoranthene	1821	5000	4,941	98.8
Benzo(k)fluoranthene	1821	5000	5,008	100.2
Benzo(a)pyrene	1821	5000	4,954	99.1
Benzo(ghi)perylene	1821	5000	5,136	102.7
Chrysene	1821	5000	5,181	103.6
Dibenzo(a,h)anthracene	1821	5000	5,057	101.1
Fluoranthene	1821	5000	5,060	101.2
Fluorene	1821	5000	5,009	100.2
Indeno(1,2,3-cd)pyrene	1821	5000	5,159	103.2
Naphthalene	1821	5000	4,929	98.6
Phenanthrene	1821	5000	5,150	103.0
Pyrene	1821	5000	4,994	99.9
Surr: p-Terphenyl	1821	5000	5,044	100.9
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1822	5000	4,817	96.3

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NET Job Number: 98.13470

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Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Acenaphthylene	1822	5000	5,119	102.4
Anthracene	1822	5000	5,261	105.2
Benzo(a)anthracene	1822	5000	5,282	105.6
Benzo(b)fluoranthene	1822	5000	4,909	98.2
Benzo(k)fluoranthene	1822	5000	5,251	105.0
Benzo(a)pyrene	1822	5000	4,925	98.5
Benzo(ghi)perylene	1822	5000	5,204	104.1
Chrysene	1822	5000	5,151	103.0
Dibenzo(a,h)anthracene	1822	5000	5,059	101.2
Fluoranthene	1822	5000	5,139	102.8
Fluorene	1822	5000	5,026	100.5
Indeno(1,2,3-cd)pyrene	1822	5000	5,115	102.3
Naphthalene	1822	5000	4,783	95.7
Phenanthrene	1822	5000	5,140	102.8
Pyrene	1822	5000	5,112	102.2
Surr: p-Terphenyl	1822	5000	5,113	102.3
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1824	5000	4,629	92.6
Acenaphthylene	1824	5000	5,127	102.5
Anthracene	1824	5000	5,201	104.0
Benzo(a)anthracene	1824	5000	4,952	99.0
Benzo(b)fluoranthene	1824	5000	4,900	98.0
Benzo(k)fluoranthene	1824	5000	4,887	97.7
Benzo(a)pyrene	1824	5000	5,066	101.3
Benzo(ghi)perylene	1824	5000	5,018	100.4
Chrysene	1824	5000	4,989	99.8
Dibenzo(a,h)anthracene	1824	5000	5,011	100.2
Fluoranthene	1824	5000	5,039	100.8
Fluorene	1824	5000	4,902	98.0
Indeno(1,2,3-cd)pyrene	1824	5000	4,814	96.3
Naphthalene	1824	5000	4,941	98.8
Phenanthrene	1824	5000	4,821	96.4
Pyrene	1824	5000	5,190	103.8
Surr: p-Terphenyl	1824	5000	4,887	97.7

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13470

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1827	5000	4,517	90.3
Acenaphthylene	1827	5000	5,072	101.4
Anthracene	1827	5000	4,791	95.8
Benzo(a)anthracene	1827	5000	5,038	100.8
Benzo(b)fluoranthene	1827	5000	5,066	101.3
Benzo(k)fluoranthene	1827	5000	4,905	98.1
Benzo(a)pyrene	1827	5000	4,466	89.3
Benzo(ghi)perylene	1827	5000	4,515	90.3
Chrysene	1827	5000	5,156	103.1
Dibenzo(a,h)anthracene	1827	5000	4,987	99.7
Fluoranthene	1827	5000	4,877	97.5
Fluorene	1827	5000	4,926	98.5
Indeno(1,2,3-cd)pyrene	1827	5000	4,483	89.7
Naphthalene	1827	5000	4,744	94.9
Phenanthrene	1827	5000	4,717	94.3
Pyrene	1827	5000	4,847	96.9
Surr: p-Terphenyl	1827	5000	4,857	97.1
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1828	5000	4,545	90.9
Acenaphthylene	1828	5000	5,123	102.5
Anthracene	1828	5000	5,146	102.9
Benzo(a)anthracene	1828	5000	4,898	98.0
Benzo(b)fluoranthene	1828	5000	4,903	98.1
Benzo(k)fluoranthene	1828	5000	4,897	97.9
Benzo(a)pyrene	1828	5000	5,033	100.7
Benzo(ghi)perylene	1828	5000	4,929	98.6
Chrysene	1828	5000	5,005	100.1
Dibenzo(a,h)anthracene	1828	5000	5,003	100.1
Fluoranthene	1828	5000	4,963	99.3
Fluorene	1828	5000	4,886	97.7
Indeno(1,2,3-cd)pyrene	1828	5000	4,889	97.8
Naphthalene	1828	5000	4,904	98.1
Phenanthrene	1828	5000	4,829	96.6

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13470

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Pyrene	1828	5000	5,199	104.0
Surr: p-Terphenyl	1828	5000	4,913	98.3
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1829	5000	4,813	96.3
Acenaphthylene	1829	5000	4,992	99.8
Anthracene	1829	5000	5,087	101.7
Benzo(a)anthracene	1829	5000	5,112	102.2
Benzo(b)fluoranthene	1829	5000	4,846	96.9
Benzo(k)fluoranthene	1829	5000	4,904	98.1
Benzo(a)pyrene	1829	5000	4,725	94.5
Benzo(ghi)perylene	1829	5000	5,015	100.3
Chrysene	1829	5000	5,069	101.4
Dibenzo(a,h)anthracene	1829	5000	4,991	99.8
Fluoranthene	1829	5000	5,024	100.5
Fluorene	1829	5000	4,930	98.6
Indeno(1,2,3-cd)pyrene	1829	5000	5,040	100.8
Naphthalene	1829	5000	4,758	95.2
Phenanthrene	1829	5000	5,038	100.8
Pyrene	1829	5000	4,951	99.0
Surr: p-Terphenyl	1829	5000	4,861	97.2
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1829	5000	4,818	96.4
Acenaphthylene	1829	5000	5,018	100.4
Anthracene	1829	5000	5,159	103.2
Benzo(a)anthracene	1829	5000	5,126	102.5
Benzo(b)fluoranthene	1829	5000	4,817	96.3
Benzo(k)fluoranthene	1829	5000	4,920	98.4
Benzo(a)pyrene	1829	5000	4,824	96.5
Benzo(ghi)perylene	1829	5000	5,056	101.1
Chrysene	1829	5000	5,046	100.9
Dibenzo(a,h)anthracene	1829	5000	5,038	100.8
Fluoranthene	1829	5000	4,981	99.6
Fluorene	1829	5000	4,957	99.1
Indeno(1,2,3-cd)pyrene	1829	5000	5,056	101.1

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13470

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Naphthalene	1829	5000	4,736	94.7
Phenanthrene	1829	5000	5,051	101.0
Pyrene	1829	5000	4,895	97.9
Surr: p-Terphenyl	1829	5000	4,928	98.6
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1829	5000	4,866	97.3
Acenaphthylene	1829	5000	5,117	102.3
Anthracene	1829	5000	5,203	104.1
Benzo(a)anthracene	1829	5000	5,190	103.8
Benzo(b)fluoranthene	1829	5000	4,902	98.0
Benzo(k)fluoranthene	1829	5000	4,836	96.7
Benzo(a)pyrene	1829	5000	4,837	96.7
Benzo(ghi)perylene	1829	5000	5,081	101.6
Chrysene	1829	5000	5,114	102.3
Dibenzo(a,h)anthracene	1829	5000	5,051	101.0
Fluoranthene	1829	5000	5,057	101.1
Fluorene	1829	5000	5,018	100.4
Indeno(1,2,3-cd)pyrene	1829	5000	5,147	102.9
Naphthalene	1829	5000	4,940	98.8
Phenanthrene	1829	5000	5,104	102.1
Pyrene	1829	5000	5,003	100.1
Surr: p-Terphenyl	1829	5000	4,916	98.3
PNA CMPDS - 8310 NONAQUEOUS				
Fluoranthene	1831	5000	4,852	97.0
Phenanthrene	1831	5000	4,660	93.2
PNA CMPDS - 8310 NONAQUEOUS				
Fluoranthene	1831	5000	4,887	97.7
Phenanthrene	1831	5000	4,670	93.4
PNA CMPDS - 8310 NONAQUEOUS				
Fluoranthene	1831	5000	4,939	98.8
Phenanthrene	1831	5000	4,668	93.4
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1832	5000	4,588	91.8
Acenaphthylene	1832	5000	5,060	101.2

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ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13470

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Anthracene	1832	5000	5,107	102.1
Benzo(a)anthracene	1832	5000	4,951	99.0
Benzo(b)fluoranthene	1832	5000	4,844	96.9
Benzo(k)fluoranthene	1832	5000	4,953	99.1
Benzo(a)pyrene	1832	5000	5,003	100.1
Benzo(ghi)perylene	1832	5000	4,921	98.4
Chrysene	1832	5000	4,987	99.7
Dibenzo(a,h)anthracene	1832	5000	4,928	98.6
Fluoranthene	1832	5000	4,849	97.0
Fluorene	1832	5000	4,885	97.7
Indeno(1,2,3-cd)pyrene	1832	5000	4,576	91.5
Naphthalene	1832	5000	4,627	92.5
Phenanthrene	1832	5000	4,659	93.2
Pyrene	1832	5000	4,999	100.0
Surr: p-Terphenyl	1832	5000	4,813	96.3
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1832	5000	4,598	92.0
Acenaphthylene	1832	5000	5,091	101.8
Anthracene	1832	5000	5,062	101.2
Benzo(a)anthracene	1832	5000	5,051	101.0
Benzo(b)fluoranthene	1832	5000	5,000	100.0
Benzo(k)fluoranthene	1832	5000	4,806	96.1
Benzo(a)pyrene	1832	5000	4,961	99.2
Benzo(ghi)perylene	1832	5000	4,943	98.9
Chrysene	1832	5000	4,972	99.4
Dibenzo(a,h)anthracene	1832	5000	4,977	99.5
Fluoranthene	1832	5000	4,889	97.8
Fluorene	1832	5000	4,901	98.0
Indeno(1,2,3-cd)pyrene	1832	5000	4,606	92.1
Naphthalene	1832	5000	4,695	93.9
Phenanthrene	1832	5000	4,694	93.9
Pyrene	1832	5000	5,064	101.3
Surr: p-Terphenyl	1832	5000	4,886	97.7

PNA CMPDS - 8310 NONAQUEOUS

CCV - Continuing Calibration Verification

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13470

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Acenaphthene	1832	5000	4,477	89.5
Acenaphthylene	1832	5000	5,062	101.2
Anthracene	1832	5000	5,092	101.8
Benzo(a)anthracene	1832	5000	4,930	98.6
Benzo(b)fluoranthene	1832	5000	5,289	105.8
Benzo(k)fluoranthene	1832	5000	4,828	96.6
Benzo(a)pyrene	1832	5000	4,949	99.0
Benzo(ghi)perylene	1832	5000	4,915	98.3
Chrysene	1832	5000	4,915	98.3
Dibenzo(a,h)anthracene	1832	5000	5,003	100.1
Fluoranthene	1832	5000	4,952	99.0
Fluorene	1832	5000	4,884	97.7
Indeno(1,2,3-cd)pyrene	1832	5000	4,783	95.7
Naphthalene	1832	5000	4,808	96.2
Phenanthrene	1832	5000	4,712	94.2
Pyrene	1832	5000	5,124	102.5
Surr: p-Terphenyl	1832	5000	4,756	95.1
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1832	5000	4,696	93.9
Acenaphthylene	1832	5000	5,096	101.9
Anthracene	1832	5000	5,039	100.8
Benzo(a)anthracene	1832	5000	5,158	103.2
Benzo(b)fluoranthene	1832	5000	5,085	101.7
Benzo(k)fluoranthene	1832	5000	4,840	96.8
Benzo(a)pyrene	1832	5000	4,881	97.6
Benzo(ghi)perylene	1832	5000	4,897	97.9
Chrysene	1832	5000	5,027	100.5
Dibenzo(a,h)anthracene	1832	5000	4,974	99.5
Fluoranthene	1832	5000	4,931	98.6
Fluorene	1832	5000	4,888	97.8
Indeno(1,2,3-cd)pyrene	1832	5000	4,557	91.1
Naphthalene	1832	5000	4,702	94.0
Phenanthrene	1832	5000	4,767	95.3
Pyrene	1832	5000	5,159	103.2

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QUALITY CONTROL REPORT

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Mr. Wei-Lin Feng

11/11/1998

NET Job Number: 98.13470

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Surr: p-Terphenyl	1832	5000	4,914	98.3
PCB'S NON-AQUEOUS				
PCB-1016	53	500	434	86.8
PCB-1260	53	500	442	88.4
PCB'S NON-AQUEOUS				
PCB-1016	53	500	447	89.4
PCB-1260	53	500	460	92.0
PCB'S NON-AQUEOUS				
PCB-1016	53	500	447	89.4
PCB-1260	53	500	460	92.0
PCB'S NON-AQUEOUS				
PCB-1016	53	500	479	95.8
PCB-1260	53	500	484	96.8
PCB'S NON-AQUEOUS				
PCB-1016	53	500	475	95.0
PCB-1260	53	500	459	91.8
PCB'S NON-AQUEOUS				
PCB-1016	59	500	521	104.2
PCB-1260	59	500	534	106.8
PCB'S NON-AQUEOUS				
PCB-1016	59	500	469	93.8
PCB-1260	59	500	468	93.6
PCB'S NON-AQUEOUS				
PCB-1016	59	500	491	98.2
PCB-1260	59	500	450	90.0
PCB'S NON-AQUEOUS				
PCB-1016	61	500	483	96.6
PCB-1260	61	500	453	90.6
PCB'S NON-AQUEOUS				
PCB-1016	61	500	494	98.8
PCB-1260	61	500	454	90.8
PCB'S NON-AQUEOUS				
PCB-1016	61	500	510	102.0
PCB-1260	61	500	503	100.6

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CONTINUING CALIBRATION VERIFICATION

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NET Job Number: 98.13470

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
PCB'S NON-AQUEOUS				
PCB-1016	62	500	471	94.2
PCB-1260	62	500	497	99.4
PCB'S NON-AQUEOUS				
PCB-1016	62	500	505	101.0
PCB-1260	62	500	519	103.8
PCB'S NON-AQUEOUS				
PCB-1016	62	500	485	97.0
PCB-1260	62	500	456	91.2

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13470

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Arsenic, GFAA	231	670	<0.50	mg/Kg	0.50	SW 7060
Arsenic, GFAA	232	670	<0.50	mg/Kg	0.50	SW 7060
Arsenic, GFAA	233	671	<0.50	mg/Kg	0.50	SW 7060
Barium, ICP	1161	2176	<1.0	mg/Kg	1.0	SW 6010B
Barium, ICP	1162	2178	<1.0	mg/Kg	1.0	SW 6010B
Barium, ICP	1163	2184	<1.0	mg/Kg	1.0	SW 6010B
Cadmium, ICP	1161	2162	<0.50	mg/Kg	0.50	SW 6010B
Cadmium, ICP	1162	2165	<0.50	mg/Kg	0.50	SW 6010B
Cadmium, ICP	1163	2172	<0.50	mg/Kg	0.50	SW 6010B
Chromium, ICP	1161	2147	<2.0	mg/Kg	2.0	SW 6010B
Chromium, ICP	1162	2150	<2.0	mg/Kg	2.0	SW 6010B
Chromium, ICP	1163	2157	<2.0	mg/Kg	2.0	SW 6010B
Lead, ICP	1162	2388	<4.0	mg/Kg	4.0	SW 6010B
Lead, ICP	1161	2392	<4.0	mg/Kg	4.0	SW 6010B
Lead, ICP	1163	2395	<4.0	mg/Kg	4.0	SW 6010B
Selenium, GFAA	231	557	<0.25	mg/Kg	0.25	SW 7740
Selenium, GFAA	232	558	<0.25	mg/Kg	0.25	SW 7740
Selenium, GFAA	233	558	<0.25	mg/Kg	0.25	SW 7740
Silver, AA	488	568	<2.0	mg/Kg	2.0	SW 7760
Silver, AA	489	569	<2.0	mg/Kg	2.0	SW 7760
Silver, AA	490	569	<2.0	mg/Kg	2.0	SW 7760
Silver, AA	492	569	<2.0	mg/Kg	2.0	SW 7760
Silver, AA	491	571	<2.0	mg/Kg	2.0	SW 7760
TPH MODIFIED 8015						SW 8015M
TPH as Gas	242	488	<50	mg/Kg	50	SW 8015M
TPH as Diesel	242	488	<50	mg/Kg	50	SW 8015M
TPH as Oil	242	488	<50	mg/Kg	50	SW 8015M
N-octacosane (TPH surr)	242	488	101.0	%		SW 8015M
TPH MODIFIED 8015						SW 8015M

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
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11/11/1998

NET Job Number: 98.13470

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
TPH as Gas	243	485	<50.	mg/Kg	50	SW 8015M
TPH as Diesel	243	485	<50.	mg/Kg	50	SW 8015M
TPH as Oil	243	485	<50.	mg/Kg	50	SW 8015M
N-octacosane (TPH surr)	243	485	106.0	%		SW 8015M
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		63	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		63	<0.005	mg/Kg	0.005	SW 8260A
Toluene		63	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		63	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		63	90.8	%	74-134	SW 8260A
Toluene-d8 (Surr)		63	93.8	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		63	97.8	%	64-131	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		65	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		65	<0.005	mg/Kg	0.005	SW 8260A
Toluene		65	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		65	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		65	80.0	%	74-134	SW 8260A
Toluene-d8 (Surr)		65	94.0	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		65	82.0	%	64-131	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		66	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		66	<0.005	mg/Kg	0.005	SW 8260A
Toluene		66	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		66	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		66	94.0	%	74-134	SW 8260A
Toluene-d8 (Surr)		66	96.0	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		66	104.0	%	64-131	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A

Advisory Control Limits for Blanks:

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
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11/11/1998

NET Job Number: 98.13470

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Benzene		67	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		67	<0.005	mg/Kg	0.005	SW 8260A
Toluene		67	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		67	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		67	102.0	%	74-134	SW 8260A
Toluene-d8 (Surr)		67	106.0	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		67	110.0	%	64-131	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		68	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		68	<0.005	mg/Kg	0.005	SW 8260A
Toluene		68	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		68	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		68	100.0	%	74-134	SW 8260A
Toluene-d8 (Surr)		68	106.0	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		68	108.0	%	64-131	SW 8260A
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	760	1821	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	760	1821	<0.020	mg/Kg	0.020	SW 8310
Anthracene	760	1821	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	760	1821	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	760	1821	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	760	1821	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	760	1821	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	760	1821	<0.040	mg/Kg	0.040	SW 8310
Chrysene	760	1821	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	760	1821	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	760	1821	<0.020	mg/Kg	0.020	SW 8310
Fluorene	760	1821	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	760	1821	<0.0086	mg/Kg	0.0086	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
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Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Naphthalene	760	1821	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	760	1821	<0.040	mg/Kg	0.040	SW 8310
Pyrene	760	1821	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	760	1821	79.3	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	761	1822	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	761	1822	<0.020	mg/Kg	0.020	SW 8310
Anthracene	761	1822	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	761	1822	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	761	1822	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	761	1822	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	761	1822	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	761	1822	<0.040	mg/Kg	0.040	SW 8310
Chrysene	761	1822	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	761	1822	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	761	1822	<0.020	mg/Kg	0.020	SW 8310
Fluorene	761	1822	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	761	1822	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	761	1822	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	761	1822	<0.040	mg/Kg	0.040	SW 8310
Pyrene	761	1822	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	761	1822	80.7	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	764	1824	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	764	1824	<0.020	mg/Kg	0.020	SW 8310
Anthracene	764	1824	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	764	1824	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	764	1824	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	764	1824	<0.0034	mg/Kg	0.0034	SW 8310

Advisory Control Limits for Blanks:

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Benzo(a)pyrene	764	1824	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	764	1824	<0.040	mg/Kg	0.040	SW 8310
Chrysene	764	1824	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	764	1824	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	764	1824	<0.020	mg/Kg	0.020	SW 8310
Fluorene	764	1824	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	764	1824	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	764	1824	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	764	1824	<0.040	mg/Kg	0.040	SW 8310
Pyrene	764	1824	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	764	1824	80.9	%	43-125	SW 8310
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	377	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	377	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	377	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	377	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	377	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	377	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	377	53	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	377	53	95.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	377	53	84.0	%	NA	SW 8082
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	378	55	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	378	55	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	378	55	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	378	55	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	378	55	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	378	55	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	378	55	<0.040	mg/Kg	0.040	SW 8082

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QUALITY CONTROL REPORT

BLANK ANALYSIS

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NET Job Number: 98.13470

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Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Decachlorobiphenyl (Surr)	378	55	70.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	378	55	77.0	%	NA	SW 8082
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	378	59	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	378	59	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	378	59	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	378	59	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	378	59	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	378	59	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	378	59	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	378	59	76.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	378	59	63.0	%	NA	SW 8082

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13470

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Arsenic, GFAA	231	670	0.0100	0.0087	87.0
Arsenic, GFAA	232	670	0.0100	0.0102	102.0
Arsenic, GFAA	233	671	0.500	0.450	90.0
Barium, ICP	1161	2176	5.00	5.56	111.2
Barium, ICP	1162	2178	5.00	4.49	89.8
Barium, ICP	1163	2184	5.00	4.30	86.0
Cadmium, ICP	1161	2162	2.50	2.86	114.4
Cadmium, ICP	1162	2165	2.50	2.62	104.8
Cadmium, ICP	1163	2172	2.50	2.13	85.2
Chromium, ICP	1161	2147	5.00	5.38	107.6
Chromium, ICP	1162	2150	5.00	4.58	91.6
Chromium, ICP	1163	2157	5.00	3.60	72.0
Lead, ICP	1162	2388	5.00	4.30	86.0
Lead, ICP	1161	2392	5.00	5.95	119.0
Lead, ICP	1163	2395	5.00	3.70	74.0
Selenium, GFAA	231	557	0.0100	0.0092	92.0
Selenium, GFAA	232	558	0.0100	0.0093	93.0
Selenium, GFAA	233	558	0.0100	0.0082	82.0
Silver, AA	488	568	0.1	0.106	106.0
Silver, AA	489	569	0.10	0.102	102.0
Silver, AA	490	569	0.10	0.115	115.0
Silver, AA	492	569	0.10	0.084	84.0
Silver, AA	491	571	0.10	0.101	101.0
TPH MODIFIED 8015					
TPH as Gas	242	488	250	155	62.0
TPH as Diesel	242	488	250	205	82.0
TPH as Oil	242	488	250	198	79.2
N-octacosane (TPH surr)	242	488	100	102	102.0
TPH MODIFIED 8015					
TPH as Gas	243	485	200	213	106.5
TPH as Diesel	243	485	200	227	113.5

QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13470

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc., Found	LCS % Recovery
TPH as Oil	243	485	200	216	108.0
N-octacosane (TPH surr)	243	485	100	112	112.0
UST VOLATILES NON-AQUEOUS					
Benzene		63	20.0	21.2	106.0
Ethylbenzene		63	20.0	20.8	104.0
Toluene		63	20.0	20.1	100.5
Xylenes, Total		63	60.0	61.7	102.8
Dibromofluoromethane (Surr)		63	50.0	48.7	97.4
Toluene-d8 (Surr)		63	50.0	48.9	97.8
4-Bromofluoromethane (Surr)		63	50.0	51.5	103.0
UST VOLATILES NON-AQUEOUS					
Benzene		65	20.0	20.0	100.0
Ethylbenzene		65	20.0	20.0	100.0
Toluene		65	20.0	21.0	105.0
Xylenes, Total		65	60.0	59.0	98.3
Dibromofluoromethane (Surr)		65	50.0	43.0	86.0
Toluene-d8 (Surr)		65	50.0	46.0	92.0
4-Bromofluoromethane (Surr)		65	50.0	41.0	82.0
UST VOLATILES NON-AQUEOUS					
Benzene		66	20.0	21.0	105.0
Ethylbenzene		66	20.0	23.0	115.0
Toluene		66	20.0	21.0	105.0
Xylenes, Total		66	60.0	66.0	110.0
Dibromofluoromethane (Surr)		66	50.0	48.0	96.0
Toluene-d8 (Surr)		66	50.0	50.0	100.0
4-Bromofluoromethane (Surr)		66	50.0	55.0	110.0
UST VOLATILES NON-AQUEOUS					
Benzene		67	20.0	22.0	110.0
Ethylbenzene		67	20.0	24.0	120.0
Toluene		67	20.0	22.0	110.0
Xylenes, Total		67	60.0	68.0	113.3

QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13470

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Dibromofluoromethane (Surr)		67	50.0	48.0	96.0
Toluene-d8 (Surr)		67	50.0	50.0	100.0
4-Bromofluoromethane (Surr)		67	50.0	54.0	108.0
UST VOLATILES NON-AQUEOUS					
Benzene		68	20.0	21.0	105.0
Ethylbenzene		68	20.0	22.0	110.0
Toluene		68	20.0	21.0	105.0
Xylenes, Total		68	60.0	65.0	108.3
Dibromofluoromethane (Surr)		68	50.0	50.0	100.0
Toluene-d8 (Surr)		68	50.0	49.0	98.0
4-Bromofluoromethane (Surr)		68	50.0	55.0	110.0
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	760	1821	0.033	0.025	75.8
Acenaphthylene	760	1821	0.033	0.029	87.9
Anthracene	760	1821	0.033	0.029	87.9
Benzo(a)anthracene	760	1821	0.033	0.031	93.9
Benzo(b)fluoranthene	760	1821	0.033	0.028	84.8
Benzo(k)fluoranthene	760	1821	0.033	0.027	81.8
Benzo(a)pyrene	760	1821	0.033	0.028	84.8
Benzo(ghi)perylene	760	1821	0.033	0.030	90.9
Chrysene	760	1821	0.033	0.030	90.9
Dibenzo(a,h)anthracene	760	1821	0.033	0.028	84.8
Fluoranthene	760	1821	0.033	0.029	87.9
Fluorene	760	1821	0.033	0.029	87.9
Indeno(1,2,3-cd)pyrene	760	1821	0.033	0.030	90.9
Naphthalene	760	1821	0.033	0.023	69.7
Phenanthrene	760	1821	0.033	0.030	90.9
Pyrene	760	1821	0.033	0.030	90.9
Surr: p-Terphenyl	760	1821	2000	1,642	82.1
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	761	1822	0.033	0.031	93.9

QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13470

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Acenaphthylene	761	1822	0.033	0.036	109.1
Anthracene	761	1822	0.033	0.029	87.9
Benzo(a)anthracene	761	1822	0.033	0.031	93.9
Benzo(b)fluoranthene	761	1822	0.033	0.028	84.8
Benzo(k)fluoranthene	761	1822	0.033	0.028	84.8
Benzo(a)pyrene	761	1822	0.033	0.026	78.8
Benzo(ghi)perylene	761	1822	0.033	0.029	87.9
Chrysene	761	1822	0.033	0.030	90.9
Dibenzo(a,h)anthracene	761	1822	0.033	0.029	87.9
Fluoranthene	761	1822	0.033	0.029	87.9
Fluorene	761	1822	0.033	0.028	84.8
Indeno(1,2,3-cd)pyrene	761	1822	0.033	0.028	84.8
Naphthalene	761	1822	0.033	0.025	75.8
Phenanthrene	761	1822	0.033	0.030	90.9
Pyrene	761	1822	0.033	0.029	87.9
Surr: p-Terphenyl	761	1822	2000	1,712	85.6
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	764	1824	0.033	0.029	87.9
Acenaphthylene	764	1824	0.033	0.028	84.8
Anthracene	764	1824	0.033	0.028	84.8
Benzo(a)anthracene	764	1824	0.033	0.029	87.9
Benzo(b)fluoranthene	764	1824	0.033	0.029	87.9
Benzo(k)fluoranthene	764	1824	0.033	0.029	87.9
Benzo(a)pyrene	764	1824	0.033	0.030	90.9
Benzo(ghi)perylene	764	1824	0.033	0.029	87.9
Chrysene	764	1824	0.033	0.030	90.9
Dibenzo(a,h)anthracene	764	1824	0.033	0.029	87.9
Fluoranthene	764	1824	0.033	0.029	87.9
Fluorene	764	1824	0.033	0.030	90.9
Indeno(1,2,3-cd)pyrene	764	1824	0.033	0.029	87.9
Naphthalene	764	1824	0.033	0.027	81.8

QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13470

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Phenanthrene	764	1824	0.033	0.029	87.9
Pyrene	764	1824	0.033	0.031	93.9
Surr: p-Terphenyl	764	1824	2000	1,767	88.3
PCB'S NON-AQUEOUS					
PCB-1016	377	53	500	419	83.8
PCB-1260	377	53	500	434	86.8
Decachlorobiphenyl (Surr)	377	53	100	84	84.0
2,4,5,6-TCMX (Surr)	377	53	100	75	75.0
PCB'S NON-AQUEOUS					
PCB-1016	378	55	500	500	100.0
PCB-1260	378	55	500	441	88.2
Decachlorobiphenyl (Surr)	378	55	100	81	81.0
2,4,5,6-TCMX (Surr)	378	55	100	85	85.0
PCB'S NON-AQUEOUS					
PCB-1016	378	59	500	499	99.8
PCB-1260	378	59	500	513	102.6
Decachlorobiphenyl (Surr)	378	59	100	95	95.0
2,4,5,6-TCMX (Surr)	378	59	100	83	83.0

QUALITY CONTROL REPORT

DUPLICATES

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/11/1998

NET Job Number: 98.13470

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	RPD
pH, Non-Aqueous		183	6.95	7.05	units	1.4
pH, Non-Aqueous		183	8.07	8.14	units	0.9
Solids, Total		2513	64.1	62.1	%	3.2
Solids, Total		2513	87.1	86.0	%	1.3
Solids, Total		2513	98.2	98.2	%	0.0
Solids, Total		2514	71.6	73.6	%	2.8
Solids, Total		2514	88.9	89.3	%	0.4
Solids, Total		2514	83.3	83.9	%	0.7
Solids, Total		2514	71.1	68.4	%	3.9

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.

NET Midwest, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY: ENSR Corp.
ADDRESS: 140 Pasquinelli Dr. Suite 124 Westmont, IL
PHONE: (630) 887 1700 FAX: (630) 850 5307
PROJECT NAME/LOCATION: ComEd Will Cty
PROJECT NUMBER: 1801023 710
PROJECT MANAGER: Weilin Fang / Karen Dolnicks

REPORT TO: K. Dolnicks
INVOICE TO: ENSR
P.O. NO.:
NET QUOTE NO.:

SAMPLED BY (PRINT NAME): B. Buckley
SIGNATURE: B Buckley
(PRINT NAME):
SIGNATURE:

DATE 1998	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: pH 9045	PAHs 8310	BTEX 8260	PCBs 8081	TPH 8015	RCRA Metals (total)				
10/16	810	S1	S	X						2	X	X	X	X	X	X				
10/16	815	S24	S	X						2	X	X	X	X	X	X				
10/16	825	S2	S	X						2	X	X	X	X	X	X				
10/16	840	S3	S	X						2	X	X	X	X	X	X				
10/16	850	S4	S	X						2	X	X	X	X	X	X				
10/16	900	S5	S	X						2	X	X	X	X	X	X				
10/16	910	S6	S	X						2	X	X	X	X	X	X				
10/16	~~920~~ 905	S7	S	X						2	X	X	X	X	X	X				
10/16	~~1025~~ 915	S8	S	X						2	X	X	X	X	X	X				
10/16	1000	S9	S	X						2	X	X	X	X	X	X				
10/16	1005	S10	S	X						2	X	X	X	X	X	X				
10/16	1010	S11	S	X						2	X	X	X	X	X	X				
10/16	1015	S12	S	X						2	X	X	X	X	X	X				
10/16	1025	S13	S	X						2	X	X	X	X	X	X				
10/16	1030	S14	S	X						2	X	X	X	X	X	X				

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ____ No ____

Is this work being conducted for regulatory enforcement action? Yes ____ No ____

Which regulations apply: RCRA ____ NPDES Wastewater ____ UST ____ Drinking Water ____ Other ____ None ____

COMMENTS: LIMITED SAMPLE

CONDITION OF SAMPLE:
BOTTLES INTACT? (YES) NO
FIELD FILTERED? ~~YES / NO~~ N/A
COC SEALS PRESENT AND INTACT? ~~YES / NO~~ N/A
VOLATILES FREE OF HEADSPACE? (YES) NO
TEMPERATURE UPON RECEIPT: 2.3°C wet ice
Bottles supplied by NET? (YES) NO

SAMPLE REMAINDER DISPOSAL:
RETURN SAMPLE REMAINDER TO CLIENT VIA ____
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ____ DATE ____

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
B. Buckley	10/16/98	1200			10/16/98	1700	P. Merrill

METHOD OF SHIPMENT: NET Pickup

REMARKS:

PT 1 - ORIGINAL - WHITE PT 2 - NET PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

MWG13-15_5868

NET ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY: ENSR Corp.
ADDRESS: 740 Pasquinelli Dr. St. 124 Westmont, IL
PHONE: (630) 887 1700 FAX: (630) 850 5307
PROJECT NAME/LOCATION: ComED / Will Cty.
PROJECT NUMBER: 1801023710
PROJECT MANAGER: Weilin Feng - Karen Dolnicek

REPORT TO: Karen Dolnicek
INVOICE TO: ENSR
P.O. NO.
NET QUOTE NO.

SAMPLED BY (PRINT NAME): B. Buckley — SIGNATURE: B. Buckley
(PRINT NAME) — SIGNATURE

DATE 1998	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: pH 9015	PAHs 8310	BTEX 8260	PCBs 8081	TPH 8015	RCRA Metals (totals)
10/16	1035	S15	S							2	X	X	X	X	X	X
10/16	1045	S16	S							2	X	X	X	X	X	X
10/16	1110	S17	S							2	X	X	X	X	X	X
10/16	1115	S18	S							2	X	X	X	X	X	X
10/16	1120	S19	S							2	X	X	X	X	X	X
10/16	1125	S20	S							2	X	X	X	X	X	X
10/16	1135	S21	S							2	X	X	X	X	X	X
10/16	1140	S22	S							2	X	X	X	X	X	X
~~10/16~~	~~1145~~	~~S23~~	S							2	X	X	X	X	X	X

BB 10/16/98 - NOT SAMPLED

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ____ No ____

Is this work being conducted for regulatory enforcement action? Yes ____ No ____

Which regulations apply: RCRA ____ NPDES Wastewater ____ UST ____ Drinking Water ____ Other ____ None ____

COMMENTS

CONDITION OF SAMPLE:
BOTTLES INTACT? (YES) NO
FIELD FILTERED? ~~YES / NO~~ N/A
COC SEALS PRESENT AND INTACT? ~~YES / NO~~ N/A
VOLATILES FREE OF HEADSPACE? (YES) NO
TEMPERATURE UPON RECEIPT: 2.3°C w/ice
Bottles supplied by NET? (YES) NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ____
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ____ DATE ____

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
B. Buckley	10/16/98	1200			10/16/98	1700	P. Merrill

METHOD OF SHIPMENT: NET Pickup

REMARKS:

MWG1315_5870

PT 1 - ORIGINAL - WHITE PT 2 - NET PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
Tel: (630) 289-3100
Fax: (630) 289-5445

Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13604

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Will County Station; 1801-023-710

Sample Number	Sample Description	Date Taken	Date Received
499073	X-3	10/19/1998	10/21/1998
499074	X-4	10/19/1998	10/21/1998
499075	X-5	10/19/1998	10/21/1998
499076	X-8	10/19/1998	10/21/1998
499077	X-9	10/19/1998	10/21/1998
499078	X-10	10/19/1998	10/21/1998
499079	X-11	10/19/1998	10/21/1998
499080	X-12	10/19/1998	10/21/1998
499081	X-14	10/19/1998	10/21/1998
499082	X-1	10/20/1998	10/21/1998
499083	X-2	10/20/1998	10/21/1998
499084	X-6	10/20/1998	10/21/1998
499085	X-7	10/20/1998	10/21/1998
499086	X-13	10/20/1998	10/21/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
Tel: (630) 289-3100
Fax: (630) 289-5445

Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499073

NET Job No.: 98.13604

Sample Description: X-3
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 08:45
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.81	units	10/30/1998	0.10	nwg		187	SW 9045B
Solids, Total	71.1	%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	6.2	mg/kg dw	11/06/1998	0.70	jtt	233	671	SW 7060
Barium, ICP	3,090	mg/kg dw	11/05/1998	1.4	kdw	1163	2184	SW 6010B
Cadmium, ICP	0.73	mg/kg dw	11/05/1998	0.70	jtt	1163	2172	SW 6010B
Chromium, ICP	20	mg/kg dw	11/05/1998	2.8	jtt	1163	2157	SW 6010B
Lead, ICP	39	mg/kg dw	11/05/1998	5.6	jtt	1163	2395	SW 6010B
Mercury, CVAA	<0.056	mg/kg dw	11/02/1998	0.056	sep	665	769	SW 7471A
Selenium, GFAA	0.56	mg/kg dw	11/06/1998	0.35	jtt	233	559	SW 7740
Silver, AA	3.5	mg/kg dw	11/02/1998	2.8	sep	490	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/30/1998		mmv	244		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<70	mg/kg dw	11/03/1998	70	out	244	489	SW 8015M
TPH as Diesel	<70	mg/kg dw	11/03/1998	70	out	244	489	SW 8015M
TPH as Oil	<70	mg/kg dw	11/03/1998	70	out	244	489	SW 8015M
N-octacosane (TPH surr)	82.0	%	11/03/1998		out	244	489	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.007	mg/kg dw	11/01/1998	0.007	pll		69	SW 8260A
Ethylbenzene	<0.007	mg/kg dw	11/01/1998	0.007	pll		69	SW 8260A
Toluene	<0.007	mg/kg dw	11/01/1998	0.007	pll		69	SW 8260A
Xylenes, Total	<0.007	mg/kg dw	11/01/1998	0.007	pll		69	SW 8260A
Toluene-d8 (Surr)	80.0	%	11/01/1998	74-129	pll		69	SW 8260A
4-Bromofluoromethane (Surr)	82.6	%	11/01/1998	70-130	pll		69	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/30/1998		btl	766		SW 3540C

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499073

NET Job No.: 98.13604

Sample Description: X-3
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 08:45
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.028		mg/kg dw	11/04/1998	0.028	kdw	766	1827	SW 8310
Acenaphthylene	<0.028		mg/kg dw	11/04/1998	0.028	kdw	766	1827	SW 8310
Anthracene	<0.056		mg/kg dw	11/04/1998	0.056	kdw	766	1827	SW 8310
Benzo(a)anthracene	<0.0160	MX	mg/kg dw	11/04/1998	0.0037	kdw	766	1827	SW 8310
Benzo(b)fluoranthene	<0.0051		mg/kg dw	11/04/1998	0.0051	kdw	766	1827	SW 8310
Benzo(k)fluoranthene	<0.0048		mg/kg dw	11/04/1998	0.0048	kdw	766	1827	SW 8310
Benzo(a)pyrene	<0.0065		mg/kg dw	11/04/1998	0.0065	kdw	766	1827	SW 8310
Benzo(ghi)perylene	<0.056		mg/kg dw	11/04/1998	0.056	kdw	766	1827	SW 8310
Chrysene	<0.04		mg/kg dw	11/04/1998	0.04	kdw	766	1827	SW 8310
Dibenzo(a,h)anthracene	<0.008		mg/kg dw	11/04/1998	0.008	kdw	766	1827	SW 8310
Fluoranthene	<0.028		mg/kg dw	11/04/1998	0.028	kdw	766	1827	SW 8310
Fluorene	<0.028		mg/kg dw	11/04/1998	0.028	kdw	766	1827	SW 8310
Indeno(1,2,3-cd)pyrene	<0.012		mg/kg dw	11/04/1998	0.012	kdw	766	1827	SW 8310
Naphthalene	<0.035		mg/kg dw	11/04/1998	0.035	kdw	766	1827	SW 8310
Phenanthrene	<0.056		mg/kg dw	11/04/1998	0.056	kdw	766	1827	SW 8310
Pyrene	<0.028		mg/kg dw	11/04/1998	0.028	kdw	766	1827	SW 8310
Surr: p-Terphenyl	43.0		%	11/04/1998	43-125	kdw	766	1827	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/02/1998	COMPLETE	wna	379		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.056		mg/kg dw	11/06/1998	0.056	tls	379	53	SW 8082
PCB-1221	<0.056		mg/kg dw	11/06/1998	0.056	tls	379	53	SW 8082
PCB-1232	<0.056		mg/kg dw	11/06/1998	0.056	tls	379	53	SW 8082
PCB-1242	<0.056		mg/kg dw	11/06/1998	0.056	tls	379	53	SW 8082
PCB-1248	<0.056		mg/kg dw	11/06/1998	0.056	tls	379	53	SW 8082
PCB-1254	<0.056		mg/kg dw	11/06/1998	0.056	tls	379	53	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998
Sample No. : 499073
NET Job No.: 98.13604

Sample Description: X-3
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 08:45
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	<0.056	mg/kg dw	11/06/1998	0.056	tls	379 53	SW 8082
Decachlorobiphenyl (Surr)	98.0	%	11/06/1998	NA	tls	379 53	SW 8082
2,4,5,6-TCMX (Surr)	86.0	%	11/06/1998	NA	tls	379 53	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499074

NET Job No.: 98.13604

Sample Description: X-4
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 09:00
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	10.22	units	10/30/1998	0.10	nwg		187	SW 9045B
Solids, Total	62.5	%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	11	mg/kg dw	11/06/1998	0.80	jtt	233	671	SW 7060
Barium, ICP	4,320	mg/kg dw	11/05/1998	1.6	kdw	1163	2184	SW 6010B
Cadmium, ICP	1.1	mg/kg dw	11/05/1998	0.80	jtt	1163	2172	SW 6010B
Chromium, ICP	22	mg/kg dw	11/05/1998	3.2	jtt	1163	2157	SW 6010B
Lead, ICP	46	mg/kg dw	11/05/1998	6.4	jtt	1163	2395	SW 6010B
Mercury, CVAA	<0.064	mg/kg dw	11/02/1998	0.064	sep	665	769	SW 7471A
Selenium, GFAA	0.67	mg/kg dw	11/06/1998	0.40	jtt	233	559	SW 7740
Silver, AA	3.8	mg/kg dw	11/02/1998	3.2	sep	490	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/30/1998		mmv	244		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<80	mg/kg dw	11/03/1998	80	out	244	489	SW 8015M
TPH as Diesel	<80	mg/kg dw	11/03/1998	80	out	244	489	SW 8015M
TPH as Oil	<80	mg/kg dw	11/03/1998	80	out	244	489	SW 8015M
N-octacosane (TPH surr)	79.0	%	11/03/1998		out	244	489	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.008	mg/kg dw	11/01/1998	0.008	pll		69	SW 8260A
Ethylbenzene	<0.008	mg/kg dw	11/01/1998	0.008	pll		69	SW 8260A
Toluene	<0.008	mg/kg dw	11/01/1998	0.008	pll		69	SW 8260A
Xylenes, Total	<0.008	mg/kg dw	11/01/1998	0.008	pll		69	SW 8260A
Toluene-d8 (Surr)	81.2	%	11/01/1998	74-129	pll		69	SW 8260A
4-Bromofluoromethane (Surr)	72.8	%	11/01/1998	70-130	pll		69	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/30/1998		btl	766		SW 3540C

NET® NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499074

NET Job No.: 98.13604

Sample Description: X-4
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 09:00
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.032		mg/kg dw	11/04/1998	0.032	kdw	766	1827	SW 8310
Acenaphthylene	<0.032		mg/kg dw	11/04/1998	0.032	kdw	766	1827	SW 8310
Anthracene	<0.064		mg/kg dw	11/04/1998	0.064	kdw	766	1827	SW 8310
Benzo(a)anthracene	<0.101	MX	mg/kg dw	11/04/1998	0.0042	kdw	766	1827	SW 8310
Benzo(b)fluoranthene	<0.0058		mg/kg dw	11/04/1998	0.0058	kdw	766	1827	SW 8310
Benzo(k)fluoranthene	<0.0054		mg/kg dw	11/04/1998	0.0054	kdw	766	1827	SW 8310
Benzo(a)pyrene	<0.0074		mg/kg dw	11/04/1998	0.0074	kdw	766	1827	SW 8310
Benzo(ghi)perylene	<0.064		mg/kg dw	11/04/1998	0.064	kdw	766	1827	SW 8310
Chrysene	<0.05		mg/kg dw	11/04/1998	0.05	kdw	766	1827	SW 8310
Dibenzo(a,h)anthracene	<0.01		mg/kg dw	11/04/1998	0.01	kdw	766	1827	SW 8310
Fluoranthene	<0.032		mg/kg dw	11/04/1998	0.032	kdw	766	1827	SW 8310
Fluorene	<0.032		mg/kg dw	11/04/1998	0.032	kdw	766	1827	SW 8310
Indeno(1,2,3-cd)pyrene	<0.014		mg/kg dw	11/04/1998	0.014	kdw	766	1827	SW 8310
Naphthalene	<0.040		mg/kg dw	11/04/1998	0.040	kdw	766	1827	SW 8310
Phenanthrene	<0.064		mg/kg dw	11/04/1998	0.064	kdw	766	1827	SW 8310
Pyrene	<0.032		mg/kg dw	11/04/1998	0.032	kdw	766	1827	SW 8310
Surr: p-Terphenyl	26.0	RM	%	11/04/1998	43-125	kdw	766	1827	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/02/1998	COMPLETE	wna	379		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.064		mg/kg dw	11/05/1998	0.064	tls	379	53	SW 8082
PCB-1221	<0.064		mg/kg dw	11/05/1998	0.064	tls	379	53	SW 8082
PCB-1232	<0.064		mg/kg dw	11/05/1998	0.064	tls	379	53	SW 8082
PCB-1242	<0.064		mg/kg dw	11/05/1998	0.064	tls	379	53	SW 8082
PCB-1248	<0.064		mg/kg dw	11/05/1998	0.064	tls	379	53	SW 8082
PCB-1254	<0.064		mg/kg dw	11/05/1998	0.064	tls	379	53	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.
RM : Low surrogate recovery verified by re-analysis

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499074

NET Job No.: 98.13604

Sample Description: X-4
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 09:00
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.064	mg/kg dw	11/05/1998	0.064	tls	379	53	SW 8082
Decachlorobiphenyl (Surr)	103.0	%	11/05/1998	NA	tls	379	53	SW 8082
2,4,5,6-TCMX (Surr)	95.0	%	11/05/1998	NA	tls	379	53	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499075

NET Job No.: 98.13604

Sample Description: X-5
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 15:05
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.97		units	10/30/1998	0.10	nwg		187	SW 9045B
Solids, Total	41.9		%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	7.9		mg/kg dw	11/06/1998	1.2	jtt	233	671	SW 7060
Barium, ICP	2,860		mg/kg dw	11/05/1998	2.4	kdw	1163	2184	SW 6010B
Cadmium, ICP	<1.2		mg/kg dw	11/05/1998	1.2	jtt	1163	2172	SW 6010B
Chromium, ICP	31		mg/kg dw	11/05/1998	4.8	jtt	1163	2157	SW 6010B
Lead, ICP	31		mg/kg dw	11/05/1998	9.5	jtt	1163	2395	SW 6010B
Mercury, CVAA	<0.095		mg/kg dw	11/02/1998	0.095	sep	665	769	SW 7471A
Selenium, GFAA	0.81		mg/kg dw	11/06/1998	0.60	jtt	233	559	SW 7740
Silver, AA	<4.8		mg/kg dw	11/02/1998	4.8	sep	490	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/30/1998		mmv	244		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<120		mg/kg dw	11/03/1998	120	out	244	489	SW 8015M
TPH as Diesel	<120		mg/kg dw	11/03/1998	120	out	244	489	SW 8015M
TPH as Oil	<120		mg/kg dw	11/03/1998	120	out	244	489	SW 8015M
N-octacosane (TPH surr)	78.0		%	11/03/1998		out	244	489	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.01		mg/kg dw	11/02/1998	0.01	jap		73	SW 8260A
Ethylbenzene	<0.01		mg/kg dw	11/02/1998	0.01	jap		73	SW 8260A
Toluene	<0.01		mg/kg dw	11/02/1998	0.01	jap		73	SW 8260A
Xylenes, Total	<0.01		mg/kg dw	11/02/1998	0.01	jap		73	SW 8260A
Toluene-d8 (Surr)	70.2	R	%	11/02/1998	74-129	jap		73	SW 8260A
4-Bromofluoromethane (Surr)	56.8	R	%	11/02/1998	70-130	jap		73	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/30/1998		btl	766		SW 3540C

R : Surrogate recovery verified by re-analysis.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499075

NET Job No.: 98.13604

Sample Description: X-5
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 15:05
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.048		mg/kg dw	11/04/1998	0.048	kdw	766	1827	SW 8310
Acenaphthylene	<0.048		mg/kg dw	11/04/1998	0.048	kdw	766	1827	SW 8310
Anthracene	<0.095		mg/kg dw	11/04/1998	0.095	kdw	766	1827	SW 8310
Benzo(a)anthracene	<0.110	MX	mg/kg dw	11/04/1998	0.0062	kdw	766	1827	SW 8310
Benzo(b)fluoranthene	<0.0678	MX	mg/kg dw	11/04/1998	0.0086	kdw	766	1827	SW 8310
Benzo(k)fluoranthene	<0.0267	MX	mg/kg dw	11/04/1998	0.0081	kdw	766	1827	SW 8310
Benzo(a)pyrene	<0.0451	MX	mg/kg dw	11/04/1998	0.011	kdw	766	1827	SW 8310
Benzo(ghi)perylene	<0.095		mg/kg dw	11/04/1998	0.095	kdw	766	1827	SW 8310
Chrysene	<0.11	MX	mg/kg dw	11/04/1998	0.07	kdw	766	1827	SW 8310
Dibenzo(a,h)anthracene	<0.01		mg/kg dw	11/04/1998	0.01	kdw	766	1827	SW 8310
Fluoranthene	0.076		mg/kg dw	11/04/1998	0.048	kdw	766	1827	SW 8310
Fluorene	<0.048		mg/kg dw	11/04/1998	0.048	kdw	766	1827	SW 8310
Indeno(1,2,3-cd)pyrene	<0.021		mg/kg dw	11/04/1998	0.021	kdw	766	1827	SW 8310
Naphthalene	<0.060		mg/kg dw	11/04/1998	0.060	kdw	766	1827	SW 8310
Phenanthrene	<0.095		mg/kg dw	11/04/1998	0.095	kdw	766	1827	SW 8310
Pyrene	0.057		mg/kg dw	11/04/1998	0.048	kdw	766	1827	SW 8310
Surr: p-Terphenyl	30.2	RM	%	11/04/1998	43-125	kdw	766	1827	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/02/1998	COMPLETE	wna	379		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.095		mg/kg dw	11/05/1998	0.095	tls	379	53	SW 8082
PCB-1221	<0.095		mg/kg dw	11/05/1998	0.095	tls	379	53	SW 8082
PCB-1232	<0.095		mg/kg dw	11/05/1998	0.095	tls	379	53	SW 8082
PCB-1242	<0.095		mg/kg dw	11/05/1998	0.095	tls	379	53	SW 8082
PCB-1248	<0.095		mg/kg dw	11/05/1998	0.095	tls	379	53	SW 8082
PCB-1254	<0.095		mg/kg dw	11/05/1998	0.095	tls	379	53	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.
RM : Low surrogate recovery verified by re-analysis

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499075

NET Job No.: 98.13604

Sample Description: X-5
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 15:05
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	<0.095	mg/kg dw	11/05/1998	0.095	tls	379 53	SW 8082
Decachlorobiphenyl (Surr)	96.0	%	11/05/1998	NA	tls	379 53	SW 8082
2,4,5,6-TCMX (Surr)	70.0	%	11/05/1998	NA	tls	379 53	SW 8082

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499076

NET Job No.: 98.13604

Sample Description: X-8
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 14:55
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.67		units	10/30/1998	0.10	nwg		187	SW 9045B
Solids, Total	54.4		%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	8.3		mg/kg dw	11/06/1998	0.92	jtt	237	671	SW 7060
Barium, ICP	2,020		mg/kg dw	11/05/1998	1.8	kdw	1163	2184	SW 6010B
Cadmium, ICP	<0.92		mg/kg dw	11/05/1998	0.92	jtt	1163	2172	SW 6010B
Chromium, ICP	12		mg/kg dw	11/05/1998	3.7	jtt	1163	2157	SW 6010B
Lead, ICP	26		mg/kg dw	11/05/1998	7.4	jtt	1163	2395	SW 6010B
Mercury, CVAA	<0.074		mg/kg dw	11/02/1998	0.074	sep	665	769	SW 7471A
Selenium, GFAA	<0.46		mg/kg dw	11/06/1998	0.46	mhp	237	560	SW 7740
Silver, AA	<3.7		mg/kg dw	11/02/1998	3.7	sep	490	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/30/1998		mmv	244		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<92		mg/kg dw	11/03/1998	92	out	244	489	SW 8015M
TPH as Diesel	<92		mg/kg dw	11/03/1998	92	out	244	489	SW 8015M
TPH as Oil	434	PT	mg/kg dw	11/03/1998	92	out	244	489	SW 8015M
N-octacosane (TPH surr)	84.0		%	11/03/1998		out	244	489	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.009		mg/kg dw	11/02/1998	0.009	jap		73	SW 8260A
Ethylbenzene	<0.009		mg/kg dw	11/02/1998	0.009	jap		73	SW 8260A
Toluene	<0.009		mg/kg dw	11/02/1998	0.009	jap		73	SW 8260A
Xylenes, Total	<0.009		mg/kg dw	11/02/1998	0.009	jap		73	SW 8260A
Toluene-d8 (Surr)	85.2		%	11/02/1998	74-129	jap		73	SW 8260A
4-Bromofluoromethane (Surr)	63.2	R	%	11/02/1998	70-130	jap		73	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/30/1998		btl	766		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.
R : Surrogate recovery verified by re-analysis.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499076

NET Job No.: 98.13604

Sample Description: X-8
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 14:55
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.037		mg/kg dw	11/05/1998	0.037	keh	766	1831	SW 8310
Acenaphthylene	<0.037		mg/kg dw	11/05/1998	0.037	keh	766	1831	SW 8310
Anthracene	<0.14	MX	mg/kg dw	11/05/1998	0.074	keh	766	1831	SW 8310
Benzo(a)anthracene	<0.94	MX	mg/kg dw	11/05/1998	0.0048	keh	766	1831	SW 8310
Benzo(b)fluoranthene	<0.40	MX	mg/kg dw	11/05/1998	0.0066	keh	766	1831	SW 8310
Benzo(k)fluoranthene	<0.40	MX	mg/kg dw	11/05/1998	0.0062	keh	766	1831	SW 8310
Benzo(a)pyrene	<0.29	MX	mg/kg dw	11/05/1998	0.0085	keh	766	1831	SW 8310
Benzo(ghi)perylene	<0.074		mg/kg dw	11/05/1998	0.074	keh	766	1831	SW 8310
Chrysene	0.29		mg/kg dw	11/06/1998	0.06	keh	766	1832	SW 8310
Dibenzo(a,h)anthracene	<0.033	MX	mg/kg dw	11/05/1998	0.01	keh	766	1831	SW 8310
Fluoranthene	<0.26	MX	mg/kg dw	11/05/1998	0.037	keh	766	1831	SW 8310
Fluorene	<0.11	MX	mg/kg dw	11/05/1998	0.037	keh	766	1831	SW 8310
Indeno(1,2,3-cd)pyrene	<0.016		mg/kg dw	11/05/1998	0.016	keh	766	1831	SW 8310
Naphthalene	0.26		mg/kg dw	11/05/1998	0.046	keh	766	1831	SW 8310
Phenanthrene	0.22		mg/kg dw	11/05/1998	0.074	keh	766	1831	SW 8310
Pyrene	0.28		mg/kg dw	11/05/1998	0.037	keh	766	1831	SW 8310
Surr: p-Terphenyl	Masked			11/05/1998	43-125	keh	766	1831	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/02/1998	COMPLETE	wna	379		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.074		mg/kg dw	11/06/1998	0.074	tls	379	53	SW 8082
PCB-1221	<0.074		mg/kg dw	11/06/1998	0.074	tls	379	53	SW 8082
PCB-1232	<0.074		mg/kg dw	11/06/1998	0.074	tls	379	53	SW 8082
PCB-1242	<0.074		mg/kg dw	11/06/1998	0.074	tls	379	53	SW 8082
PCB-1248	<0.074		mg/kg dw	11/06/1998	0.074	tls	379	53	SW 8082
PCB-1254	<0.074		mg/kg dw	11/06/1998	0.074	tls	379	53	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499076

NET Job No.: 98.13604

Sample Description: X-8
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 14:55
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	<0.074	mg/kg dw	11/06/1998	0.074	tls	379 53	SW 8082
Decachlorobiphenyl (Surr)	96.0	%	11/06/1998	NA	tls	379 53	SW 8082
2,4,5,6-TCMX (Surr)	80.0	%	11/06/1998	NA	tls	379 53	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998
Sample No. : 499077
NET Job No.: 98.13604

Sample Description: X-9
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 14:05
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.82		units	10/30/1998	0.10	nwg		187	SW 9045B
Solids, Total	20.6		%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	9.7		mg/kg dw	11/06/1998	2.4	mhp	234	672	SW 7060
Barium, ICP	5,830		mg/kg dw	11/05/1998	4.9	kdw	1164	2186	SW 6010B
Cadmium, ICP	3.7		mg/kg dw	11/05/1998	2.4	jtt	1164	2172	SW 6010B
Chromium, ICP	680		mg/kg dw	11/05/1998	9.7	jtt	1164	2157	SW 6010B
Lead, ICP	874		mg/kg dw	11/05/1998	19	jtt	1164	2395	SW 6010B
Mercury, CVAA	<0.19		mg/kg dw	11/02/1998	0.19	sep	665	769	SW 7471A
Selenium, GFAA	<1.2		mg/kg dw	11/06/1998	1.2	jtt	234	559	SW 7740
Silver, AA	<9.7		mg/kg dw	11/04/1998	9.7	sep	491	571	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/30/1998		mmv	244		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<240		mg/kg dw	11/03/1998	240	out	244	489	SW 8015M
TPH as Diesel	3,380	PT	mg/kg dw	11/03/1998	240	out	244	489	SW 8015M
TPH as Oil	<240		mg/kg dw	11/03/1998	240	out	244	489	SW 8015M
N-octacosane (TPH surr)	101.0		%	11/03/1998		out	244	489	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.02		mg/kg dw	11/02/1998	0.02	jap		73	SW 8260A
Ethylbenzene	<0.02		mg/kg dw	11/02/1998	0.02	jap		73	SW 8260A
Toluene	<0.02		mg/kg dw	11/02/1998	0.02	jap		73	SW 8260A
Xylenes, Total	<0.02		mg/kg dw	11/02/1998	0.02	jap		73	SW 8260A
Toluene-d8 (Surr)	88.2		%	11/02/1998	74-129	jap		73	SW 8260A
4-Bromofluoromethane (Surr)	90.0		%	11/02/1998	70-130	jap		73	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/30/1998		btl	766		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the diesel range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499077

NET Job No.: 98.13604

Sample Description: X-9
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 14:05
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.97	mg/kg dw	11/05/1998	0.097	keh	766	1831	SW 8310
Acenaphthylene	<0.97	mg/kg dw	11/05/1998	0.097	keh	766	1831	SW 8310
Anthracene	8.7	mg/kg dw	11/05/1998	0.19	keh	766	1831	SW 8310
Benzo(a)anthracene	16	mg/kg dw	11/05/1998	0.013	keh	766	1831	SW 8310
Benzo(b)fluoranthene	12	mg/kg dw	11/05/1998	0.017	keh	766	1831	SW 8310
Benzo(k)fluoranthene	8.3	mg/kg dw	11/05/1998	0.017	keh	766	1831	SW 8310
Benzo(a)pyrene	14	mg/kg dw	11/05/1998	0.022	keh	766	1831	SW 8310
Benzo(ghi)perylene	11	mg/kg dw	11/05/1998	0.19	keh	766	1831	SW 8310
Chrysene	17	mg/kg dw	11/05/1998	0.1	keh	766	1831	SW 8310
Dibenzo(a,h)anthracene	<1.6	mg/kg dw	11/05/1998	0.03	keh	766	1831	SW 8310
Fluoranthene	58	mg/kg dw	11/05/1998	0.097	keh	766	1831	SW 8310
Fluorene	8.7	mg/kg dw	11/05/1998	0.097	keh	766	1831	SW 8310
Indeno(1,2,3-cd)pyrene	7.8	mg/kg dw	11/05/1998	0.042	keh	766	1831	SW 8310
Naphthalene	<1.2	mg/kg dw	11/05/1998	0.12	keh	766	1831	SW 8310
Phenanthrene	42	mg/kg dw	11/05/1998	0.19	keh	766	1831	SW 8310
Pyrene	49	mg/kg dw	11/05/1998	0.097	keh	766	1831	SW 8310
Surr: p-Terphenyl	Diluted out		11/05/1998	43-125	keh	766	1831	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/02/1998	COMPLETE	wna	379		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.19	mg/kg dw	11/06/1998	0.19	tls	379	53	SW 8082
PCB-1221	<0.19	mg/kg dw	11/06/1998	0.19	tls	379	53	SW 8082
PCB-1232	<0.19	mg/kg dw	11/06/1998	0.19	tls	379	53	SW 8082
PCB-1242	<0.19	mg/kg dw	11/06/1998	0.19	tls	379	53	SW 8082
PCB-1248	<0.19	mg/kg dw	11/06/1998	0.19	tls	379	53	SW 8082
PCB-1254	<0.19	mg/kg dw	11/06/1998	0.19	tls	379	53	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499077

NET Job No.: 98.13604

Sample Description: X-9
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 14:05
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.19	mg/kg dw	11/06/1998	0.19	tls	379	53	SW 8082
Decachlorobiphenyl (Surr)	87.0	%	11/06/1998	NA	tls	379	53	SW 8082
2,4,5,6-TCMX (Surr)	73.0	%	11/06/1998	NA	tls	379	53	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499078

NET Job No.: 98.13604

Sample Description: X-10
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 12:00
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.72		units	10/30/1998	0.10	nwg		187	SW 9045B
Solids, Total	80.4		%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	12		mg/kg dw	11/06/1998	0.62	mhp	234	672	SW 7060
Barium, ICP	92		mg/kg dw	11/05/1998	1.2	kdw	1164	2186	SW 6010B
Cadmium, ICP	0.87		mg/kg dw	11/05/1998	0.62	jtt	1164	2172	SW 6010B
Chromium, ICP	19		mg/kg dw	11/05/1998	2.5	jtt	1164	2157	SW 6010B
Lead, ICP	20		mg/kg dw	11/05/1998	5.0	jtt	1164	2395	SW 6010B
Mercury, CVAA	<0.050		mg/kg dw	11/02/1998	0.050	sep	665	769	SW 7471A
Selenium, GFAA	<0.31		mg/kg dw	11/06/1998	0.31	jtt	234	559	SW 7740
Silver, AA	<2.5		mg/kg dw	11/04/1998	2.5	sep	491	571	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/30/1998		mmv	244		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<622		mg/kg dw	11/04/1998	62	out	244	489	SW 8015M
TPH as Diesel	3,000	PT	mg/kg dw	11/04/1998	62	out	244	489	SW 8015M
TPH as Oil	<622		mg/kg dw	11/04/1998	62	out	244	489	SW 8015M
N-octacosane (TPH surr)	110.0		%	11/04/1998		out	244	489	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	11/02/1998	0.006	jap		73	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	11/02/1998	0.006	jap		73	SW 8260A
Toluene	<0.006		mg/kg dw	11/02/1998	0.006	jap		73	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	11/02/1998	0.006	jap		73	SW 8260A
Toluene-d8 (Surr)	100.6		%	11/02/1998	74-129	jap		73	SW 8260A
4-Bromofluoromethane (Surr)	104.6		%	11/02/1998	70-130	jap		73	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/30/1998		btl	766		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the diesel range.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499078

NET Job No.: 98.13604

Sample Description: X-10
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 12:00
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.025		mg/kg dw	11/05/1998	0.025	keh	766	1831	SW 8310
Acenaphthylene	<0.025		mg/kg dw	11/05/1998	0.025	keh	766	1831	SW 8310
Anthracene	<0.46	MX	mg/kg dw	11/05/1998	0.050	keh	766	1831	SW 8310
Benzo(a)anthracene	<0.21	MX	mg/kg dw	11/05/1998	0.0032	keh	766	1831	SW 8310
Benzo(b)fluoranthene	<0.073	MX	mg/kg dw	11/05/1998	0.0045	keh	766	1831	SW 8310
Benzo(k)fluoranthene	<0.057	MX	mg/kg dw	11/05/1998	0.0042	keh	766	1831	SW 8310
Benzo(a)pyrene	<0.041	MX	mg/kg dw	11/05/1998	0.0057	keh	766	1831	SW 8310
Benzo(ghi)perylene	<0.050		mg/kg dw	11/05/1998	0.050	keh	766	1831	SW 8310
Chrysene	<0.04		mg/kg dw	11/06/1998	0.04	keh	766	1832	SW 8310
Dibenzo(a,h)anthracene	<0.016	MX	mg/kg dw	11/05/1998	0.007	keh	766	1831	SW 8310
Fluoranthene	<0.30	MX	mg/kg dw	11/05/1998	0.025	keh	766	1831	SW 8310
Fluorene	0.15		mg/kg dw	11/05/1998	0.025	keh	766	1831	SW 8310
Indeno(1,2,3-cd)pyrene	<0.011		mg/kg dw	11/05/1998	0.011	keh	766	1831	SW 8310
Naphthalene	<0.031		mg/kg dw	11/05/1998	0.031	keh	766	1831	SW 8310
Phenanthrene	0.14		mg/kg dw	11/05/1998	0.050	keh	766	1831	SW 8310
Pyrene	<0.52	MX	mg/kg dw	11/05/1998	0.025	keh	766	1831	SW 8310
Surr: p-Terphenyl	Masked			11/05/1998	43-125	keh	766	1831	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/02/1998	COMPLETE	wna	379		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.050		mg/kg dw	11/05/1998	0.050	tls	379	52	SW 8082
PCB-1221	<0.050		mg/kg dw	11/05/1998	0.050	tls	379	52	SW 8082
PCB-1232	<0.050		mg/kg dw	11/05/1998	0.050	tls	379	52	SW 8082
PCB-1242	<0.050		mg/kg dw	11/05/1998	0.050	tls	379	52	SW 8082
PCB-1248	<0.050		mg/kg dw	11/05/1998	0.050	tls	379	52	SW 8082
PCB-1254	<0.050		mg/kg dw	11/05/1998	0.050	tls	379	52	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

NATIONAL ENVIRONMENTAL TESTING, INC.

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(800) 807-2877

ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499078

NET Job No.: 98.13604

Sample Description: X-10
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 12:00
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.050	mg/kg dw	11/05/1998	0.050	tls	379	52	SW 8082
Decachlorobiphenyl (Surr)	89.0	%	11/05/1998	NA	tls	379	52	SW 8082
2,4,5,6-TCMX (Surr)	71.0	%	11/05/1998	NA	tls	379	52	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499079

NET Job No.: 98.13604

Sample Description: X-11
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 12:25
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.65		units	10/30/1998	0.10	nwg		187	SW 9045B
Solids, Total	68.1		%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	2.5		mg/kg dw	11/06/1998	0.73	mhp	234	672	SW 7060
Barium, ICP	470		mg/kg dw	11/05/1998	1.5	kdw	1164	2186	SW 6010B
Cadmium, ICP	0.78		mg/kg dw	11/05/1998	0.73	jtt	1164	2172	SW 6010B
Chromium, ICP	7.6		mg/kg dw	11/05/1998	2.9	jtt	1164	2157	SW 6010B
Lead, ICP	16		mg/kg dw	11/05/1998	5.9	jtt	1164	2395	SW 6010B
Mercury, CVAA	<0.059		mg/kg dw	11/02/1998	0.059	sep	665	769	SW 7471A
Selenium, GFAA	<0.37		mg/kg dw	11/06/1998	0.37	jtt	234	559	SW 7740
Silver, AA	<2.9		mg/kg dw	11/04/1998	2.9	sep	491	571	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/30/1998		mmv	244		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<734		mg/kg dw	11/04/1998	73	out	244	489	SW 8015M
TPH as Diesel	16,700	PT	mg/kg dw	11/04/1998	73	out	244	489	SW 8015M
TPH as Oil	<734		mg/kg dw	11/04/1998	73	out	244	489	SW 8015M
N-octacosane (TPH surr)	93.0		%	11/04/1998		out	244	489	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.007		mg/kg dw	11/02/1998	0.007	jap		73	SW 8260A
Ethylbenzene	<0.007		mg/kg dw	11/02/1998	0.007	jap		73	SW 8260A
Toluene	<0.007		mg/kg dw	11/02/1998	0.007	jap		73	SW 8260A
Xylenes, Total	<0.007		mg/kg dw	11/02/1998	0.007	jap		73	SW 8260A
Toluene-d8 (Surr)	88.4		%	11/02/1998	74-129	jap		73	SW 8260A
4-Bromofluoromethane (Surr)	97.6		%	11/02/1998	70-130	jap		73	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/30/1998		btl	766		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the diesel range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998
Sample No. : 499079
NET Job No.: 98.13604

Sample Description: X-11
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 12:25
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	1.4	mg/kg dw	11/05/1998	0.029	keh	766	1831	SW 8310
Acenaphthylene	<0.58	mg/kg dw	11/05/1998	0.029	keh	766	1831	SW 8310
Anthracene	<15	mg/kg dw	11/05/1998	0.059	keh	766	1831	SW 8310
Benzo(a)anthracene	<5.9	mg/kg dw	11/05/1998	0.0038	keh	766	1831	SW 8310
Benzo(b)fluoranthene	<0.93	mg/kg dw	11/05/1998	0.0053	keh	766	1831	SW 8310
Benzo(k)fluoranthene	<1.1	mg/kg dw	11/05/1998	0.0050	keh	766	1831	SW 8310
Benzo(a)pyrene	<0.81	mg/kg dw	11/05/1998	0.0068	keh	766	1831	SW 8310
Benzo(ghi)perylene	<1.2	mg/kg dw	11/05/1998	0.059	keh	766	1831	SW 8310
Chrysene	<0.8	mg/kg dw	11/06/1998	0.04	keh	766	1832	SW 8310
Dibenzo(a,h)anthracene	<0.2	mg/kg dw	11/05/1998	0.009	keh	766	1831	SW 8310
Fluoranthene	<13	mg/kg dw	11/05/1998	0.029	keh	766	1831	SW 8310
Fluorene	7.8	mg/kg dw	11/05/1998	0.029	keh	766	1831	SW 8310
Indeno(1,2,3-cd)pyrene	<0.26	mg/kg dw	11/05/1998	0.013	keh	766	1831	SW 8310
Naphthalene	<0.74	mg/kg dw	11/05/1998	0.037	keh	766	1831	SW 8310
Phenanthrene	<15	mg/kg dw	11/05/1998	0.059	keh	766	1831	SW 8310
Pyrene	<19	mg/kg dw	11/05/1998	0.029	keh	766	1831	SW 8310
Surr: p-Terphenyl	Diluted out		11/05/1998	43-125	keh	766	1831	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/02/1998	COMPLETE	wna	379		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.059	mg/kg dw	11/05/1998	0.059	tls	379	52	SW 8082
PCB-1221	<0.059	mg/kg dw	11/05/1998	0.059	tls	379	52	SW 8082
PCB-1232	<0.059	mg/kg dw	11/05/1998	0.059	tls	379	52	SW 8082
PCB-1242	<0.059	mg/kg dw	11/05/1998	0.059	tls	379	52	SW 8082
PCB-1248	<0.059	mg/kg dw	11/05/1998	0.059	tls	379	52	SW 8082
PCB-1254	<0.059	mg/kg dw	11/05/1998	0.059	tls	379	52	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499079

NET Job No.: 98.13604

Sample Description: X-11
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 12:25
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.059	mg/kg dw	11/05/1998	0.059	tls	379	52	SW 8082
Decachlorobiphenyl (Surr)	80.0	%	11/05/1998	NA	tls	379	52	SW 8082
2,4,5,6-TCMX (Surr)	64.0	%	11/05/1998	NA	tls	379	52	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499080

NET Job No.: 98.13604

Sample Description: X-12
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 15:15
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.11		units	10/30/1998	0.10	nwg		187	SW 9045B
Solids, Total	72.9		%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	1.9		mg/kg dw	11/06/1998	0.69	mhp	234	672	SW 7060
Barium, ICP	329		mg/kg dw	11/05/1998	1.4	kdw	1164	2186	SW 6010B
Cadmium, ICP	1.9		mg/kg dw	11/05/1998	0.69	jtt	1164	2172	SW 6010B
Chromium, ICP	11		mg/kg dw	11/05/1998	2.7	jtt	1164	2157	SW 6010B
Lead, ICP	12		mg/kg dw	11/05/1998	5.5	jtt	1164	2395	SW 6010B
Mercury, CVAA	<0.055		mg/kg dw	11/02/1998	0.055	sep	665	769	SW 7471A
Selenium, GFAA	<0.34		mg/kg dw	11/06/1998	0.34	mhp	234	560	SW 7740
Silver, AA	<2.7		mg/kg dw	11/04/1998	2.7	sep	491	571	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/30/1998		mmv	244		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<69		mg/kg dw	11/04/1998	69	out	244	489	SW 8015M
TPH as Diesel	475	PT	mg/kg dw	11/04/1998	69	out	244	489	SW 8015M
TPH as Oil	<69		mg/kg dw	11/04/1998	69	out	244	489	SW 8015M
N-octacosane (TPH surr)	114.0		%	11/04/1998		out	244	489	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.007		mg/kg dw	11/02/1998	0.007	jap		73	SW 8260A
Ethylbenzene	<0.007		mg/kg dw	11/02/1998	0.007	jap		73	SW 8260A
Toluene	<0.007		mg/kg dw	11/02/1998	0.007	jap		73	SW 8260A
Xylenes, Total	<0.007		mg/kg dw	11/02/1998	0.007	jap		73	SW 8260A
Toluene-d8 (Surr)	94.8		%	11/02/1998	74-129	jap		73	SW 8260A
4-Bromofluoromethane (Surr)	98.8		%	11/02/1998	70-130	jap		73	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/30/1998		btl	767		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the diesel range.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998
Sample No. : 499080
NET Job No.: 98.13604

Sample Description: X-12
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 15:15
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.94	mg/kg dw	11/05/1998	0.027	keh	767	1831	SW 8310
Acenaphthylene	<0.94	mg/kg dw	11/05/1998	0.027	keh	767	1831	SW 8310
Anthracene	2.9	mg/kg dw	11/05/1998	0.055	keh	767	1831	SW 8310
Benzo(a)anthracene	<9.2	mg/kg dw	11/05/1998	0.0036	keh	767	1831	SW 8310
Benzo(b)fluoranthene	1.9	mg/kg dw	11/05/1998	0.0049	keh	767	1831	SW 8310
Benzo(k)fluoranthene	<2.2	mg/kg dw	11/05/1998	0.0047	keh	767	1831	SW 8310
Benzo(a)pyrene	2.2	mg/kg dw	11/05/1998	0.0063	keh	767	1831	SW 8310
Benzo(ghi)perylene	<1.9	mg/kg dw	11/05/1998	0.055	keh	767	1831	SW 8310
Chrysene	1.5	mg/kg dw	11/06/1998	0.04	keh	767	1832	SW 8310
Dibenzo(a,h)anthracene	<0.3	mg/kg dw	11/05/1998	0.008	keh	767	1831	SW 8310
Fluoranthene	6.2	mg/kg dw	11/05/1998	0.027	keh	767	1831	SW 8310
Fluorene	1.6	mg/kg dw	11/05/1998	0.027	keh	767	1831	SW 8310
Indeno(1,2,3-cd)pyrene	0.82	mg/kg dw	11/05/1998	0.012	keh	767	1831	SW 8310
Naphthalene	<1.2	mg/kg dw	11/05/1998	0.034	keh	767	1831	SW 8310
Phenanthrene	4.1	mg/kg dw	11/05/1998	0.055	keh	767	1831	SW 8310
Pyrene	3.8	mg/kg dw	11/05/1998	0.027	keh	767	1831	SW 8310
Surr: p-Terphenyl	Diluted out		11/05/1998	43-125	keh	767	1831	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/02/1998	COMPLETE	wna	379		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.055	mg/kg dw	11/05/1998	0.055	tls	379	52	SW 8082
PCB-1221	<0.055	mg/kg dw	11/05/1998	0.055	tls	379	52	SW 8082
PCB-1232	<0.055	mg/kg dw	11/05/1998	0.055	tls	379	52	SW 8082
PCB-1242	<0.055	mg/kg dw	11/05/1998	0.055	tls	379	52	SW 8082
PCB-1248	<0.055	mg/kg dw	11/05/1998	0.055	tls	379	52	SW 8082
PCB-1254	<0.055	mg/kg dw	11/05/1998	0.055	tls	379	52	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499080

NET Job No.: 98.13604

Sample Description: X-12
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 15:15
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	0.15	mg/kg dw	11/05/1998	0.055	tls	379	52	SW 8082
Decachlorobiphenyl (Surr)	81.0	%	11/05/1998	NA	tls	379	52	SW 8082
2,4,5,6-TCMX (Surr)	65.0	%	11/05/1998	NA	tls	379	52	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499081

NET Job No.: 98.13604

Sample Description: X-14
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 09:10
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.17		units	10/30/1998	0.10	nwg		187	SW 9045B
Solids, Total	43.4		%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	5.3		mg/kg dw	11/06/1998	1.2	mhp	234	672	SW 7060
Barium, ICP	2,350		mg/kg dw	11/05/1998	2.3	kdw	1164	2186	SW 6010B
Cadmium, ICP	1.2		mg/kg dw	11/05/1998	1.2	jtt	1164	2172	SW 6010B
Chromium, ICP	32		mg/kg dw	11/05/1998	4.6	jtt	1164	2157	SW 6010B
Lead, ICP	30		mg/kg dw	11/05/1998	9.2	jtt	1164	2395	SW 6010B
Mercury, CVAA	<0.092		mg/kg dw	11/02/1998	0.092	sep	665	769	SW 7471A
Selenium, GFAA	<0.58	M+	mg/kg dw	11/06/1998	0.58	mhp	234	560	SW 7740
Silver, AA	<4.6		mg/kg dw	11/04/1998	4.6	sep	491	571	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/30/1998		mmv	244		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<120		mg/kg dw	11/04/1998	120	out	244	489	SW 8015M
TPH as Diesel	<120		mg/kg dw	11/04/1998	120	out	244	489	SW 8015M
TPH as Oil	<120		mg/kg dw	11/04/1998	120	out	244	489	SW 8015M
N-octacosane (TPH surr)	96.0		%	11/04/1998		out	244	489	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.01		mg/kg dw	11/02/1998	0.01	jap		73	SW 8260A
Ethylbenzene	<0.01		mg/kg dw	11/02/1998	0.01	jap		73	SW 8260A
Toluene	<0.01		mg/kg dw	11/02/1998	0.01	jap		73	SW 8260A
Xylenes, Total	<0.01		mg/kg dw	11/02/1998	0.01	jap		73	SW 8260A
Toluene-d8 (Surr)	79.0		%	11/02/1998	74-129	jap		73	SW 8260A
4-Bromofluoromethane (Surr)	70.6		%	11/02/1998	70-130	jap		73	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/30/1998		btl	767		SW 3540C

M+ : Analyte quantified by MSA due to low spike recovery.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499081

NET Job No.: 98.13604

Sample Description: X-14
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 09:10
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.046		mg/kg dw	11/05/1998	0.046	kdw	767	1827	SW 8310
Acenaphthylene	<0.046		mg/kg dw	11/05/1998	0.046	kdw	767	1827	SW 8310
Anthracene	<0.092		mg/kg dw	11/05/1998	0.092	kdw	767	1827	SW 8310
Benzo(a)anthracene	<0.0477	MX	mg/kg dw	11/05/1998	0.0060	kdw	767	1827	SW 8310
Benzo(b)fluoranthene	0.015		mg/kg dw	11/05/1998	0.0083	kdw	767	1827	SW 8310
Benzo(k)fluoranthene	<0.014	MX	mg/kg dw	11/05/1998	0.0078	kdw	767	1827	SW 8310
Benzo(a)pyrene	0.018		mg/kg dw	11/05/1998	0.011	kdw	767	1827	SW 8310
Benzo(ghi)perylene	<0.092		mg/kg dw	11/05/1998	0.092	kdw	767	1827	SW 8310
Chrysene	<0.07		mg/kg dw	11/06/1998	0.07	keh	767	1831	SW 8310
Dibenzo(a,h)anthracene	<0.01		mg/kg dw	11/05/1998	0.01	kdw	767	1827	SW 8310
Fluoranthene	<0.046		mg/kg dw	11/05/1998	0.046	kdw	767	1827	SW 8310
Fluorene	<0.046		mg/kg dw	11/05/1998	0.046	kdw	767	1827	SW 8310
Indeno(1,2,3-cd)pyrene	<0.020		mg/kg dw	11/05/1998	0.020	kdw	767	1827	SW 8310
Naphthalene	<0.058		mg/kg dw	11/05/1998	0.058	kdw	767	1827	SW 8310
Phenanthrene	<0.092		mg/kg dw	11/05/1998	0.092	kdw	767	1827	SW 8310
Pyrene	<0.046		mg/kg dw	11/05/1998	0.046	kdw	767	1827	SW 8310
Surr: p-Terphenyl	28.5	RM	%	11/05/1998	43-125	kdw	767	1827	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/02/1998	COMPLETE	wna	379		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.092		mg/kg dw	11/05/1998	0.092	tls	379	52	SW 8082
PCB-1221	<0.092		mg/kg dw	11/05/1998	0.092	tls	379	52	SW 8082
PCB-1232	<0.092		mg/kg dw	11/05/1998	0.092	tls	379	52	SW 8082
PCB-1242	<0.092		mg/kg dw	11/05/1998	0.092	tls	379	52	SW 8082
PCB-1248	<0.092		mg/kg dw	11/05/1998	0.092	tls	379	52	SW 8082
PCB-1254	<0.092		mg/kg dw	11/05/1998	0.092	tls	379	52	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.
RM : Low surrogate recovery verified by re-analysis

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499081

NET Job No.: 98.13604

Sample Description: X-14
ComEd-Will County Station; 1801-023-710

Date Taken: 10/19/1998
Time Taken: 09:10
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	<0.092	mg/kg dw	11/05/1998	0.092	tls	379 52	SW 8082
Decachlorobiphenyl (Surr)	79.0	%	11/05/1998	NA	tls	379 52	SW 8082
2,4,5,6-TCMX (Surr)	58.0	%	11/05/1998	NA	tls	379 52	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499082

NET Job No.: 98.13604

Sample Description: X-1
ComEd-Will County Station; 1801-023-710

Date Taken: 10/20/1998
Time Taken: 09:45
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.75	units	10/30/1998	0.10	nwg		187	SW 9045B
Solids, Total	40.2	%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	24	mg/kg dw	11/06/1998	1.2	mhp	234	672	SW 7060
Barium, ICP	4,730	mg/kg dw	11/05/1998	2.5	kdw	1164	2186	SW 6010B
Cadmium, ICP	4.2	mg/kg dw	11/05/1998	1.2	jtt	1164	2172	SW 6010B
Chromium, ICP	52	mg/kg dw	11/05/1998	5.0	jtt	1164	2157	SW 6010B
Lead, ICP	70	mg/kg dw	11/05/1998	10	jtt	1164	2395	SW 6010B
Mercury, CVAA	0.40	mg/kg dw	11/02/1998	0.10	sep	665	769	SW 7471A
Selenium, GFAA	2.2	mg/kg dw	11/06/1998	0.62	mhp	234	560	SW 7740
Silver, AA	<5.0	mg/kg dw	11/04/1998	5.0	sep	491	571	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/30/1998		mmv	244		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<120	mg/kg dw	11/04/1998	120	out	244	489	SW 8015M
TPH as Diesel	<120	mg/kg dw	11/04/1998	120	out	244	489	SW 8015M
TPH as Oil	<120	mg/kg dw	11/04/1998	120	out	244	489	SW 8015M
N-octacosane (TPH surr)	109.0	%	11/04/1998		out	244	489	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.01	mg/kg dw	11/03/1998	0.01	jap		75	SW 8260A
Ethylbenzene	<0.01	mg/kg dw	11/03/1998	0.01	jap		75	SW 8260A
Toluene	<0.01	mg/kg dw	11/03/1998	0.01	jap		75	SW 8260A
Xylenes, Total	<0.01	mg/kg dw	11/03/1998	0.01	jap		75	SW 8260A
Toluene-d8 (Surr)	105.6	%	11/03/1998	74-129	jap		75	SW 8260A
4-Bromofluoromethane (Surr)	102.0	%	11/03/1998	70-130	jap		75	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/30/1998		btl	767		SW 3540C

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998
Sample No. : 499082
NET Job No.: 98.13604

Sample Description: X-1
ComEd-Will County Station; 1801-023-710

Date Taken: 10/20/1998
Time Taken: 09:45
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.050		mg/kg dw	11/05/1998	0.050	kdw	767	1827	SW 8310
Acenaphthylene	<0.050		mg/kg dw	11/05/1998	0.050	kdw	767	1827	SW 8310
Anthracene	<0.10		mg/kg dw	11/05/1998	0.10	kdw	767	1827	SW 8310
Benzo(a)anthracene	<0.0453	MX	mg/kg dw	11/05/1998	0.0065	kdw	767	1827	SW 8310
Benzo(b)fluoranthene	0.02		mg/kg dw	11/05/1998	0.0090	kdw	767	1827	SW 8310
Benzo(k)fluoranthene	<0.0649	MX	mg/kg dw	11/05/1998	0.0085	kdw	767	1827	SW 8310
Benzo(a)pyrene	<0.020		mg/kg dw	11/05/1998	0.011	kdw	767	1827	SW 8310
Benzo(ghi)perylene	<0.10		mg/kg dw	11/05/1998	0.10	kdw	767	1827	SW 8310
Chrysene	<0.07		mg/kg dw	11/06/1998	0.07	keh	767	1831	SW 8310
Dibenzo(a,h)anthracene	<0.01		mg/kg dw	11/05/1998	0.01	kdw	767	1827	SW 8310
Fluoranthene	<0.050		mg/kg dw	11/05/1998	0.050	kdw	767	1827	SW 8310
Fluorene	<0.18	MX	mg/kg dw	11/05/1998	0.050	kdw	767	1827	SW 8310
Indeno(1,2,3-cd)pyrene	<0.021		mg/kg dw	11/05/1998	0.021	kdw	767	1827	SW 8310
Naphthalene	0.15		mg/kg dw	11/05/1998	0.062	kdw	767	1827	SW 8310
Phenanthrene	<0.10		mg/kg dw	11/05/1998	0.10	kdw	767	1827	SW 8310
Pyrene	<0.050		mg/kg dw	11/05/1998	0.050	kdw	767	1827	SW 8310
Surr: p-Terphenyl	32.1	RM	%	11/05/1998	43-125	kdw	767	1827	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/02/1998	COMPLETE	wna	380		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.10		mg/kg dw	11/05/1998	0.10	tls	380	52	SW 8082
PCB-1221	<0.10		mg/kg dw	11/05/1998	0.10	tls	380	52	SW 8082
PCB-1232	<0.10		mg/kg dw	11/05/1998	0.10	tls	380	52	SW 8082
PCB-1242	<0.10		mg/kg dw	11/05/1998	0.10	tls	380	52	SW 8082
PCB-1248	<0.10		mg/kg dw	11/05/1998	0.10	tls	380	52	SW 8082
PCB-1254	<0.10		mg/kg dw	11/05/1998	0.10	tls	380	52	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.
RM : Low surrogate recovery verified by re-analysis.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499082

NET Job No.: 98.13604

Sample Description: X-1
ComEd-Will County Station; 1801-023-710

Date Taken: 10/20/1998
Time Taken: 09:45
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.10	mg/kg dw	11/05/1998	0.10	tls	380	52	SW 8082
Decachlorobiphenyl (Surr)	84.0	%	11/05/1998	NA	tls	380	52	SW 8082
2,4,5,6-TCMX (Surr)	80.0	%	11/05/1998	NA	tls	380	52	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499083

NET Job No.: 98.13604

Sample Description: X-2
ComEd-Will County Station; 1801-023-710

Date Taken: 10/20/1998
Time Taken: 09:35
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	9.05	units	10/30/1998	0.10	nwg	188	SW 9045B
Solids, Total	81.0	%	11/02/1998	0.1	efw	2514	SM 2540
Arsenic, GFAA	2.2	mg/kg dw	11/06/1998	0.62	mhp	234 672	SW 7060
Barium, ICP	173	mg/kg dw	11/05/1998	1.2	kdw	1164 2186	SW 6010B
Cadmium, ICP	<0.62	mg/kg dw	11/05/1998	0.62	jtt	1164 2172	SW 6010B
Chromium, ICP	3.0	mg/kg dw	11/05/1998	2.5	jtt	1164 2157	SW 6010B
Lead, ICP	<4.9	mg/kg dw	11/05/1998	4.9	jtt	1164 2395	SW 6010B
Mercury, CVAA	<0.049	mg/kg dw	11/02/1998	0.049	sep	665 769	SW 7471A
Selenium, GFAA	<0.31	mg/kg dw	11/06/1998	0.31	mhp	234 560	SW 7740
Silver, AA	3.7	mg/kg dw	11/02/1998	2.5	sep	492 569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		11/02/1998		wna	245	SW 8015M
TPH MODIFIED 8015							
TPH as Gas	<62	mg/kg dw	11/04/1998	62	out	245 491	SW 8015M
TPH as Diesel	<62	mg/kg dw	11/04/1998	62	out	245 491	SW 8015M
TPH as Oil	<62	mg/kg dw	11/04/1998	62	out	245 491	SW 8015M
N-octacosane (TPH surr)	85.0	%	11/04/1998		out	245 491	SW 8015M
UST VOLATILES NON-AQUEOUS							
Benzene	<0.006	mg/kg dw	11/03/1998	0.006	jap	75	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	11/03/1998	0.006	jap	75	SW 8260A
Toluene	<0.006	mg/kg dw	11/03/1998	0.006	jap	75	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	11/03/1998	0.006	jap	75	SW 8260A
Toluene-d8 (Surr)	100.6	%	11/03/1998	74-129	jap	75	SW 8260A
4-Bromofluoromethane (Surr)	102.8	%	11/03/1998	70-130	jap	75	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/30/1998		btl	767	SW 3540C

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499083

NET Job No.: 98.13604

Sample Description: X-2
ComEd-Will County Station; 1801-023-710

Date Taken: 10/20/1998
Time Taken: 09:35
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.025		mg/kg dw	11/05/1998	0.025	keh	767	1831	SW 8310
Acenaphthylene	<0.025		mg/kg dw	11/05/1998	0.025	keh	767	1831	SW 8310
Anthracene	<0.049		mg/kg dw	11/05/1998	0.049	keh	767	1831	SW 8310
Benzo(a)anthracene	<0.012	MX	mg/kg dw	11/05/1998	0.0032	keh	767	1831	SW 8310
Benzo(b)fluoranthene	0.0046		mg/kg dw	11/05/1998	0.0044	keh	767	1831	SW 8310
Benzo(k)fluoranthene	<0.0065	MX	mg/kg dw	11/05/1998	0.0042	keh	767	1831	SW 8310
Benzo(a)pyrene	<0.0057		mg/kg dw	11/05/1998	0.0057	keh	767	1831	SW 8310
Benzo(ghi)perylene	<0.049		mg/kg dw	11/05/1998	0.049	keh	767	1831	SW 8310
Chrysene	<0.04		mg/kg dw	11/06/1998	0.04	keh	767	1832	SW 8310
Dibenzo(a,h)anthracene	<0.007		mg/kg dw	11/05/1998	0.007	keh	767	1831	SW 8310
Fluoranthene	<0.025		mg/kg dw	11/05/1998	0.025	keh	767	1831	SW 8310
Fluorene	<0.054	MX	mg/kg dw	11/05/1998	0.025	keh	767	1831	SW 8310
Indeno(1,2,3-cd)pyrene	<0.011		mg/kg dw	11/05/1998	0.011	keh	767	1831	SW 8310
Naphthalene	<0.031		mg/kg dw	11/05/1998	0.031	keh	767	1831	SW 8310
Phenanthrene	<0.049		mg/kg dw	11/05/1998	0.049	keh	767	1831	SW 8310
Pyrene	<0.025		mg/kg dw	11/05/1998	0.025	keh	767	1831	SW 8310
Surr: p-Terphenyl	58.1		%	11/05/1998	43-125	keh	767	1831	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/02/1998	COMPLETE	wna	380		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.049		mg/kg dw	11/05/1998	0.049	tls	380	52	SW 8082
PCB-1221	<0.049		mg/kg dw	11/05/1998	0.049	tls	380	52	SW 8082
PCB-1232	<0.049		mg/kg dw	11/05/1998	0.049	tls	380	52	SW 8082
PCB-1242	<0.049		mg/kg dw	11/05/1998	0.049	tls	380	52	SW 8082
PCB-1248	<0.049		mg/kg dw	11/05/1998	0.049	tls	380	52	SW 8082
PCB-1254	<0.049		mg/kg dw	11/05/1998	0.049	tls	380	52	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998
Sample No. : 499083
NET Job No.: 98.13604

Sample Description: X-2
ComEd-Will County Station; 1801-023-710

Date Taken: 10/20/1998
Time Taken: 09:35
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
PCB-1260	<0.049	mg/kg dw	11/05/1998	0.049	tls	380 52	SW 8082
Decachlorobiphenyl (Surr)	84.0	%	11/05/1998	NA	tls	380 52	SW 8082
2,4,5,6-TCMX (Surr)	77.0	%	11/05/1998	NA	tls	380 52	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499084

NET Job No.: 98.13604

Sample Description: X-6
ComEd-Will County Station; 1801-023-710

Date Taken: 10/20/1998
Time Taken: 10:15
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.55	units	10/30/1998	0.10	nwg		188	SW 9045B
Solids, Total	66.8	%	11/02/1998	0.1	efw		2515	SM 2540
Arsenic, GFAA	3.4	mg/kg dw	11/07/1998	0.75	mhp	234	673	SW 7060
Barium, ICP	195	mg/kg dw	11/05/1998	1.5	kdw	1164	2186	SW 6010B
Cadmium, ICP	<0.75	mg/kg dw	11/05/1998	0.75	jtt	1164	2172	SW 6010B
Chromium, ICP	11	mg/kg dw	11/05/1998	3.0	jtt	1164	2157	SW 6010B
Lead, ICP	21	mg/kg dw	11/05/1998	6.0	jtt	1164	2395	SW 6010B
Mercury, CVAA	0.082	mg/kg dw	11/02/1998	0.060	sep	665	769	SW 7471A
Selenium, GFAA	<0.37	mg/kg dw	11/06/1998	0.37	mhp	234	560	SW 7740
Silver, AA	3.0	mg/kg dw	11/02/1998	3.0	sep	492	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		11/02/1998		wna	245		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<75	mg/kg dw	11/04/1998	75	out	245	491	SW 8015M
TPH as Diesel	<75	mg/kg dw	11/04/1998	75	out	245	491	SW 8015M
TPH as Oil	<75	mg/kg dw	11/04/1998	75	out	245	491	SW 8015M
N-octacosane (TPH surr)	107.0	%	11/04/1998		out	245	491	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.007	mg/kg dw	11/03/1998	0.007	jap		75	SW 8260A
Ethylbenzene	<0.007	mg/kg dw	11/03/1998	0.007	jap		75	SW 8260A
Toluene	<0.007	mg/kg dw	11/03/1998	0.007	jap		75	SW 8260A
Xylenes, Total	<0.007	mg/kg dw	11/03/1998	0.007	jap		75	SW 8260A
Toluene-d8 (Surr)	99.8	%	11/03/1998	74-129	jap		75	SW 8260A
4-Bromofluoromethane (Surr)	106.8	%	11/03/1998	70-130	jap		75	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/30/1998		btl	767		SW 3540C

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998
Sample No. : 499084
NET Job No.: 98.13604

Sample Description: X-6
ComEd-Will County Station; 1801-023-710

Date Taken: 10/20/1998
Time Taken: 10:15
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS								
Acenaphthene	0.033	mg/kg dw	11/05/1998	0.030	keh	767	1831	SW 8310
Acenaphthylene	<0.030	mg/kg dw	11/05/1998	0.030	keh	767	1831	SW 8310
Anthracene	0.084	mg/kg dw	11/05/1998	0.060	keh	767	1831	SW 8310
Benzo(a)anthracene	0.25	mg/kg dw	11/05/1998	0.0039	keh	767	1831	SW 8310
Benzo(b)fluoranthene	0.16	mg/kg dw	11/05/1998	0.0054	keh	767	1831	SW 8310
Benzo(k)fluoranthene	0.11	mg/kg dw	11/05/1998	0.0051	keh	767	1831	SW 8310
Benzo(a)pyrene	0.19	mg/kg dw	11/05/1998	0.0069	keh	767	1831	SW 8310
Benzo(ghi)perylene	0.14	mg/kg dw	11/05/1998	0.060	keh	767	1831	SW 8310
Chrysene	0.25	mg/kg dw	11/05/1998	0.04	keh	767	1831	SW 8310
Dibenzo(a,h)anthracene	0.021	mg/kg dw	11/05/1998	0.009	keh	767	1831	SW 8310
Fluoranthene	0.52	mg/kg dw	11/05/1998	0.030	keh	767	1831	SW 8310
Fluorene	0.049	mg/kg dw	11/05/1998	0.030	keh	767	1831	SW 8310
Indeno(1,2,3-cd)pyrene	0.10	mg/kg dw	11/05/1998	0.013	keh	767	1831	SW 8310
Naphthalene	<0.037	mg/kg dw	11/05/1998	0.037	keh	767	1831	SW 8310
Phenanthrene	0.24	mg/kg dw	11/05/1998	0.060	keh	767	1831	SW 8310
Pyrene	0.49	mg/kg dw	11/05/1998	0.030	keh	767	1831	SW 8310
Surr: p-Terphenyl	Masked		11/05/1998	43-125	keh	767	1831	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		11/02/1998	COMPLETE	wna	380		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.060	mg/kg dw	11/05/1998	0.060	tls	380	52	SW 8082
PCB-1221	<0.060	mg/kg dw	11/05/1998	0.060	tls	380	52	SW 8082
PCB-1232	<0.060	mg/kg dw	11/05/1998	0.060	tls	380	52	SW 8082
PCB-1242	<0.060	mg/kg dw	11/05/1998	0.060	tls	380	52	SW 8082
PCB-1248	<0.060	mg/kg dw	11/05/1998	0.060	tls	380	52	SW 8082
PCB-1254	<0.060	mg/kg dw	11/05/1998	0.060	tls	380	52	SW 8082

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499084

NET Job No.: 98.13604

Sample Description: X-6
ComEd-Will County Station; 1801-023-710

Date Taken: 10/20/1998
Time Taken: 10:15
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.060	mg/kg dw	11/05/1998	0.060	tls	380	52	SW 8082
Decachlorobiphenyl (Surr)	95.0	%	11/05/1998	NA	tls	380	52	SW 8082
2,4,5,6-TCMX (Surr)	81.0	%	11/05/1998	NA	tls	380	52	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499085

NET Job No.: 98.13604

Sample Description: X-7
ComEd-Will County Station; 1801-023-710

Date Taken: 10/20/1998
Time Taken: 10:25
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.32		units	10/30/1998	0.10	nwg		188	SW 9045B
Solids, Total	39.6		%	11/02/1998	0.1	efw		2515	SM 2540
Arsenic, GFAA	13		mg/kg dw	11/06/1998	1.3	mhp	234	672	SW 7060
Barium, ICP	2,780		mg/kg dw	11/05/1998	2.5	kdw	1164	2186	SW 6010B
Cadmium, ICP	2.1		mg/kg dw	11/05/1998	1.3	jrt	1164	2172	SW 6010B
Chromium, ICP	43		mg/kg dw	11/05/1998	5.1	jtt	1164	2157	SW 6010B
Lead, ICP	130		mg/kg dw	11/05/1998	10	jtt	1164	2395	SW 6010B
Mercury, CVAA	0.35		mg/kg dw	11/02/1998	0.10	sep	665	769	SW 7471A
Selenium, GFAA	0.73		mg/kg dw	11/06/1998	0.63	mhp	234	560	SW 7740
Silver, AA	<5.1		mg/kg dw	11/02/1998	5.1	sep	492	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			11/02/1998		wna	245		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<130		mg/kg dw	11/04/1998	130	out	245	491	SW 8015M
TPH as Diesel	<130		mg/kg dw	11/04/1998	130	out	245	491	SW 8015M
TPH as Oil	2,750	PT	mg/kg dw	11/04/1998	130	out	245	491	SW 8015M
N-octacosane (TPH surr)	103.0		%	11/04/1998		out	245	491	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.01		mg/kg dw	11/03/1998	0.01	jap		75	SW 8260A
Ethylbenzene	<0.01		mg/kg dw	11/03/1998	0.01	jap		75	SW 8260A
Toluene	<0.01		mg/kg dw	11/03/1998	0.01	jap		75	SW 8260A
Xylenes, Total	<0.01		mg/kg dw	11/03/1998	0.01	jap		75	SW 8260A
Toluene-d8 (Surr)	106.4		%	11/03/1998	74-129	jap		75	SW 8260A
4-Bromofluoromethane (Surr)	114.2		%	11/03/1998	70-130	jap		75	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/30/1998		btl	767		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998
Sample No. : 499085
NET Job No.: 98.13604

Sample Description: X-7
ComEd-Will County Station; 1801-023-710

Date Taken: 10/20/1998
Time Taken: 10:25
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.051		mg/kg dw	11/05/1998	0.051	keh	767	1831	SW 8310
Acenaphthylene	<0.051		mg/kg dw	11/05/1998	0.051	keh	767	1831	SW 8310
Anthracene	<0.10		mg/kg dw	11/05/1998	0.10	keh	767	1831	SW 8310
Benzo(a)anthracene	0.35		mg/kg dw	11/05/1998	0.0066	keh	767	1831	SW 8310
Benzo(b)fluoranthene	0.48		mg/kg dw	11/05/1998	0.0091	keh	767	1831	SW 8310
Benzo(k)fluoranthene	0.30		mg/kg dw	11/05/1998	0.0086	keh	767	1831	SW 8310
Benzo(a)pyrene	0.51		mg/kg dw	11/05/1998	0.012	keh	767	1831	SW 8310
Benzo(ghi)perylene	0.51		mg/kg dw	11/05/1998	0.10	keh	767	1831	SW 8310
Chrysene	0.45		mg/kg dw	11/05/1998	0.08	keh	767	1831	SW 8310
Dibenzo(a,h)anthracene	0.061		mg/kg dw	11/05/1998	0.02	keh	767	1831	SW 8310
Fluoranthene	1.0		mg/kg dw	11/05/1998	0.051	keh	767	1831	SW 8310
Fluorene	<0.13	MX	mg/kg dw	11/05/1998	0.051	keh	767	1831	SW 8310
Indeno(1,2,3-cd)pyrene	0.40		mg/kg dw	11/05/1998	0.022	keh	767	1831	SW 8310
Naphthalene	<0.063		mg/kg dw	11/05/1998	0.063	keh	767	1831	SW 8310
Phenanthrene	0.30		mg/kg dw	11/05/1998	0.10	keh	767	1831	SW 8310
Pyrene	0.83		mg/kg dw	11/05/1998	0.051	keh	767	1831	SW 8310
Surr: p-Terphenyl	Masked			11/05/1998	43-125	keh	767	1831	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/02/1998	COMPLETE	wna	380		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.10		mg/kg dw	11/05/1998	0.10	tls	380	52	SW 8082
PCB-1221	<0.10		mg/kg dw	11/05/1998	0.10	tls	380	52	SW 8082
PCB-1232	<0.10		mg/kg dw	11/05/1998	0.10	tls	380	52	SW 8082
PCB-1242	<0.10		mg/kg dw	11/05/1998	0.10	tls	380	52	SW 8082
PCB-1248	<0.10		mg/kg dw	11/05/1998	0.10	tls	380	52	SW 8082
PCB-1254	<0.10		mg/kg dw	11/05/1998	0.10	tls	380	52	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499085

NET Job No.: 98.13604

Sample Description: X-7
ComEd-Will County Station; 1801-023-710

Date Taken: 10/20/1998
Time Taken: 10:25
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.10	mg/kg dw	11/05/1998	0.10	tls	380	52	SW 8082
Decachlorobiphenyl (Surr)	87.0	%	11/05/1998	NA	tls	380	52	SW 8082
2,4,5,6-TCMX (Surr)	80.0	%	11/05/1998	NA	tls	380	52	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499086

NET Job No.: 98.13604

Sample Description: X-13
ComEd-Will County Station; 1801-023-710

Date Taken: 10/20/1998
Time Taken: 10:00
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.71	units	10/30/1998	0.10	nwg		188	SW 9045B
Solids, Total	76.2	%	11/02/1998	0.1	efw		2515	SM 2540
Arsenic, GFAA	3.0	mg/kg dw	11/06/1998	0.66	mhp	234	672	SW 7060
Barium, ICP	669	mg/kg dw	11/05/1998	1.3	kdw	1164	2186	SW 6010B
Cadmium, ICP	1.3	mg/kg dw	11/05/1998	0.66	jtt	1164	2172	SW 6010B
Chromium, ICP	22	mg/kg dw	11/05/1998	2.6	jtt	1164	2157	SW 6010B
Lead, ICP	262	mg/kg dw	11/05/1998	5.2	jtt	1164	2395	SW 6010B
Mercury, CVAA	0.063	mg/kg dw	11/02/1998	0.052	sep	665	769	SW 7471A
Selenium, GFAA	<0.33	mg/kg dw	11/06/1998	0.33	mhp	234	560	SW 7740
Silver, AA	<2.6	mg/kg dw	11/02/1998	2.6	sep	492	569	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		11/02/1998		wna	245		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<66	mg/kg dw	11/04/1998	66	out	245	491	SW 8015M
TPH as Diesel	<66	mg/kg dw	11/04/1998	66	out	245	491	SW 8015M
TPH as Oil	<66	mg/kg dw	11/04/1998	66	out	245	491	SW 8015M
N-octacosane (TPH surr)	75.0	%	11/04/1998		out	245	491	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.007	mg/kg dw	11/03/1998	0.007	jap		75	SW 8260A
Ethylbenzene	<0.007	mg/kg dw	11/03/1998	0.007	jap		75	SW 8260A
Toluene	<0.007	mg/kg dw	11/03/1998	0.007	jap		75	SW 8260A
Xylenes, Total	<0.007	mg/kg dw	11/03/1998	0.007	jap		75	SW 8260A
Toluene-d8 (Surr)	99.0	%	11/03/1998	74-129	jap		75	SW 8260A
4-Bromofluoromethane (Surr)	101.8	%	11/03/1998	70-130	jap		75	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/30/1998		btl	767		SW 3540C

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ANALYTICAL REPORT

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11/08/1998

Sample No. : 499086

NET Job No.: 98.13604

Sample Description: X-13
ComEd-Will County Station; 1801-023-710

Date Taken: 10/20/1998
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IEPA Cert. No. 100221

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Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.026		mg/kg dw	11/06/1998	0.026	keh	767	1830	SW 8310
Acenaphthylene	<0.026		mg/kg dw	11/06/1998	0.026	keh	767	1830	SW 8310
Anthracene	<0.052		mg/kg dw	11/06/1998	0.052	keh	767	1830	SW 8310
Benzo(a)anthracene	<0.058	MX	mg/kg dw	11/06/1998	0.0034	keh	767	1830	SW 8310
Benzo(b)fluoranthene	0.047		mg/kg dw	11/06/1998	0.0047	keh	767	1830	SW 8310
Benzo(k)fluoranthene	0.050		mg/kg dw	11/06/1998	0.0045	keh	767	1830	SW 8310
Benzo(a)pyrene	0.052		mg/kg dw	11/06/1998	0.0060	keh	767	1830	SW 8310
Benzo(ghi)perylene	<0.052		mg/kg dw	11/06/1998	0.052	keh	767	1830	SW 8310
Chrysene	0.047		mg/kg dw	11/06/1998	0.04	keh	767	1832	SW 8310
Dibenzo(a,h)anthracene	<0.008		mg/kg dw	11/06/1998	0.008	keh	767	1830	SW 8310
Fluoranthene	0.12		mg/kg dw	11/06/1998	0.026	keh	767	1830	SW 8310
Fluorene	<0.026		mg/kg dw	11/06/1998	0.026	keh	767	1830	SW 8310
Indeno(1,2,3-cd)pyrene	0.042		mg/kg dw	11/06/1998	0.011	keh	767	1830	SW 8310
Naphthalene	0.037		mg/kg dw	11/06/1998	0.033	keh	767	1830	SW 8310
Phenanthrene	0.063		mg/kg dw	11/06/1998	0.052	keh	767	1830	SW 8310
Pyrene	0.11		mg/kg dw	11/06/1998	0.026	keh	767	1830	SW 8310
Surr: p-Terphenyl	107.0		%	11/06/1998	43-125	keh	767	1830	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			11/02/1998	COMPLETE	wna	380		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.052		mg/kg dw	11/05/1998	0.052	tls	380	52	SW 8082
PCB-1221	<0.052		mg/kg dw	11/05/1998	0.052	tls	380	52	SW 8082
PCB-1232	<0.052		mg/kg dw	11/05/1998	0.052	tls	380	52	SW 8082
PCB-1242	<0.052		mg/kg dw	11/05/1998	0.052	tls	380	52	SW 8082
PCB-1248	<0.052		mg/kg dw	11/05/1998	0.052	tls	380	52	SW 8082
PCB-1254	<0.052		mg/kg dw	11/05/1998	0.052	tls	380	52	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499086

NET Job No.: 98.13604

Sample Description: X-13
ComEd-Will County Station; 1801-023-710

Date Taken: 10/20/1998
Time Taken: 10:00
IEPA Cert. No. 100221

Date Received: 10/21/1998
Time Received: 08:30
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	1.0	mg/kg dw	11/05/1998	0.052	tls	380	52	SW 8082
Decachlorobiphenyl (Surr)	92.0	%	11/05/1998	NA	tls	380	52	SW 8082
2,4,5,6-TCMX (Surr)	85.0	%	11/05/1998	NA	tls	380	52	SW 8082

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13604

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
pH, Non-Aqueous	187	7.00	7.00	100.0
pH, Non-Aqueous	188	7.00	7.00	100.0
Arsenic, GFAA	671	0.0250	0.0262	104.8
Arsenic, GFAA	672	0.0250	0.0256	102.4
Arsenic, GFAA	673	0.0250	0.0242	96.8
Barium, ICP	2184	2.00	2.00	100.0
Barium, ICP	2186	2.00	1.98	99.0
Cadmium, ICP	2172	1.00	0.997	99.7
Chromium, ICP	2157	2.00	1.90	95.0
Lead, ICP	2395	2.00	1.98	99.0
Selenium, GFAA	559	0.0500	0.0482	96.4
Selenium, GFAA	560	0.0500	0.0533	106.6
Silver, AA	569	0.50	0.489	97.8
Silver, AA	571	0.50	0.497	99.4
UST VOLATILES NON-AQUEOUS				
Benzene	69	50.0	48.8	97.6
Ethylbenzene	69	50.0	48.3	96.6
Toluene	69	50.0	49.5	99.0
Xylenes, Total	69	150	146	97.3
UST VOLATILES NON-AQUEOUS				
Benzene	73	50.0	51.5	103.0
Ethylbenzene	73	50.0	50.5	101.0
Toluene	73	50.0	50.8	101.6
Xylenes, Total	73	150	151	100.7
UST VOLATILES NON-AQUEOUS				
Benzene	75	50.0	51.7	103.4
Ethylbenzene	75	50.0	52.0	104.0
Toluene	75	50.0	51.8	103.6
Xylenes, Total	75	150	155	103.3
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1827	5000	4,517	90.3
Acenaphthylene	1827	5000	5,072	101.4
Anthracene	1827	5000	4,791	95.8
Benzo(a)anthracene	1827	5000	5,038	100.8

CCV - Continuing Calibration Verification

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13604

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Benzo(b)fluoranthene	1827	5000	5,066	101.3
Benzo(k)fluoranthene	1827	5000	4,905	98.1
Benzo(a)pyrene	1827	5000	4,466	89.3
Benzo(ghi)perylene	1827	5000	4,515	90.3
Chrysene	1827	5000	5,156	103.1
Dibenzo(a,h)anthracene	1827	5000	4,987	99.7
Fluoranthene	1827	5000	4,877	97.5
Fluorene	1827	5000	4,926	98.5
Indeno(1,2,3-cd)pyrene	1827	5000	4,483	89.7
Naphthalene	1827	5000	4,744	94.9
Phenanthrene	1827	5000	4,717	94.3
Pyrene	1827	5000	4,847	96.9
Surr: p-Terphenyl	1827	5000	4,857	97.1
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1831	5000	4,574	91.5
Acenaphthylene	1831	5000	5,090	101.8
Anthracene	1831	5000	5,101	102.0
Benzo(a)anthracene	1831	5000	5,004	100.1
Benzo(b)fluoranthene	1831	5000	4,779	95.6
Benzo(k)fluoranthene	1831	5000	4,823	96.5
Benzo(a)pyrene	1831	5000	4,945	98.9
Benzo(ghi)perylene	1831	5000	4,863	97.3
Chrysene	1831	5000	5,048	101.0
Dibenzo(a,h)anthracene	1831	5000	4,940	98.8
Fluoranthene	1831	5000	4,852	97.0
Fluorene	1831	5000	4,886	97.7
Indeno(1,2,3-cd)pyrene	1831	5000	4,721	94.4
Naphthalene	1831	5000	4,667	93.3
Phenanthrene	1831	5000	4,660	93.2
Pyrene	1831	5000	4,989	99.8
Surr: p-Terphenyl	1831	5000	4,868	97.4
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1831	5000	4,555	91.1
Acenaphthylene	1831	5000	5,103	102.1

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13604

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Anthracene	1831	5000	5,041	100.8
Benzo(a)anthracene	1831	5000	4,894	97.9
Benzo(b)fluoranthene	1831	5000	5,098	102.0
Benzo(k)fluoranthene	1831	5000	4,766	95.3
Benzo(a)pyrene	1831	5000	4,957	99.1
Benzo(ghi)perylene	1831	5000	4,794	95.9
Chrysene	1831	5000	5,090	101.8
Dibenzo(a,h)anthracene	1831	5000	5,014	100.3
Fluoranthene	1831	5000	4,887	97.7
Fluorene	1831	5000	4,875	97.5
Indeno(1,2,3-cd)pyrene	1831	5000	4,702	94.0
Naphthalene	1831	5000	4,636	92.7
Phenanthrene	1831	5000	4,670	93.4
Pyrene	1831	5000	4,996	99.9
Surr: p-Terphenyl	1831	5000	4,765	95.3
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1831	5000	4,638	92.8
Acenaphthylene	1831	5000	5,045	100.9
Anthracene	1831	5000	5,051	101.0
Benzo(a)anthracene	1831	5000	4,910	98.2
Benzo(b)fluoranthene	1831	5000	4,793	95.9
Benzo(k)fluoranthene	1831	5000	4,946	98.9
Benzo(a)pyrene	1831	5000	4,860	97.2
Benzo(ghi)perylene	1831	5000	4,890	97.8
Chrysene	1831	5000	4,976	99.5
Dibenzo(a,h)anthracene	1831	5000	4,951	99.0
Fluoranthene	1831	5000	4,939	98.8
Fluorene	1831	5000	4,871	97.4
Indeno(1,2,3-cd)pyrene	1831	5000	4,557	91.1
Naphthalene	1831	5000	4,700	94.0
Phenanthrene	1831	5000	4,668	93.4
Pyrene	1831	5000	5,074	101.5
Surr: p-Terphenyl	1831	5000	4,803	96.1
PNA CMPDS - 8310 NONAQUEOUS				

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13604

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Chrysene	1832	5000	4,987	99.7
PNA CMPDS - 8310 NONAQUEOUS				
Chrysene	1832	5000	4,972	99.4
PNA CMPDS - 8310 NONAQUEOUS				
Chrysene	1832	5000	4,987	99.7
PNA CMPDS - 8310 NONAQUEOUS				
PCB'S NON-AQUEOUS				
PCB-1016	52	500	473	94.6
PCB-1260	52	500	483	96.6
PCB'S NON-AQUEOUS				
PCB-1016	52	500	463	92.6
PCB-1260	52	500	462	92.4
PCB'S NON-AQUEOUS				
PCB-1016	52	500	444	88.8
PCB-1260	52	500	468	93.6
PCB'S NON-AQUEOUS				
PCB'S NON-AQUEOUS				
PCB-1016	53	500	434	86.8
PCB-1260	53	500	442	88.4
PCB'S NON-AQUEOUS				
PCB-1016	53	500	447	89.4
PCB-1260	53	500	460	92.0

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13604

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Arsenic, GFAA	233	671	<0.50	mg/Kg	0.50	SW 7060
Arsenic, GFAA	237	671	<0.50	mg/Kg	0.50	SW 7060
Arsenic, GFAA	234	672	<0.50	mg/Kg	0.50	SW 7060
Barium, ICP	1163	2184	<1.0	mg/Kg	1.0	SW 6010B
Barium, ICP	1164	2186	<1.0	mg/Kg	1.0	SW 6010B
Cadmium, ICP	1163	2172	<0.50	mg/Kg	0.50	SW 6010B
Cadmium, ICP	1164	2172	<0.50	mg/Kg	0.50	SW 6010B
Chromium, ICP	1163	2157	<2.0	mg/Kg	2.0	SW 6010B
Chromium, ICP	1164	2157	<2.0	mg/Kg	2.0	SW 6010B
Lead, ICP	1163	2395	<4.0	mg/Kg	4.0	SW 6010B
Lead, ICP	1164	2395	<4.0	mg/Kg	4.0	SW 6010B
Selenium, GFAA	233	558	<0.25	mg/Kg	0.25	SW 7740
Selenium, GFAA	234	559	<0.25	mg/Kg	0.25	SW 7740
Selenium, GFAA	237	559	<0.25	mg/Kg	0.25	SW 7740
Silver, AA	490	569	<2.0	mg/Kg	2.0	SW 7760
Silver, AA	492	569	<2.0	mg/Kg	2.0	SW 7760
Silver, AA	491	571	<2.0	mg/Kg	2.0	SW 7760
TPH MODIFIED 8015						SW 8015M
TPH as Gas	244	488	<50	mg/Kg	50	SW 8015M
TPH as Diesel	244	488	<50	mg/Kg	50	SW 8015M
TPH as Oil	244	488	<50	mg/Kg	50	SW 8015M
N-octacosane (TPH surr)	244	488	88.0	%		SW 8015M
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		69	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		69	<0.005	mg/Kg	0.005	SW 8260A
Toluene		69	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		69	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		69	87.0	%	74-134	SW 8260A
Toluene-d8 (Surr)		69	90.0	%	90-134	SW 8260A

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13604

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
4-Bromofluoromethane (Surr)		69	97.8	%	64-131	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		75	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		75	<0.005	mg/Kg	0.005	SW 8260A
Toluene		75	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		75	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		75	90.6	%	81-129	SW 8260A
Toluene-d8 (Surr)		75	97.2	%	74-129	SW 8260A
4-Bromofluoromethane (Surr)		75	103.0	%	70-130	SW 8260A
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	766	1826	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	766	1826	<0.020	mg/Kg	0.020	SW 8310
Anthracene	766	1826	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	766	1826	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	766	1826	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	766	1826	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	766	1826	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	766	1826	<0.040	mg/Kg	0.040	SW 8310
Chrysene	766	1826	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	766	1826	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	766	1826	<0.020	mg/Kg	0.020	SW 8310
Fluorene	766	1826	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	766	1826	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	766	1826	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	766	1826	<0.040	mg/Kg	0.040	SW 8310
Pyrene	766	1826	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	766	1826	93.4	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	767	1826	<0.020	mg/Kg	0.020	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
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11/08/1998

NET Job Number: 98.13604

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Acenaphthylene	767	1826	<0.020	mg/Kg	0.020	SW 8310
Anthracene	767	1826	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	767	1826	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	767	1826	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	767	1826	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	767	1826	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	767	1826	<0.040	mg/Kg	0.040	SW 8310
Chrysene	767	1826	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	767	1826	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	767	1826	<0.020	mg/Kg	0.020	SW 8310
Fluorene	767	1826	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	767	1826	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	767	1826	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	767	1826	<0.040	mg/Kg	0.040	SW 8310
Pyrene	767	1826	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	767	1826	86.2	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	767	1830	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	767	1830	<0.020	mg/Kg	0.020	SW 8310
Anthracene	767	1830	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	767	1830	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	767	1830	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	767	1830	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	767	1830	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	767	1830	<0.040	mg/Kg	0.040	SW 8310
Chrysene	767	1830	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	767	1830	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	767	1830	<0.020	mg/Kg	0.020	SW 8310
Fluorene	767	1830	<0.020	mg/Kg	0.020	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
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11/08/1998

NET Job Number: 98.13604

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Indeno(1,2,3-cd)pyrene	767	1830	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	767	1830	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	767	1830	<0.040	mg/Kg	0.040	SW 8310
Pyrene	767	1830	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	767	1830	90.3	%	43-125	SW 8310
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	379	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	379	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	379	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	379	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	379	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	379	53	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	379	53	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	379	53	86.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	379	53	80.0	%	NA	SW 8082
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	380	52	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	380	52	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	380	52	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	380	52	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	380	52	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	380	52	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	380	52	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	380	52	80.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	380	52	78.0	%	NA	SW 8082

Advisory Control Limits for Blanks:

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13604

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Arsenic, GFAA	233	671	0.500	0.450	90.0
Arsenic, GFAA	237	671	0.500	0.465	93.0
Arsenic, GFAA	234	672	0.0100	0.0098	98.0
Barium, ICP	1163	2184	5.00	4.30	86.0
Barium, ICP	1164	2186	5.00	5.31	106.2
Cadmium, ICP	1163	2172	2.50	2.13	85.2
Cadmium, ICP	1164	2172	2.50	2.69	107.6
Chromium, ICP	1163	2157	5.00	3.60	72.0
Chromium, ICP	1164	2157	5.00	4.75	95.0
Lead, ICP	1163	2395	5.00	3.70	74.0
Lead, ICP	1164	2395	5.00	5.05	101.0
Selenium, GFAA	233	558	0.0100	0.0082	82.0
Selenium, GFAA	234	559	0.50	0.50	100.0
Selenium, GFAA	237	559	0.50	0.43	86.0
Silver, AA	490	569	0.10	0.115	115.0
Silver, AA	492	569	0.10	0.084	84.0
Silver, AA	491	571	0.10	0.101	101.0
TPH MODIFIED 8015					
TPH as Gas	244	488	250	176	70.4
TPH as Diesel	244	488	250	203	81.2
TPH as Oil	244	488	250	154	61.6
N-octacosane (TPH surr)	244	488	100	74	74.0
TPH MODIFIED 8015					
TPH as Gas	245	486	250	225	90.0
TPH as Diesel	245	486	250	216	86.4
TPH as Oil	245	486	250	201	80.4
N-octacosane (TPH surr)	245	486	100	117	117.0
UST VOLATILES NON-AQUEOUS					
Benzene		69	20.0	20.8	104.0
Ethylbenzene		69	20.0	20.9	104.5
Toluene		69	20.0	19.2	96.0

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13604

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Xylenes, Total		69	60.0	62	103.3
Dibromofluoromethane (Surr)		69	50.0	46.2	92.4
Toluene-d8 (Surr)		69	50.0	47.2	94.4
4-Bromofluoromethane (Surr)		69	50.0	49.5	99.0
UST VOLATILES NON-AQUEOUS					
Benzene		73	20.0	21.2	106.0
Ethylbenzene		73	20.0	20.7	103.5
Toluene		73	20.0	19.9	99.5
Xylenes, Total		73	60.0	60.8	101.3
Dibromofluoromethane (Surr)		73	50.0	48.3	96.6
Toluene-d8 (Surr)		73	50.0	52.6	105.2
4-Bromofluoromethane (Surr)		73	50.0	53.4	106.8
UST VOLATILES NON-AQUEOUS					
Benzene		75	20.0	19.5	97.5
Ethylbenzene		75	20.0	20.1	100.5
Toluene		75	20.0	18.9	94.5
Xylenes, Total		75	60.0	58.7	97.8
Dibromofluoromethane (Surr)		75	50.0	45.5	91.0
Toluene-d8 (Surr)		75	50.0	49.3	98.6
4-Bromofluoromethane (Surr)		75	50.0	50.7	101.4
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	766	1826	0.033	0.026	78.8
Acenaphthylene	766	1826	0.033	0.028	84.8
Anthracene	766	1826	0.033	0.031	93.9
Benzo(a)anthracene	766	1826	0.033	0.032	97.0
Benzo(b)fluoranthene	766	1826	0.033	0.031	93.9
Benzo(k)fluoranthene	766	1826	0.033	0.031	93.9
Benzo(a)pyrene	766	1826	0.033	0.031	93.9
Benzo(ghi)perylene	766	1826	0.033	0.031	93.9
Chrysene	766	1826	0.033	0.033	100.0
Dibenzo(a,h)anthracene	766	1826	0.033	0.031	93.9

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13604

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Fluoranthene	766	1826	0.033	0.032	97.0
Fluorene	766	1826	0.033	0.031	93.9
Indeno(1,2,3-cd)pyrene	766	1826	0.033	0.032	97.0
Naphthalene	766	1826	0.033	0.024	72.7
Phenanthrene	766	1826	0.033	0.032	97.0
Pyrene	766	1826	0.033	0.033	100.0
Surr: p-Terphenyl	766	1826	2000	1,897	94.8
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	767	1828	0.033	0.027	81.8
Acenaphthylene	767	1828	0.033	0.028	84.8
Anthracene	767	1828	0.033	0.029	87.9
Benzo(a)anthracene	767	1828	0.033	0.027	81.8
Benzo(b)fluoranthene	767	1828	0.033	0.027	81.8
Benzo(k)fluoranthene	767	1828	0.033	0.028	84.8
Benzo(a)pyrene	767	1828	0.033	0.027	81.8
Benzo(ghi)perylene	767	1828	0.033	0.030	90.9
Chrysene	767	1828	0.033	0.029	87.9
Dibenzo(a,h)anthracene	767	1828	0.033	0.028	84.8
Fluoranthene	767	1828	0.033	0.029	87.9
Fluorene	767	1828	0.033	0.031	93.9
Indeno(1,2,3-cd)pyrene	767	1828	0.033	0.028	84.8
Naphthalene	767	1828	0.033	0.031	93.9
Phenanthrene	767	1828	0.033	0.029	87.9
Pyrene	767	1828	0.033	0.033	100.0
Surr: p-Terphenyl	767	1828	2000	1,613	80.7
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	767	1830	0.033	0.032	97.0
Acenaphthylene	767	1830	0.033	0.030	90.9
Anthracene	767	1830	0.033	0.030	90.9
Benzo(a)anthracene	767	1830	0.033	0.031	93.9
Benzo(b)fluoranthene	767	1830	0.033	0.033	100.0

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13604

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Benzo(k)fluoranthene	767	1830	0.033	0.029	87.9
Benzo(a)pyrene	767	1830	0.033	0.027	81.8
Benzo(ghi)perylene	767	1830	0.033	0.029	87.9
Chrysene	767	1830	0.033	0.031	93.9
Dibenzo(a,h)anthracene	767	1830	0.033	0.029	87.9
Fluoranthene	767	1830	0.033	0.032	97.0
Fluorene	767	1830	0.033	0.029	87.9
Indeno(1,2,3-cd)pyrene	767	1830	0.033	0.030	90.9
Naphthalene	767	1830	0.033	0.023	69.7
Phenanthrene	767	1830	0.033	0.030	90.9
Pyrene	767	1830	0.033	0.031	93.9
Surr: p-Terphenyl	767	1830	2000	1,705	85.3
PCB'S NON-AQUEOUS					
PCB-1016	379	53	500	422	84.4
PCB-1260	379	53	500	436	87.2
Decachlorobiphenyl (Surr)	379	53	100	85	85.0
2,4,5,6-TCMX (Surr)	379	53	100	76	76.0
PCB'S NON-AQUEOUS					
PCB-1016	380	52	500	448	89.6
PCB-1260	380	52	500	452	90.4
Decachlorobiphenyl (Surr)	380	52	100	86	86.0
2,4,5,6-TCMX (Surr)	380	52	100	80	80.0

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QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/08/1998

NET Job Number: 98.13604

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
UST VOLATILES NON-AQUEOUS												
Benzene		69	21.1	<0.005	20.0	mg/kg	105.5	18.0	20.0	mg/kg	90.0	15.8
Ethylbenzene		69	21.3	<0.005	20.0	mg/kg	106.5	18.4	20.0	mg/kg	92.0	14.5
Toluene		69	21.1	<0.005	20.0	mg/kg	105.5	18.0	20.0	mg/kg	90.0	15.8
Xylenes, Total		69	64.0	<0.005	60.0	mg/kg	106.7	54	60.0	mg/kg	90.0	16.9
UST VOLATILES NON-AQUEOUS												
Benzene		73	26.4	<0.005	21.6	mg/kg	122.0	27.1	21.6	mg/kg	125.5	2.8
Ethylbenzene		73	28.8	<0.005	21.6	mg/kg	133.0	29.1	21.6	mg/kg	134.5	1.1
Toluene		73	26.7	<0.005	21.6	mg/kg	123.5	28.0	21.6	mg/kg	129.5	4.7
Xylenes, Total		73	83.8	<0.005	64.9	mg/kg	129.2	73.8	64.9	mg/kg	113.8	12.7
UST VOLATILES NON-AQUEOUS												
Benzene		75	23.2	<0.006	22.2	mg/kg	104.5	26.2	22.2	mg/kg	118.0	12.1
Ethylbenzene		75	23.7	<0.006	22.2	mg/kg	107.0	26.3	22.2	mg/kg	118.5	10.2
Toluene		75	23.3	<0.006	22.2	mg/kg	105.0	25.7	22.2	mg/kg	116.0	10.0
Xylenes, Total		75	68.7	<0.006	66.5	mg/kg	103.3	76.3	66.5	mg/kg	114.7	10.5

NOTE: Matrix Spike Samples may not be samples from this job.

Advisory Control Limits for MS/MSDs:

For Inorganic Parameters and GC Volatiles, the spike recovery should be 75 - 125% if the spike added value was greater than or equal to one fourth of the sample result value. If not, the control limits are not established. The RPD for the MS/MSD pair should be less than 20.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

RPD calculations are performed on the Percent Recovery calculated from the observed Matrix spike and Matrix Spike Duplicate results.

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QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/08/1998

NET Job Number: 98.13604

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
PNA CMPDS - 8310 NONAQUEOUS												
Acenaphthene	766	1827	<0.020	<0.028	0.046	mg/kg	42.1	<0.020	0.046	mg/kg	39.7	5.9
Acenaphthylene	766	1827	0.0205	<0.028	0.046	mg/kg	44.2	<0.020	0.046	mg/kg	39.1	12.2
Anthracene	766	1827	<0.040	<0.056	0.046	mg/kg	44.8	<0.040	0.046	mg/kg	40.9	9.1
Benzo(a)anthracene	766	1827	0.0363	<0.0160	0.046	mg/kg	78.2	0.0319	0.046	mg/kg	68.8	12.8
Benzo(b)fluoranthene	766	1827	0.0162	<0.0051	0.046	mg/kg	34.8	0.0146	0.046	mg/kg	31.5	10.0
Benzo(k)fluoranthene	766	1827	0.0186	<0.0048	0.046	mg/kg	40.0	0.0188	0.046	mg/kg	40.6	1.5
Benzo(a)pyrene	766	1827	0.0148	<0.0065	0.046	mg/kg	31.8	0.013	0.046	mg/kg	27.0	16.3
Benzo(ghi)perylene	766	1827	<0.040	<0.056	0.046	mg/kg	22.4	<0.040	0.046	mg/kg	27.9	21.9
Chrysene	766	1827	<0.03	<0.04	0.046	mg/kg	53.3	<0.03	0.046	mg/kg	46.4	13.8
Dibenzo(a,h)anthracene	766	1827	0.0155	<0.008	0.046	mg/kg	33.3	0.014	0.046	mg/kg	29.4	12.4
Fluoranthene	766	1827	0.0274	<0.028	0.046	mg/kg	59.1	0.0249	0.046	mg/kg	53.6	9.8
Fluorene	766	1827	0.0271	<0.028	0.046	mg/kg	58.5	0.0222	0.046	mg/kg	47.9	19.9
Indeno(1,2,3-cd)pyrene	766	1827	0.012	<0.012	0.046	mg/kg	25.2	0.0098	0.046	mg/kg	21.2	17.2
Naphthalene	766	1827	<0.025	<0.035	0.046	mg/kg	31.8	<0.025	0.046	mg/kg	35.2	10.1
Phenanthrene	766	1827	<0.040	<0.056	0.046	mg/kg	54.5	<0.040	0.046	mg/kg	45.5	18.0
Pyrene	766	1827	0.0308	<0.028	0.046	mg/kg	66.4	0.0293	0.046	mg/kg	63.0	5.3
PCB'S NON-AQUEOUS												
PCB-1016	380	52	543	<0.042	526	mg/kg	103.2	532	526	mg/kg	101.0	2.2
PCB-1260	380	52	517	<0.042	526	mg/kg	98.2	495	526	mg/kg	94.0	4.4
PCB'S NON-AQUEOUS												
PCB-1016	380	57	557	<0.043	541	mg/kg	103.0	919	541	mg/kg	170.0	49.1
PCB-1260	380	57	530	<0.043	541	mg/kg	98.0	548	541	mg/kg	101.4	3.3

NOTE: Matrix Spike Samples may not be samples from this job.

Advisory Control Limits for MS/MSDs:

For Inorganic Parameters and GC Volatiles, the spike recovery should be 75 - 125% if the spike added value was greater than or equal to one fourth of the sample result value. If not, the control limits are not established. The RPD for the MS/MSD pair should be less than 20.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

RPD calculations are performed on the Percent Recovery calculated from the observed Matrix spike and Matrix Spike Duplicate results.

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QUALITY CONTROL REPORT

DUPLICATES

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13604

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	RPD
pH, Non-Aqueous		187	9.81	9.91	units	1.0
pH, Non-Aqueous		188	7.55	7.46	units	1.2
Solids, Total		2514	71.6	73.6	%	2.8
Solids, Total		2514	88.9	89.3	%	0.4
Solids, Total		2514	83.3	83.9	%	0.7
Solids, Total		2514	71.1	68.4	%	3.9
Solids, Total		2515	66.8	69.9	%	4.5
Solids, Total		2515	95.0	95.2	%	0.2
Solids, Total		2515	89.0	89.7	%	0.8

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.

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NET Midwest, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

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(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY ENSR Corp
ADDRESS 740 Pasquinelli Dr 124. Westmont, IL
PHONE (630) 887 1700 FAX (630) 850 5307
PROJECT NAME/LOCATION ComEd/Will Cty
PROJECT NUMBER 1801023710
PROJECT MANAGER Weilin Feng/Karen Dolnicek

REPORT TO: Karen Dolnicek
INVOICE TO: ENSR
P.O. NO.
NET QUOTE NO.

MWG13-15_5932

SAMPLED BY
BUDGET Buckley (PRINT NAME) — B Buckley (SIGNATURE)
(PRINT NAME) — (SIGNATURE)

DATE 1998	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: PH 9045	TNAS 8310	BTEX 8260	TPH 8015	PCBs 8081	RCRA Metals (4 total)
10/19	845	X-3	S	X						2	X	X	X	X	X	X
10/19	900	X-4	S	X						2	X	X	X	X	X	X
10/19	1505	X-5	S	X						2	X	X	X	X	X	X
10/19	1455	X-8	S	X						2	X	X	X	X	X	X
10/19	1405	X-9	S	X						2	X	X	X	X	X	X
10/19	1200	X-10	S	X						2	X	X	X	X	X	X
10/19	1225	X-11	S	X						2	X	X	X	X	X	X
10/19	1515	X-12	S	X						2	X	X	X	X	X	X
10/19	910	X-14	S	X						2	X	X	X	X	X	X
10/20	945	X-1	S	X						2	X	X	X	X	X	X
10/20	935	X-2	S	X						2	X	X	X	X	X	X
10/20	1015	X-6	S	X						2	X	X	X	X	X	X
10/20	1025	X-7	S	X						2	X	X	X	X	X	X
10/20	1000	X-13	S	X						2	X	X	X	X	X	X

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ___ No ___

Is this work being conducted for regulatory enforcement action? Yes ___ No ___

Which regulations apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other ___ None ___

COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) NO
FIELD FILTERED? ~~YES / NO~~

COC SEALS PRESENT AND INTACT? (YES) NO
VOLATILES FREE OF HEADSPACE? (YES) NO

TEMPERATURE UPON RECEIPT: 1.5°C melt ice
Bottles supplied by NET? (YES) NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ___ DATE ___

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
B. Buckley	10/20/98	1035			10/21/98	0830	P. Merrill

METHOD OF SHIPMENT: Larson ~~NET Pickup~~ PM

REMARKS:

PT 1 - ORIGINAL WHITE PT 2 - NET PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

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Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13888

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Will County 1801-230

Sample Number	Sample Description	Date Taken	Date Received
499952	MW-1	10/26/1998	10/27/1998
499953	MW-2	10/26/1998	10/27/1998
499954	MW-3	10/26/1998	10/27/1998
499955	MW-4	10/26/1998	10/27/1998
499956	MW-5	10/26/1998	10/27/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 499952

NET Job No.: 98.13888

Sample Description: MW-1
ComEd-Will County 1801-230

Date Taken: 10/26/1998
Time Taken: 15:00
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 14:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH	6.77	units	10/27/1998	0.10	efw		1715	EPA 150.1
Arsenic, GFAA	<0.0050	mg/L	11/07/1998	0.0050	mhp	1351	1146	SW 7060
Barium, ICP	0.059	mg/L	11/05/1998	0.020	kdw	2197	3769	SW 6010B
Cadmium, ICP	<0.010	mg/L	11/05/1998	0.010	kdw	2197	3737	SW 6010B
Chromium, ICP	<0.040	mg/L	11/05/1998	0.040	kdw	2197	3746	SW 6010B
Lead, GFAA	<0.0050	mg/L	11/06/1998	0.0050	mhp	1351	2170	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/03/1998	0.0002	sep	1185	1091	SW 7470A
Selenium, GFAA	<0.0050	mg/L	11/07/1998	0.0050	mhp	1351	857	SW 7740
Silver, AA	<0.040	mg/L	11/04/1998	0.040	sep	1014	992	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		10/30/1998		rmp	370		SW 3510C
PCBs 8082 Aqueous								
PCB-1016	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1221	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1232	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1242	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1248	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1254	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1260	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
Surr: Tetrachloroxylene (TCX)	69.0	%	11/06/1998	22-154	tls	370	701	SW 8082
Surr: Decachlorobiphenyl (DCB)	65.0	%	11/06/1998	23-154	tls	370	701	SW 8082

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 499952

NET Job No.: 98.13888

Sample Description: MW-1
ComEd-Will County 1801-230

Date Taken: 10/26/1998
Time Taken: 15:00
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 14:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS								
Benzene	<0.001	mg/L	11/06/1998	0.001	mjo		2639	SW 8260A
Ethyl Benzene	<0.001	mg/L	11/06/1998	0.001	mjo		2639	SW 8260A
Toluene	<0.001	mg/L	11/06/1998	0.001	mjo		2639	SW 8260A
Xylenes, Total	<0.001	mg/L	11/06/1998	0.001	mjo		2639	SW 8260A
Surr: Toluene-d8	110.2	%	11/06/1998	85-117	mjo		2639	SW 8260A
Surr: Bromofluorobenzene	103.0	%	11/06/1998	80-116	mjo		2639	SW 8260A
Surr: Dibromofluoromethane	99.8	%	11/06/1998	75-130	mjo		2639	SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted		10/29/1998		mmv	406		SW 3520C
PNA CMPDS - 8310 AQUEOUS								
Acenaphthene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Acenaphthylene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Anthracene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Benzo(a)anthracene	<0.00013	mg/L	11/06/1998	0.00013	keh	406	1201	SW 8310
Benzo(b)fluoranthene	<0.00018	mg/L	11/06/1998	0.00018	keh	406	1201	SW 8310
Benzo(k)fluoranthene	<0.00017	mg/L	11/06/1998	0.00017	keh	406	1201	SW 8310
Benzo(a)pyrene	<0.00023	mg/L	11/06/1998	0.00023	keh	406	1201	SW 8310
Benzo(ghi)perylene	<0.00076	mg/L	11/06/1998	0.00076	keh	406	1201	SW 8310
Chrysene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Dibenzo(a,h)anthracene	<0.00030	mg/L	11/06/1998	0.00030	keh	406	1201	SW 8310
Fluoranthene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Fluorene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043	mg/L	11/06/1998	0.00043	keh	406	1201	SW 8310
Naphthalene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Phenanthrene	<0.0010	mg/L	11/06/1998	0.0010	keh	406	1201	SW 8310
Pyrene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 499952

NET Job No.: 98.13888

Sample Description: MW-1
ComEd-Will County 1801-230

Date Taken: 10/26/1998
Time Taken: 15:00
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 14:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Surr: p-Terphenyl	87.2	%	11/06/1998	43-125	keh	406	1201	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 499953

NET Job No.: 98.13888

Sample Description: MW-2
ComEd-Will County 1801-230

Date Taken: 10/26/1998
Time Taken: 16:00
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 14:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH	7.33	units	10/27/1998	0.10	efw	1715	EPA 150.1
Arsenic, GFAA	0.0054	mg/L	11/07/1998	0.0050	mhp	1351 1146	SW 7060
Barium, ICP	0.379	mg/L	11/05/1998	0.020	kdw	2197 3769	SW 6010B
Cadmium, ICP	<0.010	mg/L	11/05/1998	0.010	kdw	2197 3737	SW 6010B
Chromium, ICP	<0.040	mg/L	11/05/1998	0.040	kdw	2197 3746	SW 6010B
Lead, GFAA	0.0148	mg/L	11/06/1998	0.0050	mhp	1351 2170	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/03/1998	0.0002	sep	1185 1091	SW 7470A
Selenium, GFAA	<0.0050	mg/L	11/07/1998	0.0050	mhp	1351 857	SW 7740
Silver, AA	<0.040	mg/L	11/04/1998	0.040	sep	1014 992	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		10/30/1998		rmp	370	SW 3510C
PCBs 8082 Aqueous							
PCB-1016	<0.0005	mg/L	11/06/1998	0.0005	tls	370 701	SW 8082
PCB-1221	<0.0005	mg/L	11/06/1998	0.0005	tls	370 701	SW 8082
PCB-1232	<0.0005	mg/L	11/06/1998	0.0005	tls	370 701	SW 8082
PCB-1242	<0.0005	mg/L	11/06/1998	0.0005	tls	370 701	SW 8082
PCB-1248	<0.0005	mg/L	11/06/1998	0.0005	tls	370 701	SW 8082
PCB-1254	<0.0005	mg/L	11/06/1998	0.0005	tls	370 701	SW 8082
PCB-1260	<0.0005	mg/L	11/06/1998	0.0005	tls	370 701	SW 8082
Surr: Tetrachloroxylene (TCX)	72.0	%	11/06/1998	22-154	tls	370 701	SW 8082
Surr: Decachlorobiphenyl (DCB)	61.0	%	11/06/1998	23-154	tls	370 701	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 499953

NET Job No.: 98.13888

Sample Description: MW-2
ComEd-Will County 1801-230

Date Taken: 10/26/1998
Time Taken: 16:00
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 14:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS								
Benzene	<0.001	mg/L	11/06/1998	0.001	mjo		2639	SW 8260A
Ethyl Benzene	<0.001	mg/L	11/06/1998	0.001	mjo		2639	SW 8260A
Toluene	<0.001	mg/L	11/06/1998	0.001	mjo		2639	SW 8260A
Xylenes, Total	<0.001	mg/L	11/06/1998	0.001	mjo		2639	SW 8260A
Surr: Toluene-d8	110.2	%	11/06/1998	85-117	mjo		2639	SW 8260A
Surr: Bromofluorobenzene	101.2	%	11/06/1998	80-116	mjo		2639	SW 8260A
Surr: Dibromofluoromethane	100.0	%	11/06/1998	75-130	mjo		2639	SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted		10/29/1998		mmv	406		SW 3520C
PNA CMPDS - 8310 AQUEOUS								
Acenaphthene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Acenaphthylene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Anthracene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Benzo(a)anthracene	<0.00013	mg/L	11/06/1998	0.00013	keh	406	1201	SW 8310
Benzo(b)fluoranthene	<0.00018	mg/L	11/06/1998	0.00018	keh	406	1201	SW 8310
Benzo(k)fluoranthene	<0.00017	mg/L	11/06/1998	0.00017	keh	406	1201	SW 8310
Benzo(a)pyrene	<0.00023	mg/L	11/06/1998	0.00023	keh	406	1201	SW 8310
Benzo(ghi)perylene	<0.00076	mg/L	11/06/1998	0.00076	keh	406	1201	SW 8310
Chrysene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Dibenzo(a,h)anthracene	<0.00030	mg/L	11/06/1998	0.00030	keh	406	1201	SW 8310
Fluoranthene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Fluorene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043	mg/L	11/06/1998	0.00043	keh	406	1201	SW 8310
Naphthalene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Phenanthrene	<0.0010	mg/L	11/06/1998	0.0010	keh	406	1201	SW 8310
Pyrene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 499953

NET Job No.: 98.13888

Sample Description: MW-2
ComEd-Will County 1801-230

Date Taken: 10/26/1998
Time Taken: 16:00
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 14:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Surr: p-Terphenyl	88.8	%	11/06/1998	43-125	keh	406 1201	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 499954

NET Job No.: 98.13888

Sample Description: MW-3
ComEd-Will County 1801-230

Date Taken: 10/26/1998
Time Taken: 18:30
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 14:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH	6.86	units	10/27/1998	0.10	efw		1715	EPA 150.1
Arsenic, GFAA	<0.0050	mg/L	11/07/1998	0.0050	mhp	1351	1146	SW 7060
Barium, ICP	0.137	mg/L	11/05/1998	0.020	kdw	2197	3769	SW 6010B
Cadmium, ICP	<0.010	mg/L	11/05/1998	0.010	kdw	2197	3737	SW 6010B
Chromium, ICP	<0.040	mg/L	11/05/1998	0.040	kdw	2197	3746	SW 6010B
Lead, GFAA	<0.0050	mg/L	11/06/1998	0.0050	mhp	1351	2170	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/03/1998	0.0002	sep	1185	1091	SW 7470A
Selenium, GFAA	<0.0050	mg/L	11/07/1998	0.0050	mhp	1351	857	SW 7740
Silver, AA	<0.040	mg/L	11/04/1998	0.040	sep	1014	992	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		10/30/1998		rmp	370		SW 3510C
PCBs 8082 Aqueous								
PCB-1016	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1221	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1232	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1242	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1248	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1254	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1260	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
Surr: Tetrachloroxylene (TCX)	78.0	%	11/06/1998	22-154	tls	370	701	SW 8082
Surr: Decachlorobiphenyl (DCB)	68.0	%	11/06/1998	23-154	tls	370	701	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 499954

NET Job No.: 98.13888

Sample Description: MW-3
ComEd-Will County 1801-230

Date Taken: 10/26/1998
Time Taken: 18:30
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 14:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS									
Benzene	<0.001		mg/L	11/06/1998	0.001	mjo	2639		SW 8260A
Ethyl Benzene	<0.001		mg/L	11/06/1998	0.001	mjo	2639		SW 8260A
Toluene	<0.001		mg/L	11/06/1998	0.001	mjo	2639		SW 8260A
Xylenes, Total	0.0016		mg/L	11/06/1998	0.001	mjo	2639		SW 8260A
Surr: Toluene-d8	103.8		%	11/06/1998	85-117	mjo	2639		SW 8260A
Surr: Bromofluorobenzene	100.2		%	11/06/1998	80-116	mjo	2639		SW 8260A
Surr: Dibromofluoromethane	99.4		%	11/06/1998	75-130	mjo	2639		SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted			10/29/1998		mmv	406		SW 3520C
PNA CMPDS - 8310 AQUEOUS									
Acenaphthene	<0.0005		mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Acenaphthylene	<0.0005		mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Anthracene	<0.0013	MX	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Benzo(a)anthracene	<0.00013		mg/L	11/06/1998	0.00013	keh	406	1201	SW 8310
Benzo(b)fluoranthene	<0.00018		mg/L	11/06/1998	0.00018	keh	406	1201	SW 8310
Benzo(k)fluoranthene	<0.00017		mg/L	11/06/1998	0.00017	keh	406	1201	SW 8310
Benzo(a)pyrene	<0.00023		mg/L	11/06/1998	0.00023	keh	406	1201	SW 8310
Benzo(ghi)perylene	<0.00076		mg/L	11/06/1998	0.00076	keh	406	1201	SW 8310
Chrysene	<0.0005		mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Dibenzo(a,h)anthracene	<0.00030		mg/L	11/06/1998	0.00030	keh	406	1201	SW 8310
Fluoranthene	<0.00087	MX	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Fluorene	<0.0005		mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043		mg/L	11/06/1998	0.00043	keh	406	1201	SW 8310
Naphthalene	<0.0020	MX	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Phenanthrene	<0.0010		mg/L	11/06/1998	0.0010	keh	406	1201	SW 8310
Pyrene	<0.0005		mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310

MX : Dilution required due to sample matrix; analyte is not detected.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 499954

NET Job No.: 98.13888

Sample Description: MW-3
ComEd-Will County 1801-230

Date Taken: 10/26/1998
Time Taken: 18:30
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 14:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Surr: p-Terphenyl	97.2	%	11/06/1998	43-125	keh	406	1201	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998
Sample No. : 499955
NET Job No.: 98.13888

Sample Description: MW-4
ComEd-Will County 1801-230

Date Taken: 10/26/1998
Time Taken: 14:00
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 14:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH	7.27	units	10/27/1998	0.10	efw		1715	EPA 150.1
Arsenic, GFAA	<0.0050	mg/L	11/07/1998	0.0050	mhp	1351	1146	SW 7060
Barium, ICP	0.069	mg/L	11/05/1998	0.020	kdw	2197	3769	SW 6010B
Cadmium, ICP	<0.010	mg/L	11/05/1998	0.010	kdw	2197	3737	SW 6010B
Chromium, ICP	<0.040	mg/L	11/05/1998	0.040	kdw	2197	3746	SW 6010B
Lead, GFAA	<0.0050	mg/L	11/06/1998	0.0050	mhp	1351	2170	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/03/1998	0.0002	sep	1185	1091	SW 7470A
Selenium, GFAA	0.0102	mg/L	11/07/1998	0.0050	mhp	1351	857	SW 7740
Silver, AA	<0.040	mg/L	11/04/1998	0.040	sep	1014	992	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		10/30/1998		rmp	370		SW 3510C
PCBs 8082 Aqueous								
PCB-1016	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1221	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1232	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1242	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1248	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1254	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
PCB-1260	<0.0005	mg/L	11/06/1998	0.0005	tls	370	701	SW 8082
Surr: Tetrachloroxylene (TCX)	73.0	%	11/06/1998	22-154	tls	370	701	SW 8082
Surr: Decachlorobiphenyl (DCB)	68.0	%	11/06/1998	23-154	tls	370	701	SW 8082

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 499955

NET Job No.: 98.13888

Sample Description: MW-4
ComEd-Will County 1801-230

Date Taken: 10/26/1998
Time Taken: 14:00
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 14:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS								
Benzene	<0.001	mg/L	11/06/1998	0.001	mjo		2639	SW 8260A
Ethyl Benzene	<0.001	mg/L	11/06/1998	0.001	mjo		2639	SW 8260A
Toluene	<0.001	mg/L	11/06/1998	0.001	mjo		2639	SW 8260A
Xylenes, Total	<0.001	mg/L	11/06/1998	0.001	mjo		2639	SW 8260A
Surr: Toluene-d8	104.0	%	11/06/1998	85-117	mjo		2639	SW 8260A
Surr: Bromofluorobenzene	100.6	%	11/06/1998	80-116	mjo		2639	SW 8260A
Surr: Dibromofluoromethane	99.2	%	11/06/1998	75-130	mjo		2639	SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted		10/29/1998		mmv	406		SW 3520C
PNA CMPDS - 8310 AQUEOUS								
Acenaphthene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Acenaphthylene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Anthracene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Benzo(a)anthracene	<0.00013	mg/L	11/06/1998	0.00013	keh	406	1201	SW 8310
Benzo(b)fluoranthene	<0.00018	mg/L	11/06/1998	0.00018	keh	406	1201	SW 8310
Benzo(k)fluoranthene	<0.00017	mg/L	11/06/1998	0.00017	keh	406	1201	SW 8310
Benzo(a)pyrene	<0.00023	mg/L	11/06/1998	0.00023	keh	406	1201	SW 8310
Benzo(ghi)perylene	<0.00076	mg/L	11/06/1998	0.00076	keh	406	1201	SW 8310
Chrysene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Dibenzo(a,h)anthracene	<0.00030	mg/L	11/06/1998	0.00030	keh	406	1201	SW 8310
Fluoranthene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Fluorene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043	mg/L	11/06/1998	0.00043	keh	406	1201	SW 8310
Naphthalene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Phenanthrene	<0.0010	mg/L	11/06/1998	0.0010	keh	406	1201	SW 8310
Pyrene	<0.0005	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 499955

NET Job No.: 98.13888

Sample Description: MW-4
ComEd-Will County 1801-230

Date Taken: 10/26/1998
Time Taken: 14:00
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 14:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Surr: p-Terphenyl	85.0	%	11/06/1998	43-125	keh	406	1201	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 499956

NET Job No.: 98.13888

Sample Description: MW-5
ComEd-Will County 1801-230

Date Taken: 10/26/1998
Time Taken: 17:30
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 14:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH	6.55	units	10/27/1998	0.10	efw	1715	EPA 150.1
Arsenic, GFAA	<0.0050	mg/L	11/07/1998	0.0050	mhp	1351 1146	SW 7060
Barium, ICP	0.157	mg/L	11/05/1998	0.020	kdw	2197 3769	SW 6010B
Cadmium, ICP	<0.010	mg/L	11/05/1998	0.010	kdw	2197 3737	SW 6010B
Chromium, ICP	<0.040	mg/L	11/05/1998	0.040	kdw	2197 3746	SW 6010B
Lead, GFAA	<0.0050	mg/L	11/06/1998	0.0050	mhp	1351 2170	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/03/1998	0.0002	sep	1185 1091	SW 7470A
Selenium, GFAA	<0.0050	mg/L	11/07/1998	0.0050	mhp	1351 857	SW 7740
Silver, AA	<0.040	mg/L	11/04/1998	0.040	sep	1014 992	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		10/30/1998		rmp	370	SW 3510C
PCBs 8082 Aqueous							
PCB-1016	<0.0005	mg/L	11/06/1998	0.0005	tls	370 701	SW 8082
PCB-1221	<0.0005	mg/L	11/06/1998	0.0005	tls	370 701	SW 8082
PCB-1232	<0.0005	mg/L	11/06/1998	0.0005	tls	370 701	SW 8082
PCB-1242	<0.0005	mg/L	11/06/1998	0.0005	tls	370 701	SW 8082
PCB-1248	<0.0005	mg/L	11/06/1998	0.0005	tls	370 701	SW 8082
PCB-1254	<0.0005	mg/L	11/06/1998	0.0005	tls	370 701	SW 8082
PCB-1260	<0.0005	mg/L	11/06/1998	0.0005	tls	370 701	SW 8082
Surr: Tetrachloroxylene (TCX)	68.0	%	11/06/1998	22-154	tls	370 701	SW 8082
Surr: Decachlorobiphenyl (DCB)	65.0	%	11/06/1998	23-154	tls	370 701	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 499956

NET Job No.: 98.13888

Sample Description: MW-5
ComEd-Will County 1801-230

Date Taken: 10/26/1998
Time Taken: 17:30
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 14:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS									
Benzene	0.031		mg/L	11/07/1998	0.001	mjo	2642		SW 8260A
Ethyl Benzene	0.037		mg/L	11/07/1998	0.001	mjo	2642		SW 8260A
Toluene	0.066		mg/L	11/07/1998	0.001	mjo	2642		SW 8260A
Xylenes, Total	0.058		mg/L	11/07/1998	0.001	mjo	2642		SW 8260A
Surr: Toluene-d8	105.0		%	11/07/1998	85-117	mjo	2642		SW 8260A
Surr: Bromofluorobenzene	102.2		%	11/07/1998	80-116	mjo	2642		SW 8260A
Surr: Dibromofluoromethane	99.6		%	11/07/1998	75-130	mjo	2642		SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted			10/29/1998		mmv	406		SW 3520C
PNA CMPDS - 8310 AQUEOUS									
Acenaphthene	<0.051	MX	mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Acenaphthylene	<0.0020	MX	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Anthracene	<0.17	MX	mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Benzo(a)anthracene	<0.020	MX	mg/L	11/06/1998	0.00013	keh	406	1201	SW 8310
Benzo(b)fluoranthene	<0.0022	MX	mg/L	11/06/1998	0.00018	keh	406	1201	SW 8310
Benzo(k)fluoranthene	<0.00017		mg/L	11/06/1998	0.00017	keh	406	1201	SW 8310
Benzo(a)pyrene	<0.00023		mg/L	11/06/1998	0.00023	keh	406	1201	SW 8310
Benzo(ghi)perylene	<0.00076		mg/L	11/06/1998	0.00076	keh	406	1201	SW 8310
Chrysene	<0.013	MX	mg/L	11/06/1998	0.0005	keh	406	1201	SW 8310
Dibenzo(a,h)anthracene	<0.00030		mg/L	11/06/1998	0.00030	keh	406	1201	SW 8310
Fluoranthene	<0.17	MX	mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Fluorene	0.19		mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043		mg/L	11/06/1998	0.00043	keh	406	1201	SW 8310
Naphthalene	0.46		mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Phenanthrene	<0.30	MX	mg/L	11/08/1998	0.0010	keh	406	1206	SW 8310
Pyrene	<0.28	MX	mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 499956

NET Job No.: 98.13888

Sample Description: MW-5
ComEd-Will County 1801-230

Date Taken: 10/26/1998
Time Taken: 17:30
IEPA Cert. No. 100221

Date Received: 10/27/1998
Time Received: 14:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Surr: p-Terphenyl	Masked		11/06/1998	43-125	keh	406 1201	SW 8310

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/09/1998

NET Job Number: 98.13888

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
pH	1715	7.02	6.96	99.1
Arsenic, GFAA	1146	0.0250	0.0250	100.0
Barium, ICP	3769	2.00	1.98	99.0
Cadmium, ICP	3737	1.00	0.969	96.9
Chromium, ICP	3746	2.00	1.97	98.5
Lead, GFAA	2170	0.0250	0.0253	101.2
Mercury, CVAA	1091	0.0025	0.00262	104.8
Selenium, GFAA	857	0.0500	0.0487	97.4
Silver, AA	992	0.500	0.481	96.2
PCBs 8082 Aqueous				
PCB-1016	701	500.	514	102.8
PCB-1260	701	500	502	100.4
PCBs 8082 Aqueous				
PCB-1016	701	500.	509	101.8
PCB-1260	701	500	502	100.4
UST VOLATILES 8260 - AQUEOUS				
Benzene	2639	50.0	53.2	106.4
Ethyl Benzene	2639	50.0	53.3	106.6
Toluene	2639	50.0	53.3	106.6
Xylenes, Total	2639	150	172	114.7
UST VOLATILES 8260 - AQUEOUS				
Benzene	2642	50.0	52.7	105.4
Ethyl Benzene	2642	50.0	49.7	99.4
Toluene	2642	50.0	52.4	104.8
Xylenes, Total	2642	150	160	106.7
PNA CMPDS - 8310 AQUEOUS				
Acenaphthene	1201	5000	4,822	96.4
Acenaphthylene	1201	5000	5,056	101.1
Anthracene	1201	5000	5,143	102.9
Benzo(a)anthracene	1201	5000	5,147	102.9
Benzo(b)fluoranthene	1201	5000	4,858	97.2
Benzo(k)fluoranthene	1201	5000	4,867	97.3
Benzo(a)pyrene	1201	5000	5,010	100.2
Benzo(ghi)perylene	1201	5000	5,065	101.3

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13888

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Chrysene	1201	5000	5,084	101.7
Dibenzo(a,h)anthracene	1201	5000	4,997	99.9
Fluoranthene	1201	5000	5,049	101.0
Fluorene	1201	5000	4,987	99.7
Indeno(1,2,3-cd)pyrene	1201	5000	5,193	103.9
Naphthalene	1201	5000	4,670	93.4
Phenanthrene	1201	5000	5,072	101.4
Pyrene	1201	5000	4,953	99.1
Surr: p-Terphenyl	1201	5000	4,878	97.6
PNA CMPDS - 8310 AQUEOUS				
Acenaphthene	1201	5000	4,878	97.6
Acenaphthylene	1201	5000	5,382	107.6
Anthracene	1201	5000	5,294	105.9
Benzo(a)anthracene	1201	5000	5,117	102.3
Benzo(b)fluoranthene	1201	5000	4,897	97.9
Benzo(k)fluoranthene	1201	5000	4,877	97.5
Benzo(a)pyrene	1201	5000	4,805	96.1
Benzo(ghi)perylene	1201	5000	5,220	104.4
Chrysene	1201	5000	5,071	101.4
Dibenzo(a,h)anthracene	1201	5000	5,042	100.8
Fluoranthene	1201	5000	5,242	104.8
Fluorene	1201	5000	4,956	99.1
Indeno(1,2,3-cd)pyrene	1201	5000	5,090	101.8
Naphthalene	1201	5000	4,793	95.9
Phenanthrene	1201	5000	5,122	102.4
Pyrene	1201	5000	5,072	101.4
Surr: p-Terphenyl	1201	5000	4,887	97.7
PNA CMPDS - 8310 AQUEOUS				
Acenaphthene	1206	5000	4,696	93.9
Anthracene	1206	5000	5,039	100.8
Fluoranthene	1206	5000	4,931	98.6
Fluorene	1206	5000	4,888	97.8
Naphthalene	1206	5000	4,702	94.0
Phenanthrene	1206	5000	4,767	95.3

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13888

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Pyrene	1206	5000	5,159	103.2
PNA CMPDS - 8310 AQUEOUS				
Acenaphthene	1206	5000	4,486	89.7
Anthracene	1206	5000	5,046	100.9
Fluoranthene	1206	5000	4,912	98.2
Fluorene	1206	5000	4,925	98.5
Naphthalene	1206	5000	4,625	92.5
Phenanthrene	1206	5000	4,650	93.0
Pyrene	1206	5000	4,998	100.0

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13888

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Arsenic, GFAA	1351	1145	<0.0050	mg/L	0.0050	SW 7060
Barium, ICP	2197	3769	<0.020	mg/L	0.020	SW 6010B
Cadmium, ICP	2197	3737	<0.010	mg/L	0.010	SW 6010B
Chromium, ICP	2197	3746	<0.040	mg/L	0.040	SW 6010B
Lead, GFAA	1351	2170	<0.0050	mg/L	0.0050	SW 7421
Mercury, CVAA	1185	1091	<0.0002	mg/L	0.0002	SW 7470A
Mercury, CVAA	1185	1091	<0.0002	mg/L	0.0002	SW 7470A
Selenium, GFAA	1351	856	<0.0050	mg/L	0.005	SW 7740
Silver, AA	1014	992	<0.040	mg/L	0.040	SW 7760
PCBs 8082 Aqueous						SW 8082
PCB-1016	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1221	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1232	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1242	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1248	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1254	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1260	370	701	<0.5	ug/L	0.5	SW 8082
Surr: Tetrachloroxylene (TCX)	370	701	55.0	%	22-154	SW 8082
Surr: Decachlorobiphenyl (DCB)	370	701	63.0	%	23-154	SW 8082
UST VOLATILES 8260 - AQUEOUS						SW 8260A
Benzene		2639	<1.0	ug/L	1.0	SW 8260A
Ethyl Benzene		2639	<1.0	ug/L	1.0	SW 8260A
Toluene		2639	<1.0	ug/L	1.0	SW 8260A
Xylenes, Total		2639	<1.0	ug/L	1.0	SW 8260A
Surr: Dibromofluoromethane		2639	101.4	%	75-130	SW 8260A
Surr: Toluene-d8		2639	113.0	%	85-117	SW 8260A
Surr: Bromofluorobenzene		2639	105.4	%	80-116	SW 8260A
UST VOLATILES 8260 - AQUEOUS						SW 8260A
Benzene		2642	<1.0	ug/L	1.0	SW 8260A

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/09/1998

NET Job Number: 98.13888

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Ethyl Benzene		2642	<1.0	ug/L	1.0	SW 8260A
Toluene		2642	<1.0	ug/L	1.0	SW 8260A
Xylenes, Total		2642	<1.0	ug/L	1.0	SW 8260A
Surr: Dibromofluoromethane		2642	99.8	%	75-130	SW 8260A
Surr: Toluene-d8		2642	104.2	%	85-117	SW 8260A
Surr: Bromofluorobenzene		2642	102.2	%	80-116	SW 8260A
PNA CMPDS - 8310 AQUEOUS						SW 8310
Acenaphthene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Acenaphthylene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Anthracene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Benzo(a)anthracene	406	1201	<0.00013	mg/L	0.00013	SW 8310
Benzo(b)fluoranthene	406	1201	<0.00018	mg/L	0.00018	SW 8310
Benzo(k)fluoranthene	406	1201	<0.00017	mg/L	0.00017	SW 8310
Benzo(a)pyrene	406	1201	<0.00023	mg/L	0.00023	SW 8310
Benzo(ghi)perylene	406	1201	<0.00076	mg/L	0.00076	SW 8310
Chrysene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Dibenzo(a,h)anthracene	406	1201	<0.00030	mg/L	0.00030	SW 8310
Fluoranthene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Fluorene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Indeno(1,2,3-cd)pyrene	406	1201	<0.00043	mg/L	0.00043	SW 8310
Naphthalene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Phenanthrene	406	1201	<0.0010	mg/L	0.0010	SW 8310
Pyrene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Surr: p-Terphenyl	406	1201	90.1	%	43-125	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13888

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Arsenic, GFAA	1351	1145	0.0200	0.0191	95.5
Barium, ICP	2197	3769	5.00	5.79	115.8
Cadmium, ICP	2197	3737	2.500	2.78	111.2
Chromium, ICP	2197	3746	5.00	6.08	121.6
Lead, GFAA	1351	2170	0.0100	0.0108	108.0
Mercury, CVAA	1185	1091	0.0025	0.00251	100.4
Mercury, CVAA	1185	1091	0.0025	0.00251	100.4
Mercury, CVAA		1091	0.0020	0.00196	98.0
Selenium, GFAA	1351	856	0.0200	0.0176	88.0
Silver, AA	1014	992	1.00	1.01	101.0
Silver, AA		992	0.10	0.094	94.0
PNA CMPDS - 8310 AQUEOUS					
Acenaphthene	406	1201	0.001	0.00081	81.0
Acenaphthylene	406	1201	0.001	0.00082	82.0
Anthracene	406	1201	0.001	0.00083	83.0
Benzo(a)anthracene	406	1201	0.001	0.00087	87.0
Benzo(b)fluoranthene	406	1201	0.001	0.00082	82.0
Benzo(k)fluoranthene	406	1201	0.001	0.00085	85.0
Benzo(a)pyrene	406	1201	0.001	0.00077	77.0
Benzo(ghi)perylene	406	1201	0.001	0.00085	85.0
Chrysene	406	1201	0.001	0.00087	87.0
Dibenzo(a,h)anthracene	406	1201	0.001	0.00083	83.0
Fluoranthene	406	1201	0.001	0.00083	83.0
Fluorene	406	1201	0.001	0.00082	82.0
Indeno(1,2,3-cd)pyrene	406	1201	0.001	0.00084	84.0
Naphthalene	406	1201	0.001	0.00079	79.0
Phenanthrene	406	1201	0.001	0.00082	82.0
Pyrene	406	1201	0.001	0.00083	83.0
Surr: p-Terphenyl	406	1201	2000	1,625	81.3

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QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/09/1998

NET Job Number: 98.13888

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Barium, ICP	2197	3769	0.165	0.062	0.100	mg/L	103.0	0.163	0.100	mg/L	101.0	2.0
Cadmium, ICP	2197	3737	0.053	<0.010	0.050	mg/L	106.0	0.053	0.050	mg/L	106.0	0.0
Chromium, ICP	2197	3746	0.114	<0.040	0.100	mg/L	114.0	0.108	0.100	mg/L	108.0	5.4
Mercury, CVAA	1185	1091	0.00245	<0.0002	0.0025	mg/L	98.0	0.0025	0.0025	mg/L	102.4	4.3
Mercury, CVAA	1185	1091	0.00207	<0.0002	0.0020	mg/L	103.5	0.0021	0.0020	mg/L	106.0	2.4
Mercury, CVAA	1185	1091	0.00229	<0.0002	0.0020	mg/L	114.5	0.0022	0.0020	mg/L	111.5	2.7
Silver, AA	1014	992	0.040	<0.040	0.10	mg/L	40.0	0.091	0.10	mg/L	91.0	77.9
UST VOLATILES 8260 - AQUEOU												
Benzene		2639	20.9	<0.001	20.0	mg/L	104.5	21.6	20.0	mg/L	108.0	3.3
Ethyl Benzene		2639	19.3	<0.001	20.0	mg/L	96.5	18.9	20.0	mg/L	94.5	2.1
Toluene		2639	20.0	<0.001	20.0	mg/L	100.0	19.7	20.0	mg/L	98.5	1.4
Xylenes, Total		2639	62.0	<0.001	60.0	mg/L	103.3	60.0	60.0	mg/L	100.0	3.2

NOTE: Matrix Spike Samples may not be samples from this job.

Advisory Control Limits for MS/MSDs:

For Inorganic Parameters and GC Volatiles, the spike recovery should be 75 - 125% if the spike added value was greater than or equal to one fourth of the sample result value. If not, the control limits are not established. The RPD for the MS/MSD pair should be less than 20.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

RPD calculations are performed on the Percent Recovery calculated from the observed Matrix spike and Matrix Spike Duplicate results.

NET Midwest, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY ENSR Corp.
ADDRESS 740 Rasquelli, Westmont
PHONE (630) 887-1700 FAX (630) 850-5307
PROJECT NAME/LOCATION Comed / Will County
PROJECT NUMBER 1801-230
PROJECT MANAGER Wei-Lih Fong

REPORT TO: Wei-Lih Fong
INVOICE TO:
P.O. NO.
NET QUOTE NO.

MWG1315_5960

SAMPLED BY
Brian McReynolds (PRINT NAME) — Brian McReynolds (SIGNATURE)
(PRINT NAME) — (SIGNATURE)

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: pH	BNA	PCB	BTEX	Kerr Metals
10/26/98	15:00	MW-1	W			3	3	1		4	X	X	X	X	X
	16:00	MW-2													
	18:30	MW-3													
	14:00	MW-4													
	17:30	MW-5													

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ____ No ____

Is this work being conducted for regulatory enforcement action? Yes ____ No ____

Which regulations apply: RCRA ____ NPDES Wastewater ____ UST ____ Drinking Water ____ Other ____ None ____

COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) NO
FIELD FILTERED? ~~YES/NO~~ N/A

COC SEALS PRESENT AND INTACT? (YES) / NO
VOLATILES FREE OF HEADSPACE? (YES) NO

TEMPERATURE UPON RECEIPT: 1.8°C wet ice
Bottles supplied by NET? (YES) NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ____
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ____ DATE ____

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
Brian McReynolds	10/26/98	19:30			10/27/98	1440	P. Merrill

METHOD OF SHIPMENT: NET

REMARKS:

PT ORIGINAL TE PT PROJ NAGER OW USTOM PY - PI

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Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13402

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Will County; 1801-023-610

Sample Number	Sample Description	Date Taken	Date Received
498406	B1 (0-3)	10/15/1998	10/15/1998
498407	B2 (0-3)	10/15/1998	10/15/1998
498408	B4 (0-2)	10/15/1998	10/15/1998
498409	B3 (0-1)	10/15/1998	10/15/1998
498410	B5 (0-1)	10/15/1998	10/15/1998
498411	B6 (0-2)	10/15/1998	10/15/1998
498412	B7 (0-1)	10/15/1998	10/15/1998
498413	B8 (0-1)	10/15/1998	10/15/1998
498414	B9 (0-1)	10/15/1998	10/15/1998
498415	B10 (0-1)	10/15/1998	10/15/1998
498416	B11 (0-1)	10/15/1998	10/15/1998
498417	B12 (0-2)	10/15/1998	10/15/1998
498418	B13 (0-1)	10/15/1998	10/15/1998
498419	B14 (0-1)	10/15/1998	10/15/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

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Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13402

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Will County; 1801-023-610

Sample Number	Sample Description	Date Taken	Date Received
498420	B15 (0-1)	10/15/1998	10/15/1998
498421	B16 (0-1)	10/15/1998	10/15/1998
498422	B17 (0-1)	10/15/1998	10/15/1998
498423	B18	10/15/1998	10/15/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498406

NET Job No.: 98.13402

Sample Description: B1 (0-3)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 10:10
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	8.63	units	10/23/1998	0.10	nwg	179	SW 9045B
Solids, Total	80.4	%	11/02/1998	0.1	efw	2511	SM 2540
Arsenic, GFAA	4.6	mg/kg dw	11/02/1998	0.62	mhp	226 668	SW 7060
Barium, ICP	1,180	mg/kg dw	10/30/1998	1.2	jtt	1153 2169	SW 6010B
Cadmium, ICP	0.85	mg/kg dw	10/31/1998	0.62	jtt	1153 2155	SW 6010B
Chromium, ICP	17	mg/kg dw	10/31/1998	2.5	jtt	1153 2140	SW 6010B
Lead, ICP	66	mg/kg dw	11/02/1998	5.0	jtt	1153 2382	SW 6010B
Mercury, CVAA	0.091	mg/kg dw	10/29/1998	0.050	sep	664 768	SW 7471A
Selenium, GFAA	<0.31	mg/kg dw	11/03/1998	0.31	mhp	226 555	SW 7740
Silver, AA	<2.5	mg/kg dw	10/27/1998	2.5	sep	485 567	SW 7760
UST VOLATILES NON-AQUEOUS							
Benzene	<0.006	mg/kg dw	10/26/1998	0.006	jap	59	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/26/1998	0.006	jap	59	SW 8260A
Toluene	<0.006	mg/kg dw	10/26/1998	0.006	jap	59	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/26/1998	0.006	jap	59	SW 8260A
Dibromofluoromethane (Surr)	109.8	%	10/26/1998	81-129	jap	59	SW 8260A
Toluene-d8 (Surr)	93.2	%	10/26/1998	74-129	jap	59	SW 8260A
4-Bromofluoromethane (Surr)	96.8	%	10/26/1998	70-130	jap	59	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/21/1998		mmv	754	SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV						
Acenaphthene	<0.1	mg/kg dw	10/27/1998	0.025	keh	754 1810	SW 8310
Acenaphthylene	<0.1	mg/kg dw	10/27/1998	0.025	keh	754 1810	SW 8310
Anthracene	<0.2	mg/kg dw	10/27/1998	0.050	keh	754 1810	SW 8310
Benzo(a)anthracene	0.49	mg/kg dw	10/27/1998	0.0032	keh	754 1810	SW 8310
Benzo(b)fluoranthene	0.55	mg/kg dw	10/27/1998	0.0045	keh	754 1810	SW 8310

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498406

NET Job No.: 98.13402

Sample Description: B1 (0-3)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 10:10
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.32	mg/kg dw	10/27/1998	0.0042	keh	754	1810	SW 8310
Benzo(a)pyrene	0.65	mg/kg dw	10/27/1998	0.0057	keh	754	1810	SW 8310
Benzo(ghi)perylene	0.55	mg/kg dw	10/27/1998	0.050	keh	754	1810	SW 8310
Chrysene	0.62	mg/kg dw	10/27/1998	0.04	keh	754	1810	SW 8310
Dibenzo(a,h)anthracene	0.073	mg/kg dw	10/27/1998	0.007	keh	754	1810	SW 8310
Fluoranthene	1.0	mg/kg dw	10/27/1998	0.025	keh	754	1810	SW 8310
Fluorene	<0.1	mg/kg dw	10/27/1998	0.025	keh	754	1810	SW 8310
Indeno(1,2,3-cd)pyrene	0.47	mg/kg dw	10/27/1998	0.011	keh	754	1810	SW 8310
Naphthalene	<0.1	mg/kg dw	10/27/1998	0.031	keh	754	1810	SW 8310
Phenanthrene	0.52	mg/kg dw	10/27/1998	0.050	keh	754	1810	SW 8310
Pyrene	0.95	mg/kg dw	10/27/1998	0.025	keh	754	1810	SW 8310
Surr: p-Terphenyl	Masked		10/27/1998	43-125	keh	754	1810	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/22/1998	COMPLETE	wna	373		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.050	mg/kg dw	10/30/1998	0.050	tls	373	47	SW 8082
PCB-1221	<0.050	mg/kg dw	10/30/1998	0.050	tls	373	47	SW 8082
PCB-1232	<0.050	mg/kg dw	10/30/1998	0.050	tls	373	47	SW 8082
PCB-1242	<0.050	mg/kg dw	10/30/1998	0.050	tls	373	47	SW 8082
PCB-1248	<0.050	mg/kg dw	10/30/1998	0.050	tls	373	47	SW 8082
PCB-1254	1.1	mg/kg dw	11/04/1998	0.050	tls	373	51	SW 8082
PCB-1260	<0.050	mg/kg dw	10/30/1998	0.050	tls	373	47	SW 8082
Decachlorobiphenyl (Surr)	111.0	%	10/30/1998	NA	tls	373	47	SW 8082
2,4,5,6-TCMX (Surr)	84.0	%	10/30/1998	NA	tls	373	47	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498407

NET Job No.: 98.13402

Sample Description: B2 (0-3)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 10:22
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.14	units	10/23/1998	0.10	nwg		179	SW 9045B
Solids, Total	91.7	%	11/02/1998	0.1	efw		2511	SM 2540
Arsenic, GFAA	4.9	mg/kg dw	11/02/1998	0.55	mhp	226	668	SW 7060
Barium, ICP	992	mg/kg dw	11/02/1998	1.1	jtt	1158	2176	SW 6010B
Cadmium, ICP	0.85	mg/kg dw	11/04/1998	0.55	kdw	1158	2169	SW 6010B
Chromium, ICP	17	mg/kg dw	10/31/1998	2.2	jtt	1158	2140	SW 6010B
Lead, ICP	36	mg/kg dw	11/03/1998	4.4	jtt	1158	2385	SW 6010B
Mercury, CVAA	0.11	mg/kg dw	10/29/1998	0.044	sep	664	768	SW 7471A
Selenium, GFAA	<0.27	mg/kg dw	11/03/1998	0.27	mhp	226	555	SW 7740
Silver, AA	<2.2	mg/kg dw	10/27/1998	2.2	sep	485	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	10/26/1998	0.005	jap		59	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/26/1998	0.005	jap		59	SW 8260A
Toluene	<0.005	mg/kg dw	10/26/1998	0.005	jap		59	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/26/1998	0.005	jap		59	SW 8260A
Dibromofluoromethane (Surr)	104.0	%	10/26/1998	81-129	jap		59	SW 8260A
Toluene-d8 (Surr)	95.8	%	10/26/1998	74-129	jap		59	SW 8260A
4-Bromofluoromethane (Surr)	98.4	%	10/26/1998	70-130	jap		59	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/21/1998		mmv	754		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<1.1	mg/kg dw	10/27/1998	0.022	kdw	754	1825	SW 8310
Acenaphthylene	<1.1	mg/kg dw	10/27/1998	0.022	kdw	754	1825	SW 8310
Anthracene	<2.2	mg/kg dw	10/27/1998	0.044	kdw	754	1825	SW 8310
Benzo(a)anthracene	1.4	mg/kg dw	10/27/1998	0.0028	kdw	754	1825	SW 8310
Benzo(b)fluoranthene	1.3	mg/kg dw	10/27/1998	0.0039	kdw	754	1825	SW 8310

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498407

NET Job No.: 98.13402

Sample Description: B2 (0-3)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 10:22
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.84	mg/kg dw	10/27/1998	0.0037	kdw	754	1825	SW 8310
Benzo(a)pyrene	1.4	mg/kg dw	10/27/1998	0.0050	kdw	754	1825	SW 8310
Benzo(ghi)perylene	<2.2	mg/kg dw	10/27/1998	0.044	kdw	754	1825	SW 8310
Chrysene	<2	mg/kg dw	10/27/1998	0.03	kdw	754	1825	SW 8310
Dibenzo(a,h)anthracene	<0.4	mg/kg dw	10/27/1998	0.007	kdw	754	1825	SW 8310
Fluoranthene	2.3	mg/kg dw	10/27/1998	0.022	kdw	754	1825	SW 8310
Fluorene	<1.1	mg/kg dw	10/27/1998	0.022	kdw	754	1825	SW 8310
Indeno(1,2,3-cd)pyrene	1.0	mg/kg dw	10/27/1998	0.0094	kdw	754	1825	SW 8310
Naphthalene	<1.36	mg/kg dw	10/27/1998	0.027	kdw	754	1825	SW 8310
Phenanthrene	<2.2	mg/kg dw	10/27/1998	0.044	kdw	754	1825	SW 8310
Pyrene	2.0	mg/kg dw	10/27/1998	0.022	kdw	754	1825	SW 8310
Surr: p-Terphenyl	Diluted out		10/27/1998	43-125	kdw	754	1825	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/22/1998	COMPLETE	wna	373		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.044	mg/kg dw	10/30/1998	0.044	tls	373	47	SW 8082
PCB-1221	<0.044	mg/kg dw	10/30/1998	0.044	tls	373	47	SW 8082
PCB-1232	<0.044	mg/kg dw	10/30/1998	0.044	tls	373	47	SW 8082
PCB-1242	<0.044	mg/kg dw	10/30/1998	0.044	tls	373	47	SW 8082
PCB-1248	<0.044	mg/kg dw	10/30/1998	0.044	tls	373	47	SW 8082
PCB-1254	<0.044	mg/kg dw	10/30/1998	0.044	tls	373	47	SW 8082
PCB-1260	0.055	mg/kg dw	10/30/1998	0.044	tls	373	47	SW 8082
Decachlorobiphenyl (Surr)	112.0	%	10/30/1998	NA	tls	373	47	SW 8082
2,4,5,6-TCMX (Surr)	82.0	%	10/30/1998	NA	tls	373	47	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498408

NET Job No.: 98.13402

Sample Description: B4 (0-2)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 10:30
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.83		units	10/23/1998	0.10	nwg		179	SW 9045B
Solids, Total	88.3		%	11/02/1998	0.1	efw		2511	SM 2540
Arsenic, GFAA	5.3		mg/kg dw	11/02/1998	0.57	mhp	226	668	SW 7060
Barium, ICP	634		mg/kg dw	11/02/1998	1.1	jtt	1158	2176	SW 6010B
Cadmium, ICP	1.2		mg/kg dw	10/31/1998	0.57	jtt	1158	2155	SW 6010B
Chromium, ICP	11		mg/kg dw	10/31/1998	2.3	jtt	1158	2140	SW 6010B
Lead, ICP	18		mg/kg dw	11/03/1998	4.5	jtt	1158	2385	SW 6010B
Mercury, CVAA	<0.045		mg/kg dw	10/29/1998	0.045	sep	664	768	SW 7471A
Selenium, GFAA	<0.28		mg/kg dw	11/03/1998	0.28	mhp	226	555	SW 7740
Silver, AA	<2.3		mg/kg dw	10/27/1998	2.3	sep	485	567	SW 7760
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	10/26/1998	0.006	jap		59	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	10/26/1998	0.006	jap		59	SW 8260A
Toluene	<0.006		mg/kg dw	10/26/1998	0.006	jap		59	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	10/26/1998	0.006	jap		59	SW 8260A
Dibromofluoromethane (Surr)	102.8		%	10/26/1998	81-129	jap		59	SW 8260A
Toluene-d8 (Surr)	98.2		%	10/26/1998	74-129	jap		59	SW 8260A
4-Bromofluoromethane (Surr)	103.0		%	10/26/1998	70-130	jap		59	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/21/1998		mmv	754		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.065	MX	mg/kg dw	10/27/1998	0.023	kdw	754	1818	SW 8310
Acenaphthylene	<0.023		mg/kg dw	10/27/1998	0.023	kdw	754	1818	SW 8310
Anthracene	<0.045		mg/kg dw	10/27/1998	0.045	kdw	754	1818	SW 8310
Benzo(a)anthracene	<0.174	MX	mg/kg dw	10/27/1998	0.0029	kdw	754	1818	SW 8310
Benzo(b)fluoranthene	0.125		mg/kg dw	10/27/1998	0.0041	kdw	754	1818	SW 8310

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498408

NET Job No.: 98.13402

Sample Description: B4 (0-2)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 10:30
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.072		mg/kg dw	10/27/1998	0.0039	kdw	754	1818	SW 8310
Benzo(a)pyrene	0.119		mg/kg dw	10/27/1998	0.0052	kdw	754	1818	SW 8310
Benzo(ghi)perylene	0.148		mg/kg dw	10/27/1998	0.045	kdw	754	1818	SW 8310
Chrysene	0.125		mg/kg dw	10/27/1998	0.03	kdw	754	1818	SW 8310
Dibenzo(a,h)anthracene	0.016		mg/kg dw	10/27/1998	0.007	kdw	754	1818	SW 8310
Fluoranthene	0.253		mg/kg dw	10/27/1998	0.023	kdw	754	1818	SW 8310
Fluorene	<0.027	MX	mg/kg dw	10/27/1998	0.023	kdw	754	1818	SW 8310
Indeno(1,2,3-cd)pyrene	0.097		mg/kg dw	10/27/1998	0.0097	kdw	754	1818	SW 8310
Naphthalene	<0.028		mg/kg dw	10/27/1998	0.028	kdw	754	1818	SW 8310
Phenanthrene	0.10		mg/kg dw	10/27/1998	0.045	kdw	754	1818	SW 8310
Pyrene	0.225		mg/kg dw	10/27/1998	0.023	kdw	754	1818	SW 8310
Surr: p-Terphenyl	Diluted out			10/27/1998	43-125	kdw	754	1818	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			10/22/1998	COMPLETE	wna	373		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.045		mg/kg dw	10/30/1998	0.045	tls	373	47	SW 8082
PCB-1221	<0.045		mg/kg dw	10/30/1998	0.045	tls	373	47	SW 8082
PCB-1232	<0.045		mg/kg dw	10/30/1998	0.045	tls	373	47	SW 8082
PCB-1242	<0.045		mg/kg dw	10/30/1998	0.045	tls	373	47	SW 8082
PCB-1248	<0.045		mg/kg dw	10/30/1998	0.045	tls	373	47	SW 8082
PCB-1254	<0.045		mg/kg dw	10/30/1998	0.045	tls	373	47	SW 8082
PCB-1260	0.093		mg/kg dw	10/30/1998	0.045	tls	373	47	SW 8082
Decachlorobiphenyl (Surr)	110.0		%	10/30/1998	NA	tls	373	47	SW 8082
2,4,5,6-TCMX (Surr)	79.0		%	10/30/1998	NA	tls	373	47	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498409

NET Job No.: 98.13402

Sample Description: B3 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 10:37
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.11	units	10/23/1998	0.10	nwg		179	SW 9045B
Solids, Total	82.2	%	11/02/1998	0.1	efw		2511	SM 2540
Arsenic, GFAA	4.9	mg/kg dw	11/02/1998	0.61	mhp	226	668	SW 7060
Barium, ICP	158	mg/kg dw	10/31/1998	1.2	jtt	1158	2175	SW 6010B
Cadmium, ICP	0.85	mg/kg dw	10/31/1998	0.61	jtt	1158	2155	SW 6010B
Chromium, ICP	12	mg/kg dw	10/31/1998	2.4	jtt	1158	2140	SW 6010B
Lead, ICP	21	mg/kg dw	11/03/1998	4.9	jtt	1158	2385	SW 6010B
Mercury, CVAA	<0.049	mg/kg dw	10/29/1998	0.049	sep	664	768	SW 7471A
Selenium, GFAA	<0.30	mg/kg dw	11/03/1998	0.30	mhp	226	555	SW 7740
Silver, AA	<2.4	mg/kg dw	10/27/1998	2.4	sep	485	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/26/1998	0.006	jap		59	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/26/1998	0.006	jap		59	SW 8260A
Toluene	<0.006	mg/kg dw	10/26/1998	0.006	jap		59	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/26/1998	0.006	jap		59	SW 8260A
Dibromofluoromethane (Surr)	104.4	%	10/26/1998	81-129	jap		59	SW 8260A
Toluene-d8 (Surr)	99.8	%	10/26/1998	74-129	jap		59	SW 8260A
4-Bromofluoromethane (Surr)	106.8	%	10/26/1998	70-130	jap		59	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/21/1998		mmv	754		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.1	mg/kg dw	10/27/1998	0.024	kdw	754	1818	SW 8310
Acenaphthylene	<0.1	mg/kg dw	10/27/1998	0.024	kdw	754	1818	SW 8310
Anthracene	<0.2	mg/kg dw	10/27/1998	0.049	kdw	754	1818	SW 8310
Benzo(a)anthracene	<0.016	mg/kg dw	10/27/1998	0.0032	kdw	754	1818	SW 8310
Benzo(b)fluoranthene	<0.136	mg/kg dw	10/27/1998	0.0044	kdw	754	1818	SW 8310

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498409

NET Job No.: 98.13402

Sample Description: B3 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 10:37
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.02	mg/kg dw	10/27/1998	0.0041	kdw	754	1818	SW 8310
Benzo(a)pyrene	<0.123	mg/kg dw	10/27/1998	0.0056	kdw	754	1818	SW 8310
Benzo(ghi)perylene	<0.2	mg/kg dw	10/27/1998	0.049	kdw	754	1818	SW 8310
Chrysene	<0.2	mg/kg dw	10/27/1998	0.04	kdw	754	1818	SW 8310
Dibenzo(a,h)anthracene	<0.04	mg/kg dw	10/27/1998	0.007	kdw	754	1818	SW 8310
Fluoranthene	0.335	mg/kg dw	10/27/1998	0.024	kdw	754	1818	SW 8310
Fluorene	<0.1	mg/kg dw	10/27/1998	0.024	kdw	754	1818	SW 8310
Indeno(1,2,3-cd)pyrene	<0.0658	mg/kg dw	10/27/1998	0.010	kdw	754	1818	SW 8310
Naphthalene	<0.152	mg/kg dw	10/27/1998	0.030	kdw	754	1818	SW 8310
Phenanthrene	<0.2	mg/kg dw	10/27/1998	0.049	kdw	754	1818	SW 8310
Pyrene	0.315	mg/kg dw	10/27/1998	0.024	kdw	754	1818	SW 8310
Surr: p-Terphenyl	Diluted out		10/27/1998	43-125	kdw	754	1818	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/22/1998	COMPLETE	wna	373		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.049	mg/kg dw	10/30/1998	0.049	tls	373	47	SW 8082
PCB-1221	<0.049	mg/kg dw	10/30/1998	0.049	tls	373	47	SW 8082
PCB-1232	<0.049	mg/kg dw	10/30/1998	0.049	tls	373	47	SW 8082
PCB-1242	<0.049	mg/kg dw	10/30/1998	0.049	tls	373	47	SW 8082
PCB-1248	<0.049	mg/kg dw	10/30/1998	0.049	tls	373	47	SW 8082
PCB-1254	<0.049	mg/kg dw	10/30/1998	0.049	tls	373	47	SW 8082
PCB-1260	0.054	mg/kg dw	10/30/1998	0.049	tls	373	47	SW 8082
Decachlorobiphenyl (Surr)	127.0	%	10/30/1998	NA	tls	373	47	SW 8082
2,4,5,6-TCMX (Surr)	86.0	%	10/30/1998	NA	tls	373	47	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498410

NET Job No.: 98.13402

Sample Description: B5 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 10:53
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.73	units	10/23/1998	0.10	nwg		179	SW 9045B
Solids, Total	91.3	%	11/02/1998	0.1	efw		2511	SM 2540
Arsenic, GFAA	7.1	mg/kg dw	11/02/1998	0.55	mhp	226	668	SW 7060
Barium, ICP	1,530	mg/kg dw	10/31/1998	1.1	jtt	1158	2175	SW 6010B
Cadmium, ICP	1.1	mg/kg dw	10/31/1998	0.55	jtt	1158	2155	SW 6010B
Chromium, ICP	12	mg/kg dw	10/31/1998	2.2	jtt	1158	2140	SW 6010B
Lead, ICP	38	mg/kg dw	11/03/1998	4.4	jtt	1158	2385	SW 6010B
Mercury, CVAA	<0.044	mg/kg dw	10/29/1998	0.044	sep	664	768	SW 7471A
Selenium, GFAA	<0.27	mg/kg dw	11/03/1998	0.27	mhp	226	555	SW 7740
Silver, AA	<2.2	mg/kg dw	10/27/1998	2.2	sep	486	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	10/27/1998	0.005	jap		55	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/27/1998	0.005	jap		55	SW 8260A
Toluene	<0.005	mg/kg dw	10/27/1998	0.005	jap		55	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/27/1998	0.005	jap		55	SW 8260A
Dibromofluoromethane (Surr)	105.8	%	10/27/1998	81-129	jap		55	SW 8260A
Toluene-d8 (Surr)	95.2	%	10/27/1998	74-129	jap		55	SW 8260A
4-Bromofluoromethane (Surr)	98.2	%	10/27/1998	70-130	jap		55	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/21/1998		mmv	755		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.161	mg/kg dw	10/26/1998	0.022	kdw	755	1825	SW 8310
Acenaphthylene	<0.1	mg/kg dw	10/26/1998	0.022	kdw	755	1825	SW 8310
Anthracene	<0.2	mg/kg dw	10/26/1998	0.044	kdw	755	1825	SW 8310
Benzo(a)anthracene	<1.0	mg/kg dw	10/26/1998	0.0028	kdw	755	1825	SW 8310
Benzo(b)fluoranthene	<0.02	mg/kg dw	10/26/1998	0.0039	kdw	755	1825	SW 8310

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498410

NET Job No.: 98.13402

Sample Description: B5 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 10:53
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.028	mg/kg dw	10/26/1998	0.0037	kdw	755	1825	SW 8310
Benzo(a)pyrene	<0.099	mg/kg dw	10/26/1998	0.0050	kdw	755	1825	SW 8310
Benzo(ghi)perylene	<0.2	mg/kg dw	10/26/1998	0.044	kdw	755	1825	SW 8310
Chrysene	<0.2	mg/kg dw	10/26/1998	0.03	kdw	755	1825	SW 8310
Dibenzo(a,h)anthracene	<0.049	mg/kg dw	10/26/1998	0.007	kdw	755	1825	SW 8310
Fluoranthene	<0.49	mg/kg dw	10/26/1998	0.022	kdw	755	1825	SW 8310
Fluorene	<0.1	mg/kg dw	10/26/1998	0.022	kdw	755	1825	SW 8310
Indeno(1,2,3-cd)pyrene	<0.049	mg/kg dw	10/26/1998	0.0094	kdw	755	1825	SW 8310
Naphthalene	<0.14	mg/kg dw	10/26/1998	0.027	kdw	755	1825	SW 8310
Phenanthrene	<0.2	mg/kg dw	10/26/1998	0.044	kdw	755	1825	SW 8310
Pyrene	<0.89	mg/kg dw	10/26/1998	0.022	kdw	755	1825	SW 8310
Surr: p-Terphenyl	Diluted out		10/26/1998	43-125	kdw	755	1825	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/22/1998	COMPLETE	wna	373		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.044	mg/kg dw	10/30/1998	0.044	tls	373	47	SW 8082
PCB-1221	<0.044	mg/kg dw	10/30/1998	0.044	tls	373	47	SW 8082
PCB-1232	<0.044	mg/kg dw	10/30/1998	0.044	tls	373	47	SW 8082
PCB-1242	<0.044	mg/kg dw	10/30/1998	0.044	tls	373	47	SW 8082
PCB-1248	<0.044	mg/kg dw	10/30/1998	0.044	tls	373	47	SW 8082
PCB-1254	<0.044	mg/kg dw	10/30/1998	0.044	tls	373	47	SW 8082
PCB-1260	<0.044	mg/kg dw	10/30/1998	0.044	tls	373	47	SW 8082
Decachlorobiphenyl (Surr)	114.0	%	10/30/1998	NA	tls	373	47	SW 8082
2,4,5,6-TCMX (Surr)	81.0	%	10/30/1998	NA	tls	373	47	SW 8082

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498411

NET Job No.: 98.13402

Sample Description: B6 (0-2)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 11:07
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.82	units	10/23/1998	0.10	nwg		179	SW 9045B
Solids, Total	88.1	%	11/02/1998	0.1	efw		2511	SM 2540
Arsenic, GFAA	5.2	mg/kg dw	11/02/1998	0.57	mhp	226	668	SW 7060
Barium, ICP	885	mg/kg dw	10/31/1998	1.1	jtt	1158	2175	SW 6010B
Cadmium, ICP	<0.57	mg/kg dw	11/02/1998	0.57	jtt	1158	2162	SW 6010B
Chromium, ICP	19	mg/kg dw	10/31/1998	2.3	jtt	1158	2140	SW 6010B
Lead, ICP	20	mg/kg dw	11/03/1998	4.5	jtt	1158	2385	SW 6010B
Mercury, CVAA	<0.045	mg/kg dw	10/29/1998	0.045	sep	664	768	SW 7471A
Selenium, GFAA	<0.28	mg/kg dw	11/03/1998	0.28	mhp	226	555	SW 7740
Silver, AA	<2.3	mg/kg dw	10/27/1998	2.3	sep	486	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/27/1998	0.006	jap		55	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/27/1998	0.006	jap		55	SW 8260A
Toluene	<0.006	mg/kg dw	10/27/1998	0.006	jap		55	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/27/1998	0.006	jap		55	SW 8260A
Dibromofluoromethane (Surr)	104.0	%	10/27/1998	81-129	jap		55	SW 8260A
Toluene-d8 (Surr)	97.8	%	10/27/1998	74-129	jap		55	SW 8260A
4-Bromofluoromethane (Surr)	101.0	%	10/27/1998	70-130	jap		55	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/21/1998		mmv	755		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.1	mg/kg dw	10/26/1998	0.023	kdw	755	1825	SW 8310
Acenaphthylene	<0.1	mg/kg dw	10/26/1998	0.023	kdw	755	1825	SW 8310
Anthracene	<0.2	mg/kg dw	10/26/1998	0.045	kdw	755	1825	SW 8310
Benzo(a)anthracene	<0.36	mg/kg dw	10/26/1998	0.0030	kdw	755	1825	SW 8310
Benzo(b)fluoranthene	0.15	mg/kg dw	10/26/1998	0.0041	kdw	755	1825	SW 8310

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498411

NET Job No.: 98.13402

Sample Description: B6 (0-2)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 11:07
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.11	mg/kg dw	10/26/1998	0.0039	kdw	755	1825	SW 8310
Benzo(a)pyrene	0.16	mg/kg dw	10/26/1998	0.0052	kdw	755	1825	SW 8310
Benzo(ghi)perylene	<0.2	mg/kg dw	10/26/1998	0.045	kdw	755	1825	SW 8310
Chrysene	0.60	mg/kg dw	10/26/1998	0.03	kdw	755	1825	SW 8310
Dibenzo(a,h)anthracene	<0.04	mg/kg dw	10/26/1998	0.007	kdw	755	1825	SW 8310
Fluoranthene	0.16	mg/kg dw	10/26/1998	0.023	kdw	755	1825	SW 8310
Fluorene	<0.1	mg/kg dw	10/26/1998	0.023	kdw	755	1825	SW 8310
Indeno(1,2,3-cd)pyrene	0.068	mg/kg dw	10/26/1998	0.0098	kdw	755	1825	SW 8310
Naphthalene	<0.15	mg/kg dw	10/26/1998	0.028	kdw	755	1825	SW 8310
Phenanthrene	<0.2	mg/kg dw	10/26/1998	0.045	kdw	755	1825	SW 8310
Pyrene	0.23	mg/kg dw	10/26/1998	0.023	kdw	755	1825	SW 8310
Surr: p-Terphenyl	Diluted out		10/26/1998	43-125	kdw	755	1825	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/27/1998	COMPLETE	wna	374		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.045	mg/kg dw	11/04/1998	0.045	tls	374	51	SW 8082
PCB-1221	<0.045	mg/kg dw	11/04/1998	0.045	tls	374	51	SW 8082
PCB-1232	<0.045	mg/kg dw	11/04/1998	0.045	tls	374	51	SW 8082
PCB-1242	<0.045	mg/kg dw	11/04/1998	0.045	tls	374	51	SW 8082
PCB-1248	<0.045	mg/kg dw	11/04/1998	0.045	tls	374	51	SW 8082
PCB-1254	<0.045	mg/kg dw	11/04/1998	0.045	tls	374	51	SW 8082
PCB-1260	<0.045	mg/kg dw	11/04/1998	0.045	tls	374	51	SW 8082
Decachlorobiphenyl (Surr)	90.0	%	11/04/1998	NA	tls	374	51	SW 8082
2,4,5,6-TCMX (Surr)	76.0	%	11/04/1998	NA	tls	374	51	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498412

NET Job No.: 98.13402

Sample Description: B7 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 11:50
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	9.30	units	10/23/1998	0.10	nwg	179	SW 9045B
Solids, Total	88.5	%	11/02/1998	0.1	efw	2511	SM 2540
Arsenic, GFAA	6.7	mg/kg dw	11/03/1998	0.56	mhp	229 669	SW 7060
Barium, ICP	294	mg/kg dw	10/31/1998	1.1	jtt	1158 2175	SW 6010B
Cadmium, ICP	1.4	mg/kg dw	10/31/1998	0.56	jtt	1158 2155	SW 6010B
Chromium, ICP	12	mg/kg dw	10/31/1998	2.3	jtt	1158 2140	SW 6010B
Lead, ICP	16	mg/kg dw	11/03/1998	4.5	jtt	1158 2385	SW 6010B
Mercury, CVAA	<0.045	mg/kg dw	10/29/1998	0.045	sep	664 768	SW 7471A
Selenium, GFAA	<0.28	mg/kg dw	11/02/1998	0.28	mhp	229 554	SW 7740
Silver, AA	<2.3	mg/kg dw	10/27/1998	2.3	sep	486 567	SW 7760
UST VOLATILES NON-AQUEOUS							
Benzene	<0.006	mg/kg dw	10/27/1998	0.006	jap	55	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/27/1998	0.006	jap	55	SW 8260A
Toluene	<0.006	mg/kg dw	10/27/1998	0.006	jap	55	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/27/1998	0.006	jap	55	SW 8260A
Dibromofluoromethane (Surr)	103.2	%	10/27/1998	81-129	jap	55	SW 8260A
Toluene-d8 (Surr)	88.4	%	10/27/1998	74-129	jap	55	SW 8260A
4-Bromofluoromethane (Surr)	90.0	%	10/27/1998	70-130	jap	55	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/21/1998		mmv	755	SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV						
Acenaphthene	<0.58	mg/kg dw	10/27/1998	0.023	kdw	755 1825	SW 8310
Acenaphthylene	<0.58	mg/kg dw	10/27/1998	0.023	kdw	755 1825	SW 8310
Anthracene	<1.1	mg/kg dw	10/27/1998	0.045	kdw	755 1825	SW 8310
Benzo(a)anthracene	<2.3	mg/kg dw	10/27/1998	0.0029	kdw	755 1825	SW 8310
Benzo(b)fluoranthene	0.53	mg/kg dw	10/27/1998	0.0041	kdw	755 1825	SW 8310

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498412

NET Job No.: 98.13402

Sample Description: B7 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 11:50
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.45	mg/kg dw	10/27/1998	0.0038	kdw	755	1825	SW 8310
Benzo(a)pyrene	<0.32	mg/kg dw	10/27/1998	0.0052	kdw	755	1825	SW 8310
Benzo(ghi)perylene	<1.1	mg/kg dw	10/27/1998	0.045	kdw	755	1825	SW 8310
Chrysene	<0.8	mg/kg dw	10/27/1998	0.03	kdw	755	1825	SW 8310
Dibenzo(a,h)anthracene	<0.2	mg/kg dw	10/27/1998	0.007	kdw	755	1825	SW 8310
Fluoranthene	0.97	mg/kg dw	10/27/1998	0.023	kdw	755	1825	SW 8310
Fluorene	<0.58	mg/kg dw	10/27/1998	0.023	kdw	755	1825	SW 8310
Indeno(1,2,3-cd)pyrene	<0.24	mg/kg dw	10/27/1998	0.0097	kdw	755	1825	SW 8310
Naphthalene	<0.71	mg/kg dw	10/27/1998	0.028	kdw	755	1825	SW 8310
Phenanthrene	<1.1	mg/kg dw	10/27/1998	0.045	kdw	755	1825	SW 8310
Pyrene	0.68	mg/kg dw	10/27/1998	0.023	kdw	755	1825	SW 8310
Surr: p-Terphenyl	Diluted out		10/27/1998	43-125	kdw	755	1825	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/27/1998	COMPLETE	wna	374		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.045	mg/kg dw	11/04/1998	0.045	tls	374	51	SW 8082
PCB-1221	<0.045	mg/kg dw	11/04/1998	0.045	tls	374	51	SW 8082
PCB-1232	<0.045	mg/kg dw	11/04/1998	0.045	tls	374	51	SW 8082
PCB-1242	<0.045	mg/kg dw	11/04/1998	0.045	tls	374	51	SW 8082
PCB-1248	<0.045	mg/kg dw	11/04/1998	0.045	tls	374	51	SW 8082
PCB-1254	<0.045	mg/kg dw	11/04/1998	0.045	tls	374	51	SW 8082
PCB-1260	0.046	mg/kg dw	11/04/1998	0.045	tls	374	51	SW 8082
Decachlorobiphenyl (Surr)	96.0	%	11/04/1998	NA	tls	374	51	SW 8082
2,4,5,6-TCMX (Surr)	85.0	%	11/04/1998	NA	tls	374	51	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498413

NET Job No.: 98.13402

Sample Description: B8 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 12:10
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.44	units	10/23/1998	0.10	nwg		179	SW 9045B
Solids, Total	94.3	%	11/02/1998	0.1	efw		2511	SM 2540
Arsenic, GFAA	7.4	mg/kg dw	11/03/1998	0.53	mhp	229	669	SW 7060
Barium, ICP	361	mg/kg dw	10/31/1998	1.1	jtt	1158	2175	SW 6010B
Cadmium, ICP	1.0	mg/kg dw	10/31/1998	0.53	jtt	1158	2155	SW 6010B
Chromium, ICP	13	mg/kg dw	10/31/1998	2.1	jtt	1158	2140	SW 6010B
Lead, ICP	19	mg/kg dw	11/03/1998	4.2	jtt	1158	2385	SW 6010B
Mercury, CVAA	<0.042	mg/kg dw	10/29/1998	0.042	sep	664	768	SW 7471A
Selenium, GFAA	<0.27	mg/kg dw	11/02/1998	0.27	mhp	229	554	SW 7740
Silver, AA	<2.1	mg/kg dw	10/27/1998	2.1	sep	486	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	10/27/1998	0.005	jap		55	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/27/1998	0.005	jap		55	SW 8260A
Toluene	<0.005	mg/kg dw	10/27/1998	0.005	jap		55	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/27/1998	0.005	jap		55	SW 8260A
Dibromofluoromethane (Surr)	98.0	%	10/27/1998	81-129	jap		55	SW 8260A
Toluene-d8 (Surr)	93.6	%	10/27/1998	74-129	jap		55	SW 8260A
4-Bromofluoromethane (Surr)	94.0	%	10/27/1998	70-130	jap		55	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/21/1998		mmv	755		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS								
Acenaphthene	<0.021	mg/kg dw	10/27/1998	0.021	kdw	755	1825	SW 8310
Acenaphthylene	<0.021	mg/kg dw	10/27/1998	0.021	kdw	755	1825	SW 8310
Anthracene	<0.042	mg/kg dw	10/27/1998	0.042	kdw	755	1825	SW 8310
Benzo(a)anthracene	0.110	mg/kg dw	10/27/1998	0.0028	kdw	755	1825	SW 8310
Benzo(b)fluoranthene	0.054	mg/kg dw	10/27/1998	0.0038	kdw	755	1825	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498413

NET Job No.: 98.13402

Sample Description: B8 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 12:10
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.041	mg/kg dw	10/27/1998	0.0036	kdw	755	1825	SW 8310
Benzo(a)pyrene	0.059	mg/kg dw	10/27/1998	0.0049	kdw	755	1825	SW 8310
Benzo(ghi)perylene	0.067	mg/kg dw	10/27/1998	0.042	kdw	755	1825	SW 8310
Chrysene	0.070	mg/kg dw	10/27/1998	0.03	kdw	755	1825	SW 8310
Dibenzo(a,h)anthracene	0.008	mg/kg dw	10/27/1998	0.006	kdw	755	1825	SW 8310
Fluoranthene	0.13	mg/kg dw	10/27/1998	0.021	kdw	755	1825	SW 8310
Fluorene	<0.021	mg/kg dw	10/27/1998	0.021	kdw	755	1825	SW 8310
Indeno(1,2,3-cd)pyrene	0.040	mg/kg dw	10/27/1998	0.0091	kdw	755	1825	SW 8310
Naphthalene	<0.027	mg/kg dw	10/27/1998	0.027	kdw	755	1825	SW 8310
Phenanthrene	0.064	mg/kg dw	10/27/1998	0.042	kdw	755	1825	SW 8310
Pyrene	0.10	mg/kg dw	10/27/1998	0.021	kdw	755	1825	SW 8310
Surr: p-Terphenyl	Masked		10/27/1998	43-125	kdw	755	1825	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/27/1998	COMPLETE	wna	374		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.042	mg/kg dw	11/04/1998	0.042	tls	374	51	SW 8082
PCB-1221	<0.042	mg/kg dw	11/04/1998	0.042	tls	374	51	SW 8082
PCB-1232	<0.042	mg/kg dw	11/04/1998	0.042	tls	374	51	SW 8082
PCB-1242	<0.042	mg/kg dw	11/04/1998	0.042	tls	374	51	SW 8082
PCB-1248	<0.042	mg/kg dw	11/04/1998	0.042	tls	374	51	SW 8082
PCB-1254	<0.042	mg/kg dw	11/04/1998	0.042	tls	374	51	SW 8082
PCB-1260	<0.042	mg/kg dw	11/04/1998	0.042	tls	374	51	SW 8082
Decachlorobiphenyl (Surr)	92.0	%	11/04/1998	NA	tls	374	51	SW 8082
2,4,5,6-TCMX (Surr)	86.0	%	11/04/1998	NA	tls	374	51	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
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11/05/1998

Sample No. : 498414

NET Job No.: 98.13402

Sample Description: B9 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 12:21
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.79	units	10/23/1998	0.10	nwg		179	SW 9045B
Solids, Total	64.8	%	11/02/1998	0.1	efw		2511	SM 2540
Arsenic, GFAA	3.2	mg/kg dw	11/03/1998	0.77	mhp	229	669	SW 7060
Barium, ICP	988	mg/kg dw	10/31/1998	1.5	jtt	1158	2175	SW 6010B
Cadmium, ICP	<0.77	mg/kg dw	10/31/1998	0.77	jtt	1158	2155	SW 6010B
Chromium, ICP	6.9	mg/kg dw	10/31/1998	3.1	jtt	1158	2140	SW 6010B
Lead, ICP	23	mg/kg dw	11/03/1998	6.2	jtt	1158	2385	SW 6010B
Mercury, CVAA	<0.062	mg/kg dw	10/29/1998	0.062	sep	664	768	SW 7471A
Selenium, GFAA	<0.39	mg/kg dw	11/02/1998	0.39	mhp	229	554	SW 7740
Silver, AA	<3.1	mg/kg dw	10/27/1998	3.1	sep	486	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.008	mg/kg dw	10/28/1998	0.008	jap		62	SW 8260A
Ethylbenzene	<0.008	mg/kg dw	10/28/1998	0.008	jap		62	SW 8260A
Toluene	<0.008	mg/kg dw	10/28/1998	0.008	jap		62	SW 8260A
Xylenes, Total	<0.008	mg/kg dw	10/28/1998	0.008	jap		62	SW 8260A
Dibromofluoromethane (Surr)	88.8	%	10/28/1998	81-129	jap		62	SW 8260A
Toluene-d8 (Surr)	79.2	%	10/28/1998	74-129	jap		62	SW 8260A
4-Bromofluoromethane (Surr)	73.2	%	10/28/1998	70-130	jap		62	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/21/1998		mmv	755		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<3.1	mg/kg dw	10/27/1998	0.031	kdw	755	1825	SW 8310
Acenaphthylene	<3.1	mg/kg dw	10/27/1998	0.031	kdw	755	1825	SW 8310
Anthracene	<7.3	mg/kg dw	10/27/1998	0.062	kdw	755	1825	SW 8310
Benzo(a)anthracene	<19	mg/kg dw	10/27/1998	0.0040	kdw	755	1825	SW 8310
Benzo(b)fluoranthene	<1.5	mg/kg dw	10/27/1998	0.0056	kdw	755	1825	SW 8310

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498414

NET Job No.: 98.13402

Sample Description: B9 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 12:21
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<6.9	mg/kg dw	10/27/1998	0.0052	kdw	755	1825	SW 8310
Benzo(a)pyrene	<3.4	mg/kg dw	10/27/1998	0.0071	kdw	755	1825	SW 8310
Benzo(ghi)perylene	<6.2	mg/kg dw	10/27/1998	0.062	kdw	755	1825	SW 8310
Chrysene	<5	mg/kg dw	10/27/1998	0.05	kdw	755	1825	SW 8310
Dibenzo(a,h)anthracene	<0.9	mg/kg dw	10/27/1998	0.009	kdw	755	1825	SW 8310
Fluoranthene	<4.2	mg/kg dw	10/27/1998	0.031	kdw	755	1825	SW 8310
Fluorene	<3.1	mg/kg dw	10/27/1998	0.031	kdw	755	1825	SW 8310
Indeno(1,2,3-cd)pyrene	<1.3	mg/kg dw	10/27/1998	0.013	kdw	755	1825	SW 8310
Naphthalene	<3.9	mg/kg dw	10/27/1998	0.039	kdw	755	1825	SW 8310
Phenanthrene	<6.2	mg/kg dw	10/27/1998	0.062	kdw	755	1825	SW 8310
Pyrene	4.8	mg/kg dw	10/27/1998	0.031	kdw	755	1825	SW 8310
Surr: p-Terphenyl	Diluted out		10/27/1998	43-125	kdw	755	1825	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/27/1998	COMPLETE	wna	374		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.062	mg/kg dw	11/04/1998	0.062	tls	374	51	SW 8082
PCB-1221	<0.062	mg/kg dw	11/04/1998	0.062	tls	374	51	SW 8082
PCB-1232	<0.062	mg/kg dw	11/04/1998	0.062	tls	374	51	SW 8082
PCB-1242	<0.062	mg/kg dw	11/04/1998	0.062	tls	374	51	SW 8082
PCB-1248	<0.062	mg/kg dw	11/04/1998	0.062	tls	374	51	SW 8082
PCB-1254	<0.062	mg/kg dw	11/04/1998	0.062	tls	374	51	SW 8082
PCB-1260	1.3	mg/kg dw	11/05/1998	0.062	tls	374	52	SW 8082
Decachlorobiphenyl (Surr)	83.0	%	11/04/1998	NA	tls	374	51	SW 8082
2,4,5,6-TCMX (Surr)	74.0	%	11/04/1998	NA	tls	374	51	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498415

NET Job No.: 98.13402

Sample Description: B10 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 12:34
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.21	units	10/23/1998	0.10	nwg		180	SW 9045B
Solids, Total	81.4	%	11/02/1998	0.1	efw		2511	SM 2540
Arsenic, GFAA	1.4	mg/kg dw	11/03/1998	0.61	mhp	229	669	SW 7060
Barium, ICP	295	mg/kg dw	10/31/1998	1.2	jtt	1158	2175	SW 6010B
Cadmium, ICP	4.5	mg/kg dw	10/31/1998	0.61	jtt	1158	2155	SW 6010B
Chromium, ICP	5.0	mg/kg dw	10/31/1998	2.5	jtt	1158	2140	SW 6010B
Lead, ICP	12	mg/kg dw	11/03/1998	4.9	jtt	1158	2385	SW 6010B
Mercury, CVAA	<0.049	mg/kg dw	10/29/1998	0.049	sep	664	768	SW 7471A
Selenium, GFAA	<0.31	mg/kg dw	11/02/1998	0.31	mhp	229	554	SW 7740
Silver, AA	<2.5	mg/kg dw	10/27/1998	2.5	sep	486	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/27/1998	0.006	jap		55	SW 8260A
Ethylbenzene	0.053	mg/kg dw	10/27/1998	0.006	jap		55	SW 8260A
Toluene	<0.006	mg/kg dw	10/27/1998	0.006	jap		55	SW 8260A
Xylenes, Total	0.058	mg/kg dw	10/27/1998	0.006	jap		55	SW 8260A
Dibromofluoromethane (Surr)	101.4	%	10/27/1998	81-129	jap		55	SW 8260A
Toluene-d8 (Surr)	88.2	%	10/27/1998	74-129	jap		55	SW 8260A
4-Bromofluoromethane (Surr)	93.2	%	10/27/1998	70-130	jap		55	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/21/1998		mmv	755		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.8	mg/kg dw	10/27/1998	0.025	kdw	755	1825	SW 8310
Acenaphthylene	<7.0	mg/kg dw	10/27/1998	0.025	kdw	755	1825	SW 8310
Anthracene	<25	mg/kg dw	10/27/1998	0.049	kdw	755	1825	SW 8310
Benzo(a)anthracene	<3.3	mg/kg dw	10/27/1998	0.0032	kdw	755	1825	SW 8310
Benzo(b)fluoranthene	<0.44	mg/kg dw	10/27/1998	0.0044	kdw	755	1825	SW 8310

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498415

NET Job No.: 98.13402

Sample Description: B10 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 12:34
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<1.6	mg/kg dw	10/27/1998	0.0042	kdw	755	1825	SW 8310
Benzo(a)pyrene	<1.6	mg/kg dw	10/27/1998	0.0057	kdw	755	1825	SW 8310
Benzo(ghi)perylene	<4.9	mg/kg dw	10/27/1998	0.049	kdw	755	1825	SW 8310
Chrysene	<4	mg/kg dw	10/27/1998	0.04	kdw	755	1825	SW 8310
Dibenzo(a,h)anthracene	<0.7	mg/kg dw	10/27/1998	0.007	kdw	755	1825	SW 8310
Fluoranthene	<20	mg/kg dw	10/27/1998	0.025	kdw	755	1825	SW 8310
Fluorene	<7.7	mg/kg dw	10/27/1998	0.025	kdw	755	1825	SW 8310
Indeno(1,2,3-cd)pyrene	<1.1	mg/kg dw	10/27/1998	0.011	kdw	755	1825	SW 8310
Naphthalene	<7.4	mg/kg dw	10/27/1998	0.031	kdw	755	1825	SW 8310
Phenanthrene	<7.1	mg/kg dw	10/27/1998	0.049	kdw	755	1825	SW 8310
Pyrene	<21	mg/kg dw	10/27/1998	0.025	kdw	755	1825	SW 8310
Surr: p-Terphenyl	Diluted out		10/27/1998	43-125	kdw	755	1825	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/27/1998	COMPLETE	wna	374		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.049	mg/kg dw	11/04/1998	0.049	tls	374	51	SW 8082
PCB-1221	<0.049	mg/kg dw	11/04/1998	0.049	tls	374	51	SW 8082
PCB-1232	<0.049	mg/kg dw	11/04/1998	0.049	tls	374	51	SW 8082
PCB-1242	<0.049	mg/kg dw	11/04/1998	0.049	tls	374	51	SW 8082
PCB-1248	<0.049	mg/kg dw	11/04/1998	0.049	tls	374	51	SW 8082
PCB-1254	<0.049	mg/kg dw	11/04/1998	0.049	tls	374	51	SW 8082
PCB-1260	<0.049	mg/kg dw	11/04/1998	0.049	tls	374	51	SW 8082
Decachlorobiphenyl (Surr)	87.0	%	11/04/1998	NA	tls	374	51	SW 8082
2,4,5,6-TCMX (Surr)	93.0	%	11/04/1998	NA	tls	374	51	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
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11/05/1998

Sample No. : 498416

NET Job No.: 98.13402

Sample Description: B11 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 12:41
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.29	units	10/23/1998	0.10	nwg		180	SW 9045B
Solids, Total	86.2	%	11/02/1998	0.1	efw		2512	SM 2540
Arsenic, GFAA	3.1	mg/kg dw	11/03/1998	0.58	mhp	229	669	SW 7060
Barium, ICP	476	mg/kg dw	10/31/1998	1.2	jtt	1158	2175	SW 6010B
Cadmium, ICP	0.85	mg/kg dw	10/31/1998	0.58	jtt	1158	2155	SW 6010B
Chromium, ICP	9.9	mg/kg dw	10/31/1998	2.3	jtt	1158	2140	SW 6010B
Lead, ICP	23	mg/kg dw	11/03/1998	4.6	jtt	1158	2385	SW 6010B
Mercury, CVAA	<0.046	mg/kg dw	10/29/1998	0.046	sep	664	768	SW 7471A
Selenium, GFAA	<0.29	mg/kg dw	11/02/1998	0.29	mhp	229	554	SW 7740
Silver, AA	<2.3	mg/kg dw	10/27/1998	2.3	sep	486	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/27/1998	0.006	jap		55	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/27/1998	0.006	jap		55	SW 8260A
Toluene	<0.006	mg/kg dw	10/27/1998	0.006	jap		55	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/27/1998	0.006	jap		55	SW 8260A
Dibromofluoromethane (Surr)	98.6	%	10/27/1998	81-129	jap		55	SW 8260A
Toluene-d8 (Surr)	88.2	%	10/27/1998	74-129	jap		55	SW 8260A
4-Bromofluoromethane (Surr)	86.6	%	10/27/1998	70-130	jap		55	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/21/1998		mmv	755		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.3	mg/kg dw	10/27/1998	0.023	kdw	755	1825	SW 8310
Acenaphthylene	<2.3	mg/kg dw	10/27/1998	0.023	kdw	755	1825	SW 8310
Anthracene	<8.0	mg/kg dw	10/27/1998	0.046	kdw	755	1825	SW 8310
Benzo(a)anthracene	<7.4	mg/kg dw	10/27/1998	0.0030	kdw	755	1825	SW 8310
Benzo(b)fluoranthene	<1.4	mg/kg dw	10/27/1998	0.0042	kdw	755	1825	SW 8310

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498416

NET Job No.: 98.13402

Sample Description: B11 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 12:41
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<2.2	mg/kg dw	10/27/1998	0.0039	kdw	755	1825	SW 8310
Benzo(a)pyrene	<1.3	mg/kg dw	10/27/1998	0.0053	kdw	755	1825	SW 8310
Benzo(ghi)perylene	<4.6	mg/kg dw	10/27/1998	0.046	kdw	755	1825	SW 8310
Chrysene	<3	mg/kg dw	10/27/1998	0.03	kdw	755	1825	SW 8310
Dibenzo(a,h)anthracene	<1.1	mg/kg dw	10/27/1998	0.007	kdw	755	1825	SW 8310
Fluoranthene	<5.1	mg/kg dw	10/27/1998	0.023	kdw	755	1825	SW 8310
Fluorene	<2.3	mg/kg dw	10/27/1998	0.023	kdw	755	1825	SW 8310
Indeno(1,2,3-cd)pyrene	<1.0	mg/kg dw	10/27/1998	0.010	kdw	755	1825	SW 8310
Naphthalene	<2.9	mg/kg dw	10/27/1998	0.029	kdw	755	1825	SW 8310
Phenanthrene	<4.6	mg/kg dw	10/27/1998	0.046	kdw	755	1825	SW 8310
Pyrene	<2.3	mg/kg dw	10/27/1998	0.023	kdw	755	1825	SW 8310
Surr: p-Terphenyl	Diluted out		10/27/1998	43-125	kdw	755	1825	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/27/1998	COMPLETE	wna	374		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.046	ug/kg dw	11/03/1998	0.046	greg	374	49	SW 8082
PCB-1221	<0.046	ug/kg dw	11/03/1998	0.046	greg	374	49	SW 8082
PCB-1232	<0.046	ug/kg dw	11/03/1998	0.046	greg	374	49	SW 8082
PCB-1242	<0.046	ug/kg dw	11/03/1998	0.046	greg	374	49	SW 8082
PCB-1248	<0.046	ug/kg dw	11/03/1998	0.046	greg	374	49	SW 8082
PCB-1254	<0.046	ug/kg dw	11/03/1998	0.046	greg	374	49	SW 8082
PCB-1260	2.54	mg/kg dw	11/04/1998	0.046	greg	374	50	SW 8082
Decachlorobiphenyl (Surr)	43.9	%	11/03/1998	NA	greg	374	49	SW 8082
2,4,5,6-TCMX (Surr)	68.6	%	11/03/1998	NA	greg	374	49	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
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Westmont, IL 60559

11/05/1998

Sample No. : 498417

NET Job No.: 98.13402

Sample Description: B12 (0-2)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 12:55
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.03	units	10/23/1998	0.10	nwg		180	SW 9045B
Solids, Total	90.5	%	11/02/1998	0.1	efw		2512	SM 2540
Arsenic, GFAA	3.5	mg/kg dw	11/03/1998	0.55	mhp	229	669	SW 7060
Barium, ICP	696	mg/kg dw	10/28/1998	1.1	jtt	1159	2162	SW 6010B
Cadmium, ICP	0.93	mg/kg dw	10/31/1998	0.55	jtt	1159	2161	SW 6010B
Chromium, ICP	24	mg/kg dw	10/28/1998	2.2	jtt	1159	2132	SW 6010B
Lead, ICP	100	mg/kg dw	10/28/1998	4.4	jtt	1159	2369	SW 6010B
Mercury, CVAA	0.062	mg/kg dw	10/29/1998	0.044	sep	664	768	SW 7471A
Selenium, GFAA	0.87	mg/kg dw	11/02/1998	0.28	mhp	229	554	SW 7740
Silver, AA	<2.2	mg/kg dw	10/27/1998	2.2	sep	486	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/27/1998	0.006	mjo		56	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/27/1998	0.006	mjo		56	SW 8260A
Toluene	<0.006	mg/kg dw	10/27/1998	0.006	mjo		56	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/27/1998	0.006	mjo		56	SW 8260A
Dibromofluoromethane (Surr)	98.8	%	10/27/1998	81-129	mjo		56	SW 8260A
Toluene-d8 (Surr)	90.2	%	10/27/1998	74-129	mjo		56	SW 8260A
4-Bromofluoromethane (Surr)	81.8	%	10/27/1998	70-130	mjo		56	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/21/1998		mmv	755		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.2	mg/kg dw	10/27/1998	0.022	kdw	755	1825	SW 8310
Acenaphthylene	<2.2	mg/kg dw	10/27/1998	0.022	kdw	755	1825	SW 8310
Anthracene	4.5	mg/kg dw	10/27/1998	0.044	kdw	755	1825	SW 8310
Benzo(a)anthracene	13	mg/kg dw	10/27/1998	0.0029	kdw	755	1825	SW 8310
Benzo(b)fluoranthene	9.9	mg/kg dw	10/27/1998	0.0040	kdw	755	1825	SW 8310

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498417

NET Job No.: 98.13402

Sample Description: B12 (0-2)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 12:55
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	6.6	mg/kg dw	10/27/1998	0.0038	kdw	755	1825	SW 8310
Benzo(a)pyrene	12	mg/kg dw	10/27/1998	0.0051	kdw	755	1825	SW 8310
Benzo(ghi)perylene	9.0	mg/kg dw	10/27/1998	0.044	kdw	755	1825	SW 8310
Chrysene	13	mg/kg dw	10/27/1998	0.03	kdw	755	1825	SW 8310
Dibenzo(a,h)anthracene	1.2	mg/kg dw	10/27/1998	0.007	kdw	755	1825	SW 8310
Fluoranthene	30	mg/kg dw	10/27/1998	0.022	kdw	755	1825	SW 8310
Fluorene	2.3	mg/kg dw	10/27/1998	0.022	kdw	755	1825	SW 8310
Indeno(1,2,3-cd)pyrene	7.6	mg/kg dw	10/27/1998	0.0095	kdw	755	1825	SW 8310
Naphthalene	<2.8	mg/kg dw	10/27/1998	0.028	kdw	755	1825	SW 8310
Phenanthrene	17	mg/kg dw	10/27/1998	0.044	kdw	755	1825	SW 8310
Pyrene	23	mg/kg dw	10/27/1998	0.022	kdw	755	1825	SW 8310
Surr: p-Terphenyl	Diluted out		10/27/1998	43-125	kdw	755	1825	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/27/1998	COMPLETE	wna	374		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1221	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1232	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1242	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1248	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1254	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1260	0.074	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
Decachlorobiphenyl (Surr)	78.7	%	11/03/1998	NA	greg	374	49	SW 8082
2,4,5,6-TCMX (Surr)	80.0	%	11/03/1998	NA	greg	374	49	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498418

NET Job No.: 98.13402

Sample Description: B13 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 13:10
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.74		units	10/23/1998	0.10	nwg		180	SW 9045B
Solids, Total	88.2		%	11/02/1998	0.1	efw		2512	SM 2540
Arsenic, GFAA	6.6		mg/kg dw	11/03/1998	0.57	mhp	229	669	SW 7060
Barium, ICP	1,130		mg/kg dw	10/28/1998	1.1	jtt	1159	2162	SW 6010B
Cadmium, ICP	6.1		mg/kg dw	10/28/1998	0.57	jtt	1159	2147	SW 6010B
Chromium, ICP	74		mg/kg dw	10/28/1998	2.3	jtt	1159	2132	SW 6010B
Lead, ICP	113		mg/kg dw	10/28/1998	4.5	jtt	1159	2369	SW 6010B
Mercury, CVAA	0.35		mg/kg dw	10/29/1998	0.045	sep	664	768	SW 7471A
Selenium, GFAA	<0.28		mg/kg dw	11/02/1998	0.28	mhp	229	554	SW 7740
Silver, AA	4.3		mg/kg dw	10/30/1998	2.3	sep	487	568	SW 7760
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	10/27/1998	0.006	mjo		56	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	10/27/1998	0.006	mjo		56	SW 8260A
Toluene	<0.006		mg/kg dw	10/27/1998	0.006	mjo		56	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	10/27/1998	0.006	mjo		56	SW 8260A
Dibromofluoromethane (Surr)	84.8		%	10/27/1998	81-129	mjo		56	SW 8260A
Toluene-d8 (Surr)	76.6		%	10/27/1998	74-129	mjo		56	SW 8260A
4-Bromofluoromethane (Surr)	60.4	R	%	10/27/1998	70-130	mjo		56	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/21/1998		mmv	755		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS		ELV							
Acenaphthene	<2.3		mg/kg dw	10/27/1998	0.023	kdw	755	1818	SW 8310
Acenaphthylene	<2.3		mg/kg dw	10/27/1998	0.023	kdw	755	1818	SW 8310
Anthracene	<4.5		mg/kg dw	10/27/1998	0.045	kdw	755	1818	SW 8310
Benzo(a)anthracene	<3.6		mg/kg dw	10/27/1998	0.0029	kdw	755	1818	SW 8310
Benzo(b)fluoranthene	2.7		mg/kg dw	10/27/1998	0.0041	kdw	755	1818	SW 8310

ELV : Elevated reporting limits due to matrix interference.
R : Surrogate recovery verified by re-analysis

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498418

NET Job No.: 98.13402

Sample Description: B13 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 13:10
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	1.7	mg/kg dw	10/27/1998	0.0039	kdw	755	1818	SW 8310
Benzo(a)pyrene	3.2	mg/kg dw	10/27/1998	0.0052	kdw	755	1818	SW 8310
Benzo(ghi)perylene	<4.5	mg/kg dw	10/27/1998	0.045	kdw	755	1818	SW 8310
Chrysene	<3	mg/kg dw	10/27/1998	0.03	kdw	755	1818	SW 8310
Dibenzo(a,h)anthracene	<0.7	mg/kg dw	10/27/1998	0.007	kdw	755	1818	SW 8310
Fluoranthene	5.8	mg/kg dw	10/27/1998	0.023	kdw	755	1818	SW 8310
Fluorene	<2.3	mg/kg dw	10/27/1998	0.023	kdw	755	1818	SW 8310
Indeno(1,2,3-cd)pyrene	1.7	mg/kg dw	10/27/1998	0.0098	kdw	755	1818	SW 8310
Naphthalene	<2.8	mg/kg dw	10/27/1998	0.028	kdw	755	1818	SW 8310
Phenanthrene	<4.5	mg/kg dw	10/27/1998	0.045	kdw	755	1818	SW 8310
Pyrene	4.9	mg/kg dw	10/27/1998	0.023	kdw	755	1818	SW 8310
Surr: p-Terphenyl	Diluted out		10/27/1998	43-125	kdw	755	1818	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/27/1998	COMPLETE	wna	374		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.045	mg/kg dw	11/03/1998	0.045	greg	374	49	SW 8082
PCB-1221	<0.045	mg/kg dw	11/03/1998	0.045	greg	374	49	SW 8082
PCB-1232	<0.045	mg/kg dw	11/03/1998	0.045	greg	374	49	SW 8082
PCB-1242	0.192	mg/kg dw	11/03/1998	0.045	greg	374	49	SW 8082
PCB-1248	<0.045	mg/kg dw	11/03/1998	0.045	greg	374	49	SW 8082
PCB-1254	<0.045	mg/kg dw	11/03/1998	0.045	greg	374	49	SW 8082
PCB-1260	0.212	mg/kg dw	11/03/1998	0.045	greg	374	49	SW 8082
Decachlorobiphenyl (Surr)	77.1	%	11/03/1998	NA	greg	374	49	SW 8082
2,4,5,6-TCMX (Surr)	79.8	%	11/03/1998	NA	greg	374	49	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498419

NET Job No.: 98.13402

Sample Description: B14 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 13:23
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.22	units	10/23/1998	0.10	nwg		180	SW 9045B
Solids, Total	91.3	%	11/02/1998	0.1	efw		2512	SM 2540
Arsenic, GFAA	1.3	mg/kg dw	11/03/1998	0.55	mhp	229	669	SW 7060
Barium, ICP	69	mg/kg dw	10/28/1998	1.1	jtt	1159	2162	SW 6010B
Cadmium, ICP	<0.55	mg/kg dw	10/28/1998	0.55	jtt	1159	2147	SW 6010B
Chromium, ICP	4.8	mg/kg dw	10/28/1998	2.2	jtt	1159	2132	SW 6010B
Lead, ICP	12	mg/kg dw	10/28/1998	4.4	jtt	1159	2369	SW 6010B
Mercury, CVAA	<0.044	mg/kg dw	10/29/1998	0.044	sep	664	768	SW 7471A
Selenium, GFAA	<0.27	mg/kg dw	11/02/1998	0.27	mhp	229	554	SW 7740
Silver, AA	<2.2	mg/kg dw	10/30/1998	2.2	sep	487	568	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	10/28/1998	0.005	jap		62	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/28/1998	0.005	jap		62	SW 8260A
Toluene	<0.005	mg/kg dw	10/28/1998	0.005	jap		62	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/28/1998	0.005	jap		62	SW 8260A
Dibromofluoromethane (Surr)	99.2	%	10/28/1998	81-129	jap		62	SW 8260A
Toluene-d8 (Surr)	90.2	%	10/28/1998	74-129	jap		62	SW 8260A
4-Bromofluoromethane (Surr)	97.8	%	10/28/1998	70-130	jap		62	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/29/1998		mmv	764		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.66	mg/kg dw	11/02/1998	0.022	kdw	764	1824	SW 8310
Acenaphthylene	<0.66	mg/kg dw	11/02/1998	0.022	kdw	764	1824	SW 8310
Anthracene	<1.3	mg/kg dw	11/02/1998	0.044	kdw	764	1824	SW 8310
Benzo(a)anthracene	0.90	mg/kg dw	11/02/1998	0.0028	kdw	764	1824	SW 8310
Benzo(b)fluoranthene	0.68	mg/kg dw	11/02/1998	0.0039	kdw	764	1824	SW 8310

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498419

NET Job No.: 98.13402

Sample Description: B14 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 13:23
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.43	mg/kg dw	11/02/1998	0.0037	kdw	764	1824	SW 8310
Benzo(a)pyrene	0.68	mg/kg dw	11/02/1998	0.0050	kdw	764	1824	SW 8310
Benzo(ghi)perylene	<1.3	mg/kg dw	11/02/1998	0.044	kdw	764	1824	SW 8310
Chrysene	<0.9	mg/kg dw	11/02/1998	0.03	kdw	764	1824	SW 8310
Dibenzo(a,h)anthracene	<0.2	mg/kg dw	11/02/1998	0.007	kdw	764	1824	SW 8310
Fluoranthene	1.5	mg/kg dw	11/02/1998	0.022	kdw	764	1824	SW 8310
Fluorene	<0.66	mg/kg dw	11/02/1998	0.022	kdw	764	1824	SW 8310
Indeno(1,2,3-cd)pyrene	0.64	mg/kg dw	11/02/1998	0.0094	kdw	764	1824	SW 8310
Naphthalene	<0.81	mg/kg dw	11/02/1998	0.027	kdw	764	1824	SW 8310
Phenanthrene	<1.3	mg/kg dw	11/02/1998	0.044	kdw	764	1824	SW 8310
Pyrene	1.3	mg/kg dw	11/02/1998	0.022	kdw	764	1824	SW 8310
Surr: p-Terphenyl	Diluted out		11/02/1998	43-125	kdw	764	1824	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/27/1998	COMPLETE	wna	374		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1221	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1232	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1242	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1248	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1254	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1260	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
Decachlorobiphenyl (Surr)	85.4	%	11/03/1998	NA	greg	374	49	SW 8082
2,4,5,6-TCMX (Surr)	86.4	%	11/03/1998	NA	greg	374	49	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498420

NET Job No.: 98.13402

Sample Description: B15 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 13:41
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.20	units	10/23/1998	0.10	nwg		180	SW 9045B
Solids, Total	91.9	%	11/02/1998	0.1	efw		2512	SM 2540
Arsenic, GFAA	2.5	mg/kg dw	11/03/1998	0.54	mhp	229	669	SW 7060
Barium, ICP	163	mg/kg dw	10/28/1998	1.1	jtt	1159	2162	SW 6010B
Cadmium, ICP	<0.54	mg/kg dw	10/28/1998	0.54	jtt	1159	2147	SW 6010B
Chromium, ICP	9.7	mg/kg dw	10/28/1998	2.2	jtt	1159	2132	SW 6010B
Lead, ICP	36	mg/kg dw	10/28/1998	4.4	jtt	1159	2369	SW 6010B
Mercury, CVAA	0.096	mg/kg dw	10/29/1998	0.044	jtt	664	768	SW 7471A
Selenium, GFAA	<0.27	mg/kg dw	11/02/1998	0.27	mhp	229	554	SW 7740
Silver, AA	2.8	mg/kg dw	10/30/1998	2.2	sep	487	568	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	10/28/1998	0.005	jap		62	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/28/1998	0.005	jap		62	SW 8260A
Toluene	<0.005	mg/kg dw	10/28/1998	0.005	jap		62	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/28/1998	0.005	jap		62	SW 8260A
Dibromofluoromethane (Surr)	84.6	%	10/28/1998	81-129	jap		62	SW 8260A
Toluene-d8 (Surr)	84.0	%	10/28/1998	74-129	jap		62	SW 8260A
4-Bromofluoromethane (Surr)	90.0	%	10/28/1998	70-130	jap		62	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/29/1998		mmv	764		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.727	mg/kg dw	11/02/1998	0.022	kdw	764	1824	SW 8310
Acenaphthylene	<0.22	mg/kg dw	11/02/1998	0.022	kdw	764	1824	SW 8310
Anthracene	0.71	mg/kg dw	11/02/1998	0.044	kdw	764	1824	SW 8310
Benzo(a)anthracene	2.4	mg/kg dw	11/02/1998	0.0028	kdw	764	1824	SW 8310
Benzo(b)fluoranthene	2.1	mg/kg dw	11/02/1998	0.0039	kdw	764	1824	SW 8310

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498420

NET Job No.: 98.13402

Sample Description: B15 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 13:41
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	1.2		mg/kg dw	11/02/1998	0.0037	kdw	764	1824	SW 8310
Benzo(a)pyrene	2.5		mg/kg dw	11/02/1998	0.0050	kdw	764	1824	SW 8310
Benzo(ghi)perylene	2.0		mg/kg dw	11/02/1998	0.044	kdw	764	1824	SW 8310
Chrysene	2.0		mg/kg dw	11/02/1998	0.03	kdw	764	1824	SW 8310
Dibenzo(a,h)anthracene	<0.21	MX	mg/kg dw	11/02/1998	0.007	kdw	764	1824	SW 8310
Fluoranthene	6.4		mg/kg dw	11/02/1998	0.022	kdw	764	1824	SW 8310
Fluorene	0.58		mg/kg dw	11/02/1998	0.022	kdw	764	1824	SW 8310
Indeno(1,2,3-cd)pyrene	1.6		mg/kg dw	11/02/1998	0.0094	kdw	764	1824	SW 8310
Naphthalene	<0.27		mg/kg dw	11/02/1998	0.027	kdw	764	1824	SW 8310
Phenanthrene	3.9		mg/kg dw	11/02/1998	0.044	kdw	764	1824	SW 8310
Pyrene	4.9		mg/kg dw	11/02/1998	0.022	kdw	764	1824	SW 8310
Surr: p-Terphenyl	Diluted out			11/02/1998	43-125	kdw	764	1824	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			10/27/1998	COMPLETE	wna	374		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.044		mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1221	<0.044		mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1232	<0.044		mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1242	0.07		mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1248	<0.044		mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1254	<0.044		mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1260	0.22		mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
Decachlorobiphenyl (Surr)	78.4		%	11/03/1998	NA	greg	374	49	SW 8082
2,4,5,6-TCMX (Surr)	78.5		%	11/03/1998	NA	greg	374	49	SW 8082

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498421

NET Job No.: 98.13402

Sample Description: B16 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 13:30
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.42	units	10/23/1998	0.10	nwg		180	SW 9045B
Solids, Total	90.7	%	11/02/1998	0.1	efw		2512	SM 2540
Arsenic, GFAA	3.2	mg/kg dw	11/03/1998	0.55	mhp	229	669	SW 7060
Barium, ICP	1,980	mg/kg dw	10/28/1998	1.1	jtt	1159	2162	SW 6010B
Cadmium, ICP	0.66	mg/kg dw	10/28/1998	0.55	jtt	1159	2147	SW 6010B
Chromium, ICP	20	mg/kg dw	10/28/1998	2.2	jtt	1159	2132	SW 6010B
Lead, ICP	37	mg/kg dw	10/28/1998	4.4	jtt	1159	2369	SW 6010B
Mercury, CVAA	0.73	mg/kg dw	10/29/1998	0.044	sep	664	768	SW 7471A
Selenium, GFAA	<0.28	mg/kg dw	11/02/1998	0.28	mhp	229	554	SW 7740
Silver, AA	3.2	mg/kg dw	10/30/1998	2.2	sep	487	568	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/28/1998	0.006	jap		62	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/28/1998	0.006	jap		62	SW 8260A
Toluene	<0.006	mg/kg dw	10/28/1998	0.006	jap		62	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/28/1998	0.006	jap		62	SW 8260A
Dibromofluoromethane (Surr)	89.6	%	10/28/1998	81-129	jap		62	SW 8260A
Toluene-d8 (Surr)	88.6	%	10/28/1998	74-129	jap		62	SW 8260A
4-Bromofluoromethane (Surr)	98.6	%	10/28/1998	70-130	jap		62	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/29/1998		mmv	764		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.66	mg/kg dw	11/02/1998	0.022	kdw	764	1824	SW 8310
Acenaphthylene	<0.66	mg/kg dw	11/02/1998	0.022	kdw	764	1824	SW 8310
Anthracene	<1.3	mg/kg dw	11/02/1998	0.044	kdw	764	1824	SW 8310
Benzo(a)anthracene	<3.3	mg/kg dw	11/02/1998	0.0029	kdw	764	1824	SW 8310
Benzo(b)fluoranthene	2.6	mg/kg dw	11/02/1998	0.0040	kdw	764	1824	SW 8310

ELV : Elevated reporting limits due to matrix interference

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498421

NET Job No.: 98.13402

Sample Description: B16 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 13:30
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	1.9	mg/kg dw	11/02/1998	0.0037	kdw	764	1824	SW 8310
Benzo(a)pyrene	3.3	mg/kg dw	11/02/1998	0.0051	kdw	764	1824	SW 8310
Benzo(ghi)perylene	2.5	mg/kg dw	11/02/1998	0.044	kdw	764	1824	SW 8310
Chrysene	2.8	mg/kg dw	11/02/1998	0.03	kdw	764	1824	SW 8310
Dibenzo(a,h)anthracene	0.29	mg/kg dw	11/02/1998	0.007	kdw	764	1824	SW 8310
Fluoranthene	7.7	mg/kg dw	11/02/1998	0.022	kdw	764	1824	SW 8310
Fluorene	<0.66	mg/kg dw	11/02/1998	0.022	kdw	764	1824	SW 8310
Indeno(1,2,3-cd)pyrene	2.3	mg/kg dw	11/02/1998	0.0095	kdw	764	1824	SW 8310
Naphthalene	<0.84	mg/kg dw	11/02/1998	0.028	kdw	764	1824	SW 8310
Phenanthrene	4.6	mg/kg dw	11/02/1998	0.044	kdw	764	1824	SW 8310
Pyrene	6.4	mg/kg dw	11/02/1998	0.022	kdw	764	1824	SW 8310
Surr: p-Terphenyl	Diluted out		11/02/1998	43-125	kdw	764	1824	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/27/1998	COMPLETE	wna	374		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1221	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1232	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1242	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1248	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1254	<0.044	mg/kg dw	11/03/1998	0.044	greg	374	49	SW 8082
PCB-1260	41.3	mg/kg dw	11/04/1998	0.044	greg	374	50	SW 8082
Decachlorobiphenyl (Surr)	89.7	%	11/03/1998	NA	greg	374	49	SW 8082
2,4,5,6-TCMX (Surr)	84.9	%	11/03/1998	NA	greg	374	49	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498422

NET Job No.: 98.13402

Sample Description: B17 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 13:58
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	8.09	units	10/23/1998	0.10	nwg	180	SW 9045B
Solids, Total	60.2	%	11/02/1998	0.1	efw	2512	SM 2540
Arsenic, GFAA	11	mg/kg dw	11/03/1998	0.83	mhp	230 669	SW 7060
Barium, ICP	2,660	mg/kg dw	10/28/1998	1.7	jtt	1159 2162	SW 6010B
Cadmium, ICP	2.2	mg/kg dw	10/28/1998	0.83	jtt	1159 2147	SW 6010B
Chromium, ICP	33	mg/kg dw	10/28/1998	3.3	jtt	1159 2132	SW 6010B
Lead, ICP	56	mg/kg dw	10/28/1998	6.6	jtt	1159 2369	SW 6010B
Mercury, CVAA	0.33	mg/kg dw	10/29/1998	0.066	sep	664 768	SW 7471A
Selenium, GFAA	0.50	mg/kg dw	11/03/1998	0.42	mhp	230 556	SW 7740
Silver, AA	<3.3	mg/kg dw	10/30/1998	3.3	sep	487 568	SW 7760
UST VOLATILES NON-AQUEOUS							
Benzene	<0.008	mg/kg dw	10/29/1998	0.008	pll	66	SW 8260A
Ethylbenzene	<0.008	mg/kg dw	10/29/1998	0.008	pll	66	SW 8260A
Toluene	<0.008	mg/kg dw	10/29/1998	0.008	pll	66	SW 8260A
Xylenes, Total	<0.008	mg/kg dw	10/29/1998	0.008	pll	66	SW 8260A
Dibromofluoromethane (Surr)	84.0	%	10/29/1998	81-129	pll	66	SW 8260A
Toluene-d8 (Surr)	86.0	%	10/29/1998	74-129	pll	66	SW 8260A
4-Bromofluoromethane (Surr)	88.0	%	10/29/1998	70-130	pll	66	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/29/1998		mmv	764	SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV						
Acenaphthene	<0.1	mg/kg dw	11/02/1998	0.033	kdw	764 1824	SW 8310
Acenaphthylene	<0.1	mg/kg dw	11/02/1998	0.033	kdw	764 1824	SW 8310
Anthracene	0.43	mg/kg dw	11/02/1998	0.066	kdw	764 1824	SW 8310
Benzo(a)anthracene	<0.91	mg/kg dw	11/02/1998	0.0043	kdw	764 1824	SW 8310
Benzo(b)fluoranthene	0.68	mg/kg dw	11/02/1998	0.0060	kdw	764 1824	SW 8310

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498422

NET Job No.: 98.13402

Sample Description: B17 (0-1)
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 13:58
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.47	mg/kg dw	11/02/1998	0.0056	kdw	764	1824	SW 8310
Benzo(a)pyrene	1.3	mg/kg dw	11/02/1998	0.0076	kdw	764	1824	SW 8310
Benzo(ghi)perylene	0.71	mg/kg dw	11/02/1998	0.066	kdw	764	1824	SW 8310
Chrysene	0.73	mg/kg dw	11/02/1998	0.05	kdw	764	1824	SW 8310
Dibenzo(a,h)anthracene	0.076	mg/kg dw	11/02/1998	0.01	kdw	764	1824	SW 8310
Fluoranthene	2.2	mg/kg dw	11/02/1998	0.033	kdw	764	1824	SW 8310
Fluorene	0.17	mg/kg dw	11/02/1998	0.033	kdw	764	1824	SW 8310
Indeno(1,2,3-cd)pyrene	0.75	mg/kg dw	11/02/1998	0.014	kdw	764	1824	SW 8310
Naphthalene	0.15	mg/kg dw	11/02/1998	0.042	kdw	764	1824	SW 8310
Phenanthrene	1.2	mg/kg dw	11/02/1998	0.066	kdw	764	1824	SW 8310
Pyrene	1.7	mg/kg dw	11/02/1998	0.033	kdw	764	1824	SW 8310
Surr: p-Terphenyl	Diluted out		11/02/1998	43-125	kdw	764	1824	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/27/1998	COMPLETE	wna	374		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.066	mg/kg dw	11/03/1998	0.066	greg	374	49	SW 8082
PCB-1221	<0.066	mg/kg dw	11/03/1998	0.066	greg	374	49	SW 8082
PCB-1232	<0.066	mg/kg dw	11/03/1998	0.066	greg	374	49	SW 8082
PCB-1242	0.1	mg/kg dw	11/03/1998	0.066	greg	374	49	SW 8082
PCB-1248	<0.066	mg/kg dw	11/03/1998	0.066	greg	374	49	SW 8082
PCB-1254	<0.066	mg/kg dw	11/03/1998	0.066	greg	374	49	SW 8082
PCB-1260	0.76	mg/kg dw	11/04/1998	0.066	greg	374	50	SW 8082
Decachlorobiphenyl (Surr)	82.5	%	11/03/1998	NA	greg	374	49	SW 8082
2,4,5,6-TCMX (Surr)	78.8	%	11/03/1998	NA	greg	374	49	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498423

NET Job No.: 98.13402

Sample Description: B18
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 14:10
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.32	units	10/23/1998	0.10	nwg		180	SW 9045B
Solids, Total	88.2	%	11/02/1998	0.1	efw		2512	SM 2540
Arsenic, GFAA	7.6	mg/kg dw	11/03/1998	0.57	mhp	230	669	SW 7060
Barium, ICP	420	mg/kg dw	10/31/1998	1.1	jtt	1160	2175	SW 6010B
Cadmium, ICP	0.74	mg/kg dw	10/31/1998	0.57	jtt	1160	2161	SW 6010B
Chromium, ICP	15	mg/kg dw	10/31/1998	2.3	jtt	1160	2146	SW 6010B
Lead, ICP	22	mg/kg dw	11/03/1998	4.5	jtt	1160	2385	SW 6010B
Mercury, CVAA	<0.045	mg/kg dw	10/29/1998	0.045	sep	664	768	SW 7471A
Selenium, GFAA	<0.28	mg/kg dw	11/03/1998	0.28	mhp	230	556	SW 7740
Silver, AA	<2.3	mg/kg dw	10/30/1998	2.3	sep	487	568	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/28/1998	0.006	jap		63	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/28/1998	0.006	jap		63	SW 8260A
Toluene	<0.006	mg/kg dw	10/28/1998	0.006	jap		63	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/28/1998	0.006	jap		63	SW 8260A
Dibromofluoromethane (Surr)	100.0	%	10/28/1998	81-129	jap		63	SW 8260A
Toluene-d8 (Surr)	89.6	%	10/28/1998	74-129	jap		63	SW 8260A
4-Bromofluoromethane (Surr)	95.0	%	10/28/1998	70-130	jap		63	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/29/1998		mmv	764		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS								
Acenaphthene	0.036	mg/kg dw	11/02/1998	0.023	kdw	764	1824	SW 8310
Acenaphthylene	<0.023	mg/kg dw	11/02/1998	0.023	kdw	764	1824	SW 8310
Anthracene	0.091	mg/kg dw	11/02/1998	0.045	kdw	764	1824	SW 8310
Benzo(a)anthracene	0.090	mg/kg dw	11/02/1998	0.0029	kdw	764	1824	SW 8310
Benzo(b)fluoranthene	0.051	mg/kg dw	11/02/1998	0.0041	kdw	764	1824	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 498423

NET Job No.: 98.13402

Sample Description: B18
ComEd-Will County; 1801-023-610

Date Taken: 10/15/1998
Time Taken: 14:10
IEPA Cert. No. 100221

Date Received: 10/15/1998
Time Received: 17:05
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.033		mg/kg dw	11/02/1998	0.0039	kdw	764	1824	SW 8310
Benzo(a)pyrene	0.080		mg/kg dw	11/02/1998	0.0052	kdw	764	1824	SW 8310
Benzo(ghi)perylene	<0.045		mg/kg dw	11/02/1998	0.045	kdw	764	1824	SW 8310
Chrysene	0.061		mg/kg dw	11/02/1998	0.03	kdw	764	1824	SW 8310
Dibenzo(a,h)anthracene	<0.018	MX	mg/kg dw	11/02/1998	0.007	kdw	764	1824	SW 8310
Fluoranthene	0.205		mg/kg dw	11/02/1998	0.023	kdw	764	1824	SW 8310
Fluorene	0.052		mg/kg dw	11/02/1998	0.023	kdw	764	1824	SW 8310
Indeno(1,2,3-cd)pyrene	0.040		mg/kg dw	11/02/1998	0.0098	kdw	764	1824	SW 8310
Naphthalene	<0.028		mg/kg dw	11/02/1998	0.028	kdw	764	1824	SW 8310
Phenanthrene	0.22		mg/kg dw	11/02/1998	0.045	kdw	764	1824	SW 8310
Pyrene	0.16		mg/kg dw	11/02/1998	0.023	kdw	764	1824	SW 8310
Surr: p-Terphenyl	119.2		%	11/02/1998	43-125	kdw	764	1824	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			10/27/1998	COMPLETE	wna	374		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.045		mg/kg dw	11/03/1998	0.045	greg	374	49	SW 8082
PCB-1221	<0.045		mg/kg dw	11/03/1998	0.045	greg	374	49	SW 8082
PCB-1232	<0.045		mg/kg dw	11/03/1998	0.045	greg	374	49	SW 8082
PCB-1242	<0.045		mg/kg dw	11/03/1998	0.045	greg	374	49	SW 8082
PCB-1248	<0.045		mg/kg dw	11/03/1998	0.045	greg	374	49	SW 8082
PCB-1254	<0.045		mg/kg dw	11/03/1998	0.045	greg	374	49	SW 8082
PCB-1260	<0.045		mg/kg dw	11/03/1998	0.045	greg	374	49	SW 8082
Decachlorobiphenyl (Surr)	78.8		%	11/03/1998	NA	greg	374	49	SW 8082
2,4,5,6-TCMX (Surr)	79.5		%	11/03/1998	NA	greg	374	49	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/05/1998

NET Job Number: 98.13402

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
pH, Non-Aqueous	179	7.00	7.00	100.0
pH, Non-Aqueous	180	7.00	7.00	100.0
Arsenic, GFAA	668	0.0250	0.0262	104.8
Arsenic, GFAA	669	0.0250	0.0250	100.0
Barium, ICP	2162	2.00	2.10	105.0
Barium, ICP	2162	2.00	2.08	104.0
Barium, ICP	2169	2.00	2.05	102.5
Barium, ICP	2175	2.00	2.13	106.5
Barium, ICP	2176	2.00	2.15	107.5
Cadmium, ICP	2147	1.00	1.05	105.0
Cadmium, ICP	2161	1.00	1.03	103.0
Cadmium, ICP	2162	1.00	1.07	107.0
Cadmium, ICP	2169	1.00	0.952	95.2
Chromium, ICP	2132	2.00	2.12	106.0
Chromium, ICP	2146	2.00	2.10	105.0
Lead, ICP	2369	2.00	2.09	104.5
Lead, ICP	2382	2.00	2.04	102.0
Lead, ICP	2385	2.00	1.92	96.0
Mercury, CVAA	768	0.0025	0.00253	101.2
Selenium, GFAA	554	0.0500	0.0508	101.6
Selenium, GFAA	555	0.0500	0.0497	99.4
Selenium, GFAA	556	0.0500	0.0516	103.2
Silver, AA	567	0.50	0.533	106.6
Silver, AA	568	0.500	0.489	97.8
UST VOLATILES NON-AQUEOUS				
Benzene	55	50.0	54.2	108.4
Ethylbenzene	55	50.0	53.2	106.4
Toluene	55	50.0	56.7	113.4
Xylenes, Total	55	150	153	102.0
UST VOLATILES NON-AQUEOUS				
Benzene	56	50.0	55.9	111.8
Ethylbenzene	56	50.0	21.8	43.6
Toluene	56	50.0	54.7	109.4
Xylenes, Total	56	150	151	100.7

CCV - Continuing Calibration Verification

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13402

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
UST VOLATILES NON-AQUEOUS				
Benzene	59	50.0	51.5	103.0
Ethylbenzene	59	50.0	53.1	106.2
Toluene	59	50.0	48.9	97.8
Xylenes, Total	59	150	161	107.3
UST VOLATILES NON-AQUEOUS				
Benzene	59	50.0	54.0	108.0
Ethylbenzene	59	50.0	56.0	112.0
Toluene	59	50.0	58.0	116.0
Xylenes, Total	59	150	160	106.7
UST VOLATILES NON-AQUEOUS				
Benzene	62	50.0	51.8	103.6
Ethylbenzene	62	50.0	52.0	104.0
Toluene	62	50.0	50.3	100.6
Xylenes, Total	62	150	155	103.3
UST VOLATILES NON-AQUEOUS				
Benzene	63	50.0	49.6	99.2
Ethylbenzene	63	50.0	49.5	99.0
Toluene	63	50.0	48.7	97.4
Xylenes, Total	63	150	147	98.0
UST VOLATILES NON-AQUEOUS				
Benzene	66	50.0	52.0	104.0
Ethylbenzene	66	50.0	52.0	104.0
Toluene	66	50.0	50.0	100.0
Xylenes, Total	66	150	154	102.7
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1810	5000	4,761	95.2
Acenaphthylene	1810	5000	5,073	101.5
Anthracene	1810	5000	5,204	104.1
Benzo(a)anthracene	1810	5000	5,129	102.6
Benzo(b)fluoranthene	1810	5000	4,873	97.5
Benzo(k)fluoranthene	1810	5000	4,954	99.1
Benzo(a)pyrene	1810	5000	4,899	98.0
Benzo(ghi)perylene	1810	5000	5,103	102.1

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CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
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11/05/1998

NET Job Number: 98.13402

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Chrysene	1810	5000	5,072	101.4
Dibenzo(a,h)anthracene	1810	5000	4,988	99.8
Fluoranthene	1810	5000	5,038	100.8
Fluorene	1810	5000	4,939	98.8
Indeno(1,2,3-cd)pyrene	1810	5000	5,095	101.9
Naphthalene	1810	5000	4,845	96.9
Phenanthrene	1810	5000	5,062	101.2
Pyrene	1810	5000	4,954	99.1
Surr: p-Terphenyl	1810	5000	4,954	99.1
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1810	5000	4,766	95.3
Acenaphthylene	1810	5000	5,082	101.6
Anthracene	1810	5000	5,216	104.3
Benzo(a)anthracene	1810	5000	5,159	103.2
Benzo(b)fluoranthene	1810	5000	4,853	97.1
Benzo(k)fluoranthene	1810	5000	5,004	100.1
Benzo(a)pyrene	1810	5000	4,888	97.8
Benzo(ghi)perylene	1810	5000	5,074	101.5
Chrysene	1810	5000	5,085	101.7
Dibenzo(a,h)anthracene	1810	5000	5,028	100.6
Fluoranthene	1810	5000	5,068	101.4
Fluorene	1810	5000	5,006	100.1
Indeno(1,2,3-cd)pyrene	1810	5000	5,082	101.6
Naphthalene	1810	5000	4,725	94.5
Phenanthrene	1810	5000	5,116	102.3
Pyrene	1810	5000	5,030	100.6
Surr: p-Terphenyl	1810	5000	4,964	99.3
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1818	5000	4,771	95.4
Acenaphthylene	1818	5000	5,103	102.1
Anthracene	1818	5000	5,116	102.3
Benzo(a)anthracene	1818	5000	5,089	101.8
Benzo(b)fluoranthene	1818	5000	4,790	95.8
Benzo(k)fluoranthene	1818	5000	5,268	105.4

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
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NET Job Number: 98.13402

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Benzo(a)pyrene	1818	5000	4,574	91.5
Benzo(ghi)perylene	1818	5000	4,979	99.6
Chrysene	1818	5000	5,042	100.8
Dibenzo(a,h)anthracene	1818	5000	4,907	98.1
Fluoranthene	1818	5000	4,950	99.0
Fluorene	1818	5000	4,821	96.4
Indeno(1,2,3-cd)pyrene	1818	5000	5,023	100.5
Naphthalene	1818	5000	4,825	96.5
Phenanthrene	1818	5000	5,034	100.7
Pyrene	1818	5000	4,877	97.5
Surr: p-Terphenyl	1818	5000	4,888	97.8
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1824	5000	4,629	92.6
Acenaphthylene	1824	5000	5,127	102.5
Anthracene	1824	5000	5,201	104.0
Benzo(a)anthracene	1824	5000	4,952	99.0
Benzo(b)fluoranthene	1824	5000	4,900	98.0
Benzo(k)fluoranthene	1824	5000	4,887	97.7
Benzo(a)pyrene	1824	5000	5,066	101.3
Benzo(ghi)perylene	1824	5000	5,018	100.4
Chrysene	1824	5000	4,989	99.8
Dibenzo(a,h)anthracene	1824	5000	5,011	100.2
Fluoranthene	1824	5000	5,039	100.8
Fluorene	1824	5000	4,902	98.0
Indeno(1,2,3-cd)pyrene	1824	5000	4,814	96.3
Naphthalene	1824	5000	4,941	98.8
Phenanthrene	1824	5000	4,821	96.4
Pyrene	1824	5000	5,190	103.8
Surr: p-Terphenyl	1824	5000	4,887	97.7
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1825	5000	5,049	101.0
Acenaphthylene	1825	5000	5,067	101.3
Anthracene	1825	5000	5,073	101.5
Benzo(a)anthracene	1825	5000	4,988	99.8

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
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11/05/1998

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Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Benzo(b)fluoranthene	1825	5000	4,862	97.2
Benzo(k)fluoranthene	1825	5000	4,928	98.6
Benzo(a)pyrene	1825	5000	4,915	98.3
Benzo(ghi)perylene	1825	5000	4,843	96.9
Chrysene	1825	5000	5,098	102.0
Dibenzo(a,h)anthracene	1825	5000	4,946	98.9
Fluoranthene	1825	5000	4,977	99.5
Fluorene	1825	5000	4,851	97.0
Indeno(1,2,3-cd)pyrene	1825	5000	4,742	94.8
Naphthalene	1825	5000	5,027	100.5
Phenanthrene	1825	5000	4,898	98.0
Pyrene	1825	5000	5,044	100.9
Surr: p-Terphenyl	1825	5000	4,922	98.4
PCB'S NON-AQUEOUS				
PCB-1016	47	500	491	98.2
PCB-1260	47	500	502	100.4
PCB'S NON-AQUEOUS				
PCB-1016	47	500	464	92.8
PCB-1260	47	500	479	95.8
PCB'S NON-AQUEOUS				
PCB-1016	47	500	474	94.8
PCB-1260	47	500	470	94.0
PCB'S NON-AQUEOUS				
PCB-1016	47	500	464	92.8
PCB-1260	47	500	470	94.0
PCB'S NON-AQUEOUS				
PCB-1016	47	500	475	95.0
PCB-1260	47	500	494	98.8
PCB'S NON-AQUEOUS				
PCB-1016	49	500	464.	92.8
PCB-1260	49	500	448.	89.6
PCB'S NON-AQUEOUS				
PCB-1016	49	500	551.	110.2
PCB-1260	49	500	534.	106.8

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ENSR
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11/05/1998

NET Job Number: 98.13402

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
PCB'S NON-AQUEOUS				
PCB-1016	49	500	549.	109.8
PCB-1260	49	500	553.	110.6
PCB'S NON-AQUEOUS				
PCB-1260	50	500	529.	105.8
PCB'S NON-AQUEOUS				
PCB-1260	50	500	531.	106.2
PCB'S NON-AQUEOUS				
PCB-1016	51	500	477	95.4
PCB-1260	51	500	473	94.6
PCB'S NON-AQUEOUS				
PCB-1016	51	500	501	100.2
PCB-1260	51	500	505	101.0
PCB'S NON-AQUEOUS				
PCB-1016	51	500	496	99.2
PCB-1260	51	500	485	97.0
PCB'S NON-AQUEOUS				
PCB-1260	52	500	483	96.6
PCB'S NON-AQUEOUS				
PCB-1260	52	500	462	92.4

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/05/1998

NET Job Number: 98.13402

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Arsenic, GFAA	226	668	<0.50	mg/Kg	0.50	SW 7060
Arsenic, GFAA	229	669	<0.50	mg/Kg	0.50	SW 7060
Arsenic, GFAA	230	669	<0.50	mg/Kg	0.50	SW 7060
Barium, ICP	1159	2161	<1.0	mg/Kg	1.0	SW 6010B
Barium, ICP	1153	2169	<1.0	mg/Kg	1.0	SW 6010B
Barium, ICP	1158	2169	<1.0	mg/Kg	1.0	SW 6010B
Barium, ICP	1160	2175	<1.0	mg/Kg	1.0	SW 6010B
Cadmium, ICP	1159	2147	<0.50	mg/Kg	0.50	SW 6010B
Cadmium, ICP	1153	2155	<0.50	mg/Kg	0.50	SW 6010B
Cadmium, ICP	1158	2155	<0.50	mg/Kg	0.50	SW 6010B
Cadmium, ICP	1160	2161	<0.50	mg/Kg	0.50	SW 6010B
Chromium, ICP	1159	2132	<2.0	mg/Kg	2.0	SW 6010B
Chromium, ICP	1153	2140	<2.0	mg/Kg	2.0	SW 6010B
Chromium, ICP	1158	2140	<2.0	mg/Kg	2.0	SW 6010B
Chromium, ICP	1160	2146	<2.0	mg/Kg	2.0	SW 6010B
Lead, ICP	1159	2366	<4.0	mg/Kg	4.0	SW 6010B
Lead, ICP	1153	2380	<4.0	mg/Kg	4.0	SW 6010B
Lead, ICP	1158	2385	<4.0	mg/Kg	4.0	SW 6010B
Lead, ICP	1160	2385	<4.0	mg/Kg	4.0	SW 6010B
Mercury, CVAA	664	768	<0.040	mg/Kg	0.040	SW 7471A
Selenium, GFAA	229	553	<0.25	mg/Kg	0.25	SW 7740
Selenium, GFAA	226	555	<0.25	mg/Kg	0.25	SW 7740
Selenium, GFAA	230	556	<0.25	mg/Kg	0.25	SW 7740
Silver, AA	485	567	<2.0	mg/Kg	2.0	SW 7760
Silver, AA	486	567	<2.0	mg/Kg	2.0	SW 7760
Silver, AA	487	568	<2.0	mg/Kg	2.0	SW 7760
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		55	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		55	<0.005	mg/Kg	0.005	SW 8260A

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Toluene		55	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		55	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		55	130.6	%	74-134	SW 8260A
Toluene-d8 (Surr)		55	109.4	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		55	107.2	%	64-131	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		56	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		56	<0.005	mg/Kg	0.005	SW 8260A
Toluene		56	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		56	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		56	94.6	%	74-134	SW 8260A
Toluene-d8 (Surr)		56	107.6	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		56	91.0	%	64-131	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		59	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		59	<0.005	mg/Kg	0.005	SW 8260A
Toluene		59	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		59	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		59	99.8	%	74-134	SW 8260A
Toluene-d8 (Surr)		59	99.6	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		59	107.0	%	64-131	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		59	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		59	<0.005	mg/Kg	0.005	SW 8260A
Toluene		59	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		59	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		59	98.4	%	74-134	SW 8260A
Toluene-d8 (Surr)		59	95.4	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		59	95.2	%	64-131	SW 8260A

Advisory Control Limits for Blanks:

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Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		59	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		59	<0.005	mg/Kg	0.005	SW 8260A
Toluene		59	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		59	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		59	98.0	%	74-134	SW 8260A
Toluene-d8 (Surr)		59	96.2	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		59	92.2	%	64-131	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		62	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		62	<0.005	mg/Kg	0.005	SW 8260A
Toluene		62	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		62	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		62	96.0	%	74-134	SW 8260A
Toluene-d8 (Surr)		62	95.6	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		62	103.0	%	64-131	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		63	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		63	<0.005	mg/Kg	0.005	SW 8260A
Toluene		63	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		63	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		63	90.8	%	74-134	SW 8260A
Toluene-d8 (Surr)		63	93.8	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		63	97.8	%	64-131	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		66	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		66	<0.005	mg/Kg	0.005	SW 8260A
Toluene		66	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		66	<0.005	mg/Kg	0.005	SW 8260A

Advisory Control Limits for Blanks:

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QUALITY CONTROL REPORT

BLANK ANALYSIS

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11/05/1998

NET Job Number: 98.13402

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Dibromofluoromethane (Surr)		66	94.0	%	74-134	SW 8260A
Toluene-d8 (Surr)		66	96.0	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		66	104.0	%	64-131	SW 8260A
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	754	1806	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	754	1806	<0.020	mg/Kg	0.020	SW 8310
Anthracene	754	1806	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	754	1806	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	754	1806	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	754	1806	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	754	1806	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	754	1806	<0.040	mg/Kg	0.040	SW 8310
Chrysene	754	1806	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	754	1806	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	754	1806	<0.020	mg/Kg	0.020	SW 8310
Fluorene	754	1806	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	754	1806	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	754	1806	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	754	1806	<0.040	mg/Kg	0.040	SW 8310
Pyrene	754	1806	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	754	1806	82.0	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	754	1812	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	754	1812	<0.020	mg/Kg	0.020	SW 8310
Anthracene	754	1812	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	754	1812	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	754	1812	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	754	1812	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	754	1812	<0.0046	mg/Kg	0.0046	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13402

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Benzo(ghi)perylene	754	1812	<0.040	mg/Kg	0.040	SW 8310
Chrysene	754	1812	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	754	1812	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	754	1812	<0.020	mg/Kg	0.020	SW 8310
Fluorene	754	1812	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	754	1812	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	754	1812	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	754	1812	<0.040	mg/Kg	0.040	SW 8310
Pyrene	754	1812	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	754	1812	100.0	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	754	1825	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	754	1825	<0.020	mg/Kg	0.020	SW 8310
Anthracene	754	1825	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	754	1825	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	754	1825	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	754	1825	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	754	1825	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	754	1825	<0.040	mg/Kg	0.040	SW 8310
Chrysene	754	1825	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	754	1825	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	754	1825	<0.020	mg/Kg	0.020	SW 8310
Fluorene	754	1825	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	754	1825	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	754	1825	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	754	1825	<0.040	mg/Kg	0.040	SW 8310
Pyrene	754	1825	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	754	1825	90.8	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310

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BLANK ANALYSIS

ENSR
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Mr. Wei-Lin Feng

11/05/1998

NET Job Number: 98.13402

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Acenaphthene	755	1812	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	755	1812	<0.020	mg/Kg	0.020	SW 8310
Anthracene	755	1812	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	755	1812	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	755	1812	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	755	1812	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	755	1812	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	755	1812	<0.040	mg/Kg	0.040	SW 8310
Chrysene	755	1812	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	755	1812	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	755	1812	<0.020	mg/Kg	0.020	SW 8310
Fluorene	755	1812	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	755	1812	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	755	1812	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	755	1812	<0.040	mg/Kg	0.040	SW 8310
Pyrene	755	1812	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	755	1812	c	ug/L	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	755	1825	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	755	1825	<0.020	mg/Kg	0.020	SW 8310
Anthracene	755	1825	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	755	1825	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	755	1825	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	755	1825	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	755	1825	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	755	1825	<0.040	mg/Kg	0.040	SW 8310
Chrysene	755	1825	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	755	1825	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	755	1825	<0.020	mg/Kg	0.020	SW 8310

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11/05/1998

NET Job Number: 98.13402

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Fluorene	755	1825	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	755	1825	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	755	1825	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	755	1825	<0.040	mg/Kg	0.040	SW 8310
Pyrene	755	1825	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	755	1825	84.0	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	764	1824	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	764	1824	<0.020	mg/Kg	0.020	SW 8310
Anthracene	764	1824	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	764	1824	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	764	1824	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	764	1824	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	764	1824	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	764	1824	<0.040	mg/Kg	0.040	SW 8310
Chrysene	764	1824	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	764	1824	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	764	1824	<0.020	mg/Kg	0.020	SW 8310
Fluorene	764	1824	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	764	1824	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	764	1824	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	764	1824	<0.040	mg/Kg	0.040	SW 8310
Pyrene	764	1824	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	764	1824	80.9	%	43-125	SW 8310
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	373	46	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	373	46	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	373	46	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	373	46	<0.040	mg/Kg	0.040	SW 8082

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/05/1998

NET Job Number: 98.13402

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
PCB-1248	373	46	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	373	46	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	373	46	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	373	46	91.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	373	46	72.0	%	NA	SW 8082
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	374	51	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	374	51	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	374	51	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	374	51	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	374	51	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	374	51	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	374	51	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	374	51	75.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	374	51	65.0	%	NA	SW 8082

Advisory Control Limits for Blanks:

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13402

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Arsenic, GFAA	226	668	0.0100	0.0110	110.0
Arsenic, GFAA	229	669	0.0100	0.0092	92.0
Arsenic, GFAA	230	669	0.0100	0.0092	92.0
Barium, ICP	1159	2161	5.00	4.90	98.0
Barium, ICP	1153	2169	5.00	5.06	101.2
Barium, ICP	1158	2169	5.00	4.63	92.6
Barium, ICP	1160	2175	5.00	4.91	98.2
Cadmium, ICP	1159	2147	2.50	2.37	94.8
Cadmium, ICP	1153	2155	2.50	2.52	100.8
Cadmium, ICP	1158	2155	2.50	2.22	88.8
Cadmium, ICP	1160	2161	2.50	2.68	107.2
Chromium, ICP	1159	2132	5.00	4.45	89.0
Chromium, ICP	1153	2140	5.00	5.22	104.4
Chromium, ICP	1158	2140	5.00	4.62	92.4
Chromium, ICP	1160	2146	5.00	4.92	98.4
Lead, ICP	1159	2366	50.0	51.4	102.8
Lead, ICP	1153	2380	50.0	52.4	104.8
Lead, ICP	1158	2385	5.00	4.15	83.0
Lead, ICP	1160	2385	5.00	5.00	100.0
Mercury, CVAA	664	768	0.0025	0.00270	108.0
Mercury, CVAA		768	0.0020	0.00224	112.0
Selenium, GFAA	229	553	0.0100	0.0096	96.0
Selenium, GFAA	226	555	0.0100	0.0105	105.0
Selenium, GFAA	230	556	0.0100	0.0105	105.0
Silver, AA	485	567	0.1	0.098	98.0
Silver, AA		567	1.0	0.922	92.2
Silver, AA	486	567	0.1	0.091	91.0
Silver, AA	487	568	0.1	0.110	110.0
UST VOLATILES NON-AQUEOUS					
Benzene		55	20.0	23.7	118.5
Ethylbenzene		55	20.0	24.7	123.5

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
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11/05/1998

NET Job Number: 98.13402

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Toluene		55	20.0	24.9	124.5
Xylenes, Total		55	60.0	70.6	117.7
Dibromofluoromethane (Surr)		55	50.0	62.3	124.6
Toluene-d8 (Surr)		55	50.0	52.9	105.8
4-Bromofluoromethane (Surr)		55	50.0	50.8	101.6
UST VOLATILES NON-AQUEOUS					
Benzene		56	20.0	21.8	109.0
Ethylbenzene		56	20.0	21.5	107.5
Toluene		56	20.0	23.0	115.0
Xylenes, Total		56	60.0	62.4	104.0
Dibromofluoromethane (Surr)		56	50.0	51.4	102.8
Toluene-d8 (Surr)		56	50.0	55.8	111.6
4-Bromofluoromethane (Surr)		56	50.0	47.2	94.4
UST VOLATILES NON-AQUEOUS					
Benzene		59	20.0	21.1	105.5
Ethylbenzene		59	20.0	22.6	113.0
Toluene		59	20.0	20.7	103.5
Xylenes, Total		59	60.0	65.0	108.3
Dibromofluoromethane (Surr)		59	50.0	48.4	96.8
Toluene-d8 (Surr)		59	50.0	50.8	101.6
4-Bromofluoromethane (Surr)		59	50.0	53.4	106.8
UST VOLATILES NON-AQUEOUS					
Benzene		59	30.6	32.6	106.5
Ethylbenzene		59	30.6	28.7	93.8
Toluene		59	30.6	30.3	99.0
Xylenes, Total		59	91.9	91.8	99.9
Dibromofluoromethane (Surr)		59	50.0	50.5	101.0
Toluene-d8 (Surr)		59	50.0	48.3	96.6
4-Bromofluoromethane (Surr)		59	50.0	49.7	99.4
UST VOLATILES NON-AQUEOUS					
Benzene		59	2,420	3,720	153.7

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Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Ethylbenzene		59	2,420	4,080	168.6
Toluene		59	2,420	3,760	155.4
Xylenes, Total		59	7,260	12,300	169.4
Dibromofluoromethane (Surr)		59	50.0	49.0	98.0
Toluene-d8 (Surr)		59	50.0	48.6	97.2
4-Bromofluoromethane (Surr)		59	50.0	48.1	96.2
UST VOLATILES NON-AQUEOUS					
Benzene		62	20.0	21.5	107.5
Ethylbenzene		62	20.0	22.2	111.0
Toluene		62	20.0	21.3	106.5
Xylenes, Total		62	60.0	66.8	111.3
Dibromofluoromethane (Surr)		62	50.0	48.4	96.8
Toluene-d8 (Surr)		62	50.0	48.8	97.6
4-Bromofluoromethane (Surr)		62	50.0	50.9	101.8
UST VOLATILES NON-AQUEOUS					
Benzene		63	20.0	21.2	106.0
Ethylbenzene		63	20.0	20.8	104.0
Toluene		63	20.0	20.1	100.5
Xylenes, Total		63	60.0	61.7	102.8
Dibromofluoromethane (Surr)		63	50.0	48.7	97.4
Toluene-d8 (Surr)		63	50.0	48.9	97.8
4-Bromofluoromethane (Surr)		63	50.0	51.5	103.0
UST VOLATILES NON-AQUEOUS					
Benzene		66	20.0	21.0	105.0
Ethylbenzene		66	20.0	23.0	115.0
Toluene		66	20.0	21.0	105.0
Xylenes, Total		66	60.0	66.0	110.0
Dibromofluoromethane (Surr)		66	50.0	48.0	96.0
Toluene-d8 (Surr)		66	50.0	50.0	100.0
4-Bromofluoromethane (Surr)		66	50.0	55.0	110.0
PNA CMPDS - 8310 NONAQUEOUS					

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11/05/1998

NET Job Number: 98.13402

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Acenaphthene	754	1806	0.033	0.027	81.8
Acenaphthylene	754	1806	0.033	0.030	90.9
Anthracene	754	1806	0.033	0.029	87.9
Benzo(a)anthracene	754	1806	0.033	0.029	87.9
Benzo(b)fluoranthene	754	1806	0.033	0.028	84.8
Benzo(k)fluoranthene	754	1806	0.033	0.031	93.9
Benzo(a)pyrene	754	1806	0.033	0.027	81.8
Benzo(ghi)perylene	754	1806	0.033	0.032	97.0
Chrysene	754	1806	0.033	0.029	87.9
Dibenzo(a,h)anthracene	754	1806	0.033	0.029	87.9
Fluoranthene	754	1806	0.033	0.029	87.9
Fluorene	754	1806	0.033	0.028	84.8
Indeno(1,2,3-cd)pyrene	754	1806	0.033	0.030	90.9
Naphthalene	754	1806	0.033	0.025	75.8
Phenanthrene	754	1806	0.033	0.029	87.9
Pyrene	754	1806	0.033	0.028	84.8
Surr: p-Terphenyl	754	1806	2000	1,660	83.0
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	754	1812	0.033	0.031	93.9
Acenaphthylene	754	1812	0.033	0.029	87.9
Anthracene	754	1812	0.033	0.032	97.0
Benzo(a)anthracene	754	1812	0.033	0.030	90.9
Benzo(b)fluoranthene	754	1812	0.033	0.030	90.9
Benzo(k)fluoranthene	754	1812	0.033	0.030	90.9
Benzo(a)pyrene	754	1812	0.033	0.031	93.9
Benzo(ghi)perylene	754	1812	0.033	0.028	84.8
Chrysene	754	1812	0.033	0.032	97.0
Dibenzo(a,h)anthracene	754	1812	0.033	0.030	90.9
Fluoranthene	754	1812	0.033	0.025	75.8
Fluorene	754	1812	0.033	0.033	100.0
Indeno(1,2,3-cd)pyrene	754	1812	0.033	0.049	148.5

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/05/1998

NET Job Number: 98.13402

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Naphthalene	754	1812	0.033	0.027	81.8
Phenanthrene	754	1812	0.033	0.029	87.9
Pyrene	754	1812	0.033	0.029	87.9
Surr: p-Terphenyl	754	1812	2000	2000	100.0
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	754	1825	0.033	0.029	87.9
Acenaphthylene	754	1825	0.033	0.031	93.9
Anthracene	754	1825	0.033	0.030	90.9
Benzo(a)anthracene	754	1825	0.033	0.032	97.0
Benzo(b)fluoranthene	754	1825	0.033	0.029	87.9
Benzo(k)fluoranthene	754	1825	0.033	0.031	93.9
Benzo(a)pyrene	754	1825	0.033	0.029	87.9
Benzo(ghi)perylene	754	1825	0.033	0.029	87.9
Chrysene	754	1825	0.033	0.032	97.0
Dibenzo(a,h)anthracene	754	1825	0.033	0.028	84.8
Fluoranthene	754	1825	0.033	0.029	87.9
Fluorene	754	1825	0.033	0.028	84.8
Indeno(1,2,3-cd)pyrene	754	1825	0.033	0.027	81.8
Naphthalene	754	1825	0.033	0.027	81.8
Phenanthrene	754	1825	0.033	0.030	90.9
Pyrene	754	1825	0.033	0.029	87.9
Surr: p-Terphenyl	754	1825	2000	1766	88.3
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	755	1812	0.033	0.030	90.9
Acenaphthylene	755	1812	0.033	0.029	87.9
Anthracene	755	1812	0.033	0.032	97.0
Benzo(a)anthracene	755	1812	0.033	0.030	90.9
Benzo(b)fluoranthene	755	1812	0.033	0.030	90.9
Benzo(k)fluoranthene	755	1812	0.033	0.031	93.9
Benzo(a)pyrene	755	1812	0.033	0.032	97.0
Benzo(ghi)perylene	755	1812	0.033	0.029	87.9

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
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Mr. Wei-Lin Feng

11/05/1998

NET Job Number: 98.13402

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Chrysene	755	1812	0.033	0.037	112.1
Dibenzo(a,h)anthracene	755	1812	0.033	0.030	90.9
Fluoranthene	755	1812	0.033	0.029	87.9
Fluorene	755	1812	0.033	0.041	124.2
Indeno(1,2,3-cd)pyrene	755	1812	0.033	0.028	84.8
Naphthalene	755	1812	0.033	0.029	87.9
Phenanthrene	755	1812	0.033	0.026	78.8
Pyrene	755	1812	0.033	0.043	130.3
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	755	1825	0.033	0.029	87.9
Acenaphthylene	755	1825	0.033	0.030	90.9
Anthracene	755	1825	0.033	0.030	90.9
Benzo(a)anthracene	755	1825	0.033	0.031	93.9
Benzo(b)fluoranthene	755	1825	0.033	0.028	84.8
Benzo(k)fluoranthene	755	1825	0.033	0.030	90.9
Benzo(a)pyrene	755	1825	0.033	0.029	87.9
Benzo(ghi)perylene	755	1825	0.033	0.026	78.8
Chrysene	755	1825	0.033	0.031	93.9
Dibenzo(a,h)anthracene	755	1825	0.033	0.028	84.8
Fluoranthene	755	1825	0.033	0.029	87.9
Fluorene	755	1825	0.033	0.030	90.9
Indeno(1,2,3-cd)pyrene	755	1825	0.033	0.024	72.7
Naphthalene	755	1825	0.033	0.029	87.9
Phenanthrene	755	1825	0.033	0.028	84.8
Pyrene	755	1825	0.033	0.031	93.9
Surr: p-Terphenyl	755	1825	2000	1,788	89.4
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	764	1824	0.033	0.029	87.9
Acenaphthylene	764	1824	0.033	0.028	84.8
Anthracene	764	1824	0.033	0.028	84.8

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
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Mr. Wei-Lin Feng

11/05/1998

NET Job Number: 98.13402

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Benzo(a)anthracene	764	1824	0.033	0.029	87.9
Benzo(b)fluoranthene	764	1824	0.033	0.029	87.9
Benzo(k)fluoranthene	764	1824	0.033	0.029	87.9
Benzo(a)pyrene	764	1824	0.033	0.030	90.9
Benzo(ghi)perylene	764	1824	0.033	0.029	87.9
Chrysene	764	1824	0.033	0.030	90.9
Dibenzo(a,h)anthracene	764	1824	0.033	0.029	87.9
Fluoranthene	764	1824	0.033	0.029	87.9
Fluorene	764	1824	0.033	0.030	90.9
Indeno(1,2,3-cd)pyrene	764	1824	0.033	0.029	87.9
Naphthalene	764	1824	0.033	0.027	81.8
Phenanthrene	764	1824	0.033	0.029	87.9
Pyrene	764	1824	0.033	0.031	93.9
Surr: p-Terphenyl	764	1824	2000	1,767	88.3
PCB'S NON-AQUEOUS					
PCB-1016	373	46	500	443	88.6
PCB-1260	373	46	500	494	98.8
Decachlorobiphenyl (Surr)	373	46	100	92	92.0
2,4,5,6-TCMX (Surr)	373	46	100	75	75.0
PCB'S NON-AQUEOUS					
PCB-1016	374	51	500	486	97.2
PCB-1260	374	51	500	518	103.6
Decachlorobiphenyl (Surr)	374	51	100	91	91.0
2,4,5,6-TCMX (Surr)	374	51	100	81	81.0

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QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/05/1998

NET Job Number: 98.13402

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
UST VOLATILES NON-AQUEOUS												
Benzene		62	22.2	<0.005	20.0	mg/kg	111.0	23.6	20.0	mg/kg	118.0	6.1
Ethylbenzene		62	23.5	<0.005	20.0	mg/kg	117.5	25.3	20.0	mg/kg	126.5	7.4
Toluene		62	23.5	<0.005	20.0	mg/kg	117.5	24.4	20.0	mg/kg	122.0	3.8
Xylenes, Total		62	68.6	<0.005	60.0	mg/kg	114.3	74.7	60.0	mg/kg	124.5	8.5
UST VOLATILES NON-AQUEOUS												
Benzene		66	21.0	<0.005	20.0	mg/kg	105.0	22.0	20.0	mg/kg	110.0	4.7
Ethylbenzene		66	23.0	<0.005	20.0	mg/kg	115.0	24.0	20.0	mg/kg	120.0	4.3
Toluene		66	28.0	<0.005	20.0	mg/kg	140.0	30.0	20.0	mg/kg	150.0	6.9
Xylenes, Total		66	62.0	<0.005	60.0	mg/kg	103.3	69.0	60.0	mg/kg	115.0	10.7
PNA CMPDS - 8310 NONAQUEOUS												
Acenaphthene	754	1809	3.42	<1.7	3.56	mg/kg	96.1	3.26	3.57	mg/kg	91.3	5.1
Acenaphthylene	754	1809	3.69	<1.7	3.56	mg/kg	103.6	3.46	3.57	mg/kg	97.0	6.5
Anthracene	754	1809	3.77	<3.4	3.56	mg/kg	106.0	3.37	3.57	mg/kg	94.3	11.6
Benzo(a)anthracene	754	1809	3.90	<1.6	3.56	mg/kg	109.6	3.10	3.57	mg/kg	86.8	23.1
Benzo(b)fluoranthene	754	1809	3.41	0.44	3.56	mg/kg	83.4	2.87	3.57	mg/kg	68.2	20.1
Benzo(k)fluoranthene	754	1809	3.38	0.40	3.56	mg/kg	83.7	2.73	3.57	mg/kg	65.5	24.4
Benzo(a)pyrene	754	1809	4.28	<0.65	3.56	mg/kg	120.2	3.52	3.57	mg/kg	98.5	19.7
Benzo(ghi)perylene	754	1809	3.33	<3.4	3.56	mg/kg	93.7	2.54	3.57	mg/kg	71.2	27.3
Chrysene	754	1809	4.09	<2	3.56	mg/kg	115.1	3.43	3.57	mg/kg	96.1	17.9
Dibenzo(a,h)anthracene	754	1809	3.87	<0.5	3.56	mg/kg	108.7	3.19	3.57	mg/kg	89.5	19.3
Fluoranthene	754	1809	4.03	<1.7	3.56	mg/kg	113.3	3.10	3.57	mg/kg	86.8	26.4
Fluorene	754	1809	3.71	<1.7	3.56	mg/kg	104.2	3.37	3.57	mg/kg	94.3	9.9
Indeno(1,2,3-cd)pyrene	754	1809	3.54	<0.74	3.56	mg/kg	99.4	2.82	3.57	mg/kg	79.0	22.9

NOTE: Matrix Spike Samples may not be samples from this job.

Advisory Control Limits for MS/MSDs:

For Inorganic Parameters and GC Volatiles, the spike recovery should be 75 - 125% if the spike added value was greater than or equal to one fourth of the sample result value. If not, the control limits are not established. The RPD for the MS/MSD pair should be less than 20.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

RPD calculations are performed on the Percent Recovery calculated from the observed Matrix spike and Matrix Spike Duplicate results.

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QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/05/1998

NET Job Number: 98.13402

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Naphthalene	754	1809	3.93	<2.1	3.56	mg/kg	110.5	3.60	3.57	mg/kg	100.9	9.1
Phenanthrene	754	1809	4.46	<3.4	3.56	mg/kg	125.3	3.86	3.57	mg/kg	108.1	14.7
Pyrene	754	1809	4.30	<1.7	3.56	mg/kg	120.8	3.41	3.57	mg/kg	95.5	23.3

NOTE: Matrix Spike Samples may not be samples from this job.

Advisory Control Limits for MS/MSDs:

For Inorganic Parameters and GC Volatiles, the spike recovery should be 75 - 125% if the spike added value was greater than or equal to one fourth of the sample result value. If not, the control limits are not established. The RPD for the MS/MSD pair should be less than 20.

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QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

ENSR
740 Pasquinelli Drive
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Mr. Wei-Lin Feng

11/05/1998

NET Job Number: 98.13402

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
PCB'S NON-AQUEOUS												
PCB-1016	373	46	401	<0.040	500	mg/kg	80.2	419	500	mg/kg	83.8	4.4
PCB-1260	373	46	549	<0.040	500	mg/kg	109.8	545	500	mg/kg	109.0	0.7
PCB'S NON-AQUEOUS												
PCB-1016	373	46	479	<0.040	500	mg/kg	95.8	796	500	mg/kg	159.2	49.6
PCB-1260	373	51	0.224	0.068	0.179	mg/kg	87.4	0.208	0.179	mg/kg	78.4	10.9
PCB'S NON-AQUEOUS												
PCB-1016	374	49	354	<0.045	567	mg/kg	62.4	247	567	mg/kg	43.6	35.5
PCB-1260	374	49	.37	0.212	.189	mg/kg	85.6	.32	.189	mg/kg	55.7	42.3
PCB'S NON-AQUEOUS												
PCB-1016	374	49	463	<0.045	567	mg/kg	81.6	484	567	mg/kg	85.4	4.6
PCB-1260	374	49	480	<0.045	567	mg/kg	84.6	520	567	mg/kg	91.8	8.2

NOTE: Matrix Spike Samples may not be samples from this job.

Advisory Control Limits for MS/MSDs:

For Inorganic Parameters and GC Volatiles, the spike recovery should be 75 - 125% if the spike added value was greater than or equal to one fourth of the sample result value. If not, the control limits are not established. The RPD for the MS/MSD pair should be less than 20.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

RPD calculations are performed on the Percent Recovery calculated from the observed Matrix spike and Matrix Spike Duplicate results.

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QUALITY CONTROL REPORT

DUPLICATES

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13402

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	RPD
pH, Non-Aqueous		179	6.61	6.67	units	0.9
pH, Non-Aqueous		180	8.29	8.30	units	0.1
pH, Non-Aqueous		180	8.44	8.44	units	0.0
Solids, Total		2511	49.4	50.3	%	1.8
Solids, Total		2511	44.6	47.6	%	6.5
Solids, Total		2511	80.4	79.6	%	1.0
Solids, Total		2512	86.2	84.4	%	2.1

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.

NET Midwest, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY ENSR Corp
ADDRESS 740 Pasquinelli Dr Ste 124 Westmont, IL
PHONE (630) 887 1700 FAX (630) 8505307
PROJECT NAME/LOCATION ComEd Will Cty
PROJECT NUMBER 1801023 610
PROJECT MANAGER Weilan Feng / Karen Dolmics

REPORT TO: K. Dolmics
INVOICE TO: ENSR
P.O. NO.
NET QUOTE NO.

MWG13-15_6028

SAMPLED BY B. Buckley (PRINT NAME) B Buckley SIGNATURE
(PRINT NAME) SIGNATURE

DATE 1998	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: TPH 9045	PNAs 8310	BTEX 8260	PCBs 8081	RCRA Metals (6 totals)	COMMENTS
10/15	1010	B1 (0-3)	S	X						2	X	X	X	X	X	
10/15	1022	B2 (0-3)	S	X						2	X	X	X	X	X	
10/15	1030	B4 (0-2)	S	X						2	X	X	X	X	X	* B4- Poss. Limited Smpl
10/15	1037	B3 (0-1)	S	X						2	X	X	X	X	X	* B3- "
10/15	1053	B5 (0-1)	S	X						2	X	X	X	X	X	* B5- "
10/15	~~1007~~ 1107	B6 (0-2)	S	X						2	X	X	X	X	X	* B6- "
10/15	1150	B7 (0-1)	S	X						2	X	X	X	X	X	* B7- "
10/15	1210	B8 (0-1)	S	X						2	X	X	X	X	X	* B8 - Very Limited Smpl
10/15	1221	B9 (0-1)	S	X						2	X	X	X	X	X	
10/15	1234	B10 (0-1)	S	X						2	X	X	X	X	X	
10/15	1241	B11 (0-1)	S	X						2	X	X	X	X	X	
10/15	1255	B12 (0-2)	S	X						2	X	X	X	X	X	
10/15	1310	B13 (0-1)	S	X						2	X	X	X	X	X	
10/15	1323	B14 (0-1)	S	X						2	X	X	X	X	X	
10/15	1341	B15 (0-1)	S	X						2	X	X	X	X	X	

To assist us in selecting the proper method
Is this work being conducted for regulatory compliance monitoring? Yes ____ No ____
Is this work being conducted for regulatory enforcement action? Yes ____ No ____
Which regulations apply: RCRA ____ NPDES Wastewater ____ UST ____ Drinking Water ____ Other ____ None ____

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) / NO FIELD FILTERED? YES / (NO)
COC SEALS PRESENT AND INTACT? (YES) / NO VOLATILES FREE OF HEADSPACE? (YES) / NO
TEMPERATURE UPON RECEIPT: 0.05°C on ice
Bottles supplied by NET? (YES) / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ____
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ____ DATE ____

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
B. Buckley	10/15/98	1530	GG	GG	10-15-98	17:05	Mary Pearce

METHOD OF SHIPMENT: NET Pick up
REMARKS:

PT 1 - ORIGINAL - WHITE PT 2 - NET PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

NET ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY: ENSR Corp
ADDRESS: 740 Pasquinelli Dr. St. 124 Westmont, IL
PHONE: (630) 887 1700 FAX: (630) 887 5307
PROJECT NAME/LOCATION: ComEd Will Cty
PROJECT NUMBER: 19801 023 610
PROJECT MANAGER: Weilin Feng / Karen Dolnies

REPORT TO: K. Dolnies
INVOICE TO: ENSR
P.O. NO.
NET QUOTE NO.

MWG13-15_6030

SAMPLED BY (PRINT NAME): B. Buckley — SIGNATURE: B. Buckley
(PRINT NAME) — SIGNATURE

DATE 1998	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: pH 9045	PAHs 8310	BTEX 8260	PCBs 8081	RCRA Metals (codes)
10/15/98	1330	B16 (0-1)	S	X						2	X	X	X	X	X
10/15	1358	B17 / ~~Surface~~ (0-1)	S	X						2	X	X	X	X	X
10/15	1410	B18	S	X						2	X	X	X	X	X

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ____ No ____

Is this work being conducted for regulatory enforcement action? Yes ____ No ____

Which regulations apply: RCRA ____ NPDES Wastewater ____ UST ____ Drinking Water ____ Other ____ None ____

COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? YES / NO
FIELD FILTERED? YES / NO
COC SEALS PRESENT AND INTACT? YES / NO
VOLATILES FREE OF HEADSPACE? YES / NO
TEMPERATURE UPON RECEIPT: 0.05°C
Bottles supplied by NET? YES / NO on ice

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ____
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ____ DATE ____

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
B. Buckley	10/15/98	1530	# GG	GG	10-15-98	17:05	Mary Pearson

METHOD OF SHIPMENT: NET Pickup

REMARKS:

PT 1 - ORIGINAL - WHITE PT 2 - NET PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

APPENDIX C

Monitoring Well Gauging and Survey Data

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Will County Generating Station
529 East Romeo Road
Romeoville, Illinois

Project: ComEd Will County Generating Station
Project #: 1801-023-710
Date: 10/26/98

Operator: BM
Method: IP
Equipment #: IP #

Well ID	TOC Elevation (feet)	Total Depth of Well (feet)	Depth to Water (feet)	Depth to LPHC (feet)	LPHC Thickness (feet)	LPHC Specific Gravity	Corrective Depth to Water (feet)	Corrective Water Elevation (feet)
MW-1	97.46	10.80	7.95	NA	NA	NA	7.95	89.51
MW-2	100.79	10.35	5.40	NA	NA	NA	5.40	95.39
MW-3	96.38	10.00	3.60	NA	NA	NA	3.60	92.78
MW-4	96.75	11.00	8.95	NA	NA	NA	8.95	87.80
MW-5	96.65	11.35	4.00	NA	NA	NA	4.00	92.65

Note:
TOC elevation is based on an arbitrary 100 foot benchmark.

Exhibit B5

UR

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

RECEIVED
JUN 13 2012
ENVIRONMENTAL SERVICES
MIDWEST GENERATION EME, LLC

217/785-0561

June 11, 2012

CERTIFIED MAIL # 7010 2780 0002 1163 7230
RETURN RECEIPT REQUESTED

Mr. Basil G. Constantelos: Managing Director, Environmental Services
Midwest Generation EME, LLC
2535 Remington Blvd
Suite A
Bolingbrook, IL 60440

Re: Violation Notice: Midwest Generation, LLC, Will County Generating Station
Identification No.: 6283
Violation Notice No.: W-2012-00058

Dear Mr. Constantelos:

This constitutes a Violation Notice pursuant to Section 31(a)(1) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(1), and is based upon a review of available information and an investigation by representatives of the Illinois Environmental Protection Agency ("Illinois EPA").

The Illinois EPA hereby provides notice of alleged violations of environmental laws, regulations, or permits as set forth in Attachment A to this notice. Attachment A includes an explanation of the activities that the Illinois EPA believes may resolve the specified alleged violations. Due to the nature and seriousness of the alleged violations, please be advised that resolution of the violations may also require the involvement of a prosecutorial authority for purposes that may include, among others, the imposition of statutory penalties.

A written response, which may include a request for a meeting with representatives of the Illinois EPA, must be submitted via certified mail to the Illinois EPA within 45 days of receipt of this letter. If a meeting is requested, it shall be held within 60 days of receipt of this notice. The response must include information in rebuttal, explanation, or justification of each alleged violation and a statement indicating whether or not the facility wishes to enter into a Compliance Commitment Agreement ("CCA") pursuant to Section 31(a) of the Act. If the facility wishes to enter into a CCA, the written response must also include proposed terms for the CCA that includes dates for achieving each commitment and may include a statement that compliance has been achieved for some or all of the alleged violations. The proposed terms of the CCA should contain sufficient detail and must include steps to be taken to achieve compliance and the necessary dates by which compliance will be achieved.

The Illinois EPA will review the proposed terms for a CCA provided by the facility and, within 30 days of receipt, will respond with either a proposed CCA or a notice that no CCA will be issued by the Illinois EPA. If the Illinois EPA sends a proposed CCA, the facility must respond in writing by either agreeing to and signing the proposed CCA or by notifying the Illinois EPA that the facility rejects the terms of the proposed CCA.

If a timely written response to this Violation Notice is not provided, it shall be considered a waiver of the opportunity to respond and meet, and the Illinois EPA may proceed with referral to a prosecutorial authority.

Written communications should be directed to:

Illinois EPA – Division of Public Water Supplies
Attn: Andrea Rhodes, CAS #19
P.O. BOX 19276
Springfield, IL 62794-9276

All communications must include reference to this Violation Notice number, W-2012-00058.

Questions regarding this Violation Notice should be directed to Andrea Rhodes at 217/785-0561.

Sincerely,

Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

Attachments

cc: Maria Race

CASE ID: 2012-006

ATTACHMENT A

MIDWEST GENERATION, LLC, WILL COUNTY GENERATING STATION, ID:6283
VIOLATION NOTICE NO. W-2012-00058:

A review of information available to the Illinois EPA indicates the following on-going violations of statutes, regulations, or permits. Included with each type of violation is an explanation of the activities that the Illinois EPA believes may resolve the violation.

Groundwater Quality

No person shall cause, threaten or allow the release of any contaminant to a resource groundwater such that: treatment or additional treatment is necessary to continue an existing use or to assure a potential use of such groundwater; or an existing or potential use of such groundwater is precluded. No person shall cause, threaten or allow the release of any contaminant to groundwater so as to cause a groundwater quality standard to be exceeded. Midwest Generation, LLC must take actions to mitigate existing contamination and prevent the continuing release of contaminants into the environment.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-1 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Antimony	0.0063 mg/l	0.006 mg/l	12/08/2011
Manganese	0.16 mg/l	0.15 mg/l	03/16/2012
Manganese	0.17 mg/l	0.15 mg/l	12/08/2011
Manganese	0.16 mg/l	0.15 mg/l	09/15/2011
Manganese	0.22 mg/l	0.15 mg/l	06/15/2011
Manganese	0.20 mg/l	0.15 mg/l	12/13/2010
Sulfate	430 mg/l	400 mg/l	03/16/2012
Sulfate	530 mg/l	400 mg/l	12/13/2010
Chloride	210 mg/l	200 mg/l	03/28/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

ATTACHMENT A

MIDWEST GENERATION, LLC, WILL COUNTY GENERATING STATION, ID:6283
VIOLATION NOTICE NO. W-2012-00058:

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-2 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Antimony	0.017 mg/l	0.006 mg/l	12/08/2011
Antimony	0.0073 mg/l	0.006 mg/l	09/15/2011
Boron	2.30 mg/l	2.0 mg/l	09/15/2011
Boron	2.30 mg/l	2.0 mg/l	06/15/2011
Sulfate	430 mg/l	400 mg/l	12/13/2010
Chloride	250 mg/l	200 mg/l	03/28/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-3 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Boron	2.7 mg/l	2.0 mg/l	03/16/2012
Boron	2.8 mg/l	2.0 mg/l	12/08/2011
Boron	3.3 mg/l	2.0 mg/l	09/15/2011
Boron	2.6 mg/l	2.0 mg/l	06/15/2011
Boron	2.4 mg/l	2.0 mg/l	03/28/2011
Boron	2.7 mg/l	2.0 mg/l	12/13/2010
Chloride	250 mg/l	200 mg/l	03/28/2011
Manganese	0.27 mg/l	0.15 mg/l	03/16/2012
Manganese	0.29 mg/l	0.15 mg/l	12/08/2011
Manganese	0.26 mg/l	0.15 mg/l	09/15/2011
Manganese	0.34 mg/l	0.15 mg/l	06/15/2011
Manganese	0.31 mg/l	0.15 mg/l	03/28/2011
Manganese	0.34 mg/l	0.15 mg/l	12/13/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

ATTACHMENT A

MIDWEST GENERATION, LLC, WILL COUNTY GENERATING STATION, ID:6283
VIOLATION NOTICE NO. W-2012-00058:

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-4 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Boron	4.0 mg/l	2.0 mg/l	03/16/2012
Boron	3.0 mg/l	2.0 mg/l	12/08/2011
Boron	4.3 mg/l	2.0 mg/l	09/15/2011
Boron	3.6 mg/l	2.0 mg/l	06/15/2011
Boron	3.3 mg/l	2.0 mg/l	03/29/2011
Boron	3.7 mg/l	2.0 mg/l	12/13/2010
Manganese	0.60 mg/l	0.15 mg/l	03/16/2012
Manganese	0.60 mg/l	0.15 mg/l	12/08/2011
Manganese	1.00 mg/l	0.15 mg/l	09/15/2011
Manganese	0.70 mg/l	0.15 mg/l	06/15/2011
Manganese	0.58 mg/l	0.15 mg/l	03/29/2011
Manganese	0.52 mg/l	0.15 mg/l	12/13/2010
Sulfate	2,000 mg/l	400 mg/l	03/16/2012
Sulfate	1,600 mg/l	400 mg/l	12/08/2011
Sulfate	4,800 mg/l	400 mg/l	09/15/2011
Sulfate	1,600 mg/l	400 mg/l	06/15/2011
Sulfate	1,500 mg/l	400 mg/l	03/29/2011
Sulfate	1,500 mg/l	400 mg/l	12/13/2010
TDS	3,700 mg/l	1,200 mg/l	03/16/2012
TDS	3,100 mg/l	1,200 mg/l	12/08/2011
TDS	6,000 mg/l	1,200 mg/l	09/15/2011
TDS	2,800 mg/l	1,200 mg/l	06/15/2011
TDS	2,600 mg/l	1,200 mg/l	03/29/2011
TDS	2,500 mg/l	1,200 mg/l	12/13/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-5 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	9.3 su	6.5-9.0 su	03/16/2012
pH	9.51 su	6.5-9.0 su	03/28/2011

ATTACHMENT A

MIDWEST GENERATION, LLC, WILL COUNTY GENERATING STATION, ID:6283
VIOLATION NOTICE NO. W-2012-00058:

Violation Description

MW-5 continued

Parameter	Sample Value	GW Standard	Collection Date
Boron	2.9 mg/l	2.0 mg/l	03/16/2012
Boron	3.2 mg/l	2.0 mg/l	12/08/2011
Boron	4.0 mg/l	2.0 mg/l	09/15/2011
Boron	3.2 mg/l	2.0 mg/l	06/15/2011
Boron	2.7 mg/l	2.0 mg/l	03/29/2011
Boron	2.6 mg/l	2.0 mg/l	12/13/2010
Sulfate	500 mg/l	400 mg/l	12/08/2011
Sulfate	690 mg/l	400 mg/l	09/15/2011
Sulfate	540 mg/l	400 mg/l	06/15/2011
Sulfate	570 mg/l	400 mg/l	03/29/2011
Sulfate	580 mg/l	400 mg/l	12/13/2010
TDS	1,500 mg/l	1,200 mg/l	09/15/2011
TDS	1,400 mg/l	1,200 mg/l	06/15/2011
TDS	1,300 mg/l	1,200 mg/l	03/29/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-6 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	9.39 su	6.5-9.0 su	03/16/2012
pH	9.44 su	6.5-9.0 su	09/15/2011
pH	9.27 su	6.5-9.0 su	06/15/2011
pH	9.65 su	6.5-9.0 su	03/29/2011
Boron	2.5 mg/l	2.0 mg/l	03/16/2012
Boron	2.5 mg/l	2.0 mg/l	12/08/2011
Boron	3.0 mg/l	2.0 mg/l	09/15/2011
Boron	2.4 mg/l	2.0 mg/l	06/15/2011
Boron	2.5 mg/l	2.0 mg/l	03/28/2011
Boron	2.7 mg/l	2.0 mg/l	12/13/2010
Chloride	210 mg/l	200 mg/l	03/28/2011
Sulfate	440 mg/l	400 mg/l	12/08/2011
Sulfate	420 mg/l	400 mg/l	09/15/2011

ATTACHMENT A

MIDWEST GENERATION, LLC, WILL COUNTY GENERATING STATION, ID:6283
VIOLATION NOTICE NO. W-2012-00058:

Violation Description

MW-6 continued

Parameter	Sample Value	GW Standard	Collection Date
Sulfate	570 mg/l	400 mg/l	06/15/2011
Sulfate	540 mg/l	400 mg/l	03/28/2011
Sulfate	500 mg/l	400 mg/l	12/13/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-7 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Manganese	0.20 mg/l	0.15 mg/l	03/16/2012
Manganese	0.20 mg/l	0.15 mg/l	12/08/2011
Manganese	0.18 mg/l	0.15 mg/l	09/15/2011
Boron	5.1 mg/l	2.0 mg/l	03/16/2012
Boron	5.0 mg/l	2.0 mg/l	12/08/2011
Boron	3.4 mg/l	2.0 mg/l	09/15/2011
Boron	5.7 mg/l	2.0 mg/l	06/15/2011
Boron	5.0 mg/l	2.0 mg/l	03/29/2011
Boron	4.7 mg/l	2.0 mg/l	12/13/2010
Sulfate	770 mg/l	400 mg/l	03/16/2012
Sulfate	710 mg/l	400 mg/l	12/08/2011
Sulfate	710 mg/l	400 mg/l	09/15/2011
Sulfate	1,000 mg/l	400 mg/l	06/15/2011
Sulfate	650 mg/l	400 mg/l	03/29/2011
Sulfate	610 mg/l	400 mg/l	12/13/2010
TDS	1,400 mg/l	1,200 mg/l	03/16/2012
TDS	1,300 mg/l	1,200 mg/l	12/08/2011
TDS	1,400 mg/l	1,200 mg/l	09/15/2011
TDS	1,600 mg/l	1,200 mg/l	06/15/2011
TDS	1,500 mg/l	1,200 mg/l	03/29/2011
TDS	1,300 mg/l	1,200 mg/l	12/13/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

ATTACHMENT A

MIDWEST GENERATION, LLC, WILL COUNTY GENERATING STATION, ID:6283
VIOLATION NOTICE NO. W-2012-00058:

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-8 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Boron	2.3 mg/l	2.0 mg/l	09/15/2011
Chloride	270 mg/l	200 mg/l	03/29/2011
Manganese	0.40 mg/l	0.15 mg/l	12/08/2011
Manganese	0.45 mg/l	0.15 mg/l	09/15/2011
Manganese	0.47 mg/l	0.15 mg/l	06/15/2011
Manganese	0.44 mg/l	0.15 mg/l	03/29/2011
Manganese	0.33 mg/l	0.15 mg/l	12/13/2010
Sulfate	600 mg/l	400 mg/l	09/15/2011
Sulfate	420 mg/l	400 mg/l	06/15/2011
Sulfate	440 mg/l	400 mg/l	03/29/2011
Sulfate	440 mg/l	400 mg/l	12/13/2010
TDS	1,300 mg/l	1,200 mg/l	09/15/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-9 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	10.56 su	6.5-9.0 su	03/16/2012
pH	9.55 su	6.5-9.0 su	12/08/2011
pH	10.27 su	6.5-9.0 su	09/15/2011
pH	10.44 su	6.5-9.0 su	06/15/2011
pH	10.87 su	6.5-9.0 su	03/29/2011
Boron	2.2 mg/l	2.0 mg/l	12/13/2010
Chloride	230 mg/l	200 mg/l	06/15/2011
Chloride	280 mg/l	200 mg/l	03/29/2011
Sulfate	410 mg/l	400 mg/l	06/15/2011
Sulfate	410 mg/l	400 mg/l	12/13/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

ATTACHMENT A

MIDWEST GENERATION, LLC, WILL COUNTY GENERATING STATION, ID:6283
VIOLATION NOTICE NO. W-2012-00058:

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-10 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Boron	2.1 mg/l	2.0 mg/l	03/16/2012
Boron	2.5 mg/l	2.0 mg/l	12/08/2011
Boron	2.8 mg/l	2.0 mg/l	09/15/2011
Boron	2.2 mg/l	2.0 mg/l	06/15/2011
Boron	2.1 mg/l	2.0 mg/l	12/13/2010
Manganese	0.25 mg/l	0.15 mg/l	03/16/2012
Manganese	0.29 mg/l	0.15 mg/l	12/08/2011
Manganese	0.27 mg/l	0.15 mg/l	09/15/2011
Manganese	0.25 mg/l	0.15 mg/l	06/15/2011
Manganese	0.22 mg/l	0.15 mg/l	03/28/2011
Manganese	0.25 mg/l	0.15 mg/l	12/13/2010
Sulfate	420 mg/l	400 mg/l	09/15/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Exhibit B6

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

217-785-0561

October 24, 2012

CERTIFIED MAIL # 7011 1150 0001 0859 0096
RETURN RECEIPT REQUESTED

John Kennedy
Senior Vice President, Generation
235 Remington, Suite A
Bolingbrook, IL 60440

Re: Compliance Commitment Acceptance
Violation Notice: W-2012-00058
Midwest Generation, LLC, Will County Generating Station; ID Number: 6283

Dear Mr. Kennedy:

The Illinois Environmental Protection Agency ("Illinois EPA") has approved the Compliance Commitment Agreement ("CCA") for Midwest Generation, LLC, Will County Generating Station. Please find enclosed an executed copy of the CCA for your records.

Failure to fully comply with the CCA may, at the sole discretion of the Illinois EPA, result in referral of this matter to the Office of the Attorney General, the State's Attorney or the United States Environmental Protection Agency.

The CCA does not constitute a waiver or modification of the terms and conditions of any license or permit issued by the Illinois EPA or any other unit or department of local, state or federal government or of any local, state or federal statute or regulatory requirement.

Questions regarding this matter should be directed to Andrea Rhodes at 217/785-0561. Written communications should be directed to the Illinois Environmental Protection Agency, Bureau of Water, CAS #19, P.O. Box 19276, Springfield, IL 62794-9276, and all communications shall include reference to your Violation Notice Number W-2012-00058.

Sincerely,

Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

Attachments

cc: Basil G. Constantelos
Maria Race
Susan M. Franzetti

RECEIVED
OCT 29 2012

BOW ID: W1978100011 CASE ID: 2012-006

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF:)
)
MIDWEST GENERATION, LLC,)
WILL COUNTY GENERATING STATION)
ROMEOVILLE, WILL COUNTY, IL)
ID NUMBER: 6283)
)
)
)
)
)

RECEIVED
OCT 17 2012
IEPA/CAS

ILLINOIS EPA VN W-2012-00058
BUREAU OF WATER

COMPLIANCE COMMITMENT AGREEMENT

I. Jurisdiction

1. This Compliance Commitment Agreement ("CCA") is entered into voluntarily by the Illinois Environmental Protection Agency ("Illinois EPA") and Midwest Generation, LLC, Will County Generating Station ("Respondent") (collectively, the "Parties") under the authority vested in the Illinois EPA pursuant to Section 31(a)(7)(i) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(7)(i).

II. Allegation of Violations

2. Respondent owns and operates Will County Generating Station in Romeoville, Will County, Illinois ("Will County Station").

3. Pursuant to Violation Notice ("VN") W-2012-00058 issued on June 11, 2012, the Illinois EPA contends that Respondent has violated the following provisions of the Act and Illinois Pollution Control Board ("Board") Regulations:

   a) Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, and MW-10.
   Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

III. Compliance Activities

4. On September 4, 2012, and September 27, 2012, the Illinois EPA received Respondent's response and supplemental e-mail response to VN W-2012-00058, which included proposed terms for a CCA. The Illinois EPA has reviewed Respondent's proposed CCA terms, as well as considered whether any additional terms and conditions are necessary to attain compliance with the alleged violations cited in the VN.

5. Respondent agrees to undertake and complete the following actions, which the Illinois EPA has determined are necessary to attain compliance with the allegations contained in VN W-2012-00058:

   a) The ash ponds at Will County Station shall not be used as permanent disposal sites and shall continue to function as treatment ponds to precipitate ash. Ash shall continue to be removed from the ponds on a periodic basis.

   b) The ash treatment ponds shall be maintained and operated in a manner which protects the integrity of the existing liners. During the removal of ash from the ponds, appropriate procedures shall be followed to protect the integrity of the existing liners, including operating the ash removal equipment in a manner which minimizes the risk of any damage to the liner.

   c) During the ash removal process, visual inspections of the ponds shall be conducted to identify any signs of a breach in the integrity of the pond liners. In the event that a breach of the pond liners is detected, Midwest Generation shall promptly notify the Illinois EPA and shall implement a corrective action plan for repair or replacement as necessary, of the liner. Upon the Illinois EPA's approval, and the issuance of any necessary construction permit, Midwest Generation will implement the corrective action plan.

   d) Midwest Generation shall continue quarterly monitoring of the existing ten groundwater monitoring wells for constituents in 35 Ill. Adm. Code 620.410(a) and (d), with the exception of radium 226 and 228, and report its findings to the Illinois EPA within 30 days of the end of each quarter. In addition, Midwest Generation shall record and report groundwater elevation and submit a potentiometric surface map with the above quarterly groundwater monitoring report.

   e) Ponds 1 North (1N) and 1 South (1S) shall be removed from service at Will County Station. All process water shall be diverted from ponds 1N and 1S to existing ponds 2 South (2S) and 3 South (3S). A dewatering system shall be developed and implemented which will not allow water to exceed a depth of one foot above the bottom of Ponds 1N and 1S.

   f) Within 90 days of the effective date of the CCA, Midwest Generation shall submit an application for a construction permit to re-line pond 2S at Will County Station with a 60 mil thickness high density polyethylene ("HDPE") liner or an Illinois EPA approved equivalent material.

g) Midwest Generation shall submit an application to establish a Groundwater Management Zone (GMZ) pursuant to 35 Ill. Adm. Code Part 620.250 within 90 days of the effective date of the CCA.

h) Midwest Generation shall enter into an Environmental Land Use Control (ELUC) to cover the area of the Will County Station property which is contained within the GMZ, except for that portion of the GMZ area which is owned by ComEd. Midwest Generation shall submit a proposed draft ELUC to the Illinois EPA for review and comment within 90 days of the effective date of the CCA.

i) Midwest Generation shall establish a GMZ pursuant to 35 Ill. Adm. Code Part 620.250 and submit a final proposed ELUC, incorporating the completed delineation of the GMZ boundaries, within one year of the effective date of the CCA.

j) Once ponds 1N and 1S have been taken out of service, a dewatering system has been implemented, pond 2S has been relined with a HDPE liner, and a GMZ and ELUC have been established, Midwest Generation shall submit a certification (or a statement) of compliance. Midwest Generation may submit either the attached "Illinois EPA Compliance Statement" or another similar writing to satisfy the statement of compliance within one year of the effective date of the CCA.

IV. Terms and Conditions

6. Respondent shall comply with all provisions of this CCA, including, but not limited to, any appendices to this CCA and all documents incorporated by reference into this CCA. Pursuant to Section 31(a)(10) of the Act, 415 ILCS 5/31(a)(10), if Respondent complies with the terms of this CCA, the Illinois EPA shall not refer the alleged violations that are the subject of this CCA, as described in Section II above, to the Office of the Illinois Attorney General or the State's Attorney of the county in which the alleged violations occurred. Successful completion of this CCA or an amended CCA shall be a factor to be weighed, in favor of the Respondent, by the Office of the Illinois Attorney General in determining whether to file a complaint on its own motion for the violations cited in VN W-2012-00058.

7. This CCA is solely intended to address the violations alleged in Illinois EPA VN W-2012-00058. The Illinois EPA reserves and this CCA is without prejudice to, all rights of the Illinois EPA against Respondent with respect to noncompliance with any term of this CCA, as well as to all other matters. Nothing in this CCA is intended as a waiver, discharge, release, or covenant not to sue for any claim or cause of action, administrative or judicial, civil or criminal, past or future, in law or in equity, which the Illinois EPA may have against Respondent, or any other person as defined by Section 3.315 of the Act, 415 ILCS 5/3.315. This CCA in no way affects the responsibilities of Respondent to comply with any other federal, state or local laws or regulations, including but not limited to the Act, and the Board Regulations [and Permit, if applicable].

8. Pursuant to Section 42(k) of the Act, 415 ILCS 5/42(k), in addition to any other remedy or penalty that may apply, whether civil or criminal, Respondent shall be liable for an additional civil penalty of $2,000 for violation of any of the terms or conditions of this CCA.

9. This CCA shall apply to and be binding upon the Illinois EPA, and on Respondent and Respondent's officers, directors, employees, agents, successors, assigns, heirs, trustees, receivers, and upon all persons, including but not limited to contractors and consultants, acting on behalf of Respondent, as well as upon subsequent purchasers of Respondent's Will County Station in Romeoville, Will County, Illinois.

10. In any action by the Illinois EPA to enforce the terms of this CCA, Respondent consents to and agrees not to contest the authority or jurisdiction of the Illinois EPA to enter into or enforce this CCA, and agrees not to contest the validity of this CCA or its terms and conditions.

11. This CCA shall only become effective:

    a) If, within 30 days of receipt, Respondent executes this CCA and submits it, via certified mail, to Illinois EPA, Bureau of Water, Andrea Rhodes, MC #19, 1021 North Grand Ave East, Springfield, IL 62702. If Respondent fails to execute and submit this CCA within 30 days of receipt, via certified mail, this CCA shall be deemed rejected by operation of law; and

    b) Upon execution by all Parties.

12. Pursuant to Section 31(a)(7.5) of the Act, 415 ILCS 5/31(a)(7.5), this CCA shall not be amended or modified prior to execution by the Parties. Any amendment or modification to this CCA by Respondent prior to execution by all Parties shall be considered a rejection of the CCA by operation of law. This CCA may only be amended subsequent to its effective date, in writing, and by mutual agreement between the Illinois EPA and Respondent's signatory to this CCA, Respondent's legal representative, or Respondent's agent.

AGREED:
FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY:

BY: _____ DATE: 10/24/12

Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

FOR RESPONDENT:

BY: _____ DATE: Oct 15, 2012

John Kennedy
Senior Vice President, Generation
Midwest Generation, LLC

Illinois EPA Compliance Statement

The owner of the facility must acknowledge that all compliance commitment agreement (CCA) measures have been successfully completed.

Please complete, sign, and return.

I _____ *(print name)*, hereby certify that all violations addressed in Violation Notice (VN) number _____ have been addressed and that all CCA measures were completed on _____ *(date)*.

_____
Signature

_____
Title

_____
Telephone Number

_____
Date

Be sure to retain copies of this document for your files. Should you need additional notification forms, please contact this office at (217)785-0561. Return this completed form to:

Illinois Environmental Protection Agency
Compliance Assurance Section #19
Bureau of Water
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

"Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Agency,.....related to or required by this Act, a regulation adopted under this Act, any federal law or regulation for which the Agency has responsibility, or any permit, term, or condition thereof, commits a Class 4 felony..." (415 ILCS 5/44(h) (8))

Exhibit B7

MIDWEST
GENERATION EME, LLC
An *EDISON INTERNATIONAL*® Company

Amy L. Hanrahan
Senior Environmental
Engineer
Environmental Services

January 18, 2013

Ms. Andrea Rhodes
Illinois Environmental Protection Agency – DPWS
MC #19
1021 North Grand Avenue East
Springfield, IL 62702

VIA FEDERAL EXPRESS

Re:

Compliance Commitment Agreement – Groundwater Management Zone Application
Midwest Generation, LLC, Will County Generating Station; ID No. 6283
Violation Notice W-2012-0058

Dear Ms. Rhodes:

The Compliance Commitment Agreement (CCA) for the above referenced site relative to Violation Notice W-2012-00058 was signed by Midwest Generation on October 15, 2012 and executed by Illinois Environmental Protection Agency (IEPA) signature on October 24, 2012 (effective date). Item 5 (g) of the CCA requires Midwest Generation to submit an application to establish a Groundwater Management Zone (GMZ) pursuant to 35 Ill. Adm. Code Part 620.250 within 90 days of the effective date of the CCA.

Based on previous discussions with IEPA, the proposed areal extent of the GMZ is shown on Figure 1 in Attachment 1. The GMZ Application Forms (Parts I through III) and supporting information/data are provided in Attachment 2. As discussed in the Application Forms support documentation, groundwater flow in the vicinity of the subject ash ponds is in a westerly direction with discharge to the adjoining Des Plaines River. The western (downgradient) extent of the proposed GMZ corresponds with this hydraulic boundary. The eastern boundary is defined by the Chicago Sanitary and Ship Canal (CSSC) which forms a hydraulic boundary on the east side of the facility. The north and south sides of the proposed GMZ are based on the flow system and location of the four ash ponds. The vertical extent of the GMZ would be the first underlying aquitard identified as the Maquoketa Shale, approximately 140 feet below ground surface. The GMZ would therefore vertically include the unconsolidated overburden and the Silurian dolomite, both of which are hydraulically connected and overlie the Maquoketa Shale.

235 Remington Blvd.
Suite A
Bolingbrook, Il 60440
Tel: 630 771 7863
Fax: 949 225 0813
ahanrahan@mwgen.com

This submittal fulfills the requirements set forth under Item 5 (g) of the signed CCA. Once the application is approved by IEPA and the proposed extent of the GMZ is agreed upon, a formal surveying of the area will be performed and legal description generated. Please call me at 630-771-7863 if there are any questions.

Sincerely,
Midwest Generation, LLC

Amy Hanrahan
Senior Environmental Engineer

Attachments: *1 – Proposed Areal Extent of GMZ*
2 – Completed GMZ Application Forms (Parts I through III)

cc: Ms. Maria Race, Midwest Generation EME, LLC
Mr. Basil Constantelos, Midwest Generation EME, LLC
Ms. Rebecca Maddox, Midwest Generation, LLC
Mr. Christopher Foley, Midwest Generation EME, LLC
Ms. Susan Franzetti, Nijman Franzetti, LLP
Mr. Richard Gnat, KPRG and Associates, Inc.
Mr. Bill Buscher, IEPA

ATTACHMENT 1
Proposed Areal Extent of GMZ



W:\c-p&p\projects\midwest generation\ash pond issues\elur & gmz\will co station gmz.dwg(proposed gmz)

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 28 Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

PROPOSED GROUNDWATER MANAGEMENT ZONE

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 500' | Date: January 11, 2013

KPRG Project No. 18311.41 | FIGURE 1

MWG13-15_625

ATTACHMENT 2
Completed GMZ Application Forms (Parts I through III)

Section 620.APPENDIX D Confirmation of an Adequate Corrective Action Pursuant to 35 Ill. Adm. Code 620.250(a)(2)

Pursuant to 35 Ill. Adm. Code 620.250(a) if an owner or operator provides a written confirmation to the Agency that an adequate corrective action, equivalent to a corrective action process approved by the Agency, is being undertaken in a timely and appropriate manner, then a groundwater management zone may be established as a three-dimensional region containing groundwater being managed to mitigate impairment caused by the release of contaminants from a site. This document provides the form in which the written confirmation is to be submitted to the Agency.

Note 1. Parts I and II are to be submitted to IEPA at the time that the facility claims the alternative groundwater standards. Part III is to be submitted at the completion of the site investigation. At the completion of the corrective process, a final report is to be filed which includes the confirmation statement included in Part IV.

Note 2. The issuance of a permit by IEPA's Division of Air Pollution Control or Water Pollution Control for a treatment system does not imply that the Agency has approved the corrective action process.

Note 3. If the facility is conducting a cleanup of a unit which is subject to the requirements of the Resource Conservation and Recovery Act (RCRA) or the 35 Ill. Adm. Code 731 regulations for Underground Storage Tanks, this confirmation process is not applicable and cannot be used.

Note 4. If the answers to any of these questions require explanation or clarification, provide such in an attachment to this document.

Part I. Facility Information

Facility Name Will County Generating Station

Facility Address 529 East 135th Street
Romeoville, IL

County Will County

Standard Industrial Code (SIC) 4911

1. Provide a general description of the type of industry, products manufactured, raw materials used, location and size of the facility.

The Midwest Generation Will County Station is a coal-fired electrical power generating station in operation since the mid-1950s. The facility is located at 529 E. 135th Street in Romeoville, Illinois. The generating station property covers an area of approximately 200 acres.

2. What specific units (operating or closed) are present at the facility which are or were used to manage waste, hazardous waste, hazardous substances or petroleum?

	YES	NO
Landfill		X
Surface Impoundment	X	
Land Treatment		X
Spray Irrigation		X
Waste Pile	X	
Incinerator		X
Storage Tank (above ground)	X	
Storage Tank (underground)		X
Container Storage Area	X	
Injection Well		X
Water Treatment Units	X	
Septic Tanks		X
French Drains		X
Transfer Station		X
Other Units (please describe)		
_____		
_____		

3. Provide an extract from a USGS topographic or county map showing the location of the site and a more detailed scaled map of the facility with each waste management unit identified in Question 2 or known/suspected source clearly identified. Map scale must be specified and the location of the facility must be provided with respect to Township, Range and Section.

Please see Figures 1 and 2 in Attachment 2A.

4. Has the facility ever conducted operations which involved the generation, manufacture, processing, transportation, treatment, storage or handling of "hazardous substances" as defined by the Illinois Environmental Protection

Act? Yes _X__ No ___ If the answer to this question is "yes" generally describe these operations.

Will County Generating Station generates typical hazardous and non-hazardous substance wastes associated with coal-fired electrical power generation. A full list of hazardous substances can be provided upon request.

5. Has the facility generated, stored or treated hazardous waste as defined by the Resource Conservation and Recovery Act? Yes_X__ No ___If the answer to this question is "yes" generally describe these operations.

The station's hazardous wastes have typically been lead paint chip debris associated with lead paint removal, empty aerosol cans, spent laboratory chemicals (hydrazine, monoethylamine, formic acid), etc. Complete logs of wastes generated and disposed of can be provided upon request.

6. Has the facility conducted operations which involved the processing, storage or handling of petroleum? Yes _X__ No ____If the answer to this question is "yes" generally describe these operations.

The facility stores oil for operations in above ground storage tanks for start-up operations and for heavy equipment fueling and other diesel powered equipment. There is also an above ground gasoline storage tank and two used oil storage tanks.

7. Has the facility ever held any of the following permits?

   a. Permits for any waste storage, waste treatment or waste disposal operation. Yes _X__ No ___ If the answer to this question is "yes", identify the IEPA permit numbers.

   The facility utilizes a sewerage treatment system that discharges to the Des Plaines River under NPDES Permit No. IL0002208.

   b. Interim Status under the Resources Conservation and Recovery Act (filing of a RCRA Part A application). Yes ___ No _X__ If the answer to this question is "yes", attach a copy of the last approved Part A application.

   c. RCRA Part B Permits. Yes ___ No _X__ If the answer to this question is "yes", identify the permit log number.

8. Has the facility ever conducted the closure of a RCRA hazardous waste management unit? Yes ___ No _X__

9. Have any of the following State or federal government actions taken place for a release at the facility?

   a. Written notification regarding known, suspected or alleged contamination on or emanating from the property (e.g., a Notice pursuant to Section 4(q) of the Environment Protection Act)? Yes _X_ No ___ If the to this question is "yes", identify the caption and date of issuance.

   A Violation Notice was issued by IEPA on June 11, 2012 relative to the four ash impoundments alleging a potential release of coal ash constituents to groundwater (Violation Notice No. W-2012-00058). This was resolved through a Compliance Commitment Agreement (CCA) dated October 4, 2012 and formally executed on October 24, 2012. This submittal is part of the CCA compliance.

   b. Consent Decree or Order under RCRA, CERCLA, EPAct Section 22.2 (State Superfund), or EPAct Section 21(f) (State RCRA). Yes ___ No _X_

   c. If either of Items a or b were answered by checking "yes", is the notice, order or decree still in effect? Yes _X_ No ___

   The CCA is currently in effect.

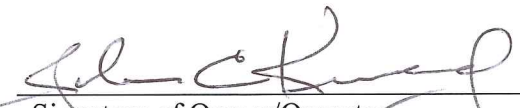
10. What groundwater classification will the facility be subject to at the completion of the remediation?

    Class I _X_ Class II ___ Class III ____ Class IV ____
    If more than one Class applies, please explain.

11. Describe the circumstances which the release to groundwater was identified.

As requested by Illinois Environmental Protection Agency (IEPA), a groundwater monitoring plan was developed and implemented for Ash Pond 1N, 1S, 2S and 3S located on the west side of the facility. A total of ten monitoring wells were installed around the four ash ponds. Quarterly sampling was initiated in December 2010 and has been ongoing since. The data were provided to IEPA on a quarterly basis. Based on the monitoring data, on June 11, 2012, IEPA issued a Violation Notice (W-2012-00058) to Midwest Generation alleging that potential leakage from the ponds has resulted in a violation of Class I groundwater standards for antimony, boron, chloride, manganese, pH, sulfate and total dissolved solids.

Based on my inquiry of those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true and accurate.

Will County Generating Station	
Facility Name	Signature of Owner/Operator
Romeoville, IL	Midwest Generation, LLC
Location of Facility	Name of Owner/Operator
ID No. 6283	January 17, 2013
EPA Identification Number	Date

PART II: Release Information

1. Identify the chemical constituents release to the groundwater. Attach additional documents as necessary.

Chemical Description	Chemical Abstract No.
Antimony	7440-36-0
Boron	7440-42-8
Chloride	16887-00-6
pH	Not Applicable
Manganese	7439-96-5
Sulfate	18785-72-3
Total Dissolved Solids	C-010

2. Describe how the site will be investigated to determine the source or sources of the release.

This work has already been performed. As requested by Illinois Environmental Protection Agency (IEPA), Midwest Generation, LLC (Midwest Generation) prepared and submitted on September 3, 2010 a Hydrogeologic Assessment Plan for four ash ponds located at the Will County Generating Station. The purpose of the hydrogeologic assessment was to: (i) evaluate the potential, if any, for migration of ash related constituents from the ash ponds and conduct monitoring for groundwater constituents regulated by Illinois Part 620 groundwater standards; (ii) characterize the subsurface hydrogeology: and (iii) identify potable well use within 2,500 feet of the ash ponds.

Upon IEPA approval of the Hydrogeologic Assessment Plan, a total of ten monitoring wells (MW-1 through MW-10) were installed around the four ash ponds identified as Ash Ponds 1N, 1S, 2S and 3S (see Figure 3 in Attachment 2A). The wells were drilled and constructed in October 2010 after which point quarterly monitoring was initiated in accordance with approved, low-flow sampling procedures. A Hydrogeologic Assessment Report for Will County Generating Station was prepared by Patrick Engineering, Inc. and submitted by Midwest Generation, LLC to IEPA in February 2011. The results of the Hydrogeologic Assessment Report are incorporated into this application submittal by reference.

Since the submittal of the Hydrogeologic Assessment Report in February 2011, quarterly monitoring of the wells has been ongoing. The most recent round of sampling was performed in December 2012. A complete updated data summary table is provided in Attachment 2B. An updated groundwater flow map using the water level measurements from the most recent round of sampling is provided as Figure 4 in Attachment 2A.

3. Describe how groundwater will be monitored to determine the rate and extent of the release.

As part of the hydrogeologic assessment already performed (see discussion for item 2 above), in-situ hydraulic conductivity tests were performed on five of the monitoring wells (MW-1, MW-4, MW-6, MW-7 and MW-9) installed around the ash ponds. Based on the results of the testing, hydraulic conductivity values in the vicinity of the well screens were found to range from 6.38×10^{-5} to 2.07×10^{-4} ft/sec with an average hydraulic conductivity of 4.32×10^{-4} ft/sec. Using the average hydraulic conductivity value, an estimated hydraulic gradient of 0.015 ft/ft based on the most recent groundwater contour map (Figure 4 in Attachment 2A) and an estimated effective porosity of 0.20 yields an estimated groundwater seepage velocity of approximately 2.8 ft/day.

Relative to the extent of impacts, a box-plot map of detections of the constituents identified in Part II - Item 1 above is provided as Figure 5 in Attachment 2A.

4. Has the release been contained on-site at the facility?

Yes. All groundwater monitoring data indicates that the impacts are limited to within the property boundary. Natural groundwater flow is generally to the west with discharge into the adjacent Des Plaines River. There are some instances when there could be flow to the east from the river onto the property at times of higher river stage.

5. Describe the groundwater monitoring network and groundwater and soil sampling protocols in place at the facility.

The IEPA approved groundwater monitoring network at the site consists of ten monitoring wells (MW-1 through MW-10) located around the four existing ash ponds (see Figure 1 in Attachment 2A). Wells MW-1 through MW-6 are generally upgradient monitoring wells. The remaining wells are considered downgradient monitoring points. The well borings were advanced using hollow-stem augers to depths ranging from approximately 18 to 22 feet below ground surface (bgs). The depth of a specific boring was terminated approximately 10 feet below the encountered water table. The wells were subsequently constructed using standard, 2-inch diameter PVC casing with 10-feet of 0.010 slot PVC screens. The wells were completed approximately three feet above grade with locking protective steel casings and bumper posts. The boring logs and well construction summaries are included in the above referenced Hydrogeologic Assessment Report (see discussion for item 2 above). The monitoring wells are sampled on a quarterly basis using low-flow sampling with a peristaltic pump. Field measurements of pH, specific conductivity, temperature, dissolved oxygen (DO) and oxidation-reduction potential (ORP) are recorded. Once collected, the samples are placed on ice and transported under a completed chain-of-custody to TestAmerica, Inc. which is an Illinois

accredited analytical laboratory. The samples are analyzed for the inorganic compounds listed in 35 IAC 620.410(a) and (d), excluding radium 226/228.

There is no soil sampling that is performed as part of the approved site monitoring program.

6. Provide the schedule for investigation and monitoring.

Groundwater sampling of all existing monitoring wells is performed on a quarterly basis. The general sampling schedule is as follows:

Event	Sampling Schedule
1st Quarter	March
2nd Quarter	June
3rd Quarter	September
4th Quarter	December

7. Describe the laboratory quality assurance program utilized for the investigation.

TestAmerica's Quality Assurance Manual (QAM) is a document prepared to define the overall policies, organization objectives and functional responsibilities for achieving the laboratory's data quality goals. The laboratory maintains a local perspective in its scope of services and client relations and maintains a national perspective in terms of quality.

The QAM has been prepared to assure compliance with the NELAC Institute (TNI) Standard, dated 2009, Volume 1 Modules 2 and 4, and ISO/IEC Guide 17025:2005(E). In addition, the policies and procedures outlined in this manual are compliant with TestAmerica's Corporate Quality Management Plan (CQMP) and the various accreditation and certification programs. The CQMP provides a summary of TestAmerica's quality and data integrity system. It contains requirements and general guidelines under which all TestAmerica facilities shall conduct their operations.

The QAM has been prepared to be consistent with the requirements of the following documents:

- EPA 600/4-88/039, *Methods for the Determination of Organic Compounds in Drinking Water,* EPA, Revised July 1991.
- EPA 600/R-95/131, *Methods for the Determination of Organic Compounds in Drinking Water,* Supplement III, EPA, August 1995.
- EPA 600/4-79-019, *Handbook for Analytical Quality Control in Water and Wastewater Laboratories,* EPA, March 1979.

- Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, September 1986, Final Update I, July 1992, Final Update IIA, August 1993, Final Update II, September 1994; Final Update IIB, January 1995; Final Update III, December 1996; Final Update IV, January 2008.
- Federal Register, 40 CFR Parts 136, 141, 172, 173, 178, 179 and 261.
- Statement of Work for Inorganics Analysis, SOM and ISM, current versions, USEPA Contract Laboratory Program Multi-media, Multi-concentration.
- APHA, *Standard Methods for the Examination of Water and Wastewater,* 18th Edition, 19th, 20th, 21st and on-line Editions.
- U.S. Department of Energy Order 414.1C, Quality Assurance, June 17, 2005.
- *U.S. Department of Energy, Quality Systems for Analytical Services*, Revision 3.6, November 2010.
- U.S. Department of Defense, *Quality Systems Manual for Environmental Laboratories*, Final Version 4.2, October 2010.
- U.S. Department of Defense, *Air Force Center for Environmental Excellence Quality Assurance Project Plan (QAPP),* Version 4.0.02, May 2006.
- National Environmental Laboratory Accreditation Conference, Constitution, Bylaws, and Standards, EPA 600/R-04/003, US EPA Office of Research and Development, June 2003
- Toxic Substances Control Act (TSCA).

Copies of TestAmerica's QAM and CQMP can be provided upon request.

8. Provide a summary of the results of available soil testing and groundwater monitoring associated with the release at the facility. The summary or results should provide the following information: dates of sampling; types of samples taken (soil or water); locations and depths of samples; sampling and analytical methods; analytical laboratories used; chemical constituents for which analyses were performed; analytical detection limits; and concentrations of chemical constituents in ppm (levels below detection should be identified as "ND").

The data summary for all groundwater sampling performed to date are provided in Tables 1 and 2 in Attachment 2B.

Based on my inquiry of those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of knowledge and belief, true and

accurate and confirm that the actions identified herein will be undertaken in accordance with the schedule set forth herein.

Will County Generating Station	
Facility Name	Signature of Owner/Operator
Romeoville, IL	Midwest Generation, LLC
Location of Facility	Name of Owner/Operator
ID No. 6283	January 17, 2013
EPA Identification Number	Date

Part III: Remedy Selection Information

1. Describe the selected remedy.

Ash Pond 1S is already lined with high density polyethylene (HDPE) and the remaining three ash ponds have a Poz-o-Pac liner. The agreed upon remedy is specified in Item 5 (a) through (j) of the executed Compliance Commitment Agreement (CCA) which is provided in Attachment 2C. The remedy includes relining of Ash Pond 2S with HDPE, removing Ash Ponds 1S and 1N from service and installing a dewatering system within those ponds to keep liquid levels to within no more than one foot of the bottoms of those units. This Groundwater Management Zone (GMZ) application fulfills requirements set forth under Item 5 (g) of the CCA.

2. Describe other remedies which were considered and why they were rejected.

The primary alternate remedy discussed during negotiations with IEPA was to ensure that the ash ponds will not be used as permanent disposal sites, maintain the ash ponds in a manner that will be protective of the integrity of the existing liners, include visual inspections of the liners during ash removal events, implement repairs or replacement of the liners as necessary, establish a GMZ and to continue with the existing quarterly groundwater monitoring program until the federal ash regulation revisions are established. Upon the finalization of the new federal ash storage regulations, retrofit the impoundments, as necessary, to meet the new technical requirements for ash storage impoundments or re-engineer plant processes to maintain compliance and take the impoundments out of service.

This remedy was rejected by IEPA due to the uncertainty of the timeframe within which the new federal regulations will be issued.

3. Will waste, contaminated soil or contaminated groundwater be removed from the site in the course of this remediation? Yes _X_ No ___ If the answer to this question is "yes", where will the contaminated material be taken?

The ash that will be removed from Ash Pond 2S to facilitate new liner construction will be taken by Lafarge NA for beneficial reuse.

4. Describe how the selected remedy will accomplish the maximum practical restoration of beneficial use of groundwater.

Once Ash Pond 2S is relined with a HDPE liner, the two ponds that will remain in service for active ash accumulation will have been constructed and operated to minimize potential release of ash pond fluids to groundwater. In addition, the fluid accumulation within Ash Ponds 1S and 1N, which will no longer accumulate ash,

will be managed to within one foot of the bottom of each pond to further minimize potential release of ash pond fluids from these units. Any residual groundwater impacts potentially associated with prior ash pond leakage will naturally attenuate through the groundwater system under monitored conditions within the established GMZ with eventual discharge to the adjoining Des Plaines River.

5. Describe how the selected remedy will minimize any threat to public health or the environment.

The existing conditions do not pose a threat to public health since the impacts are limited to within the property boundary, there are no groundwater use receptors and the ponds are located within a fenced property with 24-hour security controlled access. Any potential impacts to the environment will be minimized and managed as discussed under item 4 above.

6. Describe how the selected remedy will result in compliance with the applicable groundwater standards.

Once Ash Pond 2S is relined with an HDPE liner and the fluid level within Ash Ponds 1S and 1N is reduced to within no more than one foot of the pond bottoms, the ash collection system will have been constructed and operated to minimize potential release of ash pond fluids to groundwater (i.e, the ash ponds as a potential source of groundwater impacts will be eliminated). Any residual groundwater impacts potentially associated with prior ash pond leakage will naturally attenuate through the groundwater system under monitored conditions within the established GMZ and/or discharge to the adjoining Des Plaines River immediately west of the ash ponds.

7. Provide a schedule for design, construction and operation of the remedy, including dates for the start and completion.

The construction window for relining of Ash Pond 2S will occur from June 14, 2013 through September 2, 2013. Dredging will occur from June 14, 2013 through July 28, 2013. At this time liner installation is anticipated to occur in August 2013.

The dewatering system for Ash Ponds 1S and 1N is anticipated to be completed between July 14, 2013 and September 2, 2013.

A more detailed schedule is being provided under separate cover with the Application for Construction Permit to implement the remedy.

8. Describe how the remedy will be operated and maintained.

Upon completion of construction activities, Midwest Generation will develop and submit an Operation and Maintenance (O&M) Plan to the IEPA. The O&M Plan

will be based on manufacturer and installer recommendations. It will include procedures for liner and dewatering system inspections, inspection frequency, documentation requirements and what corrective measure procedures are to be implemented, if necessary.

9. Have any of the following permits been issued for the remediation?

   a. Construction or Operating permit from the Division of Water Pollution Control. Yes _X_ No ___

   This permit submittal is currently under review by IEPA.

   b. Land treatment permit from the Division of Water Pollution Control. Yes ___ No _X__ If the answer to this question is "yes", identify the permit number.

   c. Construction or Operating permit from the Division of Air Pollution Control. Yes ___ No _X__ If the answer to this question is "yes", identify the permit number.

10. How will groundwater at the facility be monitored following completion of the remedy to ensure that the groundwater standards have been attained?

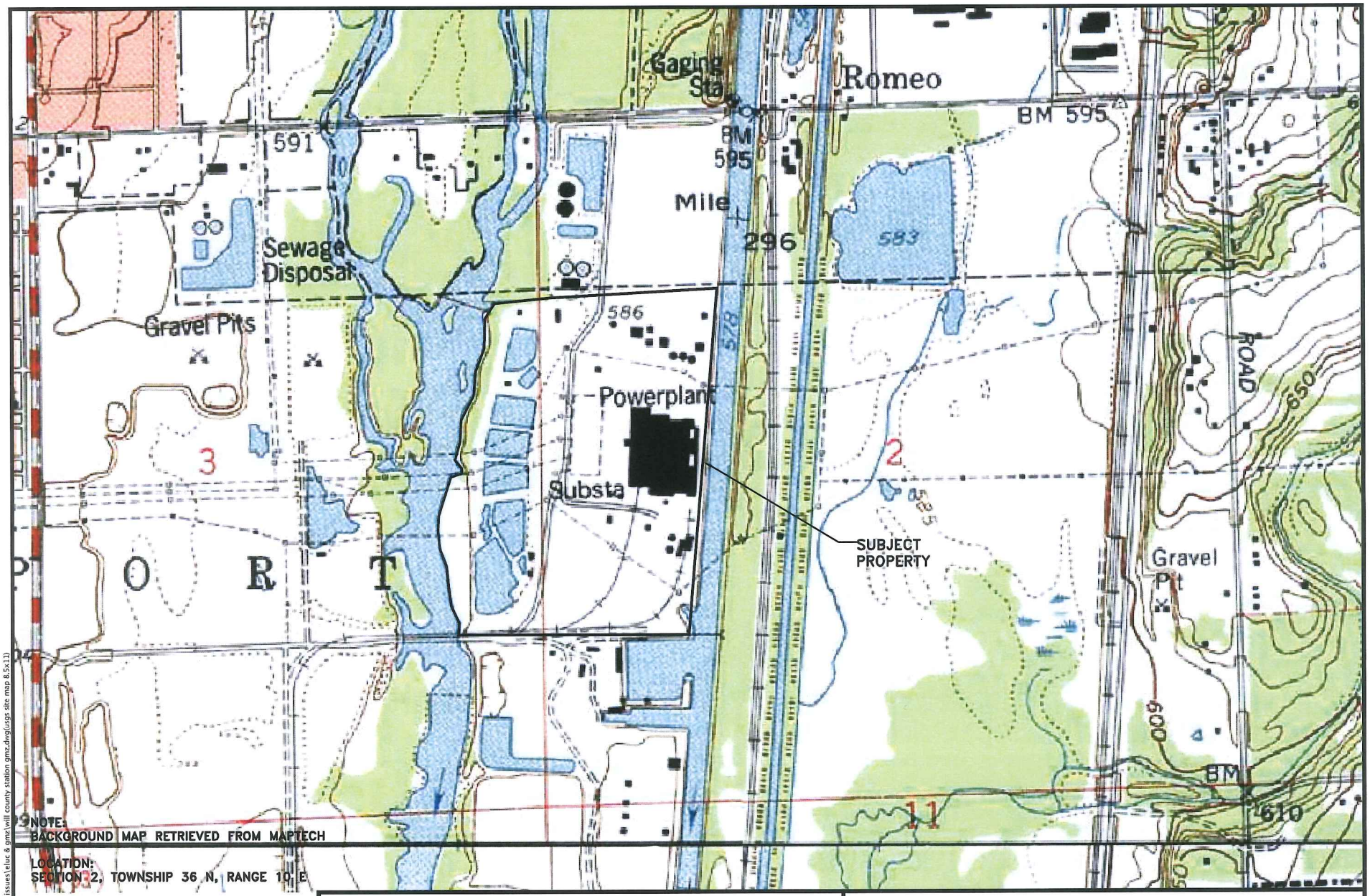
There are currently 10 monitoring wells surrounding Ash Ponds 1S, 2S, 3S and 1N (see Figure 3 in Attachment 2A). As required under Item 5 (d) of the CCA, these wells will continue to be monitored on a quarterly basis for constituents listed in 35 IAC 620.410(a) and (d), with the exception of radium 226/228. The monitoring data will be reported to IEPA within 30 days of the end of each quarter. In addition, an updated groundwater potentiometric surface map will be provided with each quarterly submittal. IEPA, upon written request, may approve a reduction in the frequency and scope of the sampling program in the future. Upon the IEPA's approval, the approved changes in the frequency and scope of the monitoring program shall be implemented.

Based on my inquiry of those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true and accurate and confirm that the actions identified herein will be undertaken in accordance with the schedule set forth herein.

: Will County Generating Station	
Facility Name	Signature of Owner/Operator
Romeoville, IL	Midwest Generation, LLC
Location of Facility	Name of Owner/Operator
ID No. 6283	January 17, 2013
EPA Identification Number	Date

(Source: Amended at 36 Ill. Reg. 15206, effective October 5, 2012)

ATTACHMENT 2A
Figures



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

USGS TOPOGRAPHIC SITE MAP

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 1,000' | Date: January 9, 2013

KPRG Project No. 18311.41 | FIGURE 1

W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\will county station gmz.dwg(usgs site map 8.5x11)

MWG13-15_642



NOTE:
BACKGROUND MAP RETRIEVED FROM GOOGLE MAPS 2012

LOCATION:
SECTION 2, TOWNSHIP 36 N, RANGE 10 E

W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\will co station gmz.dwg\site map)

ENVIRONMENTAL CONSULTATION & REMEDIATION

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GENERATING STATION SITE MAP

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 500' | Date: January 11, 2013

KPRG Project No. 18311.41 | FIGURE 2

MWG13-15_643



NOTE:
BACKGROUND MAP RETRIEVED FROM GOOGLE MAPS 2012

LOCATION:
SECTION 2, TOWNSHIP 36 N, RANGE 10 E

ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G

KPRG and Associates, inc.

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14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

MONITORING WELLS LOCATION SITE MAP

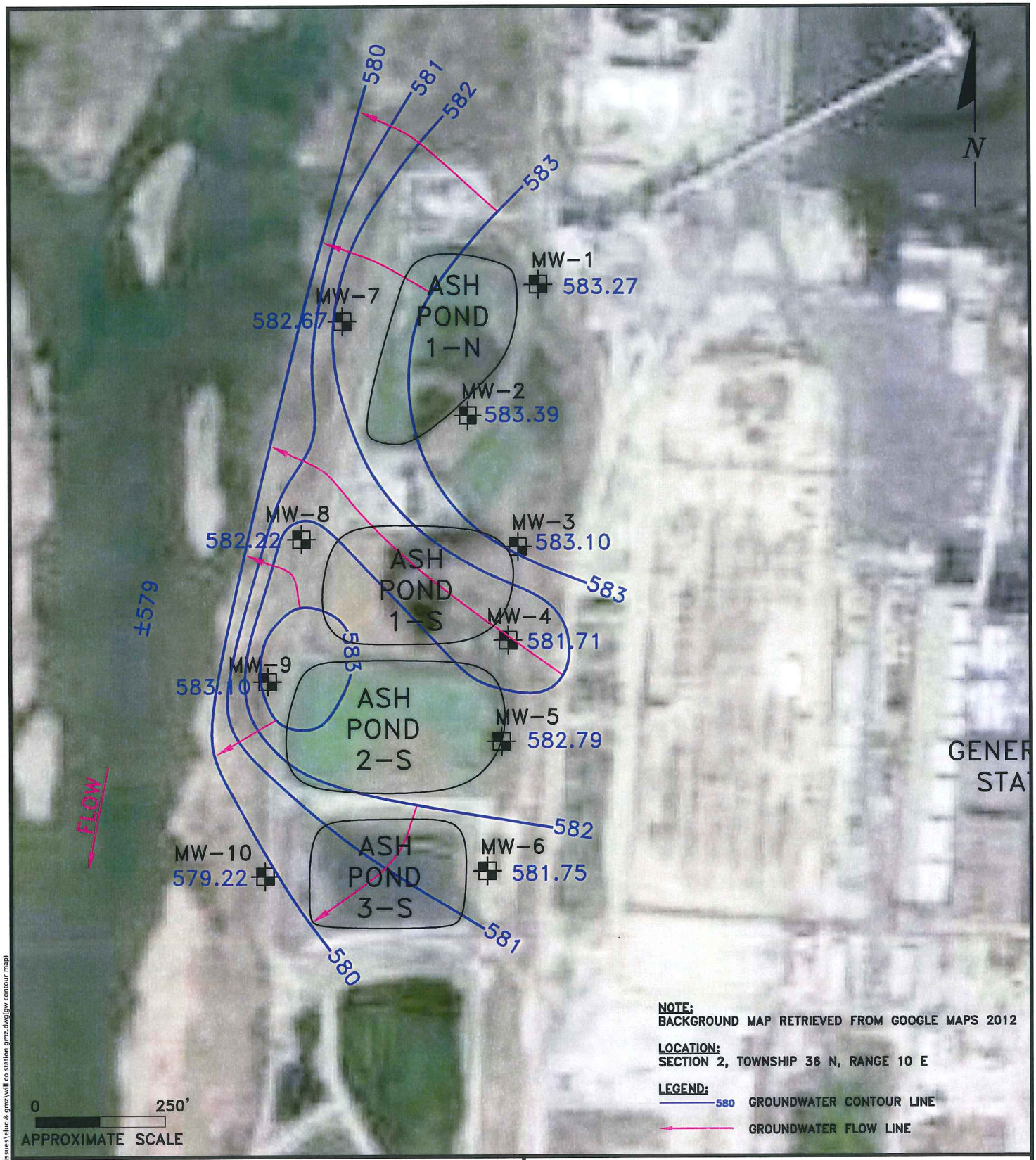
WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 500' | Date: January 9, 2013

KPRG Project No. 18311.41 | FIGURE 3

W:\c-p&p\projects\midwest generation\ash pond issues\elec & gmz\will co station gmz.dwg(site map)

MWG13-15_644



W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gma\will co station gma.dwg[gw contour map]

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

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14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

GROUNDWATER CONTOUR MAP 12/18/12

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 250' | Date: January 9, 2013

KPRG Project No. 18311.41 | FIGURE 4

MWG13-15_645



MW-7	
ANTIMONY	<0.0030
BORON	5.1
CHLORIDE	140
MANGANESE	0.19
SULFATE	480
TDS	1,200
pH	7.75

MW-1	
ANTIMONY	<0.0030
BORON	1.9
CHLORIDE	160
MANGANESE	0.18
SULFATE	290
TDS	880
pH	7.79

MW-8	
ANTIMONY	<0.0030
BORON	2.1
CHLORIDE	150
MANGANESE	0.43
SULFATE	380
TDS	1,200
pH	7.43

MW-2	
ANTIMONY	<0.0030
BORON	1.8
CHLORIDE	130
MANGANESE	0.033
SULFATE	250
TDS	710
pH	8.40

MW-3	
ANTIMONY	<0.0030
BORON	3.4
CHLORIDE	100
MANGANESE	0.25
SULFATE	480
TDS	1,100
pH	7.21

MW-9	
ANTIMONY	<0.0030
BORON	1.7
CHLORIDE	130
MANGANESE	<0.0025
SULFATE	310
TDS	780
pH	10.42

MW-10	
ANTIMONY	<0.0030
BORON	2.7
CHLORIDE	140
MANGANESE	0.29
SULFATE	270
TDS	1,100
pH	7.47

MW-4	
ANTIMONY	<0.0030
BORON	5.2
CHLORIDE	170
MANGANESE	0.62
SULFATE	2,200
TDS	4,000
pH	7.34

MW-5	
ANTIMONY	<0.0030
BORON	2.5
CHLORIDE	150
MANGANESE	0.023
SULFATE	280
TDS	820
pH	9.37

MW-6	
ANTIMONY	<0.0030
BORON	3.0
CHLORIDE	110
MANGANESE	0.034
SULFATE	360
TDS	820
pH	9.18

GROUNDWATER RESULTS NOTES:

ALL VALUES ARE MILLIGRAMS PER LITER (mg/L)
TDS = TOTAL DISSOLVED SOLIDS
BOLD = BOLD VALUES EXCEED 35 IAC PART 620

ENVIRONMENTAL CONSULTATION & REMEDIATION

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14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

AREAL DISTRIBUTION OF GROUNDWATER IMPACTS

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 500' | Date: January 17, 2013

KPRG Project No. 18311.41 | FIGURE 5

W:\c-p&p\projects\midwest generation\ash pond issues\eluc & qmz\will co station qmz.dwg(box plot map)

MWG13-15_646

ATTACHMENT 2B
Summary Data Table

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-01	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND^	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	0.0063	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	6020	0.0025	0.050	0.0025	0.041	0.0025	0.046	0.0025	0.038	0.0025	0.033	0.0025	0.033	0.0025	0.039	0.0025	0.035	0.0025	0.034
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.25	1.8	0.050	1.6	0.050	1.8	0.050	1.7	0.050	1.6	0.25	1.5	0.50	2.1	0.25	1.9	0.50	1.9
Cadmium	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	9251	10	110	10	210	10	110	10	120	10	140	10	190	10	170	10	120	10	160
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	0.0011	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.71	0.10	0.65	0.10	0.53	0.10	0.77	0.10	0.73	0.10	0.69	0.10	0.77	0.10	0.86	0.10	0.86 ^
Iron	6020	0.10	ND	0.10	ND	0.50	ND	0.10	0.11	0.10	0.11	0.10	ND	0.10	0.23	0.10	0.33	0.10	0.20
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	6020	0.0025	0.20	0.0025	0.15	0.013	0.22	0.0025	0.16	0.0025	0.17	0.0025	0.16	0.0025	0.16	0.0025	0.15	0.0025	0.18
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	0.0046	0.0020	0.0038	0.010	ND	0.0020	0.0029	0.0020	0.0040	0.0020	0.0042	0.0020	0.0041	0.0020	0.0043	0.0020	0.0052
Nitrogen/Nitrate	Nitrogen Calc	0.10	ND	0.10	1.1	0.10	0.73	0.10	0.33	0.10	1.4	0.10	2.2	0.10	0.61	0.10	0.25	0.10	1.5
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	ND	0.10	1.1	0.10	0.73	0.10	0.37	0.10	1.4	0.20	2.2	0.10	0.61	0.10	0.25	0.10	1.5
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	ND	0.020	ND	0.020	0.042	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	Obtained in field	NA	7.89	NA	8.05	NA	7.28	NA	7.57	NA	7.16	NA	7.84	NA	7.55	NA	7.70	NA	7.79
Selenium	6020	0.0025	ND	0.0025	ND	0.013	ND	0.0025	0.0053	0.0025	0.0025	0.0025	0.0033	0.0025	0.0040	0.0025	ND	0.0025	ND
Silver	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	100	530	100	390	100	280	50	320	100	270	100	430	100	390	100	390	100	290
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	1100	10	1100	10	1100	10	760	10	770	10	910	10	950	10	790	10	880
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	0.040	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 9.0 to 19.0 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

MWG13-15_648

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-02	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	0.0073	0.0030	0.017	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	0.0052	0.0010	0.0032	0.0050	ND	0.0010	0.0080	0.0010	0.0058	0.0010	0.0048	0.0010	0.0044	0.0010	0.0071	0.0010	0.0046
Barium	6020	0.0025	0.061	0.0025	0.068	0.013	0.068	0.0025	0.048	0.0025	0.048	0.0025	0.058	0.0025	0.062	0.0025	0.050	0.0025	0.051
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.25	1.8	0.25	1.7	0.050	2.3	0.050	2.3	0.050	1.7	0.25	1.7	0.50	2.0	0.25	2.2	0.50	1.8
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	9251	10	110	10	250	10	180	10	110	10	120	10	140	10	150	10	110	10	130
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.62	0.10	0.50	0.10	0.42	0.10	0.59	0.10	0.59	0.10	0.46	0.10	0.55	0.10	0.71	0.10	0.60 ^
Iron	6020	0.10	ND	0.10	ND	0.50	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	6020	0.0025	0.032	0.0025	0.032	0.013	0.043	0.0025	0.036	0.0025	0.031	0.0025	0.031	0.0025	0.038	0.0025	0.029	0.0025	0.033
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	Nitrogen Calc	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	Obtained in field	NA	8.62	NA	8.62	NA	8.00	NA	8.11	NA	7.80	NA	8.34	NA	8.23	NA	8.33	NA	8.40
Selenium	6020	0.0025	ND	0.0025	ND	0.013	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	100	430	100	280	50	400	50	330	50	220	50	330	100	340	50	280	50	250
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	870	10	970	10	900	10	720	10	650	10	810	10	850	10	690	10	710
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 12.0 to 22.0 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

MWG13-15_649

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-03	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	0.0020	0.0010	0.0024	0.0050	ND	0.0010	0.0025	0.0010	0.0018	0.0010	0.0017	0.0010	0.0020	0.0010	0.0026	0.0010	0.0019
Barium	6020	0.0025	0.084	0.0025	0.086	0.013	0.071	0.0025	0.079	0.0025	0.083	0.0025	0.075	0.0025	0.12	0.0025	0.085	0.0025	0.079
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.25	2.7	0.25	2.4	0.050	2.6	0.050	3.3	0.050	2.8	0.25	2.7	0.50	3.1	0.25	3.9	0.50	3.4
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	9251	2.0	54	10	250	10	100	10	130	10	100	10	95	10	88	10	96	10	100
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	ND	0.0010	0.0022	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.50	0.10	0.37	0.10	0.36	0.10	0.45	0.10	0.39	0.10	0.38	0.10	0.36	0.10	0.45	0.10	0.44 ^
Iron	6020	0.10	0.37	0.10	0.57	0.50	ND	0.10	0.26	0.10	0.19	0.10	0.20	0.10	0.34	0.10	0.21	0.10	0.20
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	6020	0.0025	0.34	0.0025	0.31	0.013	0.34	0.0025	0.26	0.0025	0.29	0.0025	0.27	0.0025	0.37	0.0025	0.24	0.0025	0.25
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	0.0054	0.0020	0.0037	0.010	ND	0.0020	0.0061	0.0020	0.0053	0.0020	0.0052	0.0020	0.0051	0.0020	0.0069	0.0020	0.0079
Nitrogen/Nitrate	Nitrogen Calc	0.10	ND	0.10	ND	0.10	0.81	0.10	ND	0.10	0.54	0.10	ND	0.10	0.18	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	ND	0.10	ND	0.10	0.81	0.10	ND	0.10	0.54	0.10	ND	0.10	0.18	0.10	ND^	0.10	ND
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	Obtained in field	NA	7.21	NA	7.72	NA	7.01	NA	7.18	NA	6.55	NA	7.24	NA	6.79	NA	7.12	NA	7.21
Selenium	6020	0.0025	ND	0.0025	ND	0.013	ND	0.0025	0.0033	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0040	0.0025	ND
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	100	330	50	270	50	240	100	250	100	280	100	320	100	500	100	440	100	480
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	940	10	1000	10	990	10	1000	10	930	10	1000	10	1400	10	1100	10	1100
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 7.0 to 17.0 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

MWG13-15_650

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-04	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	0.0027	0.0010	0.0016	0.0050	ND	0.0010	0.0041	0.0010	0.0016	0.0010	0.0015	0.0010	0.0028	0.0010	0.0044	0.0020	0.0033
Barium	6020	0.0025	0.068	0.0025	0.062	0.013	0.050	0.0025	0.050	0.0025	0.043	0.0025	0.036	0.0025	0.041	0.0025	0.041	0.0050	0.037
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0020	ND
Boron	6020	0.25	3.7	0.25	3.3	0.050	3.6	0.050	4.3	0.050	3.0	0.25	4.0	0.50	5.3	0.25	6.2	0.10	5.2
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0010	ND
Chloride	9251	10	120	10	190	10	120	10	170	10	150	10	150	10	140	10	170	10	170
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.010	ND
Cobalt	6020	0.0010	0.0011	0.0010	ND	0.0050	ND	0.0010	0.0012	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0020	ND
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0040	ND
Cyanide	9014	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.52	0.10	0.49	0.10	0.48	0.10	0.53	0.10	0.55	0.10	0.50	0.10	0.62	0.10	0.68	0.10	0.63 ^
Iron	6020	0.10	0.83	0.10	0.78	0.50	0.70	0.10	1.2	0.10	0.64	0.10	0.53	0.10	0.95	0.10	0.83	0.20	1.2
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0010	ND
Manganese	6020	0.0025	0.52	0.0025	0.58	0.013	0.70	0.0025	1.0	0.0025	0.62	0.0025	0.60	0.0025	0.70	0.0025	0.99	0.0050	0.62
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	0.0048	0.0020	0.0041	0.010	ND	0.0020	0.0051	0.0020	0.0047	0.0020	0.0048	0.0020	0.0047	0.0020	0.0046	0.0040	0.0050
Nitrogen/Nitrate	Nitrogen Calc	0.10	ND	0.10	ND	0.10	0.19	0.10	ND	0.10	0.37	0.10	0.45	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	ND	0.10	ND	0.10	0.19	0.10	ND	0.10	0.37	0.10	0.45	0.10	ND	0.10	ND^	0.10	ND
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	Obtained in field	NA	7.37	NA	7.66	NA	7.23	NA	7.21	NA	6.58	NA	7.27	NA	7.10	NA	7.29	NA	7.34
Selenium	6020	0.0025	ND	0.0025	0.0033	0.013	ND	0.0025	ND	0.0025	0.0086	0.0025	0.0067	0.0025	ND	0.0025	0.0026	0.0050	ND
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0010	ND
Sulfate	9038	250	1500	500	1500	250	1600	1000	4800	500	1600	500	2000	500	2800	500	3200	500	2200
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	2500	10	2600	10	2800	25	6000	13	3100	13	3700	25	4300	17	4400	17	4000
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.040	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 9.5 to 19.5 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

MWG13-15_651

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-05	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	0.0066	0.0010	0.0048	0.0050	ND	0.0010	0.0025	0.0010	0.0065	0.0010	0.0065	0.0010	0.0073	0.0010	0.0023	0.0010	0.0058
Barium	6020	0.0025	0.051	0.0025	0.060	0.013	0.067	0.0025	0.070	0.0025	0.061	0.0025	0.053	0.0025	0.040	0.0025	0.073	0.0025	0.045
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.25	2.6	0.25	2.7	0.050	3.2	0.050	4.0	0.050	3.2	0.25	2.9	0.50	2.3	0.25	3.8	0.50	2.5
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	9251	10	110	10	150	10	140	10	150	10	130	10	170	10	150	10	160	10	150
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.41	0.10	0.40	0.10	0.46	0.10	0.49	0.10	0.38	0.10	0.42	0.10	0.59	0.10	0.44	0.10	0.47 ^
Iron	6020	0.10	ND	0.10	ND	0.50	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	6020	0.0025	0.0079	0.0025	0.0067	0.013	0.055	0.0025	0.13	0.0025	0.038	0.0025	0.032	0.0025	0.014	0.0025	0.073	0.0025	0.023
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	0.0021	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0025	0.0020	0.0020
Nitrogen/Nitrate	Nitrogen Calc	0.10	0.27	0.10	1.6	0.10	1.1	0.10	0.11	0.10	1.0	0.10	0.11	0.10	0.24	0.10	0.11	0.10	ND
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	0.27	0.10	1.9	0.10	0.97	0.10	0.11	0.10	1.2	0.10	0.25	0.10	0.27	0.10	0.11	0.10	1.2
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.10	0.31	0.020	0.13	0.020	ND	0.020	0.17	0.020	0.14	0.020	0.031	0.020	ND	0.20	1.2
pH	Obtained in field	NA	9.58	NA	9.51	NA	7.44	NA	7.38	NA	8.20	NA	9.30	NA	9.41	NA	7.54	NA	9.37
Selenium	6020	0.0025	0.017	0.0025	0.014	0.013	0.016	0.0025	0.0080	0.0025	0.010	0.0025	0.0059	0.0025	ND	0.0025	0.017	0.0025	0.0079
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	100	580	100	570	100	540	130	690	100	500	100	370	100	410	100	540	100	280
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	1000	10	1300	10	1400	10	1500	10	1000	10	1000	10	750	10	1100	10	820
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 9.0 to 19.0 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

MWG13-15_652

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-06	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	0.0018	0.0010	0.0018	0.0050	ND	0.0010	0.0031	0.0010	0.0022	0.0010	0.0022	0.0010	0.0021	0.0010	0.0026	0.0010	0.0020
Barium	6020	0.0025	0.050	0.0025	0.040	0.013	0.045	0.0025	0.041	0.0025	0.053	0.0025	0.044	0.0025	0.046	0.0025	0.054	0.0025	0.051
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.25	2.7	0.25	2.5	0.050	2.4	0.050	3.0	0.050	2.5	0.25	2.5	0.50	2.9	0.25	3.0	0.50	3.0
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	9251	10	120	10	210	10	150	10	120	10	120	10	110	10	92	10	110	10	110
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.85	0.10	0.88	0.10	0.79	0.10	0.97	0.10	0.77	0.10	0.68	0.10	0.81	0.10	ND	0.10	0.71 ^
Iron	6020	0.10	ND	0.10	ND	0.50	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	6020	0.0025	0.073	0.0025	0.051	0.013	0.047	0.0025	0.024	0.0025	0.038	0.0025	0.029	0.0025	0.033	0.0025	0.038	0.0025	0.034
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0022
Nitrogen/Nitrate	Nitrogen Calc	0.10	ND	0.10	ND	0.10	0.26	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	ND	0.10	ND	0.10	0.10	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND^	0.10	ND ^
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	0.048	0.020	0.16	0.020	ND	0.020	ND	0.020	ND	0.020	0.052	0.020	0.026	0.020	ND
pH	Obtained in field	NA	8.89	NA	9.65	NA	9.27	NA	9.44	NA	8.82	NA	9.39	NA	9.07	NA	9.17	NA	9.18
Selenium	6020	0.0025	0.0062	0.0025	0.0028	0.013	ND	0.0025	0.011	0.0025	ND	0.0025	ND	0.0025	0.0034	0.0025	0.014	0.0025	0.0057
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	100	500	100	540	100	570	100	420	100	440	100	380	100	450	100	550	100	360
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	990	10	1100	10	1200	10	870	10	880	10	900	10	770	10	890	10	820
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 8.0 to 18.0 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

MWG13-15_653

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-07	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	0.0040	0.0010	0.0037	0.0050	ND	0.0010	0.0042	0.0010	0.0042	0.0010	0.0041	0.0010	0.0039	0.0010	0.0049	0.0010	0.0034
Barium	6020	0.0025	0.045	0.0025	0.067	0.013	0.076	0.0025	0.082	0.0025	0.082	0.0025	0.069	0.0025	0.057	0.0025	0.086	0.0025	0.044
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.25	4.7	1.0	5.0	1.0	5.7	0.25	3.4	0.050	5.0	0.25	5.1	0.50	5.6	0.25	5.5	0.50	5.1
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	9251	10	160	10	140	10	140	10	160	10	150	10	130	10	120	10	150	10	140
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND	0.010	0.016	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.017
Fluoride	SM 4500 F C	0.10	0.96	0.10	0.77	0.10	0.71	0.10	0.82	0.10	0.86	0.10	0.76	0.10	0.83	0.10	ND	0.10	0.89 ^
Iron	6020	0.10	0.23	0.10	0.18	0.50	ND	0.10	0.37	0.10	0.50	0.10	0.57	0.10	0.60	0.10	0.51	0.10	0.62
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	6020	0.0025	0.12	0.0025	0.11	0.013	0.15	0.0025	0.18	0.0025	0.20	0.0025	0.20	0.0025	0.19	0.0025	0.19	0.0025	0.19
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	0.0029	0.0020	0.0023	0.010	ND	0.0020	0.0024	0.0020	0.0021	0.0020	ND	0.0020	0.0020	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	Nitrogen Calc	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND^	0.10	ND ^
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	0.077	0.020	0.035	0.020	0.050	0.020	0.043	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	Obtained in field	NA	8.61	NA	8.79	NA	8.13	NA	7.91	NA	7.69	NA	8.16	NA	7.92	NA	8.02	NA	7.75
Selenium	6020	0.0025	ND	0.0025	ND	0.013	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	100	610	250	650	200	1000	100	710	130	710	100	770	100	670	100	600	100	480
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	1300	10	1500	10	1600	10	1400	10	1300	10	1400	10	1300	10	1200	10	1200
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 7.5 to 17.5 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

MWG13-15_654

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-08	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	0.0067	0.0010	0.0059	0.0050	0.0082	0.0010	0.014	0.0010	0.012	0.0010	0.0066	0.0010	0.013	0.0010	0.018	0.0010	0.0088
Barium	6020	0.0025	0.069	0.0025	0.089	0.013	0.085	0.0025	0.099	0.0025	0.078	0.0025	0.066	0.0025	0.074	0.0025	0.090	0.0025	0.079
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.25	1.7	0.25	1.3	0.050	1.7	0.050	2.3	0.050	1.9	0.25	1.5	0.50	2.0	0.25	2.6	0.50	2.1
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	9251	10	93	10	270	10	200	10	160	10	130	10	160	10	160	10	150	10	150
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.010	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0020	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.61	0.10	0.55	0.10	0.57	0.10	0.64	0.10	0.61	0.10	0.52	0.10	0.60	0.10	0.65	0.10	0.58 ^
Iron	6020	0.10	0.48	0.10	0.38	0.50	0.76	0.10	0.46	0.10	0.68	0.20	ND	0.10	0.58	0.10	0.66	0.10	0.50
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	6020	0.0025	0.33	0.0025	0.44	0.013	0.47	0.0025	0.45	0.0025	0.40	0.0050	ND	0.0025	0.36	0.0025	0.41	0.0025	0.43
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	0.0034	0.0020	0.0020	0.0040	ND	0.0020	0.0022	0.0020	0.0035	0.0020	0.0033
Nitrogen/Nitrate	Nitrogen Calc	0.10	ND	0.10	0.22	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.23
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	ND	0.10	0.22	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND^	0.10	0.23
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	Obtained in field	NA	7.65	NA	8.17	NA	7.47	NA	7.30	NA	6.99	NA	7.61	NA	7.36	NA	7.31	NA	7.43
Selenium	6020	0.0025	ND	0.0025	ND	0.013	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	100	440	100	440	100	420	100	600	100	330	50	330	100	370	100	630	100	380
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	930	10	1200	10	1100	10	1300	10	980	10	910	10	1000	10	1200	10	1200
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 9.0 to 19.0 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

MWG13-15_655

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-09	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	0.0059	0.0010	0.0049	0.0050	0.0052	0.0010	0.0065	0.0010	0.0078	0.0010	0.0053	0.0010	0.0056	0.0010	0.0068	0.0010	0.0060
Barium	6020	0.0025	0.025	0.0025	0.031	0.013	0.025	0.0025	0.023	0.0025	0.017	0.0025	0.023	0.0025	0.022	0.0025	0.026	0.0025	0.020
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.25	2.2	0.25	1.4	0.050	1.7	0.050	2.0	0.050	1.9	0.25	1.4	1.0	1.8	0.25	2.0	0.50	1.7
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	9251	10	100	10	280	10	230	10	190	10	140	10	200	10	160	10	160	10	130
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.018	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.33	0.10	0.36	0.10	0.28	0.10	0.28	0.10	0.38	0.10	0.39	0.10	0.32	0.10	0.41	0.10	0.42 ^
Iron	6020	0.10	ND	0.10	ND	0.50	ND	0.10	ND	0.10	ND^	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	6020	0.0025	ND	0.0025	ND	0.013	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0036	0.0025	ND
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0022	0.0020	0.0023
Nitrogen/Nitrate	Nitrogen Calc	0.10	ND	0.20	2.4	0.10	1.1	0.10	ND	0.10	1.9	0.10	3.2	0.10	ND	0.10	ND	0.10	4.1
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	ND	0.10	3.6	0.10	0.94	0.10	0.18	0.10	2.0	0.50	3.3	0.10	ND	0.10	ND^	0.10	4.6
Nitrogen/Nitrite	SM 4500 NO2 B	0.10	0.44	0.20	1.2	0.020	0.16	0.040	0.22	0.020	0.15	0.020	0.12	0.020	0.027	0.020	0.023	0.10	0.55
pH	Obtained in field	NA	10.88	NA	10.87	NA	10.44	NA	10.27	NA	9.55	NA	10.56	NA	10.31	NA	10.23	NA	10.42
Selenium	6020	0.0025	0.0036	0.0025	0.0042	0.013	ND	0.0025	0.0045	0.0025	0.0031	0.0025	ND	0.0025	0.0026	0.0025	0.0031	0.0025	0.0039
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	100	410	100	320	100	410	50	400	50	270	50	340	100	340	100	380	50	310
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	800	10	1000	10	940	10	850	10	660	10	820	10	880	10	800	10	780
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 9.0 to 19.0 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

MWG13-15_656

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-10	Date	12/13/2010		3/28/2011		6/15/2011		9/15/2011		12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND^	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	0.0041	0.0010	0.0046	0.0050	ND	0.0010	0.0088	0.0010	0.0083	0.0010	0.0056	0.0010	0.0058	0.0010	0.0098	0.0010	0.0085
Barium	6020	0.0025	0.098	0.0025	0.091	0.013	0.091	0.0025	0.11	0.0025	0.11	0.0025	0.10	0.0025	0.10	0.0025	0.097	0.0025	0.11
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.25	2.1	0.25	1.8	0.050	2.2	0.050	2.8	0.050	2.5	0.25	2.1	0.50	2.1	0.25	3.2	0.50	2.7
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	9251	10	92	10	130	10	150	10	120	10	120	10	100	10	120	10	140	10	140
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND	0.010	0.010	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.66	0.10	0.64	0.10	0.65	0.10	0.67	0.10	0.59	0.10	0.52	0.10	0.58	0.10	0.72	0.10	0.59 ^
Iron	6020	0.10	0.32	0.10	0.46	0.50	0.63	0.10	0.60	0.10	0.71	0.10	0.61	0.10	0.58	0.10	0.77	0.10	0.91
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00050
Manganese	6020	0.0025	0.25	0.0025	0.22	0.013	0.25	0.0025	0.27	0.0025	0.29	0.0025	0.25	0.0025	0.26	0.0025	0.23	0.0025	0.29
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0022	0.0020	0.0023
Nitrogen/Nitrate	Nitrogen Calc	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	ND^	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND^	0.10	ND ^
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	Obtained in field	NA	7.61	NA	8.14	NA	7.53	NA	7.45	NA	7.10	NA	7.59	NA	7.39	NA	7.60	NA	7.47
Selenium	6020	0.0025	ND	0.0025	ND	0.013	ND	0.0025	0.0032	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	100	370	100	370	100	350	100	420	100	290	50	330	100	350	100	380	100	270
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	990	10	960	10	990	10	1000	10	1100	10	990	10	1000	10	970	10	1100
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 10.0 to 20.0 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

MWG13-15_657

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

12/18/2012	Sample	MW-01		MW-02		MW-03		MW-04		MW-05		MW-06		MW-07		MW-08		MW-09		MW-10	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Benzene	8260B	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Ethylbenzene	8260B	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Toluene	8260B	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Xylenes, Total	8260B	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND
Perchlorate	314.0	0.004	ND	0.004	ND	0.004	ND	0.02	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND
Vanadium, Dissolved	6020	0.0050	ND	0.0050	ND	0.0050	ND	0.010	ND	0.0050	0.034	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.031	0.0050	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Sample collected using low-flow technique.
Please see Table 1 for sample depths.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect

MWG13-15_658

ATTACHMENT 2C
Compliance Commitment Agreement

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

217-785-0561

October 4, 2012

CERTIFIED MAIL # 7010 2780 0002 1163 4864
RETURN RECEIPT REQUESTED

John Kennedy
Senior Vice President, Generation
235 Remington, Suite A
Bolingbrook, IL 60440

Re: Proposed Compliance Commitment Agreement
Violation Notice: W-2012-00058
Midwest Generation, LLC, Will County Generating Station; ID Number: 6283

Dear Mr. Kennedy:

The Illinois Environmental Protection Agency ("Illinois EPA") has reviewed the proposed Compliance Commitment Agreement ("CCA") terms submitted by Midwest Generation, LLC, Will County Generating Station in a letter dated September 4, 2012 and a supplemental e-mail received September 27, 2012, in response to the Violation Notice dated June 11, 2012. Pursuant to the authority vested in the Illinois EPA under Section 31(a)(7)(i) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(7)(i), attached to this letter is a proposed CCA, which contains terms and conditions that the Illinois EPA has determined are necessary in order for you to attain compliance with the Act and Illinois Pollution Control Board Regulations.

Pursuant to Section 31(a)(7.5) of the Act, 415, ILCS 5/31(a)(7.5), **within 30 days of your receipt of this proposed CCA**, Midwest Generation, LLC, Will County Generating Station or its duly authorized representative must either (1) agree to and sign the proposed CCA, and submit the signed and dated CCA by certified mail to Illinois EPA Bureau of Water, Andrea Rhodes, MC #19, 1021 North Grand Ave East, Springfield, IL 62702; or (2) notify the Illinois EPA by certified mail that you reject the proposed CCA.

The proposed CCA shall only become effective upon your timely submittal of the signed CCA as discussed above, and upon final execution by the Illinois EPA. Failure by you to execute and submit the proposed CCA within 30 days of receipt shall be deemed a rejection of the CCA by operation of law. Upon timely receipt of the signed CCA, the Illinois EPA will send you a fully executed copy of the CCA for your records.

In addition, the proposed CCA is not subject to amendment or modification prior to execution by you and the Illinois EPA. Any amendment or modification to the proposed CCA by Respondent prior to execution by you and the Illinois EPA shall be deemed a rejection of the proposed CCA by operation of law. The proposed CCA may only be amended subsequent to its effective date, in writing, and by mutual agreement between the Illinois EPA and you.

RECEIVED
OCT 09 2012

4302 N. Main St., Rockford, IL 61103 (815)987-7760
595 S. State, Elgin, IL 60123 (847)608-3131
2125 S. First St., Champaign, IL 61820 (217)278-5800
2009 Mall St., Collinsville, IL 62234 (618)346-5120
9511 Harrison St., Des Plaines, IL 60016 (847)294-4000
5407 N. University St., Arbor 113, Peoria, IL 61614 (309)693-5462
2309 W. Main St., Suite 116, Marion, IL 62959 (618)993-7200
100 W. Randolph, Suite 10-300, Chicago, IL 60601 (312)814-6026

Questions regarding this matter should be directed to Illinois EPA, Bureau of Water, Andrea Rhodes at 217/785-0561. Written communications should be directed to Illinois EPA – DPWS, Attn: Andrea Rhodes, MC #19, 1021 North Grand Ave East, Springfield, IL 62702.

Sincerely,

Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

Attachments

cc: Basil G. Constantelos
Maria Race
Susan M. Franzetti

BOW ID: W1978100011 CASE ID: 2012-006

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF:	)	
	)	
MIDWEST GENERATION, LLC,	)	
WILL COUNTY GENERATING STATION)		
ROMEOVILLE, WILL COUNTY, IL	)	
ID NUMBER: 6283	)	
	)	
	)	ILLINOIS EPA VN W-2012-00058
	)	BUREAU OF WATER
	)	

COMPLIANCE COMMITMENT AGREEMENT

I. Jurisdiction

1. This Compliance Commitment Agreement ("CCA") is entered into voluntarily by the Illinois Environmental Protection Agency ("Illinois EPA") and Midwest Generation, LLC, Will County Generating Station ("Respondent") (collectively, the "Parties") under the authority vested in the Illinois EPA pursuant to Section 31(a)(7)(i) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(7)(i).

II. Allegation of Violations

2. Respondent owns and operates Will County Generating Station in Romeoville, Will County, Illinois ("Will County Station").

3. Pursuant to Violation Notice ("VN") W-2012-00058 issued on June 11, 2012, the Illinois EPA contends that Respondent has violated the following provisions of the Act and Illinois Pollution Control Board ("Board") Regulations:

   a) Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, and MW-10.
   Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

III. Compliance Activities

4. On September 4, 2012, and September 27, 2012, the Illinois EPA received Respondent's response and supplemental e-mail response to VN W-2012-00058, which included proposed terms for a CCA. The Illinois EPA has reviewed Respondent's proposed CCA terms, as well as considered whether any additional terms and conditions are necessary to attain compliance with the alleged violations cited in the VN.

5. Respondent agrees to undertake and complete the following actions, which the Illinois EPA has determined are necessary to attain compliance with the allegations contained in VN W-2012-00058:

   a) The ash ponds at Will County Station shall not be used as permanent disposal sites and shall continue to function as treatment ponds to precipitate ash. Ash shall continue to be removed from the ponds on a periodic basis.

   b) The ash treatment ponds shall be maintained and operated in a manner which protects the integrity of the existing liners. During the removal of ash from the ponds, appropriate procedures shall be followed to protect the integrity of the existing liners, including operating the ash removal equipment in a manner which minimizes the risk of any damage to the liner.

   c) During the ash removal process, visual inspections of the ponds shall be conducted to identify any signs of a breach in the integrity of the pond liners. In the event that a breach of the pond liners is detected, Midwest Generation shall promptly notify the Illinois EPA and shall implement a corrective action plan for repair or replacement as necessary, of the liner. Upon the Illinois EPA's approval, and the issuance of any necessary construction permit, Midwest Generation will implement the corrective action plan.

   d) Midwest Generation shall continue quarterly monitoring of the existing ten groundwater monitoring wells for constituents in 35 Ill. Adm. Code 620.410(a) and (d), with the exception of radium 226 and 228, and report its findings to the Illinois EPA within 30 days of the end of each quarter. In addition, Midwest Generation shall record and report groundwater elevation and submit a potentiometric surface map with the above quarterly groundwater monitoring report.

   e) Ponds 1 North (1N) and 1 South (1S) shall be removed from service at Will County Station. All process water shall be diverted from ponds 1N and 1S to existing ponds 2 South (2S) and 3 South (3S). A dewatering system shall be developed and implemented which will not allow water to exceed a depth of one foot above the bottom of Ponds 1N and 1S.

   f) Within 90 days of the effective date of the CCA, Midwest Generation shall submit an application for a construction permit to re-line pond 2S at Will County Station with a 60 mil thickness high density polyethylene ("HDPE") liner or an Illinois EPA approved equivalent material.

g) Midwest Generation shall submit an application to establish a Groundwater Management Zone (GMZ) pursuant to 35 Ill. Adm. Code Part 620.250 within 90 days of the effective date of the CCA.

h) Midwest Generation shall enter into an Environmental Land Use Control (ELUC) to cover the area of the Will County Station property which is contained within the GMZ, except for that portion of the GMZ area which is owned by ComEd. Midwest Generation shall submit a proposed draft ELUC to the Illinois EPA for review and comment within 90 days of the effective date of the CCA.

i) Midwest Generation shall establish a GMZ pursuant to 35 Ill. Adm. Code Part 620.250 and submit a final proposed ELUC, incorporating the completed delineation of the GMZ boundaries, within one year of the effective date of the CCA.

j) Once ponds 1N and 1S have been taken out of service, a dewatering system has been implemented, pond 2S has been relined with a HDPE liner, and a GMZ and ELUC have been established, Midwest Generation shall submit a certification (or a statement) of compliance. Midwest Generation may submit either the attached "Illinois EPA Compliance Statement" or another similar writing to satisfy the statement of compliance within one year of the effective date of the CCA.

IV. Terms and Conditions

6. Respondent shall comply with all provisions of this CCA, including, but not limited to, any appendices to this CCA and all documents incorporated by reference into this CCA. Pursuant to Section 31(a)(10) of the Act, 415 ILCS 5/31(a)(10), if Respondent complies with the terms of this CCA, the Illinois EPA shall not refer the alleged violations that are the subject of this CCA, as described in Section II above, to the Office of the Illinois Attorney General or the State's Attorney of the county in which the alleged violations occurred. Successful completion of this CCA or an amended CCA shall be a factor to be weighed, in favor of the Respondent, by the Office of the Illinois Attorney General in determining whether to file a complaint on its own motion for the violations cited in VN W-2012-00058.

7. This CCA is solely intended to address the violations alleged in Illinois EPA VN W-2012-00058. The Illinois EPA reserves and this CCA is without prejudice to, all rights of the Illinois EPA against Respondent with respect to noncompliance with any term of this CCA, as well as to all other matters. Nothing in this CCA is intended as a waiver, discharge, release, or covenant not to sue for any claim or cause of action, administrative or judicial, civil or criminal, past or future, in law or in equity, which the Illinois EPA may have against Respondent, or any other person as defined by Section 3.315 of the Act, 415 ILCS 5/3.315. This CCA in no way affects the responsibilities of Respondent to comply with any other federal, state or local laws or regulations, including but not limited to the Act, and the Board Regulations [and Permit, if applicable].

8. Pursuant to Section 42(k) of the Act, 415 ILCS 5/42(k), in addition to any other remedy or penalty that may apply, whether civil or criminal, Respondent shall be liable for an additional civil penalty of $2,000 for violation of any of the terms or conditions of this CCA.

9. This CCA shall apply to and be binding upon the Illinois EPA, and on Respondent and Respondent's officers, directors, employees, agents, successors, assigns, heirs, trustees, receivers, and upon all persons, including but not limited to contractors and consultants, acting on behalf of Respondent, as well as upon subsequent purchasers of Respondent's Will County Station in Romeoville, Will County, Illinois.

10. In any action by the Illinois EPA to enforce the terms of this CCA, Respondent consents to and agrees not to contest the authority or jurisdiction of the Illinois EPA to enter into or enforce this CCA, and agrees not to contest the validity of this CCA or its terms and conditions.

11. This CCA shall only become effective:

    a) If, within 30 days of receipt, Respondent executes this CCA and submits it, via certified mail, to Illinois EPA, Bureau of Water, Andrea Rhodes, MC #19, 1021 North Grand Ave East, Springfield, IL 62702. If Respondent fails to execute and submit this CCA within 30 days of receipt, via certified mail, this CCA shall be deemed rejected by operation of law; and

    b) Upon execution by all Parties.

12. Pursuant to Section 31(a)(7.5) of the Act, 415 ILCS 5/31(a)(7.5), this CCA shall not be amended or modified prior to execution by the Parties. Any amendment or modification to this CCA by Respondent prior to execution by all Parties shall be considered a rejection of the CCA by operation of law. This CCA may only be amended subsequent to its effective date, in writing, and by mutual agreement between the Illinois EPA and Respondent's signatory to this CCA, Respondent's legal representative, or Respondent's agent.

AGREED:
FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY:

BY: _____ DATE: _____

Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

FOR RESPONDENT:

BY: _____ DATE: Oct 15, 2012

John Kennedy
Senior Vice President, Generation
Midwest Generation, ~~LLC~~

Illinois EPA Compliance Statement

The owner of the facility must acknowledge that all compliance commitment agreement (CCA) measures have been successfully completed.

Please complete, sign, and return.

I _____ *(print name)*, hereby certify that all violations addressed in Violation Notice (VN) number _____ have been addressed and that all CCA measures were completed on _____ *(date)*.

_____
Signature

_____
Title

_____
Telephone Number

_____
Date

Be sure to retain copies of this document for your files. Should you need additional notification forms, please contact this office at (217)785-0561. Return this completed form to:

Illinois Environmental Protection Agency
Compliance Assurance Section #19
Bureau of Water
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

"Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Agency,.....related to or required by this Act, a regulation adopted under this Act, any federal law or regulation for which the Agency has responsibility, or any permit, term, or condition thereof, commits a Class 4 felony..." (415 ILCS 5/44(h) (8))

Exhibit B8

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-2829
PAT QUINN, GOVERNOR LISA BONNETT, DIRECTOR

July 2, 2013

John Kennedy, Vice President
Midwest Generation, LLC.
235 Remington Blvd, Suite A
Bolingbrook, Illinois 60440

Re: Midwest Generation, LLC. – Will County Power Station - Ash Pond Groundwater Management Zone Application

Dear Mr. Kennedy:

The Illinois Environmental Protection Agency (Illinois EPA) has reviewed the Will County Power Station - Ash Pond Groundwater Management Zone Application (GMZ) and attached proposed Environmental Land Use Control (ELUC) document, dated January 18, 2013. The Illinois EPA has approves the GMZ with the following additions.

1. The Will County Power Station non-community wells cannot be located within the ELUC area. Provide a revised ELUC to the Illinois EPA.

2. Provide the well logs and construction reports for the non-community wells.

3. Any on-site non-community wells that are no longer being used should be properly abandoned in accordance with 415 ILCS 30/9 Section 930.120 (a) (1) of the Illinois Water Well Construction Code.

Thank you for your attention to these matters. Send the revised ELUC, the non-community well drillers logs and construction reports to: Carl Kamp, Illinois EPA, Bureau of Water, PWS #13, P.O. Box 19276, Springfield, Illinois, 62794-9276. If you have any additional questions regarding this correspondence, or need any additional information concerning Illinois EPA requirements, please contact Carl Kamp or me at 217-785-4787.

Sincerely,

William E. Buscher

William E. Buscher, P.G.
Manager, Hydrogeology and Compliance Unit
Division of Public Water Supplies
Bureau of Water

CC: Mike Crumly Rick Cobb Darin LeCrone Carl Kamp Records

RECEIVED
JUL 09 2013

4302 N. Main St., Rockford, IL 61103 (815)987-7760
595 S. State, Elgin, IL 60123 (847)608-3131
2125 S. First St., Champaign, IL 61820 (217)278-5800
2009 Mall St., Collinsville, IL 62234 (618)346-5120
9511 Harrison St., Des Plaines, IL 60016 (847)294-4000
5407 N. University St., Arbor 113, Peoria, IL 61614 (309)693-5462
2309 W. Main St., Suite 116, Marion, IL 62959 (618)993-7200
100 W. Randolph, Suite 10-300, Chicago, IL 60601 (312)814-6026

PLEASE PRINT ON RECYCLED PAPER

MWG13-15_16564

Exhibit B9

MIDWEST GENERATION EME, LLC
An *EDISON INTERNATIONAL®* Company

Amy L. Hanrahan
Senior Environmental Engineer
Environmental Services

January 18, 2013

Ms. Andrea Rhodes
Illinois Environmental Protection Agency – DPWS
MC #19
1021 North Grand Avenue East
Springfield, IL 62702

VIA FEDERAL EXPRESS

Re: Compliance Commitment Agreement – ELUC
Midwest Generation, LLC, Will County Station; ID No. 6283
Violation Notice W-2012-00058

Dear Ms. Rhodes:

The Compliance Commitment Agreement (CCA) for the above referenced site relative to Violation Notice W-2012-00058 was signed by Midwest Generation on October 15, 2012 and executed by Illinois Environmental Protection Agency (IEPA) signature on October 24, 2012 (effective date). Item 5 (h) of the CCA requires that Midwest Generation submit a proposed Environmental Land Use Control (ELUC) to cover the area of the proposed Groundwater Management Zone (GMZ; application provided under separate cover) with the exception of that portion of the GMZ which is owned by ComEd. The proposed ELUC is to be submitted to IEPA within 90 days of the effective date of the CCA.

Attached is a proposed ELUC for the Will County Station. Please note that the formal legal description that would be included as part of Exhibit A will be completed upon IEPA approval of the proposed ELUC.

The areal extent of the proposed ELUC is provided with the attached documentation (Exhibit B Figure B-4). Groundwater flow in the vicinity of the subject ash ponds is in a westerly direction with discharge to the adjoining Des Plaines River. The western (downgradient) extent of the proposed ELUC corresponds with this hydraulic boundary. The eastern boundary is defined by the Chicago Sanitary and Ship Canal (CSSC) which forms a hydraulic boundary on the east side of the facility. The north and south sides of the proposed ELUC are based on the flow system and location of the four ash ponds. The vertical extent of the ELUC would be the first underlying aquitard identified as the Maquoketa Shale, approximately 140 feet below ground surface. The ELUC would

235 Remington Blvd.
Suite A
Bolingbrook, Il 60440
Tel: 630 771 7863
Fax: 949 225 0813
ahanrahan@mwgen.com

therefore vertically include the unconsolidated overburden and the Silurian dolomite, both of which are hydraulically connected and overlie the Maquoketa Shale.

This submittal fulfills the requirements set forth under Item 5 (h) of the signed CCA. Please call me at 630-771-7863 if there are any questions.

Sincerely,
Midwest Generation, LLC

Amy Hanrahan
Senior Environmental Engineer

cc: Ms. Maria Race, Midwest Generation EME, LLC
Mr. Basil Constantelos, Midwest Generation EME, LLC
Ms. Rebecca Maddox, Midwest Generation, LLC
Mr. Christopher Foley, Midwest Generation EME, LLC
Ms. Susan Franzetti, Nijman Franzetti, LLP
Mr. Richard Gnat, KPRG and Associates, Inc.
Mr. Bill Buscher, IEPA

PREPARED BY:

Name: Christopher M. Foley

Address: Midwest Generation, LLC
500 West Madison Street
Suite 2640
Chicago, Illinois 60661

RETURN TO:

Name: Christopher M. Foley

Address: Midwest Generation, LLC
500 West Madison Street
Suite 2640
Chicago, Illinois 60661

THE ABOVE SPACE FOR RECORDER'S OFFICE

Environmental Land Use Control

THIS ENVIRONMENTAL LAND USE CONTROL ("ELUC"), is made this _____ day of _____, 2013, by Midwest Generation, LLC, ("Property Owner") of that portion (as identified in Exhibit A) of the real property located at the common address of Will County Station, 529 E. 135th Street, Romeoville, Illinois 60446 ("Property").

WHEREAS, 415 ILCS 5/58.17 and 35 Ill. Adm. Code 742 provide for the use of an ELUC as an institutional control in order to impose land use limitations or requirements related to environmental contamination so that persons conducting remediation can obtain a No Further Remediation determination from the Illinois Environmental Protection Agency ("IEPA"). The reason for an ELUC is to ensure protection of human health and the environment. The limitations and requirements contained herein are necessary in order to protect against exposure to contaminated groundwater that may be present on the property as a result of past industrial activities on or in the vicinity of the property.

NOW, THEREFORE, the recitals set forth above are incorporated by reference as if fully set forth herein and the Property Owner agrees as follows:

Section One. Property Owner does hereby establish an ELUC on the real estate, situated in the County of Will, State of Illinois and further described in Exhibit A attached hereto and incorporated herein by reference (the "Property").

Attached as Exhibit B are site maps that show the legal boundary of the Property, any physical features to which the ELUC applies, the horizontal and vertical extent of the contaminants of concern above the applicable remediation objectives for groundwater and the nature, location of the source, and direction of movement of the contaminants of concern, as required under 35 Ill. Adm. Code 742.

Section Two. Property Owner represents and warrants it is the current owner of the Property and has the authority to record this ELUC on the chain of title for the Property with the Office of the Recorder or Registrar of Titles in Will County, Illinois.

Section Three. The Property Owner hereby agrees, for itself, and its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein, that the groundwater under the Property shall not be used as a potable supply of water.

Section Four. This ELUC is binding on the Property Owner, its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein. This ELUC shall apply in perpetuity against the Property and shall not be released until the IEPA determines there is no longer a need for this ELUC as an institutional control; or until the IEPA, upon written request, issues a new no further remediation determination approving modification or removal of the limitation(s) or requirement(s); and until a release or modification of the land use limitation or requirement is filed on the chain of title for the Property.

Section Five. **Future Improvement of Property**: This ELUC does not limit Property Owner's or its successors' or assigns' ability to construct on or otherwise improve the Property or to allow others to use the Property. Property Owner reserves the right to remove contaminated groundwater from the Property and to dispose of it as is appropriate under applicable laws.

Section Six. The effective date of this ELUC shall be the date that it is officially recorded in the chain of title for the Property to which the ELUC applies.

WITNESS the following signatures:
Property Owner(s)

By: _____
Its: _____
Date: _____

STATE OF ILLINOIS)
) SS:
COUNTY OF _____)

I, _____the undersigned, a Notary Public for said County and State, DO HEREBY CERTIFY, that _____, personally known to me to be the _____ of Midwest Generation, LLC, the Property Owner and personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that in said capacity signed and delivered the said instrument as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and official seal, this _____ day of _____, 2013.

_____
Notary Public

PIN NO. : 11-04-02-300-007-0000
(Partial)
11-04-02-100-030-0020
(Partial)

Exhibit A

The subject property is located in the City of Romeoville, Will County, State of Illinois, commonly known as Will County Station, Romeoville, Illinois and more particularly described as:

COMMON ADDRESS:

Will County Station (portion)
529 E. 135th Street
Romeoville, Illinois 60446

LEGAL DESCRIPTION:

(The legal description of the proposed area will be formalized upon IEPA approval of this proposed ELUC)

REAL ESTATE TAX INDEX OR PARCEL #

11-04-02-300-007-0000 (Partial)
11-04-02-100-030-0020 (Partial)

EXHIBIT B
Maps



ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

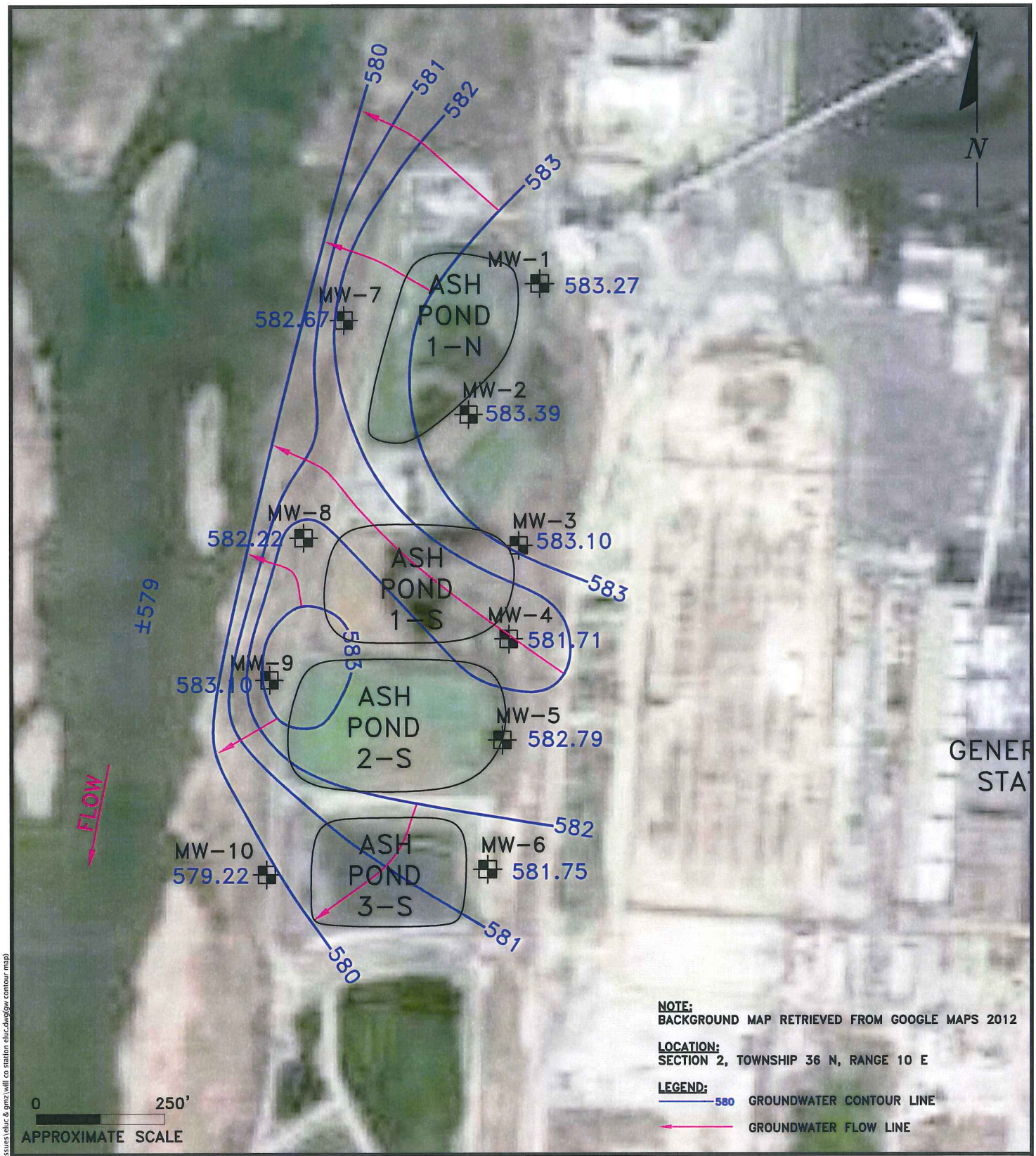
PROPERTY MAP WITH BOUNDARY LINE

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 500'	Date: January 17, 2013
KPRG Project No. 18311.41	EXHIBIT B-1

W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\will co station eluc.dwg(property map)

MWG13-15_618



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

GROUNDWATER CONTOUR MAP 12/18/12

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 250'	Date: January 14, 2013
KPRG Project No. 18311.41	EXHIBIT B-2

W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\will co station eluc.dwg(gw contour map)

MWG13-15_619



GROUNDWATER RESULTS NOTES:

ALL VALUES ARE MILLIGRAMS PER LITER (mg/L)
TDS = TOTAL DISSOLVED SOLIDS
BOLD = BOLD VALUES EXCEED 35 IAC PART 620

W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\will co station eluc.dwg(box plot map)

ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

AREAL DISTRIBUTION OF GROUNDWATER IMPACTS

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 500' | Date: January 17, 2013

KPRG Project No. 18311.41 | EXHIBIT B-3

MWG13-15_620



W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\will co station eluc.dwg(proposed eluc)

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

PROPOSED ELUC BOUNDARY

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 500'	Date: January 14, 2013
KPRG Project No. 18311.41	EXHIBIT B-4

MWG13-15_621

Exhibit B10

PATRICK
ENGINEERING

March 5, 2012

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Subject: Quarterly Groundwater Monitoring Results – Annual Report 2011
Will County Generating Station- Ash Impoundment

Reference: Patrick Project No. 21153.033

To Whom It May Concern:

Patrick Engineering Inc. (Patrick) has prepared this letter report, on behalf of Midwest Generation, LLC, to provide the 2011 Annual Report for groundwater monitoring results associated with the on-site ash ponds at the Will County Generating Station (The Site) located at 529 East 135th Street in Romeoville, Illinois (Figure 1). The Site is located between the Chicago Sanitary and Ship Canal (CSSC) and the Des Plaines River east of the city of Romeoville. The surrounding land use consists of undeveloped land to the north, the CSSC to the east, a quarry to the south, and the Des Plaines River to the west. The Site includes four active ash ponds. This groundwater monitoring is being performed as part of the long-term monitoring plan described in the Hydrogeologic Assessment Report submitted to the Illinois Environmental Protection Agency (Illinois EPA) in February 2011.

Ten monitoring wells have been installed (MW-1 through MW-10) surrounding the ash impoundments at the Will County facility. The well locations were selected so that both upgradient and downgradient wells were represented, based upon available data regarding the expected groundwater flow direction. The well locations are shown on Figure 2.

GROUNDWATER ELEVATIONS

Quarterly groundwater elevations were measured beginning in March 2011 in each of the ten wells prior to sampling. The groundwater levels were compared to levels collected by the USGS stream flow data at Station Number 05536998 located in the CSSC at the Lockport Controlling Works in Lockport, Illinois and at Station Number 05534000 located in the Des Plaines River at Romeoville Road. Fluctuations in the groundwater elevations correlated to fluctuations in the CSSC and the River, indicating the groundwater at the site has a direct hydraulic connection to the surface waters. The elevation of the Des Plaines River is normally higher than the elevation of the CSSC (Wells MW-7 through MW-10 were installed to be the upgradient wells based on this observation). The surface water elevations in the ash ponds were also measured during the

initial investigation; the water elevations in the ash ponds were 3 to 6 feet higher than the groundwater elevations in the nearby wells. Groundwater elevation data is summarized in Table 1 and shown on Figure 3.

Patrick's conceptual model of groundwater flow at the Site was that the groundwater was hydraulically connected to both the River and the CSSC with groundwater flowing from west to east. The data collected to date indicates that the groundwater is in direct hydraulic connection to the River and the CSSC; however, the groundwater elevations are all higher than either of the surface waters and the direction of groundwater is generally found to be from the northeast to southwest. A chart depicting the groundwater elevations as compared to the Des Plaines River and CSSC elevations is included as Attachment A in this report.

SAMPLING METHODOLOGY

In accordance with the long-term monitoring plan referenced above, water samples are collected quarterly from ten monitoring wells (MW-1 through MW-10) surrounding the ash impoundments at the Will County facility. These wells were most recently sampled on December 8, 2011.

Samples were collected from each well with a peristaltic pump, using established low-flow sampling techniques. Temperature, turbidity, conductivity, dissolved oxygen (DO), oxygen reduction potential (ORP), and pH measurements were taken at each of the wells using a portable meter with a flow through cell. All groundwater samples were filtered in the field using a disposable, 0.45µm, in-line filter to allow for the analytical testing of dissolved compounds. Field parameter data is provided in Table 2.

After collection, all samples were immediately placed on ice in a cooler and kept at a temperature no higher than 4° F. The samples were transported to TestAmerica Laboratories, an Illinois-EPA accredited analytical laboratory, in accordance with chain-of-custody procedures to maintain sample integrity. Analytes tested included the inorganic compounds listed in 35 Illinois Administrative Code (IAC) 620.410(a), excluding both radium and the poly-aromatic hydrocarbons (PAHs) listed in 35 IAC 620.410(b). Analytical laboratory results are presented in Table 3 (both current and historical). The laboratory analytical report provided by TestAmerica Laboratories is provided as Attachment C.

ANALYTICAL RESULTS

Both upgradient and downgradient wells indicated Class I Groundwater Quality Standard exceedances. The following compounds exceeded their respective Class I standards: manganese, boron, sulfate, chloride, and total dissolved solids (TDS).

Patrick compared the concentrations of those compounds that exceeded the Class I standards in the upgradient and downgradient wells. Based upon the current model of groundwater flow at the Site, only MW-1 appears to be a true upgradient well (MW-2 through MW-6 are considered side-gradient and MW-7 through MW-10 are downgradient). Compared to MW-1, concentrations of boron were higher in all of the other wells; concentrations of sulfate were higher in 7 of the other wells; TDS was higher in 5 out of 9 wells; manganese was higher in 4 out the other wells; and chloride was higher in only 2 of the other wells. However, there is still

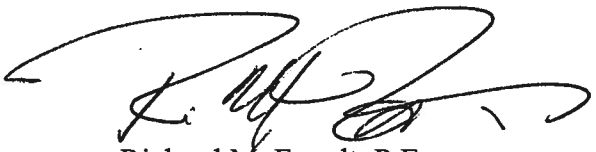
uncertainty regarding the groundwater flow paths and Patrick has not yet performed a rigorous statistical analysis of upgradient groundwater quality.

Patrick performed trend analyses on the following parameters (each of these parameters was detected during at least once during each sampling event): arsenic, barium, cobalt, iron, manganese, nickel, selenium, boron, sulfate, chloride, total dissolved solids, fluoride, nitrogen-nitrite, and nitrogen-nitrate-nitrite. There were no statistically significant (at the 95% confidence level) increasing or decreasing trends for any of the analyzed compounds. The trend analysis charts are provided in Attachment B.

If you have any questions, please contact me at 630-795-7464.

Sincerely,

PATRICK ENGINEERING INC.

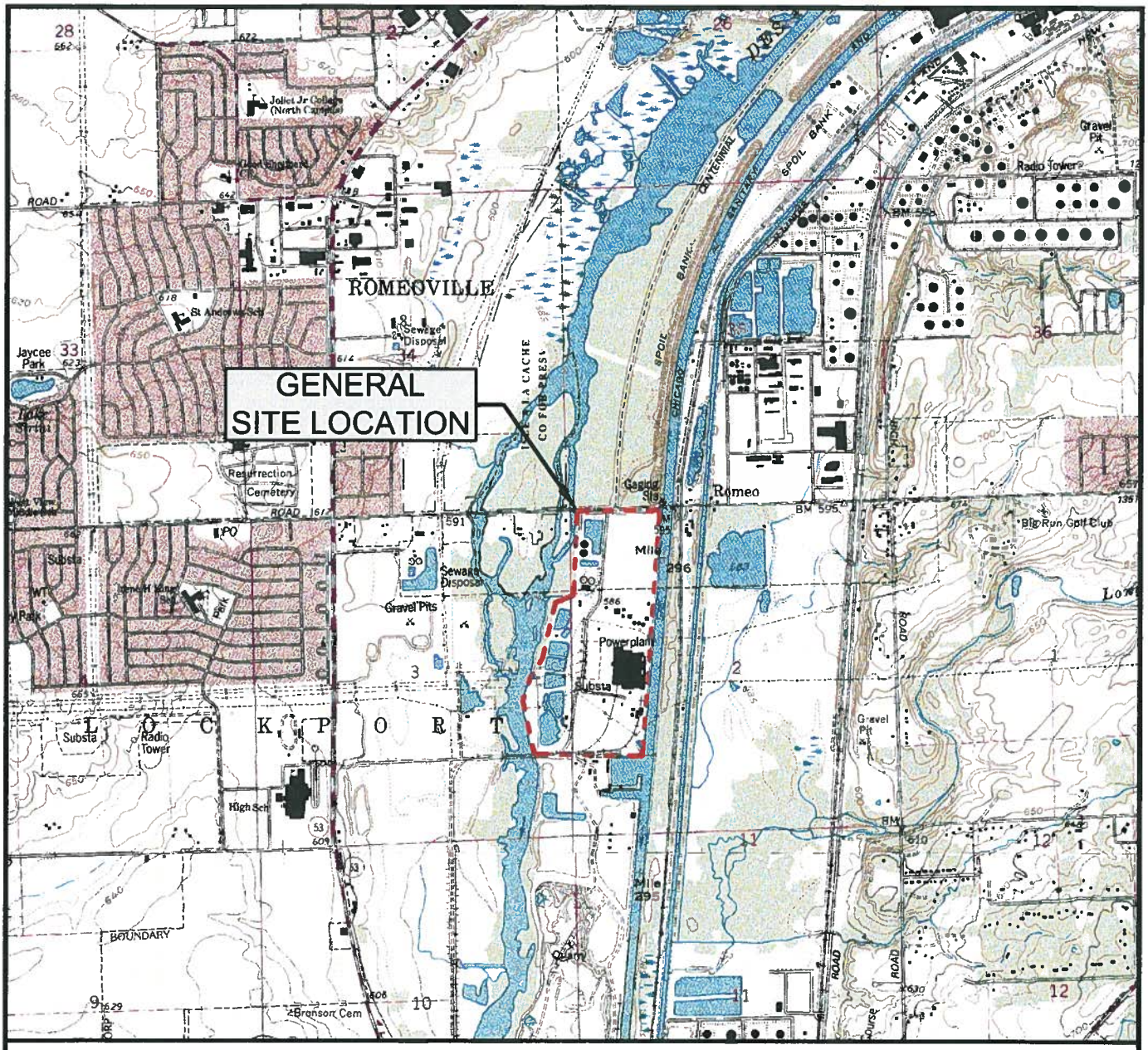


Richard M. Frendt, P.E
Senior Project Manager

RMF/dcm
Enclosures: Figure 1: Site Location Map
Figure 2: Monitoring Well Location Map
Figure 3: Groundwater Elevation Map
Table 1: Groundwater Elevation Survey Data
Table 2: Field Parameter Data
Table 3: Groundwater Analytical Results
Attachment A: Groundwater and Des Plaines River/CSSC Elevations Chart
Attachment B: Trend Analysis Charts
Attachment C: Laboratory Report

FIGURE 1

SITE LOCATION MAP



LEGEND

SITE BOUNDARY

N

0 2,000'

GRAPHIC SCALE

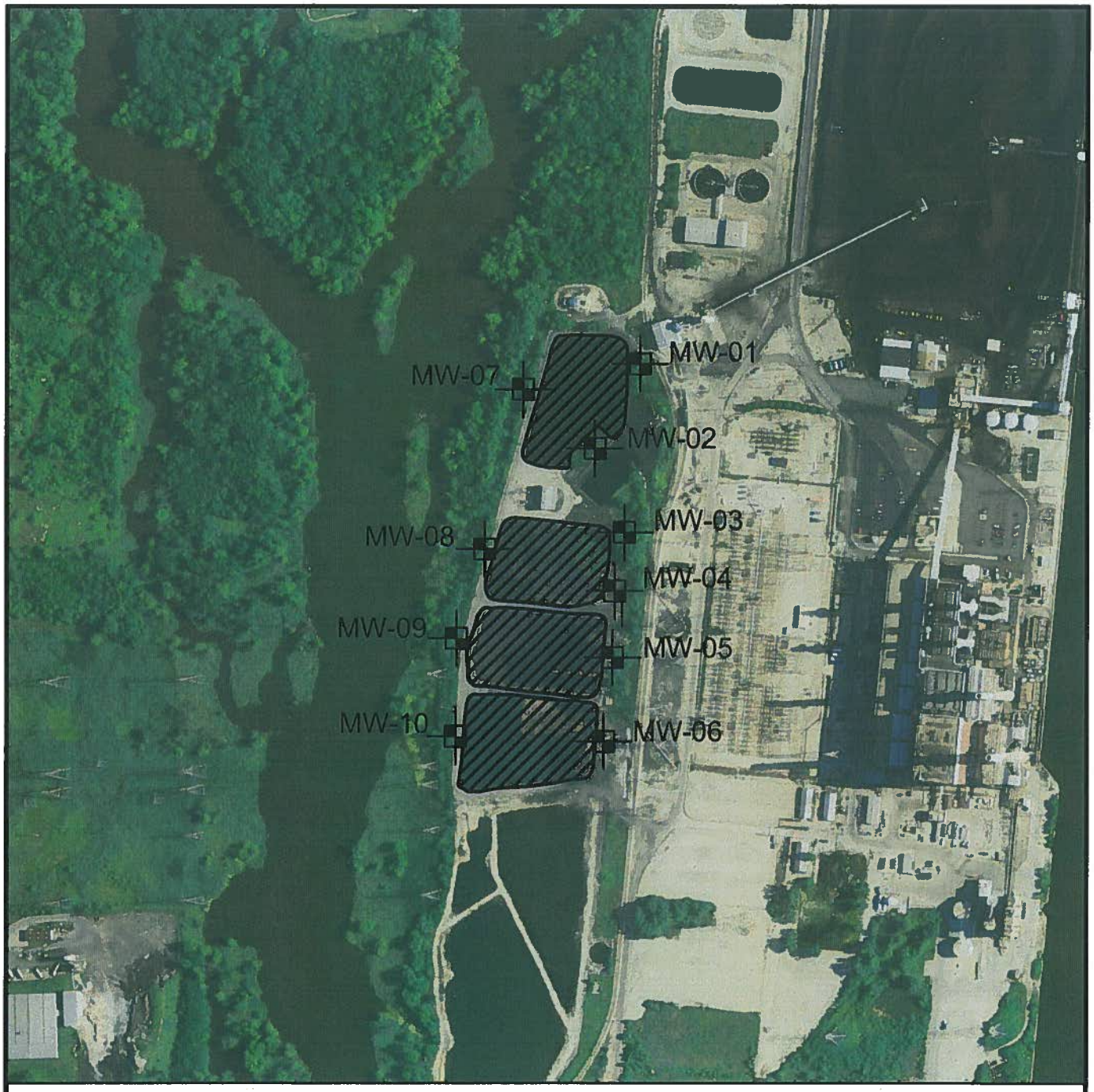
NOTE:
THIS DRAWING WAS PREPARED USING ILLINOIS' ROMEOVILLE (1993) AND JOLIET (1993) 7.5 MINUTE-SERIES TOPOGRAPHIC QUADRANGLE MAP.

Date: DEC. 2011	FIGURE 1 SITE LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21153.017	**WILL COUNTY STATION ROMEOVILLE, ILLINOIS**	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_42710

FIGURE 2

MONITORING WELL LOCATION MAP



LEGEND

MW-01 Monitoring Well Location

Ash Ponds

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

N

1" = 600'

Date: DEC. 2011	FIGURE 2 MONITORING WELL LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21153.017	WILL COUNTY STATION ROMEOVILLE, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681
App. By: RMF		PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409

MWG13-15_42712

FIGURE 3

GROUNDWATER ELEVATION MAP



LEGEND

MW-01
505.46'

MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION (FT. / MSL)

582.6'

GROUNDWATER ELEVATION CONTOUR (FT. / MSL)

GROUNDWATER FLOW DIRECTION

N

1" = 400'

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

Date: DEC. 2011	FIGURE 3 GROUNDWATER ELEVATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21153.017	WILL COUNTY STATION ROMEOVILLE, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_42714

TABLE 1

GROUNDWATER ELEVATION DATA

Table 1
Groundwater Elevation Survey Data
Will County Station,Romeoville, Illinois
Midwest Generation
21153.017

MONITORING WELL	Date	Water Elevation	Depth to Water Pre-Purge	Depth to Water Pre-Sampling	Water Elevation Pre-Sampling	Depth to Bottom of Well	Bottom of Well Elevation	Ground Elevation	Top of Riser Elevation
MW-1	3/28/2011	583.411	9.54	9.54	583.411	22.00	570.951	589.809	592.951
	6/15/2011	583.671	9.28	9.30	583.651	22.00	570.951	589.809	592.951
	9/15/2011	583.251	9.70	9.70	583.251	22.00	570.951	589.809	592.951
	12/8/2011	583.441	9.51	9.52	583.431	22.00	570.951	589.809	592.951
MW-2	3/28/2011	583.552	10.44	10.45	583.542	25.37	568.622	590.621	593.992
	6/15/2011	583.872	10.12	10.14	583.852	25.37	568.622	590.621	593.992
	9/15/2011	583.292	10.70	10.70	583.292	25.37	568.622	590.621	593.992
	12/8/2011	583.562	10.43	10.44	583.552	25.37	568.622	590.621	593.992
MW-3	3/28/2011	583.486	10.02	10.02	583.486	19.77	573.736	590.503	593.506
	6/15/2011	583.756	9.75	9.84	583.666	19.77	573.736	590.503	593.506
	9/15/2011	582.846	10.66	10.68	582.826	19.77	573.736	590.503	593.506
	12/8/2011	583.356	10.15	10.16	583.346	19.77	573.736	590.503	593.506
MW-4	3/29/2011	583.279	10.97	10.99	583.259	22.48	571.769	591.215	594.249
	6/15/2011	583.489	10.76	10.77	583.479	22.48	571.769	591.215	594.249
	9/15/2011	581.469	12.78	12.83	581.419	22.48	571.769	591.215	594.249
	12/8/2011	582.069	12.18	12.18	582.069	22.48	571.769	591.215	594.249
MW-5	3/29/2011	583.331	9.54	9.54	583.331	22.07	570.801	589.602	592.871
	6/15/2011	583.471	9.40	9.42	583.451	22.07	570.801	589.602	592.871
	9/15/2011	582.471	10.40	10.42	582.451	22.07	570.801	589.602	592.871
	12/8/2011	583.171	9.70	9.72	583.151	22.07	570.801	589.602	592.871
MW-6	3/28/2011	582.388	10.58	10.60	582.368	21.15	571.818	589.772	592.968
	6/15/2011	582.518	10.45	10.45	582.518	21.15	571.818	589.772	592.968
	9/15/2011	581.948	11.02	11.06	581.908	21.15	571.818	589.772	592.968
	12/8/2011	582.158	10.81	10.81	582.158	21.15	571.818	589.772	592.968
MW-7	3/29/2011	582.790	10.09	10.11	582.770	20.81	572.070	589.550	592.880
	6/15/2011	582.960	9.92	9.94	582.940	20.81	572.070	589.550	592.880
	9/15/2011	582.410	10.47	10.47	582.410	20.81	572.070	589.550	592.880
	12/8/2011	582.820	10.06	10.07	582.810	20.81	572.070	589.550	592.880
MW-8	3/29/2011	582.493	10.22	10.23	582.483	20.21	572.503	589.641	592.713
	6/15/2011	582.243	10.47	10.49	582.223	20.21	572.503	589.641	592.713
	9/15/2011	581.283	11.43	11.45	581.263	20.21	572.503	589.641	592.713
	12/8/2011	582.383	10.33	10.33	582.383	20.21	572.503	589.641	592.713

Table 1
Groundwater Elevation Survey Data
Will County Station,Romeoville, Illinois
Midwest Generation
21153.017

MONITORING WELL	Date	Water Elevation	Depth to Water Pre-Purge	Depth to Water Pre-Sampling	Water Elevation Pre-Sampling	Depth to Bottom of Well	Bottom of Well Elevation	Ground Elevation	Top of Riser Elevation
MW-9	3/29/2011	583.740	9.10	9.13	583.710	22.18	570.660	589.756	592.840
	6/15/2011	582.810	10.03	10.33	582.510	22.18	570.660	589.756	592.840
	9/15/2011	581.280	11.56	11.67	581.170	22.18	570.660	589.756	592.840
	12/8/2011	583.360	9.48	9.48	583.360	22.18	570.660	589.756	592.840
MW-10	3/28/2011	581.132	9.85	10.31	580.672	19.53	571.452	591.314	590.982
	6/15/2011	580.902	10.08	10.52	580.462	19.53	571.452	591.314	590.982
	9/15/2011	580.042	10.94	11.50	579.482	19.53	571.452	591.314	590.982
	12/8/2011	580.592	10.39	10.83	580.152	19.53	571.452	591.314	590.982

-Survey data taken on 12/6/10
- Elevations are shown in feet

TABLE 2

GROUNDWATER FIELD PARAMETER DATA

Table 2

Field Parameter Data

Will County Station, Romeoville, Illinois
Midwest Generation
21153.017

Field Parameter Data - Will County Station								
Monitoring Well	Date	Time	Temperature (°C)	Conductivity (ms/cm^c)	Turbidity (NTU)	pH	DO (mg/L)	ORP (mV)
MW-1	3/28/2011	11:08	10.71	1.78	14.0	8.20	2.00	-169.4
	3/28/2011	11:10	10.69	1.78	21.1	8.11	1.02	-171.6
	3/28/2011	11:12	10.77	1.77	19.5	8.08	0.65	-171.6
	3/28/2011	11:14	10.68	1.77	16.5	8.07	0.48	-173.3
	3/28/2011	11:16	10.73	1.77	56.8	8.06	0.54	-171.5
	3/28/2011	11:18	10.74	1.76	48.9	8.05	0.40	-174.0
	3/28/2011	11:20	10.74	1.76	63.6	8.05	0.34	-174.1
MW-1	6/15/2011	11:58	15.08	1.56	7.57	7.71	0.90	132
	6/15/2011	12:00	14.96	1.57	7.32	7.41	0.15	98.8
	6/15/2011	12:02	14.95	1.57	7.49	7.29	0.10	82.2
	6/15/2011	12:04	14.96	1.56	7.56	7.27	0.08	68.6
	6/15/2011	12:09	14.92	1.55	7.80	7.28	0.07	55.5
	6/15/2011	12:08	14.96	1.55	7.28	7.28	0.07	49.2
MW-1	9/15/2011	12:34	21.93	1.23	21.39	7.68	0.86	-152
	9/15/2011	12:36	21.84	1.12	4.42	7.55	0.13	-246
	9/15/2011	12:38	21.55	1.01	5.61	7.52	0.10	-275
	9/15/2011	12:40	21.47	1.01	4.23	7.53	0.11	-278
	9/15/2011	12:42	21.48	1.01	5.48	7.55	0.07	-295
	9/15/2011	12:44	21.42	1.01	4.24	7.57	0.06	-306
MW-1	12/8/2011	12:04	14.15	1.04	36.02	7.11	2.34	-67
	12/8/2011	12:06	14.55	1.04	111.00	7.15	0.42	-96
	12/8/2011	12:08	14.56	1.03	533.80	7.15	0.20	-102
	12/8/2011	12:10	14.57	1.01	409.20	7.15	0.13	-104
	12/8/2011	12:12	14.60	1.01	198.20	7.17	0.09	-107
	12/8/2011	12:14	14.57	1.00	244.50	7.16	0.06	-108
MW-2	3/28/2011	12:00	13.62	1.65	7.2	8.58	1.93	-124.8
	3/28/2011	12:02	13.75	1.64	8.1	8.58	0.96	-134.9
	3/28/2011	12:04	13.53	1.64	17.9	8.61	0.50	-145.1
	3/28/2011	12:06	13.64	1.64	44.0	8.61	0.25	-149.9
	3/28/2011	12:08	13.56	1.64	16.0	8.61	0.32	-151.5
	3/28/2011	12:10	13.56	1.64	57.7	8.62	0.19	-154.9
MW-2	6/15/2011	11:14	16.56	1.58	4.18	8.24	1.06	131.1
	6/15/2011	11:16	16.14	1.55	4.55	8.06	0.17	105.2
	6/15/2011	11:18	16.11	1.55	4.44	8.00	0.11	95.7
	6/15/2011	11:20	15.97	1.55	4.41	7.99	0.09	80.0
	6/15/2011	11:22	15.89	1.55	4.33	7.99	0.07	69.1
	6/15/2011	11:24	15.90	1.54	4.20	8.00	0.07	63.0
MW-2	9/15/2011	11:46	19.05	0.98	6.13	8.14	0.75	-153.0
	9/15/2011	11:48	18.50	0.96	3.37	8.10	0.12	-253.0
	9/15/2011	11:50	18.19	0.96	2.32	8.07	0.08	-283.0
	9/15/2011	11:52	18.14	0.96	4.43	8.07	0.08	-295.0
	9/15/2011	11:54	18.16	0.96	2.33	8.09	0.07	-300.0
	9/15/2011	11:56	18.05	0.96	2.06	8.11	0.06	-309.0
MW-2	12/8/2011	11:18	15.27	0.82	42.06	7.81	2.10	-49.0
	12/8/2011	11:20	16.09	0.83	340.40	7.77	0.42	-112.0
	12/8/2011	11:22	16.09	0.83	228.40	7.77	0.20	-132.0
	12/8/2011	11:24	16.14	0.83	218.40	7.78	0.12	-140.0
	12/8/2011	11:26	16.11	0.83	408.90	7.78	0.08	-144.0
	12/8/2011	11:28	16.14	0.83	621.00	7.80	0.06	-147.0

Table 2

Field Parameter Data

Will County Station, Romeoville, Illinois

Midwest Generation

21153.017

Field Parameter Data - Will County Station								
Monitoring Well	Date	Time	Temperature (°C)	Conductivity (ms/cm^5)	Turbidity (NTU)	pH	DO (mg/L)	ORP (mV)
MW-3	3/28/2011	12:40	9.93	1.70	2.6	7.82	1.68	-145.0
	3/28/2011	12:42	9.85	1.70	2.8	7.79	0.85	-149.3
	3/28/2011	12:44	9.94	1.69	3.9	7.77	0.61	-154.7
	3/28/2011	12:46	9.91	1.69	4.0	7.75	0.34	-155.1
	3/28/2011	12:48	9.88	1.69	4.0	7.74	0.24	-157.1
	3/28/2011	12:50	9.89	1.69	10.2	7.72	0.18	-157.3
MW-3	6/15/2011	13:05	14.19	1.46	10.00	7.01	3.15	115.5
MW-3	9/15/2011	10:57	15.52	1.25	11.84	7.30	0.89	-151
	9/15/2011	10:59	15.61	1.24	8.92	7.23	0.09	-215
	9/15/2011	11:01	15.63	1.24	4.88	7.24	0.05	-251
	9/15/2011	11:03	15.67	1.24	2.96	7.20	0.03	-268
	9/15/2011	11:05	15.68	1.24	2.46	7.20	0.03	-280
	9/15/2011	11:07	15.69	1.24	2.67	7.18	0.02	-285
MW-3	12/8/2011	10:28	12.79	1.14	21.93	6.62	3.12	-75
	12/8/2011	10:30	13.31	1.14	25.37	6.60	0.49	-103
	12/8/2011	10:32	13.48	1.14	36.70	6.57	0.21	-109
	12/8/2011	10:34	13.50	1.14	49.11	6.56	0.10	-111
	12/8/2011	10:36	13.58	1.14	83.60	6.55	0.07	-111
	12/8/2011	10:38	13.57	1.14	74.32	6.55	0.06	-113
MW-4	3/29/2011	8:58	9.91	3.28	4.6	8.17	2.57	-233.0
	3/29/2011	9:00	10.00	3.36	5.0	7.74	1.07	-224.7
	3/29/2011	9:02	10.06	3.37	9.6	7.66	1.21	-225.9
	3/29/2011	9:04	10.09	3.37	6.6	7.59	0.73	-228.5
	3/29/2011	9:06	10.20	3.38	11.8	7.71	0.53	-232.4
	3/29/2011	9:08	10.18	3.39	11.9	7.66	0.73	-235.2
MW-4	6/15/2011	13:30	13.86	3.51	8.81	7.23	2.72	44.8
MW-4	9/15/2011	10:20	16.23	5.20	10.06	7.21	0.10	-206
	9/15/2011	10:22	16.23	5.22	8.19	7.21	0.05	-232
	9/15/2011	10:24	16.22	5.24	7.13	7.21	0.04	-245
	9/15/2011	10:26	16.19	5.24	6.41	7.21	0.03	-255
	9/15/2011	10:28	16.22	5.44	5.25	7.21	0.03	-263
	9/15/2011	10:30	16.26	5.26	5.35	7.21	0.03	-269
MW-4	12/8/2011	9:52	2.79	2.79	25.22	6.61	3.43	-25
	12/8/2011	9:54	2.86	2.86	27.90	6.46	0.53	-27
	12/8/2011	9:56	2.83	2.83	23.08	6.48	0.25	-53
	12/8/2011	9:58	2.78	2.78	60.37	6.49	0.17	-77
	12/8/2011	10:00	2.91	2.91	63.03	6.55	0.14	-93
	12/8/2011	10:02	2.99	2.99	97.48	6.58	0.11	-104

Table 2

Field Parameter Data

Will County Station, Romeoville, Illinois
Midwest Generation
21153.017

Field Parameter Data - Will County Station								
Monitoring Well	Date	Time	Temperature (°C)	Conductivity (ms/cm^5)	Turbidity (NTU)	pH	DO (mg/L)	ORP (mV)
MW-5	3/28/2011	9:38	7.63	1.91	14.2	9.27	6.50	-178.1
	3/28/2011	9:40	7.38	1.90	50.5	9.55	4.14	-171.1
	3/28/2011	9:42	7.90	1.90	50.9	9.47	3.73	-165.4
	3/28/2011	9:44	7.99	1.93	36.0	9.59	3.61	-162.1
	3/28/2011	9:46	7.96	1.93	40.9	9.39	3.64	-159.3
	3/28/2011	9:48	7.95	1.93	104.0	9.51	3.81	-156.4
MW-5	6/15/2011	12:40	14.62	1.97	7.92	7.44	3.22	173.2
MW-5	9/15/2011	9:42	17.21	1.77	11.77	7.50	1.90	-97
	9/15/2011	9:44	17.22	1.77	4.02	7.42	0.53	-156
	9/15/2011	9:46	17.19	1.77	3.91	7.41	0.51	-177
	9/15/2011	9:48	17.17	1.77	4.10	7.39	0.51	-187
	9/15/2001	9:50	17.18	1.77	2.48	7.39	0.50	-193
	9/15/2011	9:52	17.22	1.78	2.43	7.38	0.51	-196
MW-5	12/8/2011	9:14	12.05	1.05	16.15	8.54	4.31	-7
	12/8/2011	0:00	12.77	1.07	21.90	8.38	0.81	-24
	12/8/2011	9:18	12.97	1.08	22.90	8.27	0.51	-33
	12/8/2011	9:20	13.01	1.09	57.53	8.23	0.43	-39
	12/8/2011	9:22	13.07	1.09	85.14	8.22	0.41	-43
	12/8/2011	9:24	13.19	1.10	148.00	8.20	0.39	-46
MW-6	3/29/2011	9:30	9.87	1.62	10.9	9.44	1.84	-224.9
	3/29/2011	9:32	10.08	1.63	18.3	9.61	1.07	-226.5
	3/29/2011	9:34	9.98	1.63	52.9	9.58	0.86	-234.0
	3/29/2011	9:36	10.15	1.63	64.5	9.40	0.63	-235.1
	3/29/2011	9:38	10.00	1.63	101.5	9.45	0.52	-238.7
	3/29/2011	9:40	10.01	1.63	86.1	9.65	0.54	-239.1
MW-6	6/15/2011	7:26	13.76	1.71	3.10	9.31	0.83	156.5
	6/15/2011	7:28	13.64	1.69	2.22	9.25	0.25	125.7
	6/15/2011	7:30	13.62	1.69	2.24	9.23	0.12	100.3
	6/15/2011	7:32	13.62	1.69	2.13	9.26	0.14	82.6
	6/15/2011	7:34	13.63	1.69	1.89	9.25	0.13	67.7
	6/15/2011	7:36	13.63	1.69	1.65	9.27	0.12	54.4
MW-6	9/15/2011	8:07	15.57	1.08	23.80	9.51	0.65	-259
	9/15/2011	8:09	16.15	1.10	3.19	9.50	0.09	-294
	9/15/2011	8:11	16.24	1.11	2.17	9.48	0.08	-298
	9/15/2011	8:13	16.27	1.11	1.28	9.46	0.07	-301
	9/15/2011	8:15	16.27	1.11	0.94	9.45	0.07	-303
	9/15/2011	8:17	16.28	1.11	1.12	9.44	0.06	-305
MW-6	12/8/2011	7:47	12.75	1.02	26.18	8.98	3.66	-140
	12/8/2011	7:49	13.81	1.04	19.82	8.93	0.63	-220
	12/8/2011	7:51	14.12	1.05	63.36	8.86	0.32	-230
	12/8/2011	7:53	14.25	1.05	76.41	8.81	0.21	-235
	12/8/2011	7:55	14.33	1.05	97.72	8.81	0.16	-238
	12/8/2011	7:57	14.24	1.05	65.38	8.82	0.13	-241

Table 2

Field Parameter Data

Will County Station, Romeoville, Illinois
Midwest Generation
21153.017

Field Parameter Data - Will County Station								
Monitoring Well	Date	Time	Temperature (°C)	Conductivity (ms/cm^5)	Turbidity (NTU)	pH	DO (mg/L)	ORP (mV)
MW-7	3/28/2011	10:56	11.48	2.09	14.7	8.73	3.07	-258.8
	3/28/2011	10:58	11.46	2.11	36.9	8.78	1.32	-263.9
	3/28/2011	11:00	11.54	2.12	66.3	8.79	0.99	-274.2
	3/28/2011	11:02	11.60	2.12	95.3	8.78	0.57	-269.5
	3/28/2011	11:04	11.65	2.12	162.3	8.80	0.41	-276.4
	3/28/2011	11:06	11.80	2.12	286.5	8.79	0.43	-277.2
MW-7	6/15/2011	9:24	14.39	1.73	15.64	8.63	1.01	107
	6/15/2011	9:26	14.18	1.78	14.83	8.54	0.21	-43.6
	6/15/2011	9:28	14.18	1.85	14.21	8.39	0.15	-107.8
	6/15/2011	9:30	14.18	1.96	13.17	8.26	0.11	-129.6
	6/15/2011	9:32	14.16	2.04	12.80	8.17	0.09	-133.3
	6/15/2011	9:34	14.23	2.08	12.59	8.13	0.08	-135.2
MW-7	9/15/2011	14:12	15.88	1.59	7.35	7.95	0.09	-280
	9/15/2011	14:14	15.89	1.60	5.21	7.92	0.08	-288
	9/15/2011	14:16	15.90	1.60	3.17	7.93	0.06	-294
	9/15/2011	14:18	15.88	1.60	2.95	7.93	0.06	-298
	9/15/2011	14:20	15.95	1.61	2.90	7.90	0.05	-300
	9/15/2011	14:22	15.96	1.61	3.42	7.91	0.05	-301
MW-7	12/8/2011	14:02	14.55	1.53	64.31	7.74	1.43	-191
	12/8/2011	14:.04	15.03	1.54	288.40	7.74	0.34	-204
	12/8/2011	14:06	15.18	1.55	361.60	7.71	0.16	-207
	12/8/2011	14:08	15.18	1.55	570.00	7.69	0.09	-208
	12/8/2011	14:10	15.16	1.55	810.10	7.69	0.06	-209
	12/8/2011	14:12	15.17	1.55	229.00	7.69	0.04	-210
MW-8	3/29/2011	10:18	9.28	2.00	28.5	8.53	2.93	-237.4
	3/29/2011	10:20	9.50	1.99	21.3	8.31	1.32	-253.6
	3/29/2011	10:22	9.59	1.98	209.8	8.23	0.87	-252.6
	3/29/2011	10:24	9.59	1.98	132.0	8.20	0.46	-252.6
	3/29/2011	10:26	9.61	1.98	130.5	8.18	0.41	-249.1
	3/29/2011	10:28	9.51	1.96	189.8	8.17	0.51	-254.6
MW-8	6/15/2011	8:46	13.57	1.76	22.42	7.84	1.80	1.2
	6/15/2011	8:48	13.37	1.76	22.53	7.63	0.63	-47.6
	6/15/2011	8:50	13.31	1.76	22.31	7.51	0.48	-53.9
	6/15/2011	8:52	13.27	1.76	22.10	7.47	0.48	-57.7
	6/15/2011	8:54	13.29	1.76	22.44	7.47	0.50	-59.4
	6/15/2011	8:56	13.28	1.76	22.66	7.47	0.50	-62.2
MW-8	9/15/2011	13:16	16.52	1.51	10.44	7.34	1.53	-153
	9/15/2011	13:18	16.29	1.50	5.18	7.28	0.80	-195
	9/15/2011	13:20	16.21	1.50	6.80	7.29	0.78	-204
	9/15/2011	13:22	16.17	1.50	3.77	7.29	0.84	-204
	9/15/2011	13:24	16.16	1.50	3.14	7.30	0.83	-204
	9/15/2011	13:26	16.18	1.50	3.15	7.30	0.76	-207
MW-8	12/8/2011	12:44	13.48	1.09	57.95	6.94	3.07	-106
	12/8/2011	12:46	13.80	1.11	268.50	6.97	0.62	-128
	12/8/2011	12:48	14.03	1.13	317.90	6.99	0.37	-135
	12/8/2011	12:50	13.92	1.12	318.90	6.98	0.32	-137
	12/8/2011	12:52	14.07	1.13	246.90	6.99	0.33	-139
	12/8/2011	12:54	14.05	1.13	438.70	6.99	0.32	-139

Table 2

Field Parameter Data

Will County Station, Romeoville, Illinois
Midwest Generation
21153.017

Field Parameter Data - Will County Station								
Monitoring Well	Date	Time	Temperature (°C)	Conductivity (ms/cm^c)	Turbidity (NTU)	pH	DO (mg/L)	ORP (mV)
MW-9	3/29/2011	11:42	11.15	1.78	88.4	10.74	1.73	-284.9
	3/29/2011	11:44	11.12	1.76	134.1	10.84	0.82	-290.2
	3/29/2011	11:46	11.33	1.75	195.0	10.92	0.61	-292.7
	3/29/2011	11:48	11.35	1.75	189.0	10.91	0.42	-292.6
	3/29/2011	11:50	11.22	1.75	23.4	10.88	0.39	-290.9
	3/29/2011	11:52	11.33	1.75	86.6	10.87	0.27	-289.3
MW-9	6/15/2011	10:08	15.06	1.56	16.71	10.12	3.23	121.4
	6/15/2011	10:10	14.51	1.52	16.50	10.52	0.20	92.3
	6/15/2011	10:12	14.52	1.52	16.49	10.52	0.14	88.2
	6/15/2011	10:14	14.55	1.52	16.34	10.51	0.09	82.8
	6/15/2011	10:16	14.49	1.52	15.32	10.51	0.08	80.7
	6/15/2011	10:18	14.55	1.52	15.40	10.44	0.07	79.8
MW-9	9/15/2011	14:52	16.72	1.12	15.27	10.19	1.42	-171
	9/15/2011	14:54	16.77	1.12	4.93	10.22	0.09	-283
	9/15/2011	14:56	16.78	1.12	4.42	10.24	0.05	-322
	9/15/2011	14:58	16.76	1.12	4.67	10.26	0.04	-336
	9/15/2011	15:00	16.78	1.12	3.03	10.27	0.03	-339
	9/15/2011	15:02	16.79	1.12	2.55	10.27	0.03	-341
MW-9	12/8/2011	13:24	14.78	0.88	37.65	9.67	3.46	-63
	12/8/2011	13:26	15.43	0.89	103.10	9.56	0.47	-87
	12/8/2011	13:28	15.59	0.90	260.60	9.53	0.19	-99
	12/8/2011	13:30	15.70	0.90	332.80	9.53	0.10	-108
	12/8/2011	13:32	15.72	0.90	78.48	9.55	0.07	-114
	12/8/2011	13:34	15.70	0.90	260.60	9.55	0.05	-118
MW-10	3/28/2011	10:14	10.39	1.48	32.4	8.17	2.68	-197.9
	3/28/2011	10:16	10.51	1.48	61.1	8.06	1.25	-206.4
	3/28/2011	10:18	10.53	1.47	190.8	8.16	0.93	-202.6
	3/28/2011	10:20	10.58	1.47	213.7	8.14	0.49	-204.8
	3/28/2011	10:22	10.62	1.47	174.3	8.13	0.39	-203.4
	3/28/2011	10:24	10.51	1.47	173.9	8.14	0.42	-208.0
MW-10	6/15/2011	8:06	13.52	1.54	7.90	7.94	3.52	-45.9
	6/15/2011	8:08	13.36	1.52	7.81	7.65	0.26	-81.2
	6/15/2011	8:10	13.32	1.52	7.84	7.57	0.15	-82.4
	6/15/2011	8:12	13.33	1.51	7.77	7.50	0.09	-85.8
	6/15/2011	8:14	13.33	1.51	7.43	7.49	0.08	-87.8
	6/15/2011	8:16	13.34	1.51	7.78	7.53	0.08	-88.7
MW-10	9/15/2011	8:44	16.57	1.32	15.95	7.42	0.96	-152.0
	9/15/2011	8:46	16.89	1.32	12.09	7.42	0.12	-197.0
	9/15/2011	8:48	16.81	1.32	9.05	7.43	0.07	-213.0
	9/15/2011	8:50	16.85	1.32	6.12	7.44	0.06	-22.0
	9/15/2011	8:52	16.83	1.32	6.43	7.45	0.05	-232.0
	9/15/2011	8:54	16.84	1.32	5.54	7.45	0.05	-241.0
MW-10	12/8/2011	8:24	13.88	1.27	18.91	7.13	3.22	-139.0
	12/8/2011	8:26	14.50	1.29	114.60	7.11	0.52	-160.0
	12/8/2011	8:28	14.67	1.29	92.46	7.09	0.24	-168.0
	12/8/2011	8:30	14.67	1.29	99.49	7.10	0.16	-172.0
	12/8/2011	8:32	14.70	1.29	125.80	7.09	0.12	-175.0
	12/8/2011	8:34	14.72	1.29	98.17	7.10	0.09	-177.0

Notes:

°C	degrees Celcius
ms/cm^c	Microsiemens/Centimeters
NTU	Nephelometric Turbidity Units
mg/L	milligrams/Liter
mV	milliVolts

TABLE 3

GROUNDWATER ANALYTICAL DATA

Table 3
Groundwater Analytical Results
Will County, Illinois
Midwest Generation
21153.017

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L) Class I*	MW-1 (mg/L) 12/13/10	MW-1 (mg/L) 3/28/11	MW-1 (mg/L) 6/15/11	MW-1 (mg/L) 9/15/11	MW-1 (mg/L) 12/8/11	MW-2 (mg/L) 12/13/10	MW-2 (mg/L) 3/28/11	MW-2 (mg/L) 6/15/11	MW-2 (mg/L) 9/15/11	MW-2 (mg/L) 12/8/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	0.0063	ND	ND	ND	0.0073	0.017
Arsenic	Metals 6020	0.05	ND	ND	ND	ND	ND	0.0052	0.0032	ND	0.008	0.0058
Barium	Metals 6020	2.0	0.05	0.041	0.046	0.038	0.033	0.061	0.068	0.068	0.048	0..048
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	0.0011	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	ND	ND	0.11	ND	ND	ND	ND	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**0.2**	**0.15**	**0.22**	**0.16**	**0.17**	0.032	0.032	0.043	0.036	0.031
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.0046	0.0038	ND	0.0029	0.004	ND	ND	ND	ND	ND
Selenium	Metals 6020	0.05	ND	ND	ND	0.0053	0.0025	ND	ND	ND	ND	ND
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	1.8	1.6	1.8	1.7	1.6	1.8	1.7	**2.3**	**2.3**	1.7
Sulfate	Dissolved 9038	400	**530**	390	280	320	270	**430**	280	**400**	330	220
Chloride	Dissolved 9251	200	110	**210**	110	120	140	110	**250**	180	110	120
Nitrogen/Nitrate	Nitrogen By calc	10	ND	1.1	0.73	0.33	1.4	ND	ND	ND	ND	ND
Total Dissolved Solids	Dissolved 2540C	1,200	1,100	1,100	1,100	760	770	870	970	900	720	650
Fluoride	Dissolved 4500 FC	4	0.71	0.65	0.53	0.77	0.73	0.62	0.5	0.42	0.59	0.59
Nitrogen/Nitrite	Dissolved 4500 NO2	--	ND	ND	ND	0.042	ND	ND	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	--	ND	1.1	0.73	0.37	1.4	ND	ND	ND	ND	ND

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND- non detect
mg/L- milligrams per liter

Table 3
Groundwater Analytical Results
Will County, Illinois
Midwest Generation
21153.017

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)
		Class I*	12/13/10	3/28/11	6/15/11	9/15/11	12/8/11	12/13/10	3/29/11	6/15/11	9/15/11	12/8/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.002	0.0024	ND	0.0025	0.0018	0.0027	0.0016	ND	0.0041	0.0016
Barium	Metals 6020	2.0	0.084	0.086	0.071	0.079	0.083	0.068	0.062	0.05	0.05	0.043
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	0.0022	ND	ND	ND	0.0011	ND	ND	0.0012	ND
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	0.37	0.57	ND	0.26	0.19	0.83	0.78	0.7	1.2	0.64
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**0.34**	**0.31**	**0.34**	**0.26**	**0.29**	**0.52**	**0.58**	**0.7**	**1.0**	**0.6**
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.0054	0.0037	ND	0.0061	0.0053	0.0048	0.0041	ND	0.0051	0.0047
Selenium	Metals 6020	0.05	ND	ND	ND	0.0033	ND	ND	0.0033	ND	ND	0.0086
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	**2.7**	**2.4**	**2.6**	**3.3**	**2.8**	**3.7**	**3.3**	**3.6**	**4.3**	**3.0**
Sulfate	Dissolved 9038	400	330	270	240	250	280	**1,500**	**1,500**	**1,600**	**4,800**	**1,600**
Chloride	Dissolved 9251	200	54	**250**	100	130	100	120	190	120	170	150
Nitrogen/Nitrate	Nitrogen By calc	10	ND	ND	0.81	ND	0.54	ND	ND	0.19	ND	0.37
Total Dissolved Solids	Dissolved 2540C	1,200	940	1,000	990	1,000	930	**2,500**	**2,600**	**2,800**	**6,000**	**3,100**
Fluoride	Dissolved 4500 FC	4	0.5	0.37	0.36	0.45	0.39	0.52	0.49	0.48	0.53	0.55
Nitrogen/Nitrite	Dissolved 4500 NO2	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	--	ND	ND	0.81	ND	ND	ND	ND	0.19	ND	0.37

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND- non detect
mg/L- milligrams per liter

Table 3
Groundwater Analytical Results
Will County, Illinois
Midwest Generation
21153.017

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L) Class I*	MW-5 (mg/L) 12/13/10	MW-5 (mg/L) 3/29/11	MW-5 (mg/L) 6/15/11	MW-5 (mg/L) 9/15/11	MW-5 (mg/L) 12/8/11	MW-6 (mg/L) 12/13/10	MW-6 (mg/L) 3/28/11	MW-6 (mg/L) 6/15/11	MW-6 (mg/L) 9/15/11	MW-6 (mg/L) 12/8/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.0066	0.0048	ND	0.0025	0.0065	0.0018	0.0018	ND	0.0031	0.0022
Barium	Metals 6020	2.0	0.051	0.06	0.067	0.07	0.061	0.05	0.04	0.045	0.041	0.053
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	0.0079	0.0067	0.055	0.13	0.038	0.073	0.051	0.047	0.024	0.0.38
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	ND	ND	ND	0.0021	ND	ND	ND	ND	ND	ND
Selenium	Metals 6020	0.05	0.017	0.014	0.016	0.008	0.01	0.0062	0.0028	ND	0.011	ND
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	**2.6**	**2.7**	**3.2**	**4.0**	**3.2**	**2.7**	**2.5**	**2.4**	**3.0**	**2.5**
Sulfate	Dissolved 9038	400	**580**	**570**	**540**	**690**	**500**	**500**	**540**	**570**	**420**	**440**
Chloride	Dissolved 9251	200	110	150	140	150	130	120	**210**	150	120	120
Nitrogen/Nitrate	Nitrogen By calc	10	0.27	1.6	0.97	0.11	1	ND	ND	0.1	ND	ND
Total Dissolved Solids	Dissolved 2540C	1,200	1,000	**1,300**	**1,400**	**1,500**	1,000	990	1,100	**1,200**	870	880
Fluoride	Dissolved 4500 FC	4	0.41	0.4	0.46	0.49	0.38	0.85	0.88	0.79	0.97	0.77
Nitrogen/Nitrite	Dissolved 4500 NO2	--	ND	0.31	0.13	ND	0.17	ND	0.048	0.16	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	--	0.27	1.9	1.1	0.11	ND	ND	ND	0.26	ND	ND

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND- non detect
mg/L- milligrams per liter

Table 3
Groundwater Analytical Results
Will County, Illinois
Midwest Generation
21153.017

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)
		Class I*	12/13/10	3/29/11	6/15/11	9/15/11	12/8/11	12/13/10	3/29/11	6/15/11	9/15/11	12/8/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.004	0.0037	ND	0.0042	0.0042	0.0067	0.0059	0.0082	0.014	0.012
Barium	Metals 6020	2.0	0.045	0.067	0.076	0.082	0.082	0.069	0.089	0.085	0.099	0.078
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	0.016	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	0.23	0.18	ND	0.37	0.5	0.48	0.38	0.76	0.46	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	0.12	0.11	**0.15**	**0.18**	**0.2**	**0.33**	**0.44**	**0.47**	**0.45**	**0.4**
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.0029	0.0023	ND	0.0024	0.0021	ND	ND	ND	0.0034	0.002
Selenium	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	**4.7**	**5**	**5.7**	**3.4**	**5.0**	1.7	1.3	1.7	**2.3**	1.9
Sulfate	Dissolved 9038	400	**610**	**650**	**1,000**	**710**	**710**	**440**	**440**	**420**	**600**	330
Chloride	Dissolved 9251	200	160	140	140	160	150	93	**270**	**200**	160	130
Nitrogen/Nitrate	Nitrogen By calc	10	ND	ND	ND	ND	ND	ND	0.22	ND	ND	ND
Total Dissolved Solids	Dissolved 2540C	1,200	**1,300**	**1,500**	**1,600**	**1,400**	**1,300**	930	**1,200**	1,100	**1,300**	980
Fluoride	Dissolved 4500 FC	4	0.96	0.77	0.71	0.82	0.86	0.61	0.55	0.57	0.64	0.61
Nitrogen/Nitrite	Dissolved 4500 NO2	--	ND	0.077	0.035	0.05	0.043	ND	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	--	ND	ND	ND	ND	ND	ND	0.22	ND	ND	ND

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND- non detect
mg/L- milligrams per liter

Table 3
Groundwater Analytical Results
Will County, Illinois
Midwest Generation
21153.017

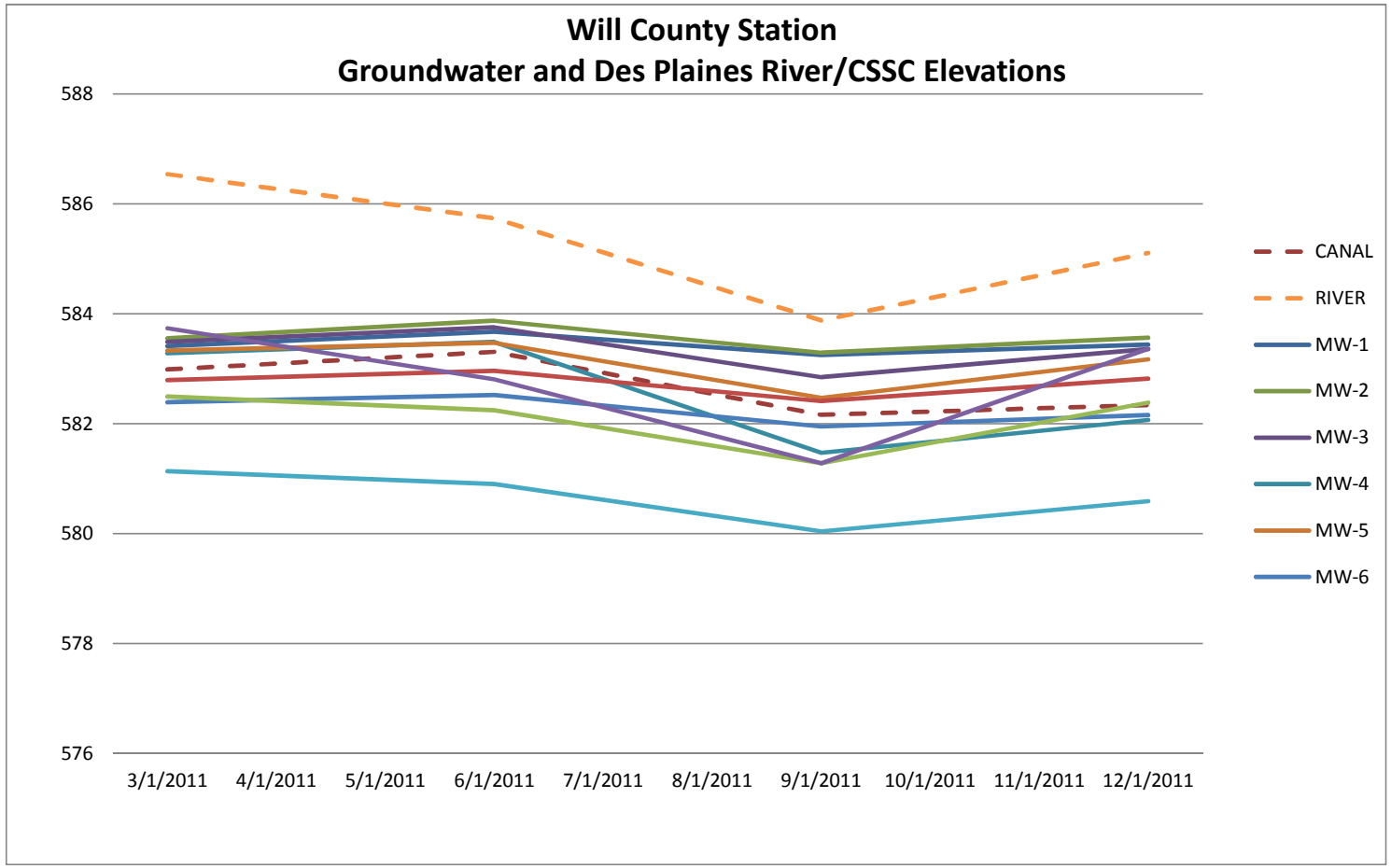
Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L) Class I*	MW-9 (mg/L) 12/13/10	MW-9 (mg/L) 3/29/11	MW-9 (mg/L) 6/15/11	MW-9 (mg/L) 9/15/11	MW-9 (mg/L) 12/8/11	MW-10 (mg/L) 12/13/10	MW-10 (mg/L) 3/28/11	MW-10 (mg/L) 6/15/11	MW-10 (mg/L) 9/15/11	MW-10 (mg/L) 12/8/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.0059	0.0049	0.0052	0.0065	0.0078	0.0041	0.0046	ND	0.0088	0.0083
Barium	Metals 6020	2.0	0.025	0.031	0.025	0.023	0.017	0.098	0.091	0.091	0.11	0.11
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	0.01	ND	ND
Iron	Metals 6020	5.0	ND	ND	ND	ND	ND	0.32	0.46	0.63	0.6	0.71
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	ND	ND	ND	ND	ND	**0.25**	**0.22**	**0.25**	**0.27**	**0.29**
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Selenium	Metals 6020	0.05	0.0036	0.0042	ND	0.0045	0.0031	ND	ND	ND	0.0032	ND
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	**2.2**	1.4	1.7	**2.0**	1.9	**2.1**	1.8	**2.2**	**2.8**	**2.5**
Sulfate	Dissolved 9038	400	**410**	320	**410**	**400**	270	370	370	350	**420**	**290**
Chloride	Dissolved 9251	200	100	**280**	**230**	190	140	92	130	150	120	120
Nitrogen/Nitrate	Nitrogen By calc	10	ND	2.4	0.94	ND	1.9	ND	ND	ND	ND	ND
Total Dissolved Solids	Dissolved 2540C	1,200	800	1,000	940	850	660	990	960	990	1000	1100
Fluoride	Dissolved 4500 FC	4	0.33	0.36	0.28	0.28	0.38	0.66	0.64	0.65	0.67	0.59
Nitrogen/Nitrite	Dissolved 4500 NO2	--	ND	1.2	0.16	0.22	0.38	ND	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	--	0.44	3.6	1.1	0.18	2	ND	ND	ND	ND	ND

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND- non detect
mg/L- milligrams per liter

ATTACHMENT A

GROUNDWATER AND DES PLAINES RIVER/ CSSC ELEVATIONS

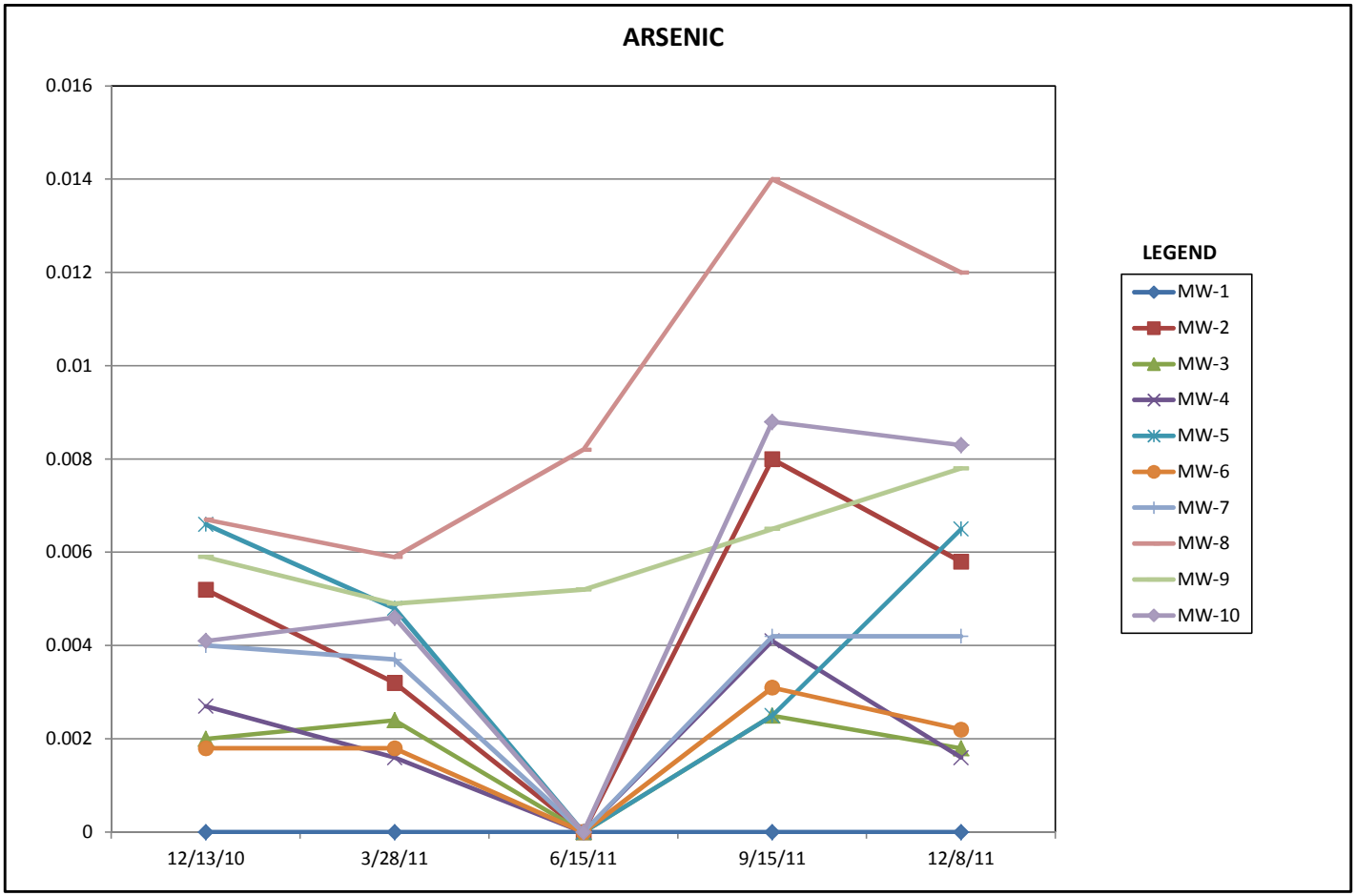
Water Elevations
GROUNDWATER AND CANAL/RIVER ELEVATIONS
Will County Station, Romeoville, IL
Midwest Generation
21153.017



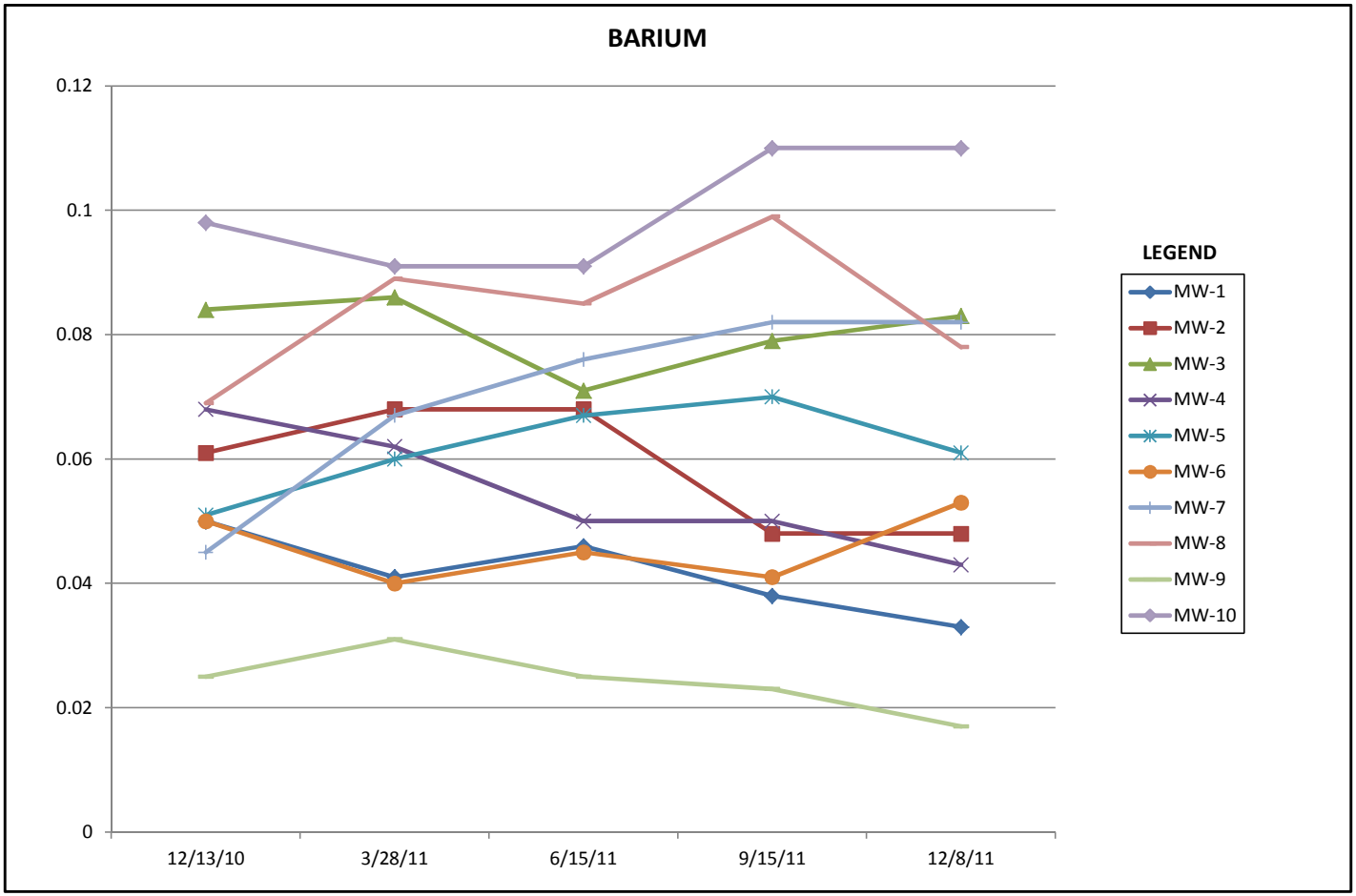
ATTACHMENT B

TREND ANALYSIS CHARTS

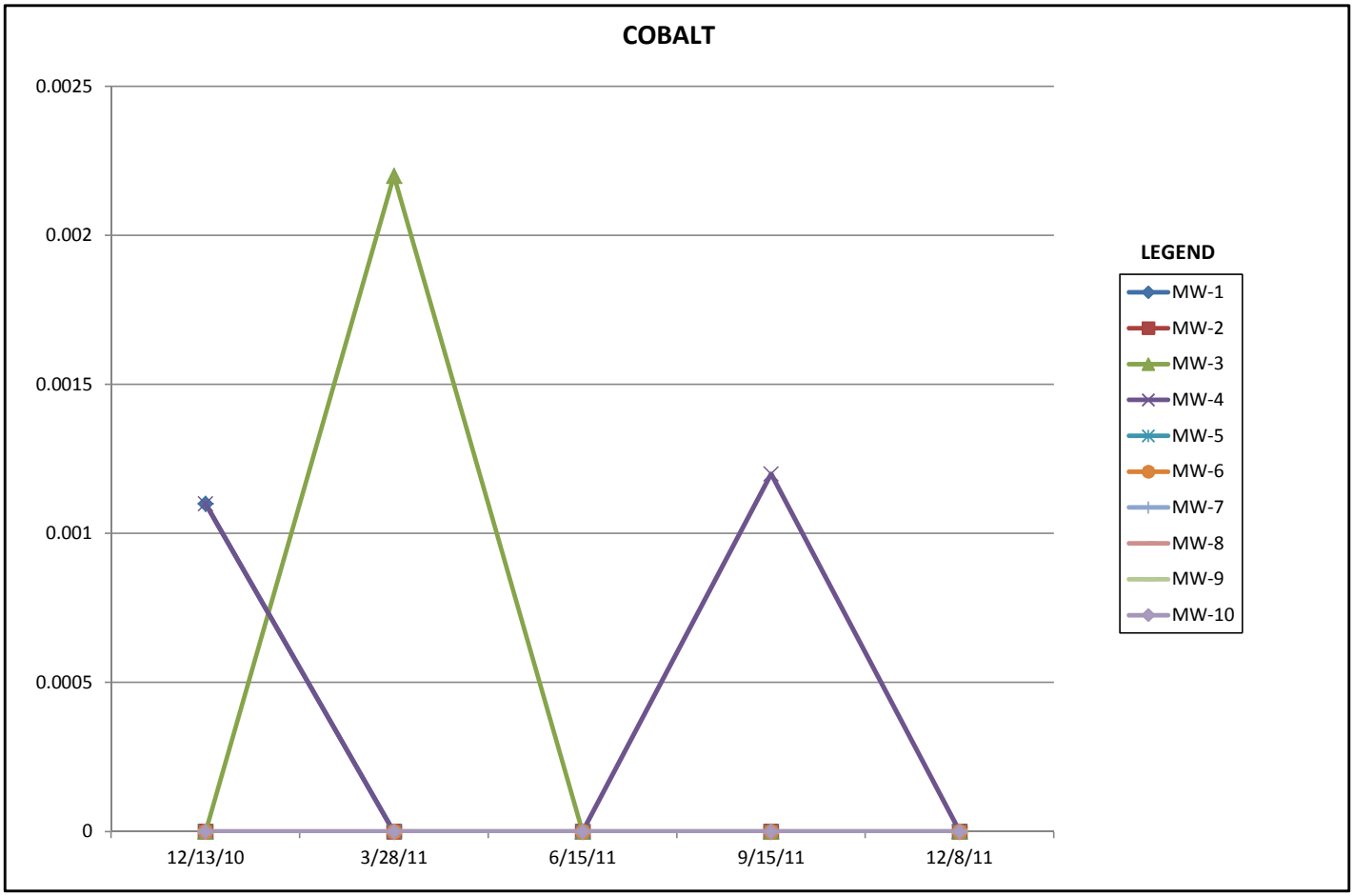
ARSENIC
TREND ANALYSIS CHART
Will County, Illinois
Midwest Generation
21153.017



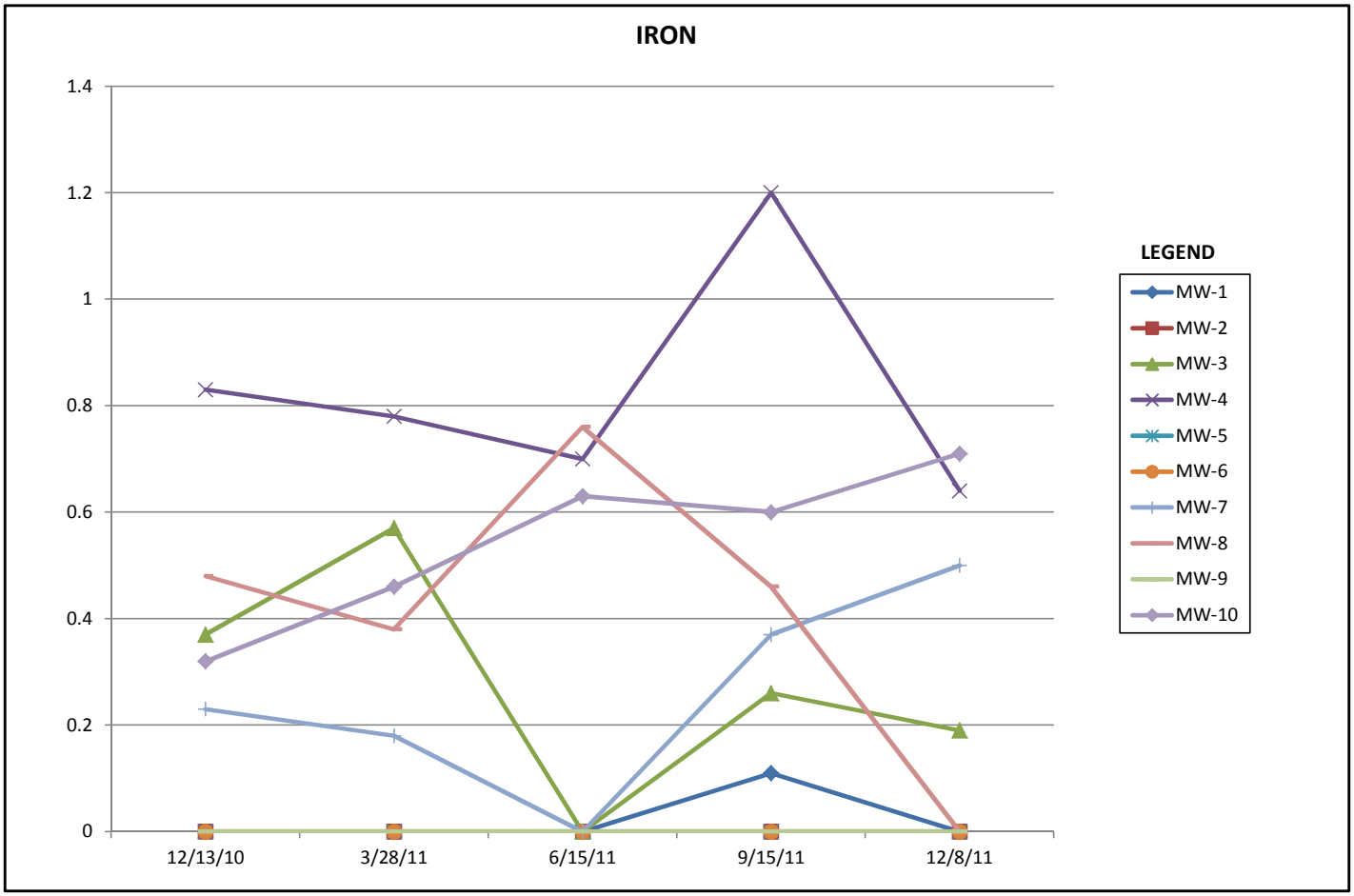
BARIUM
TREND ANALYSIS CHART
Will County, Illinois
Midwest Generation
21153.017



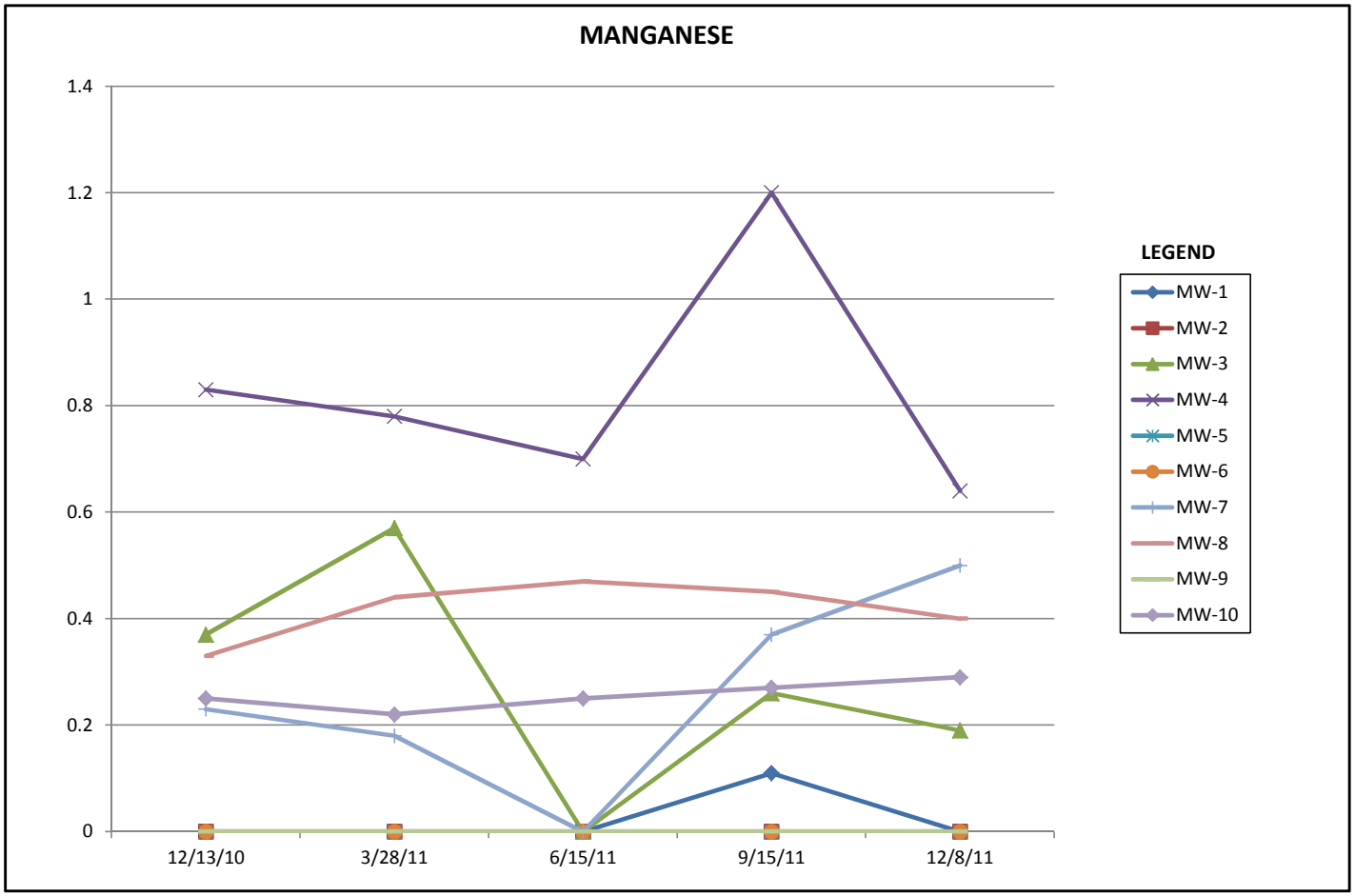
COBALT
TREND ANALYSIS CHART
Will County, Illinois
Midwest Generation
21153.017



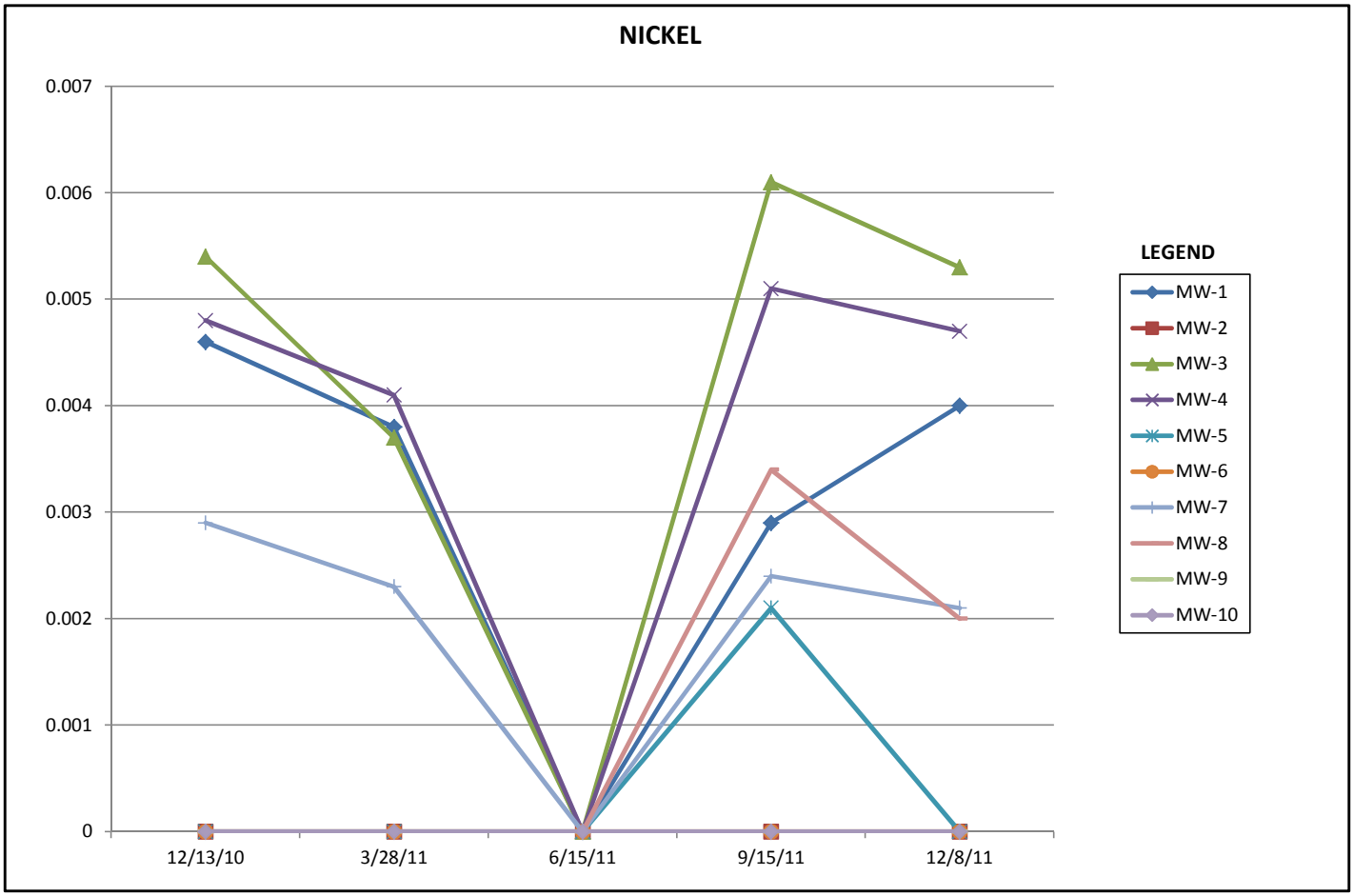
IRON
TREND ANALYSIS CHART
Will County, Illinois
Midwest Generation
21153.017



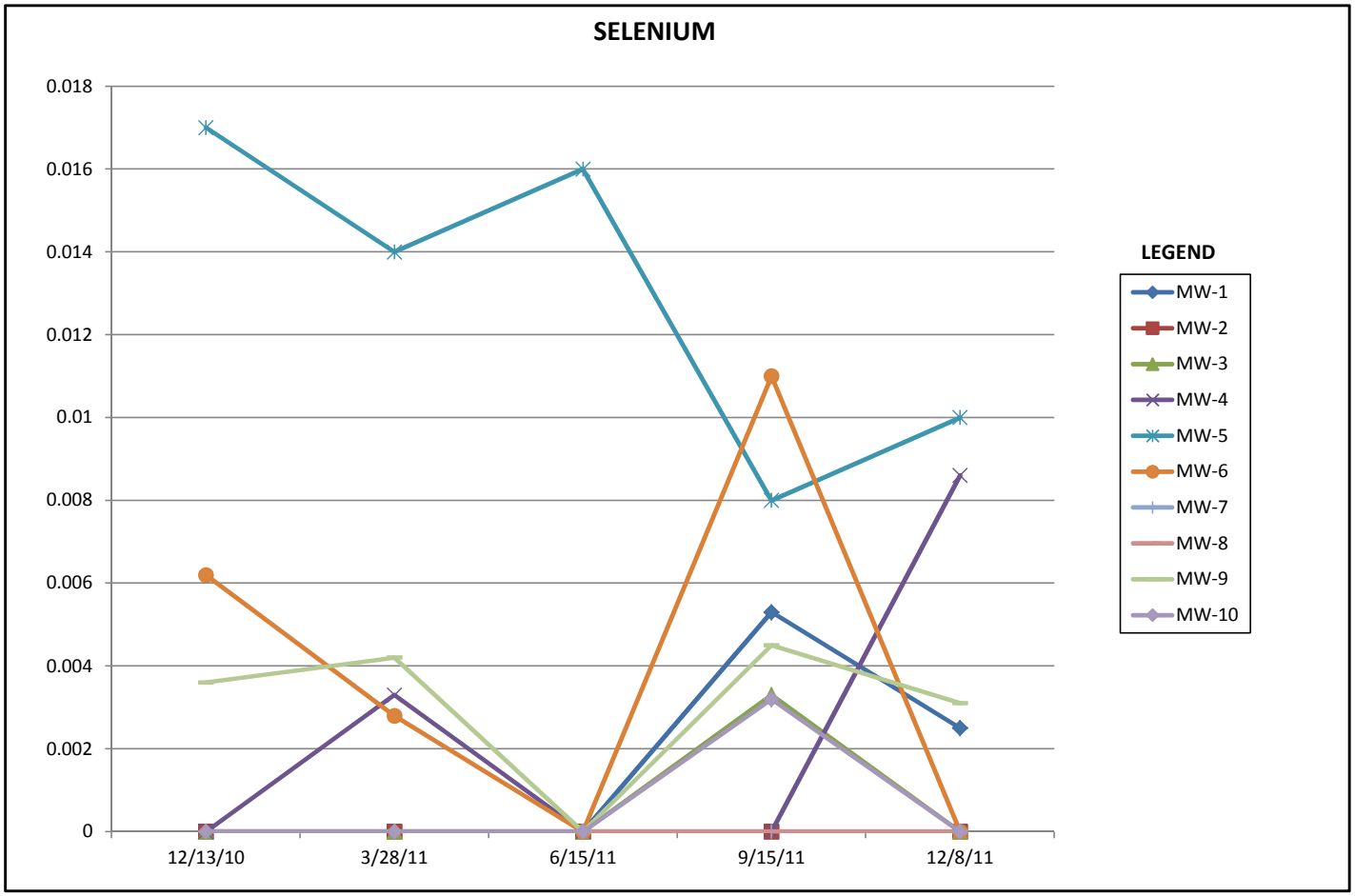
MANGANESE
TREND ANALYSIS CHART
Will County, Illinois
Midwest Generation
21153.017



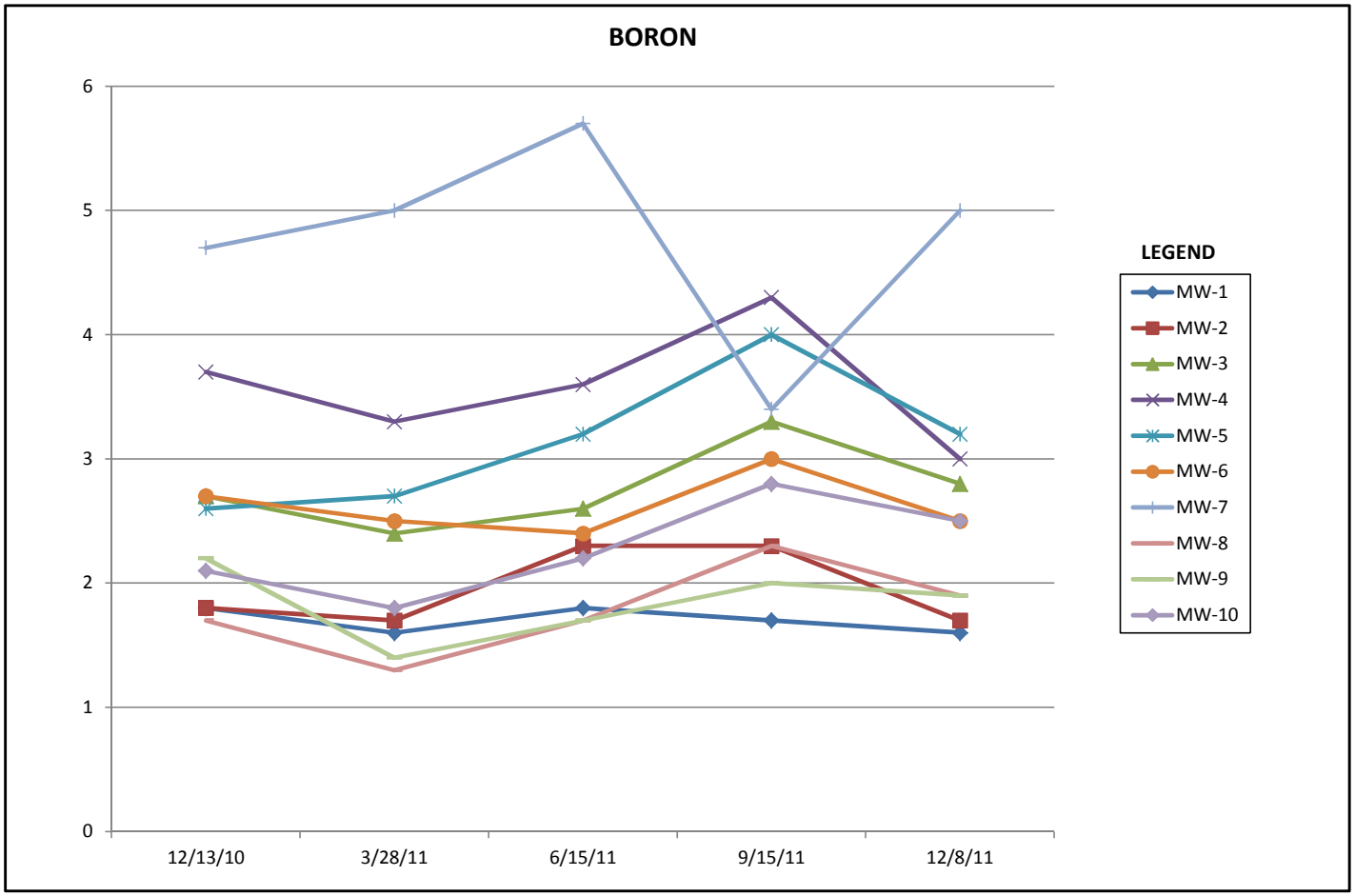
NICKEL
TREND ANALYSIS CHART
Will County, Illinois
Midwest Generation
21153.017



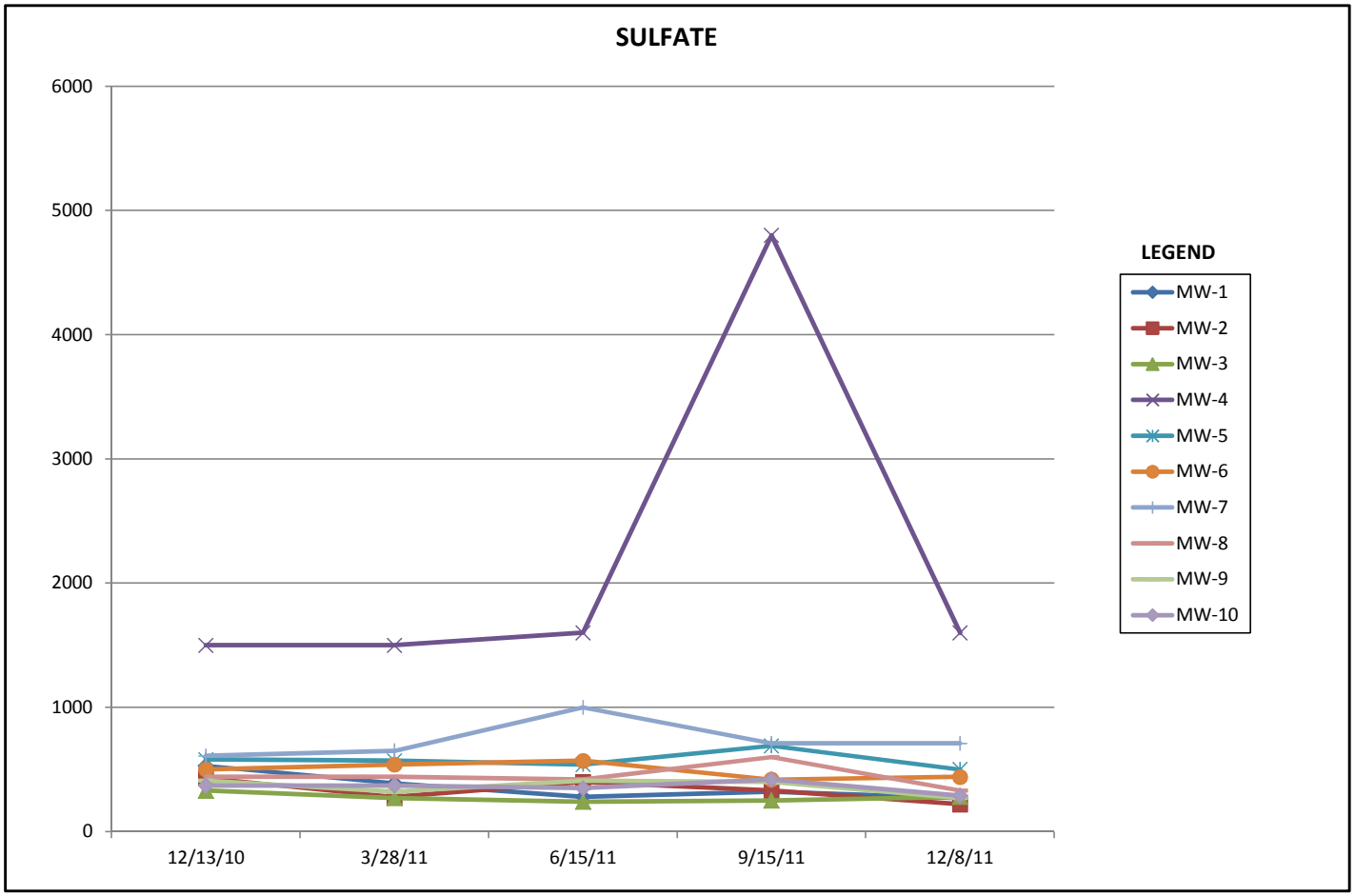
SELENIUM
TREND ANALYSIS CHART
Will County, Illinois
Midwest Generation
21153.017



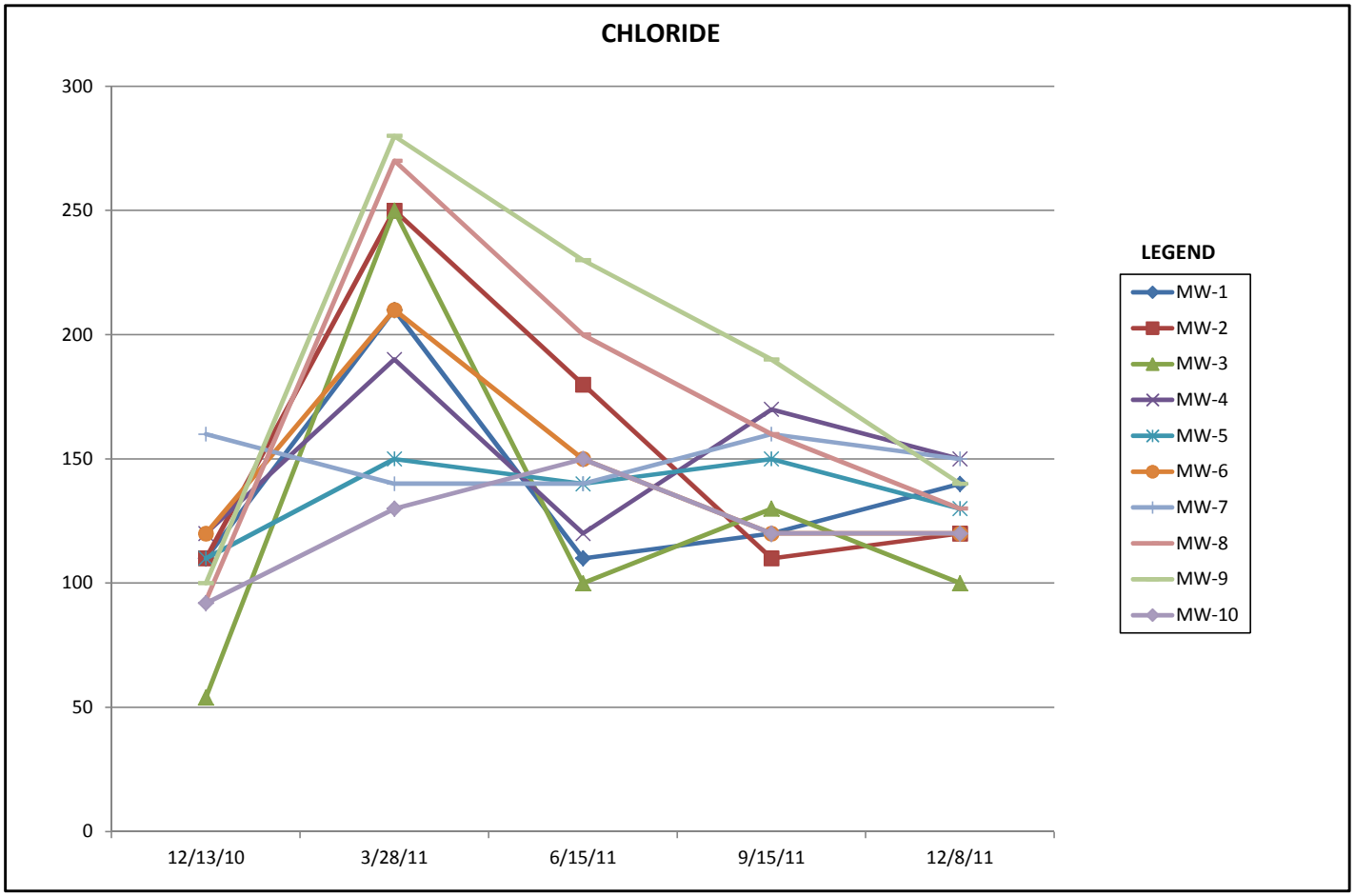
BORON
TREND ANALYSIS CHART
Will County, Illinois
Midwest Generation
21153.017



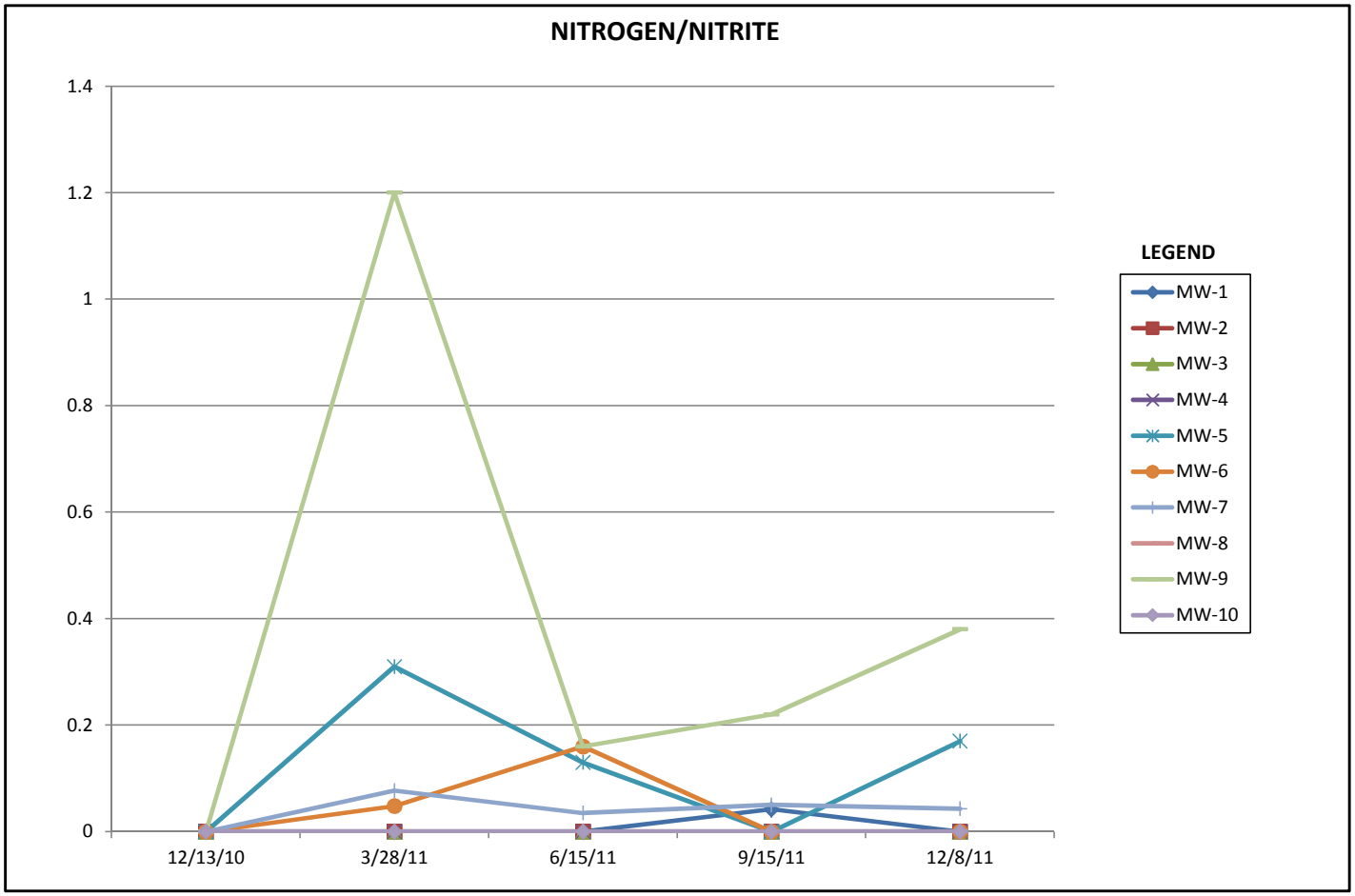
SULFATE
TREND ANALYSIS CHART
Will County, Illinois
Midwest Generation
21153.017



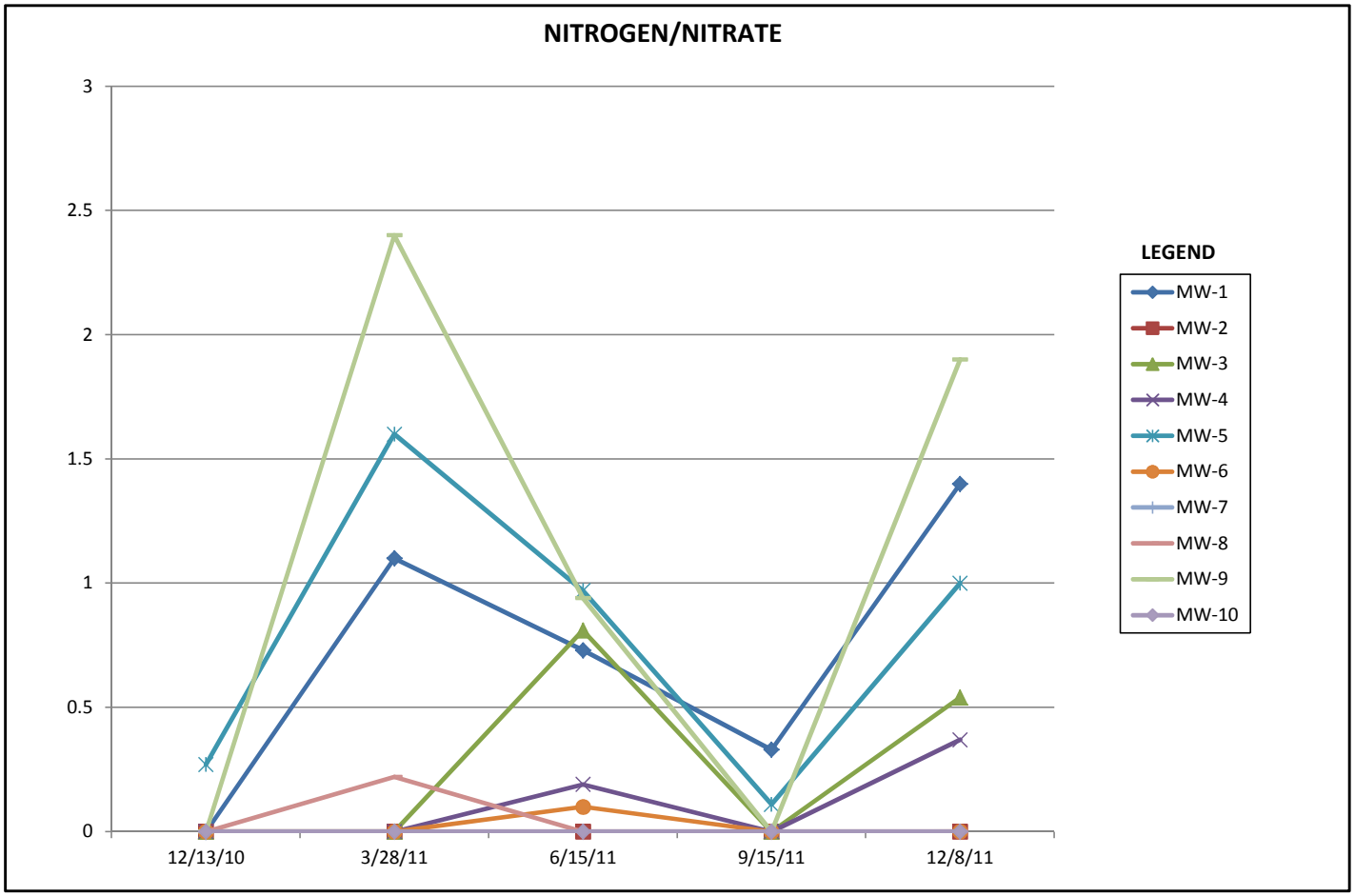
CHLORIDE
TREND ANALYSIS CHART
Will County, Illinois
Midwest Generation
21153.017



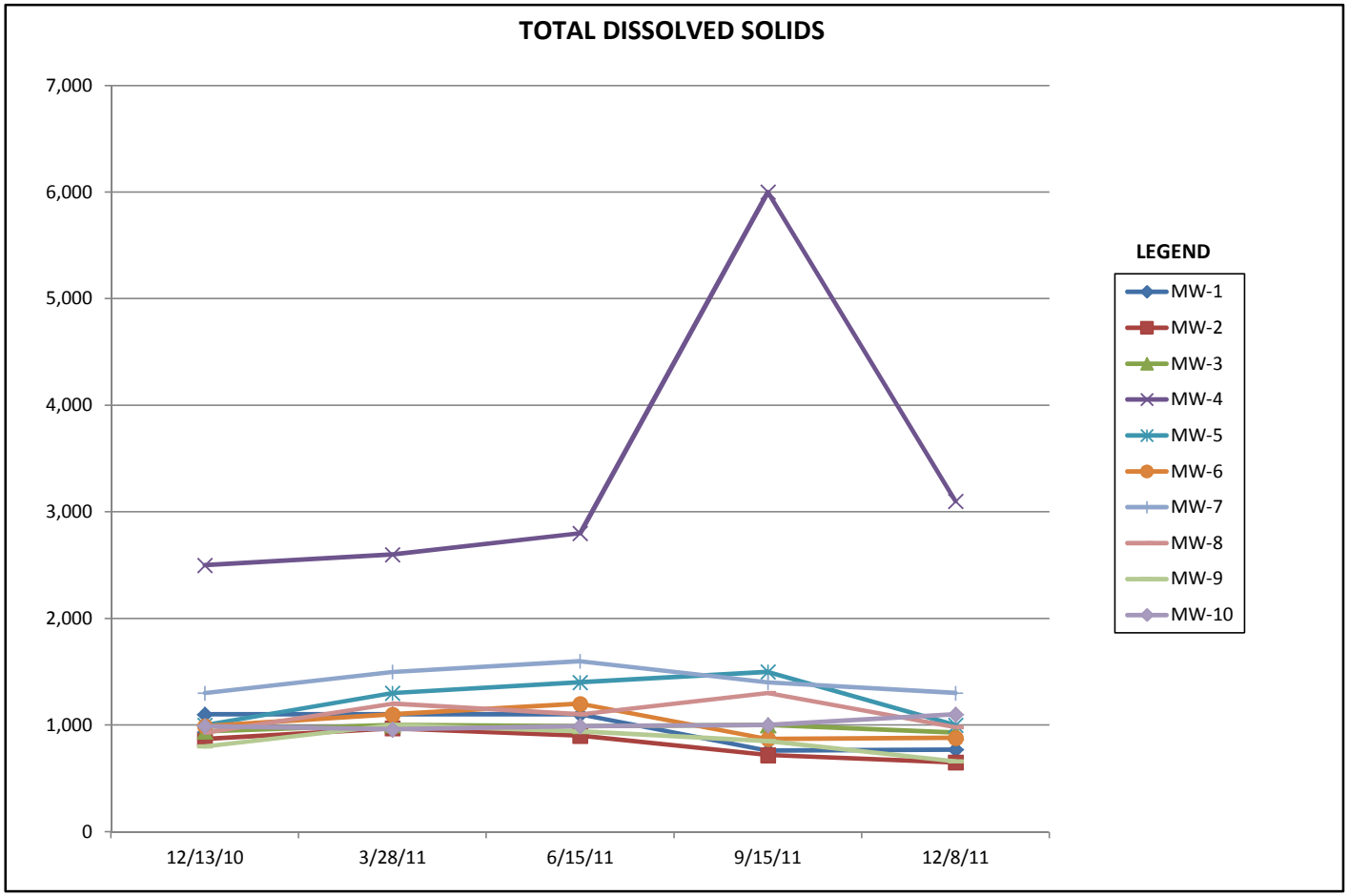
NITROGEN/NITRITE
TREND ANALYSIS CHART
Will County, Illinois
Midwest Generation
21153.017



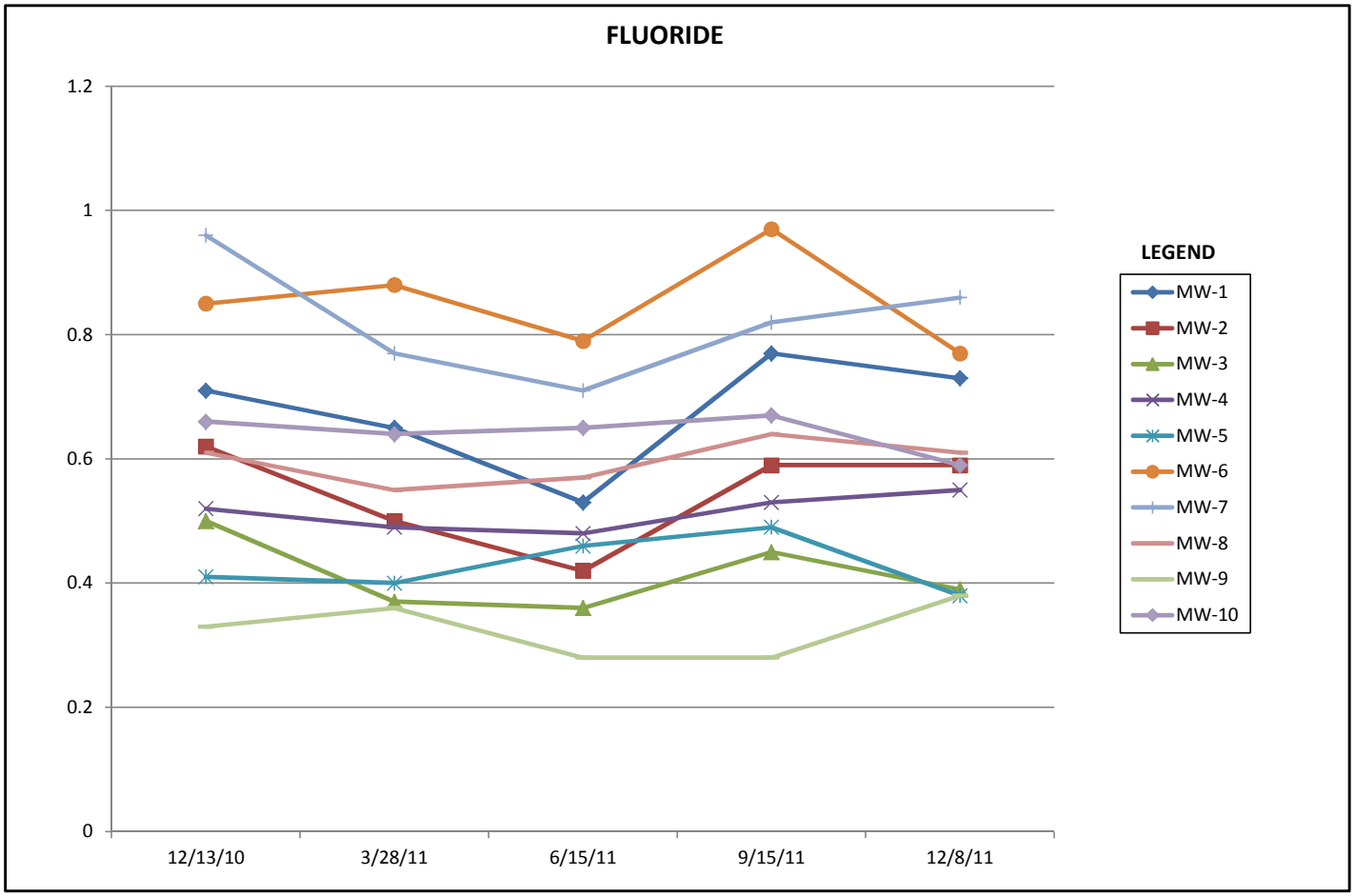
NITROGEN/NITRATE
TREND ANALYSIS CHART
Will County, Illinois
Midwest Generation
21153.017



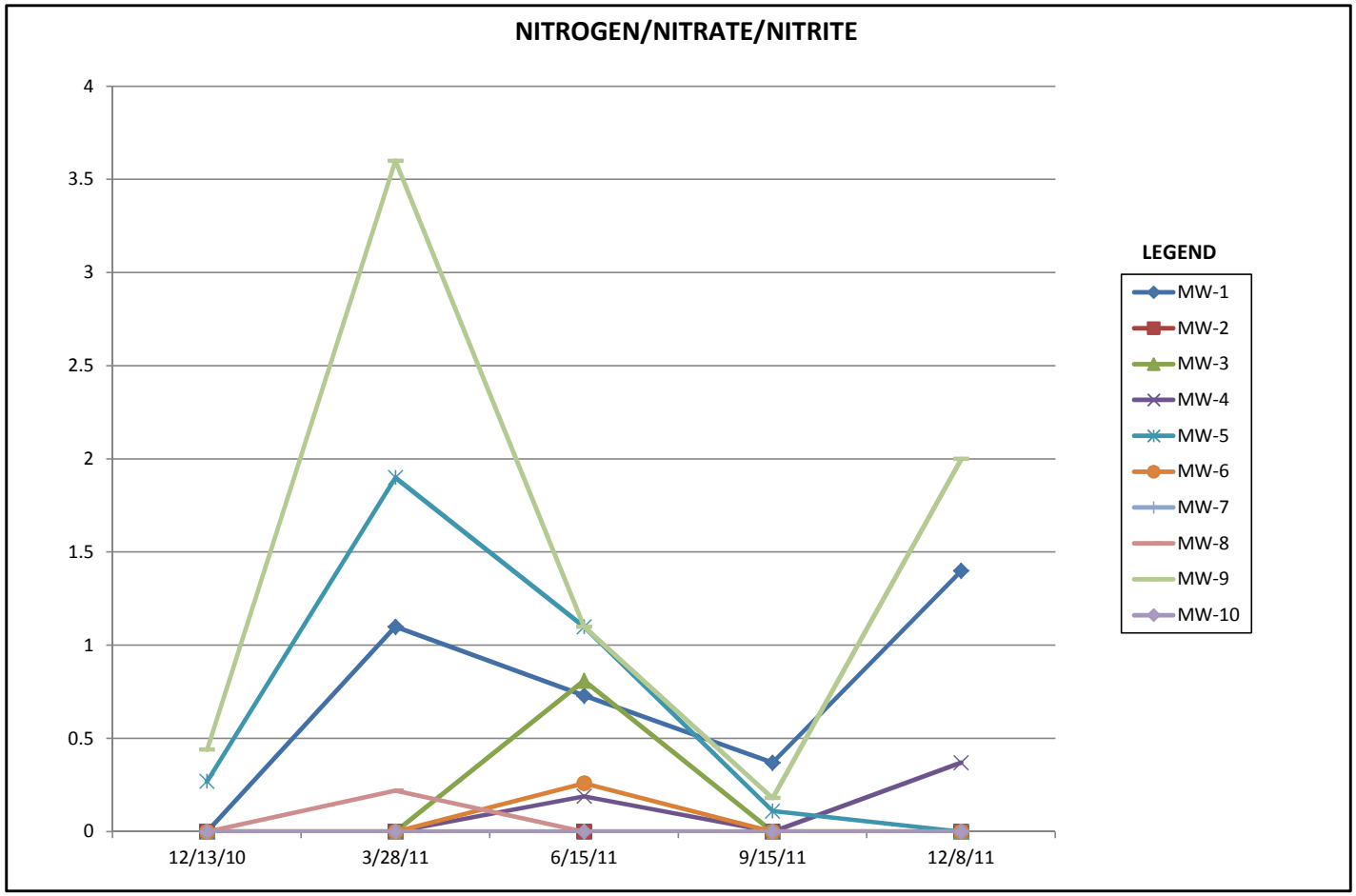
TOTAL DISSOLVED SOLIDS
TREND ANALYSIS CHART
Will County, Illinois
Midwest Generation
21153.017



FLUORIDE
TREND ANALYSIS CHART
Will County, Illinois
Midwest Generation
21153.017



NITROGEN/NITRATE/NITRITE
TREND ANALYSIS CHART
Will County, Illinois
Midwest Generation
21153.017



ATTACHMENT C

LABORATORY ANALYTICAL REPORT

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-43089-1
Client Project/Site: Midwest Generation Will Co. Groundwater

For:
Midwest Generation EME LLC
529 E 135th Street
Romeoville, Illinois 60446-1538

Attn: Beckie Maddox

Authorized for release by:
12/21/2011 4:52:34 PM

Bonnie Stadelmann
Project Manager II
bonnie.stadelmann@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary 5
Client Sample Results 6
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QC Association 17
QC Sample Results 22
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Certification Summary 33

Job ID: 500-43089-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-43089-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

Metals
Method(s) 6020: The matrix spike and matrix spike duplicate (MS/MSD) recoveries for sample 500-43089-1 were outside control limits for As and Se. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 6020: The Method Blank for prep batch 135687 and the Continuing Calibration Blank (CCB) at line 24 in AD batch 136145 had internal standard recoveries slightly outside of control limits. The elemental recoveries were within less than the reporting limit and the samples were reported.

No other analytical or quality issues were noted.

Field Service / Mobile Lab
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Method Summary

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Will Co. Groundwater

TestAmerica Job ID: 500-43089-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL WAT
9014	Cyanide	SW846	TAL CHI
9038	Sulfate, Turbidimetric	SW846	TAL CHI
9251	Chloride	SW846	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL WAT = TestAmerica Watertown, 1101 Industrial Drive, Watertown, WI 53094, TEL (920)261-1660

Sample Summary

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Will Co. Groundwater

TestAmerica Job ID: 500-43089-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-43089-1	MW-1	Water	12/08/11 12:15	12/09/11 11:15
500-43089-2	MW-2	Water	12/08/11 11:30	12/09/11 11:15
500-43089-3	MW-3	Water	12/08/11 10:40	12/09/11 11:15
500-43089-4	MW-4	Water	12/08/11 10:05	12/09/11 11:15
500-43089-5	MW-5	Water	12/08/11 09:25	12/09/11 11:15
500-43089-6	MW-6	Water	12/08/11 08:00	12/09/11 11:15
500-43089-7	MW-7	Water	12/08/11 14:15	12/09/11 11:15
500-43089-8	MW-8	Water	12/08/11 12:55	12/09/11 11:15
500-43089-9	MW-9	Water	12/08/11 13:35	12/09/11 11:15
500-43089-10	MW-10	Water	12/08/11 08:40	12/09/11 11:15

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Will Co. Groundwater

TestAmerica Job ID: 500-43089-1

Client Sample ID: MW-1
Date Collected: 12/08/11 12:15
Date Received: 12/09/11 11:15

Lab Sample ID: 500-43089-1
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.0063**		0.0030		mg/L		12/14/11 12:37	12/14/11 16:18	1
Arsenic	<0.0010		0.0010		mg/L		12/14/11 12:37	12/14/11 16:18	1
Barium	**0.033**		0.0025		mg/L		12/14/11 12:37	12/14/11 16:18	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:37	12/16/11 10:17	1
Boron	**1.6**		0.050		mg/L		12/14/11 12:37	12/16/11 10:17	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:37	12/14/11 16:18	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:37	12/14/11 16:18	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:37	12/14/11 16:18	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:37	12/14/11 16:18	1
Iron	**0.11**		0.10		mg/L		12/14/11 12:37	12/14/11 16:18	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:37	12/14/11 16:18	1
Manganese	**0.17**		0.0025		mg/L		12/14/11 12:37	12/14/11 16:18	1
Nickel	**0.0040**		0.0020		mg/L		12/14/11 12:37	12/14/11 16:18	1
Selenium	**0.0025**		0.0025		mg/L		12/14/11 12:37	12/14/11 16:18	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:37	12/14/11 16:18	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:37	12/14/11 16:18	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:37	12/14/11 16:18	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/17/11 15:45	12/18/11 12:09	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**1.4**		0.10		mg/L			12/19/11 11:23	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 17:20	12/14/11 21:17	1
Sulfate	**270**		100		mg/L			12/20/11 00:58	20
Chloride	**140**		10		mg/L			12/20/11 10:50	5
Nitrogen, Nitrate	**1.4**		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**770**		10		mg/L			12/14/11 00:10	1
Fluoride	**0.73**		0.10		mg/L			12/14/11 13:38	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/09/11 13:46	1

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Will Co. Groundwater

TestAmerica Job ID: 500-43089-1

Client Sample ID: MW-2
Date Collected: 12/08/11 11:30
Date Received: 12/09/11 11:15

Lab Sample ID: 500-43089-2
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.017		0.0030		mg/L		12/14/11 12:37	12/14/11 16:31	1
Arsenic	0.0058		0.0010		mg/L		12/14/11 12:37	12/14/11 16:31	1
Barium	0.048		0.0025		mg/L		12/14/11 12:37	12/14/11 16:31	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:37	12/19/11 08:49	1
Boron	1.7		0.050		mg/L		12/14/11 12:37	12/19/11 08:49	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:37	12/14/11 16:31	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:37	12/14/11 16:31	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:37	12/14/11 16:31	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:37	12/14/11 16:31	1
Iron	<0.10		0.10		mg/L		12/14/11 12:37	12/14/11 16:31	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:37	12/14/11 16:31	1
Manganese	0.031		0.0025		mg/L		12/14/11 12:37	12/14/11 16:31	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:37	12/14/11 16:31	1
Selenium	<0.0025		0.0025		mg/L		12/14/11 12:37	12/14/11 16:31	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:37	12/14/11 16:31	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:37	12/14/11 16:31	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:37	12/14/11 16:31	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/17/11 15:45	12/18/11 12:17	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10		0.10		mg/L			12/19/11 11:26	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 17:20	12/14/11 21:18	1
Sulfate	220		50		mg/L			12/20/11 01:01	10
Chloride	120		10		mg/L			12/20/11 10:51	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	650		10		mg/L			12/14/11 00:19	1
Fluoride	0.59		0.10		mg/L			12/14/11 13:42	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/09/11 13:47	1

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Will Co. Groundwater

TestAmerica Job ID: 500-43089-1

Client Sample ID: MW-3
Date Collected: 12/08/11 10:40
Date Received: 12/09/11 11:15

Lab Sample ID: 500-43089-3
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:37	12/14/11 16:47	1
Arsenic	**0.0018**		0.0010		mg/L		12/14/11 12:37	12/14/11 16:47	1
Barium	**0.083**		0.0025		mg/L		12/14/11 12:37	12/14/11 16:47	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:37	12/16/11 10:24	1
Boron	**2.8**		0.050		mg/L		12/14/11 12:37	12/16/11 10:24	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:37	12/14/11 16:47	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:37	12/14/11 16:47	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:37	12/14/11 16:47	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:37	12/14/11 16:47	1
Iron	**0.19**		0.10		mg/L		12/14/11 12:37	12/14/11 16:47	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:37	12/14/11 16:47	1
Manganese	**0.29**		0.0025		mg/L		12/14/11 12:37	12/14/11 16:47	1
Nickel	**0.0053**		0.0020		mg/L		12/14/11 12:37	12/14/11 16:47	1
Selenium	<0.0025		0.0025		mg/L		12/14/11 12:37	12/14/11 16:47	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:37	12/14/11 16:47	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:37	12/14/11 16:47	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:37	12/14/11 16:47	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/17/11 15:45	12/18/11 12:22	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**0.54**		0.10		mg/L			12/19/11 11:28	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 17:20	12/14/11 21:19	1
Sulfate	**280**		100		mg/L			12/20/11 01:02	20
Chloride	**100**		10		mg/L			12/20/11 10:51	5
Nitrogen, Nitrate	**0.54**		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**930**		10		mg/L			12/14/11 00:22	1
Fluoride	**0.39**		0.10		mg/L			12/14/11 13:45	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/09/11 13:48	1

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Will Co. Groundwater

TestAmerica Job ID: 500-43089-1

Client Sample ID: MW-4
Date Collected: 12/08/11 10:05
Date Received: 12/09/11 11:15

Lab Sample ID: 500-43089-4
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:37	12/16/11 18:20	1
Arsenic	**0.0016**		0.0010		mg/L		12/14/11 12:37	12/16/11 18:20	1
Barium	**0.043**		0.0025		mg/L		12/14/11 12:37	12/16/11 18:20	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:37	12/16/11 10:25	1
Boron	**3.0**		0.050		mg/L		12/14/11 12:37	12/16/11 10:25	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:20	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:37	12/20/11 18:07	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:37	12/20/11 18:07	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:37	12/20/11 18:07	1
Iron	**0.64**		0.10		mg/L		12/14/11 12:37	12/20/11 18:07	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:20	1
Manganese	**0.62**		0.0025		mg/L		12/14/11 12:37	12/20/11 18:07	1
Nickel	**0.0047**		0.0020		mg/L		12/14/11 12:37	12/20/11 18:07	1
Selenium	**0.0086**		0.0025		mg/L		12/14/11 12:37	12/16/11 18:20	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:20	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:37	12/16/11 18:20	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:37	12/16/11 18:20	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/17/11 15:45	12/18/11 12:24	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**0.37**		0.10		mg/L			12/19/11 11:34	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 17:20	12/14/11 21:19	1
Sulfate	**1600**		500		mg/L			12/20/11 01:03	100
Chloride	**150**		10		mg/L			12/20/11 10:52	5
Nitrogen, Nitrate	**0.37**		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**3100**		13		mg/L			12/14/11 00:25	1
Fluoride	**0.55**		0.10		mg/L			12/14/11 13:48	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/09/11 13:49	1

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Will Co. Groundwater

TestAmerica Job ID: 500-43089-1

Client Sample ID: MW-5
Date Collected: 12/08/11 09:25
Date Received: 12/09/11 11:15

Lab Sample ID: 500-43089-5
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:37	12/16/11 18:23	1
Arsenic	**0.0065**		0.0010		mg/L		12/14/11 12:37	12/16/11 18:23	1
Barium	**0.061**		0.0025		mg/L		12/14/11 12:37	12/16/11 18:23	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:37	12/19/11 08:50	1
Boron	**3.2**		0.050		mg/L		12/14/11 12:37	12/19/11 08:50	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:23	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:37	12/20/11 17:17	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:37	12/20/11 17:17	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:37	12/20/11 17:17	1
Iron	<0.10		0.10		mg/L		12/14/11 12:37	12/20/11 17:17	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:23	1
Manganese	**0.038**		0.0025		mg/L		12/14/11 12:37	12/20/11 17:17	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:37	12/20/11 17:17	1
Selenium	**0.010**		0.0025		mg/L		12/14/11 12:37	12/16/11 18:23	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:23	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:37	12/16/11 18:23	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:37	12/16/11 18:23	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/17/11 15:45	12/18/11 12:26	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**1.2**		0.10		mg/L			12/19/11 11:35	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 17:20	12/14/11 21:20	1
Sulfate	**500**		100		mg/L			12/20/11 01:04	20
Chloride	**130**		10		mg/L			12/20/11 10:52	5
Nitrogen, Nitrate	**1.0**		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**1000**		10		mg/L			12/14/11 00:28	1
Fluoride	**0.38**		0.10		mg/L			12/14/11 13:51	1
Nitrogen, Nitrite	**0.17**		0.020		mg/L			12/09/11 13:49	1

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Will Co. Groundwater

TestAmerica Job ID: 500-43089-1

Client Sample ID: MW-6
Date Collected: 12/08/11 08:00
Date Received: 12/09/11 11:15

Lab Sample ID: 500-43089-6
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:37	12/16/11 18:26	1
Arsenic	**0.0022**		0.0010		mg/L		12/14/11 12:37	12/16/11 18:26	1
Barium	**0.053**		0.0025		mg/L		12/14/11 12:37	12/16/11 18:26	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:37	12/16/11 10:35	1
Boron	**2.5**		0.050		mg/L		12/14/11 12:37	12/16/11 10:35	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:26	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:37	12/20/11 17:19	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:37	12/20/11 17:19	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:37	12/20/11 17:19	1
Iron	<0.10		0.10		mg/L		12/14/11 12:37	12/20/11 17:19	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:26	1
Manganese	**0.038**		0.0025		mg/L		12/14/11 12:37	12/20/11 17:19	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:37	12/20/11 17:19	1
Selenium	<0.0025		0.0025		mg/L		12/14/11 12:37	12/16/11 18:26	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:26	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:37	12/16/11 18:26	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:37	12/16/11 18:26	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/17/11 15:45	12/18/11 12:28	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10		0.10		mg/L			12/19/11 11:36	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 17:20	12/14/11 21:20	1
Sulfate	**440**		100		mg/L			12/20/11 01:05	20
Chloride	**120**		10		mg/L			12/20/11 10:53	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**880**		10		mg/L			12/14/11 00:31	1
Fluoride	**0.77**		0.10		mg/L			12/14/11 13:54	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/09/11 13:49	1

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Will Co. Groundwater

TestAmerica Job ID: 500-43089-1

Client Sample ID: MW-7
Date Collected: 12/08/11 14:15
Date Received: 12/09/11 11:15

Lab Sample ID: 500-43089-7
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:37	12/16/11 18:28	1
Arsenic	**0.0042**		0.0010		mg/L		12/14/11 12:37	12/16/11 18:28	1
Barium	**0.082**		0.0025		mg/L		12/14/11 12:37	12/16/11 18:28	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:37	12/16/11 10:36	1
Boron	**5.0**		0.050		mg/L		12/14/11 12:37	12/16/11 10:36	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:28	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:37	12/20/11 18:19	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:37	12/20/11 18:19	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:37	12/20/11 18:19	1
Iron	**0.50**		0.10		mg/L		12/14/11 12:37	12/20/11 18:19	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:28	1
Manganese	**0.20**		0.0025		mg/L		12/14/11 12:37	12/20/11 18:19	1
Nickel	**0.0021**		0.0020		mg/L		12/14/11 12:37	12/20/11 18:19	1
Selenium	<0.0025		0.0025		mg/L		12/14/11 12:37	12/16/11 18:28	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:28	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:37	12/16/11 18:28	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:37	12/16/11 18:28	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/17/11 15:45	12/18/11 12:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10		0.10		mg/L			12/19/11 11:37	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 17:20	12/14/11 21:21	1
Sulfate	**710**		130		mg/L			12/20/11 01:06	25
Chloride	**150**		10		mg/L			12/20/11 10:53	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**1300**		10		mg/L			12/14/11 00:34	1
Fluoride	**0.86**		0.10		mg/L			12/14/11 14:07	1
Nitrogen, Nitrite	**0.043**		0.020		mg/L			12/09/11 13:51	1

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Will Co. Groundwater

TestAmerica Job ID: 500-43089-1

Client Sample ID: MW-8
Date Collected: 12/08/11 12:55
Date Received: 12/09/11 11:15

Lab Sample ID: 500-43089-8
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:37	12/16/11 18:31	1
Arsenic	**0.012**		0.0010		mg/L		12/14/11 12:37	12/16/11 18:31	1
Barium	**0.078**		0.0025		mg/L		12/14/11 12:37	12/16/11 18:31	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:37	12/19/11 08:51	1
Boron	**1.9**		0.050		mg/L		12/14/11 12:37	12/19/11 08:51	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:31	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:37	12/20/11 18:24	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:37	12/20/11 18:24	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:37	12/20/11 18:24	1
Iron	**0.68**		0.10		mg/L		12/14/11 12:37	12/20/11 18:24	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:31	1
Manganese	**0.40**		0.0025		mg/L		12/14/11 12:37	12/20/11 18:24	1
Nickel	**0.0020**		0.0020		mg/L		12/14/11 12:37	12/20/11 18:24	1
Selenium	<0.0025		0.0025		mg/L		12/14/11 12:37	12/16/11 18:31	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:31	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:37	12/16/11 18:31	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:37	12/16/11 18:31	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/17/11 15:45	12/18/11 12:32	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10		0.10		mg/L			12/19/11 11:41	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 17:20	12/14/11 21:21	1
Sulfate	**330**		100		mg/L			12/20/11 01:07	20
Chloride	**130**		10		mg/L			12/20/11 10:54	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**980**		10		mg/L			12/14/11 00:37	1
Fluoride	**0.61**		0.10		mg/L			12/14/11 14:10	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/09/11 13:51	1

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Will Co. Groundwater

TestAmerica Job ID: 500-43089-1

Client Sample ID: MW-9
Date Collected: 12/08/11 13:35
Date Received: 12/09/11 11:15

Lab Sample ID: 500-43089-9
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:37	12/16/11 18:34	1
Arsenic	**0.0078**		0.0010		mg/L		12/14/11 12:37	12/16/11 18:34	1
Barium	**0.017**		0.0025		mg/L		12/14/11 12:37	12/16/11 18:34	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:37	12/19/11 08:53	1
Boron	**1.9**		0.050		mg/L		12/14/11 12:37	12/19/11 08:53	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:34	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:37	12/20/11 17:25	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:37	12/20/11 17:25	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:37	12/20/11 17:25	1
Iron	<0.10	^	0.10		mg/L		12/14/11 12:37	12/20/11 17:25	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:34	1
Manganese	<0.0025		0.0025		mg/L		12/14/11 12:37	12/20/11 17:25	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:37	12/20/11 17:25	1
Selenium	**0.0031**		0.0025		mg/L		12/14/11 12:37	12/16/11 18:34	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:37	12/16/11 18:34	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:37	12/16/11 18:34	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:37	12/16/11 18:34	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/17/11 15:45	12/18/11 12:34	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**2.0**		0.10		mg/L			12/19/11 11:42	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 17:20	12/14/11 21:22	1
Sulfate	**270**		50		mg/L			12/20/11 01:08	10
Chloride	**140**		10		mg/L			12/20/11 10:55	5
Nitrogen, Nitrate	**1.9**		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**660**		10		mg/L			12/14/11 00:40	1
Fluoride	**0.38**		0.10		mg/L			12/14/11 14:13	1
Nitrogen, Nitrite	**0.15**		0.020		mg/L			12/09/11 13:52	1

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Will Co. Groundwater

TestAmerica Job ID: 500-43089-1

Client Sample ID: MW-10
Date Collected: 12/08/11 08:40
Date Received: 12/09/11 11:15

Lab Sample ID: 500-43089-10
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:37	12/14/11 17:16	1
Arsenic	**0.0083**		0.0010		mg/L		12/14/11 12:37	12/14/11 17:16	1
Barium	**0.11**		0.0025		mg/L		12/14/11 12:37	12/14/11 17:16	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:37	12/19/11 08:54	1
Boron	**2.5**		0.050		mg/L		12/14/11 12:37	12/19/11 08:54	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:37	12/14/11 17:16	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:37	12/14/11 17:16	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:37	12/14/11 17:16	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:37	12/14/11 17:16	1
Iron	**0.71**		0.10		mg/L		12/14/11 12:37	12/14/11 17:16	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:37	12/14/11 17:16	1
Manganese	**0.29**		0.0025		mg/L		12/14/11 12:37	12/14/11 17:16	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:37	12/14/11 17:16	1
Selenium	<0.0025		0.0025		mg/L		12/14/11 12:37	12/14/11 17:16	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:37	12/14/11 17:16	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:37	12/14/11 17:16	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:37	12/14/11 17:16	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/17/11 15:45	12/18/11 12:37	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10		0.10		mg/L			12/19/11 11:43	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 17:20	12/14/11 21:23	1
Sulfate	**290**		100		mg/L			12/20/11 01:09	20
Chloride	**120**		10		mg/L			12/20/11 10:56	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**1100**		10		mg/L			12/14/11 00:43	1
Fluoride	**0.59**		0.10		mg/L			12/14/11 14:16	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/09/11 13:52	1

Qualifiers

Metals

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

General Chemistry

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 135687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-1	MW-1	Dissolved	Water	Soluble Metals	
500-43089-1 DU	MW-1	Dissolved	Water	Soluble Metals	
500-43089-1 MS	MW-1	Dissolved	Water	Soluble Metals	
500-43089-1 MSD	MW-1	Dissolved	Water	Soluble Metals	
500-43089-2	MW-2	Dissolved	Water	Soluble Metals	
500-43089-3	MW-3	Dissolved	Water	Soluble Metals	
500-43089-4	MW-4	Dissolved	Water	Soluble Metals	
500-43089-5	MW-5	Dissolved	Water	Soluble Metals	
500-43089-6	MW-6	Dissolved	Water	Soluble Metals	
500-43089-7	MW-7	Dissolved	Water	Soluble Metals	
500-43089-8	MW-8	Dissolved	Water	Soluble Metals	
500-43089-9	MW-9	Dissolved	Water	Soluble Metals	
500-43089-10	MW-10	Dissolved	Water	Soluble Metals	
LCS 500-135687/2-A	Lab Control Sample	Soluble	Water	Soluble Metals	
MB 500-135687/1-A	Method Blank	Soluble	Water	Soluble Metals	

Analysis Batch: 135736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-1	MW-1	Dissolved	Water	6020	135687
500-43089-1 DU	MW-1	Dissolved	Water	6020	135687
500-43089-1 MS	MW-1	Dissolved	Water	6020	135687
500-43089-1 MSD	MW-1	Dissolved	Water	6020	135687
500-43089-2	MW-2	Dissolved	Water	6020	135687
500-43089-3	MW-3	Dissolved	Water	6020	135687
500-43089-10	MW-10	Dissolved	Water	6020	135687
LCS 500-135687/2-A	Lab Control Sample	Soluble	Water	6020	135687
MB 500-135687/1-A	Method Blank	Soluble	Water	6020	135687

Analysis Batch: 135985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-1	MW-1	Dissolved	Water	6020	135687
500-43089-1 DU	MW-1	Dissolved	Water	6020	135687
500-43089-1 MS	MW-1	Dissolved	Water	6020	135687
500-43089-1 MSD	MW-1	Dissolved	Water	6020	135687
500-43089-3	MW-3	Dissolved	Water	6020	135687
500-43089-4	MW-4	Dissolved	Water	6020	135687
500-43089-6	MW-6	Dissolved	Water	6020	135687
500-43089-7	MW-7	Dissolved	Water	6020	135687

Prep Batch: 136092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-1	MW-1	Dissolved	Water	7470A	
500-43089-1 DU	MW-1	Dissolved	Water	7470A	
500-43089-1 MS	MW-1	Dissolved	Water	7470A	
500-43089-1 MSD	MW-1	Dissolved	Water	7470A	
500-43089-2	MW-2	Dissolved	Water	7470A	
500-43089-3	MW-3	Dissolved	Water	7470A	
500-43089-4	MW-4	Dissolved	Water	7470A	
500-43089-5	MW-5	Dissolved	Water	7470A	
500-43089-6	MW-6	Dissolved	Water	7470A	
500-43089-7	MW-7	Dissolved	Water	7470A	
500-43089-8	MW-8	Dissolved	Water	7470A	

Metals (Continued)

Prep Batch: 136092 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-9	MW-9	Dissolved	Water	7470A	
500-43089-10	MW-10	Dissolved	Water	7470A	
LCS 500-136092/8-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-136092/7-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 136113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-4	MW-4	Dissolved	Water	6020	135687
500-43089-5	MW-5	Dissolved	Water	6020	135687
500-43089-6	MW-6	Dissolved	Water	6020	135687
500-43089-7	MW-7	Dissolved	Water	6020	135687
500-43089-8	MW-8	Dissolved	Water	6020	135687
500-43089-9	MW-9	Dissolved	Water	6020	135687

Analysis Batch: 136121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-1	MW-1	Dissolved	Water	7470A	136092
500-43089-1 DU	MW-1	Dissolved	Water	7470A	136092
500-43089-1 MS	MW-1	Dissolved	Water	7470A	136092
500-43089-1 MSD	MW-1	Dissolved	Water	7470A	136092
500-43089-2	MW-2	Dissolved	Water	7470A	136092
500-43089-3	MW-3	Dissolved	Water	7470A	136092
500-43089-4	MW-4	Dissolved	Water	7470A	136092
500-43089-5	MW-5	Dissolved	Water	7470A	136092
500-43089-6	MW-6	Dissolved	Water	7470A	136092
500-43089-7	MW-7	Dissolved	Water	7470A	136092
500-43089-8	MW-8	Dissolved	Water	7470A	136092
500-43089-9	MW-9	Dissolved	Water	7470A	136092
500-43089-10	MW-10	Dissolved	Water	7470A	136092
LCS 500-136092/8-A	Lab Control Sample	Total/NA	Water	7470A	136092
MB 500-136092/7-A	Method Blank	Total/NA	Water	7470A	136092

Analysis Batch: 136145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-2	MW-2	Dissolved	Water	6020	135687
500-43089-5	MW-5	Dissolved	Water	6020	135687
500-43089-8	MW-8	Dissolved	Water	6020	135687
500-43089-9	MW-9	Dissolved	Water	6020	135687
500-43089-10	MW-10	Dissolved	Water	6020	135687
LCS 500-135687/2-A	Lab Control Sample	Soluble	Water	6020	135687
MB 500-135687/1-A	Method Blank	Soluble	Water	6020	135687

Analysis Batch: 136357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-4	MW-4	Dissolved	Water	6020	135687
500-43089-5	MW-5	Dissolved	Water	6020	135687
500-43089-6	MW-6	Dissolved	Water	6020	135687
500-43089-7	MW-7	Dissolved	Water	6020	135687
500-43089-8	MW-8	Dissolved	Water	6020	135687
500-43089-9	MW-9	Dissolved	Water	6020	135687

General Chemistry

Analysis Batch: 1002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-1	MW-1	Dissolved	Water	353.2	
500-43089-2	MW-2	Dissolved	Water	353.2	
500-43089-3	MW-3	Dissolved	Water	353.2	
500-43089-4	MW-4	Dissolved	Water	353.2	
500-43089-4 MS	MW-4	Dissolved	Water	353.2	
500-43089-4 MSD	MW-4	Dissolved	Water	353.2	
500-43089-5	MW-5	Dissolved	Water	353.2	
500-43089-6	MW-6	Dissolved	Water	353.2	
500-43089-7	MW-7	Dissolved	Water	353.2	
500-43089-8	MW-8	Dissolved	Water	353.2	
500-43089-9	MW-9	Dissolved	Water	353.2	
500-43089-10	MW-10	Dissolved	Water	353.2	
LCS 610-1002/41	Lab Control Sample	Total/NA	Water	353.2	
LCS 610-1002/69	Lab Control Sample	Total/NA	Water	353.2	
LCS 610-1002/9	Lab Control Sample	Total/NA	Water	353.2	
MB 610-1002/11	Method Blank	Total/NA	Water	353.2	
MB 610-1002/40	Method Blank	Total/NA	Water	353.2	
MB 610-1002/68	Method Blank	Total/NA	Water	353.2	
MB 610-1002/98	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 135232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-1	MW-1	Dissolved	Water	SM 4500 NO2 B	
500-43089-2	MW-2	Dissolved	Water	SM 4500 NO2 B	
500-43089-2 MS	MW-2	Dissolved	Water	SM 4500 NO2 B	
500-43089-2 MSD	MW-2	Dissolved	Water	SM 4500 NO2 B	
500-43089-3	MW-3	Dissolved	Water	SM 4500 NO2 B	
500-43089-4	MW-4	Dissolved	Water	SM 4500 NO2 B	
500-43089-5	MW-5	Dissolved	Water	SM 4500 NO2 B	
500-43089-6	MW-6	Dissolved	Water	SM 4500 NO2 B	
500-43089-7	MW-7	Dissolved	Water	SM 4500 NO2 B	
500-43089-8	MW-8	Dissolved	Water	SM 4500 NO2 B	
500-43089-9	MW-9	Dissolved	Water	SM 4500 NO2 B	
500-43089-10	MW-10	Dissolved	Water	SM 4500 NO2 B	
LCS 500-135232/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-135232/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 135605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-1	MW-1	Dissolved	Water	SM 2540C	
500-43089-1 DU	MW-1	Dissolved	Water	SM 2540C	
500-43089-1 MS	MW-1	Dissolved	Water	SM 2540C	
500-43089-2	MW-2	Dissolved	Water	SM 2540C	
500-43089-3	MW-3	Dissolved	Water	SM 2540C	
500-43089-4	MW-4	Dissolved	Water	SM 2540C	
500-43089-5	MW-5	Dissolved	Water	SM 2540C	
500-43089-6	MW-6	Dissolved	Water	SM 2540C	
500-43089-7	MW-7	Dissolved	Water	SM 2540C	
500-43089-8	MW-8	Dissolved	Water	SM 2540C	
500-43089-9	MW-9	Dissolved	Water	SM 2540C	
500-43089-10	MW-10	Dissolved	Water	SM 2540C	
LCS 500-135605/2	Lab Control Sample	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 135605 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-135605/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 135706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-1	MW-1	Dissolved	Water	SM 4500 F C	
500-43089-2	MW-2	Dissolved	Water	SM 4500 F C	
500-43089-3	MW-3	Dissolved	Water	SM 4500 F C	
500-43089-4	MW-4	Dissolved	Water	SM 4500 F C	
500-43089-5	MW-5	Dissolved	Water	SM 4500 F C	
500-43089-6	MW-6	Dissolved	Water	SM 4500 F C	
500-43089-7	MW-7	Dissolved	Water	SM 4500 F C	
500-43089-8	MW-8	Dissolved	Water	SM 4500 F C	
500-43089-9	MW-9	Dissolved	Water	SM 4500 F C	
500-43089-10	MW-10	Dissolved	Water	SM 4500 F C	
LCS 500-135706/5	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-135706/4	Method Blank	Total/NA	Water	SM 4500 F C	

Prep Batch: 135742

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-1	MW-1	Dissolved	Water	9010B	
500-43089-2	MW-2	Dissolved	Water	9010B	
500-43089-3	MW-3	Dissolved	Water	9010B	
500-43089-4	MW-4	Dissolved	Water	9010B	
500-43089-5	MW-5	Dissolved	Water	9010B	
500-43089-6	MW-6	Dissolved	Water	9010B	
500-43089-7	MW-7	Dissolved	Water	9010B	
500-43089-8	MW-8	Dissolved	Water	9010B	
500-43089-9	MW-9	Dissolved	Water	9010B	
500-43089-10	MW-10	Dissolved	Water	9010B	
LCS 500-135742/2-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-135742/1-A	Method Blank	Total/NA	Water	9010B	

Analysis Batch: 135845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-1	MW-1	Dissolved	Water	9014	135742
500-43089-2	MW-2	Dissolved	Water	9014	135742
500-43089-3	MW-3	Dissolved	Water	9014	135742
500-43089-4	MW-4	Dissolved	Water	9014	135742
500-43089-5	MW-5	Dissolved	Water	9014	135742
500-43089-6	MW-6	Dissolved	Water	9014	135742
500-43089-7	MW-7	Dissolved	Water	9014	135742
500-43089-8	MW-8	Dissolved	Water	9014	135742
500-43089-9	MW-9	Dissolved	Water	9014	135742
500-43089-10	MW-10	Dissolved	Water	9014	135742
LCS 500-135742/2-A	Lab Control Sample	Total/NA	Water	9014	135742
MB 500-135742/1-A	Method Blank	Total/NA	Water	9014	135742

Analysis Batch: 136298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-1	MW-1	Dissolved	Water	9251	
500-43089-2	MW-2	Dissolved	Water	9251	
500-43089-3	MW-3	Dissolved	Water	9251	

General Chemistry (Continued)

Analysis Batch: 136298 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-4	MW-4	Dissolved	Water	9251	
500-43089-5	MW-5	Dissolved	Water	9251	
500-43089-6	MW-6	Dissolved	Water	9251	
500-43089-7	MW-7	Dissolved	Water	9251	
500-43089-8	MW-8	Dissolved	Water	9251	
500-43089-9	MW-9	Dissolved	Water	9251	
500-43089-10	MW-10	Dissolved	Water	9251	
500-43089-10 MS	MW-10	Dissolved	Water	9251	
500-43089-10 MSD	MW-10	Dissolved	Water	9251	
LCS 500-136298/60	Lab Control Sample	Total/NA	Water	9251	
MB 500-136298/59	Method Blank	Total/NA	Water	9251	

Analysis Batch: 136345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-1	MW-1	Dissolved	Water	Nitrate by calc	
500-43089-2	MW-2	Dissolved	Water	Nitrate by calc	
500-43089-3	MW-3	Dissolved	Water	Nitrate by calc	
500-43089-4	MW-4	Dissolved	Water	Nitrate by calc	
500-43089-5	MW-5	Dissolved	Water	Nitrate by calc	
500-43089-6	MW-6	Dissolved	Water	Nitrate by calc	
500-43089-7	MW-7	Dissolved	Water	Nitrate by calc	
500-43089-8	MW-8	Dissolved	Water	Nitrate by calc	
500-43089-9	MW-9	Dissolved	Water	Nitrate by calc	
500-43089-10	MW-10	Dissolved	Water	Nitrate by calc	

Analysis Batch: 136372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43089-1	MW-1	Dissolved	Water	9038	
500-43089-2	MW-2	Dissolved	Water	9038	
500-43089-3	MW-3	Dissolved	Water	9038	
500-43089-4	MW-4	Dissolved	Water	9038	
500-43089-5	MW-5	Dissolved	Water	9038	
500-43089-6	MW-6	Dissolved	Water	9038	
500-43089-7	MW-7	Dissolved	Water	9038	
500-43089-8	MW-8	Dissolved	Water	9038	
500-43089-9	MW-9	Dissolved	Water	9038	
500-43089-10	MW-10	Dissolved	Water	9038	
LCS 500-136372/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-136372/3	Method Blank	Total/NA	Water	9038	

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: 500-43089-1 MS
Matrix: Water
Analysis Batch: 135736

Client Sample ID: MW-1
Prep Type: Dissolved
Prep Batch: 135687

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.0063		0.500	0.511		mg/L		101	75 - 125
Arsenic	<0.0010		0.100	0.135	F	mg/L		134	75 - 125
Barium	0.033		0.500	0.576		mg/L		109	75 - 125
Cadmium	<0.00050		0.0500	0.0577		mg/L		115	75 - 125
Chromium	<0.0050		0.200	0.205		mg/L		103	75 - 125
Cobalt	<0.0010		0.500	0.516		mg/L		103	75 - 125
Copper	<0.0020		0.250	0.261		mg/L		104	75 - 125
Iron	0.11		1.00	1.08		mg/L		97	75 - 125
Lead	<0.00050		0.100	0.112		mg/L		112	75 - 125
Manganese	0.17		0.500	0.685		mg/L		103	75 - 125
Nickel	0.0040		0.500	0.529		mg/L		105	75 - 125
Selenium	0.0025		0.100	0.154	F	mg/L		152	75 - 125
Silver	<0.00050		0.0500	0.0397		mg/L		79	75 - 125
Thallium	<0.0020		0.100	0.0956		mg/L		96	75 - 125
Zinc	<0.020		0.500	0.596		mg/L		119	75 - 125

Lab Sample ID: 500-43089-1 MS
Matrix: Water
Analysis Batch: 135985

Client Sample ID: MW-1
Prep Type: Dissolved
Prep Batch: 135687

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	<0.0010		0.0500	0.0508		mg/L		102	75 - 125
Boron	1.6		1.00	2.56		mg/L		100	75 - 125

Lab Sample ID: 500-43089-1 MSD
Matrix: Water
Analysis Batch: 135736

Client Sample ID: MW-1
Prep Type: Dissolved
Prep Batch: 135687

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.0063		0.500	0.538		mg/L		106	75 - 125	5	20
Arsenic	<0.0010		0.100	0.137	F	mg/L		137	75 - 125	2	20
Barium	0.033		0.500	0.582		mg/L		110	75 - 125	1	20
Cadmium	<0.00050		0.0500	0.0574		mg/L		114	75 - 125	0	20
Chromium	<0.0050		0.200	0.209		mg/L		105	75 - 125	2	20
Cobalt	<0.0010		0.500	0.526		mg/L		105	75 - 125	2	20
Copper	<0.0020		0.250	0.264		mg/L		105	75 - 125	1	20
Iron	0.11		1.00	1.09		mg/L		98	75 - 125	1	20
Lead	<0.00050		0.100	0.113		mg/L		113	75 - 125	0	20
Manganese	0.17		0.500	0.694		mg/L		105	75 - 125	1	20
Nickel	0.0040		0.500	0.540		mg/L		107	75 - 125	2	20
Selenium	0.0025		0.100	0.157	F	mg/L		155	75 - 125	2	20
Silver	<0.00050		0.0500	0.0409		mg/L		82	75 - 125	3	20
Thallium	<0.0020		0.100	0.0948		mg/L		95	75 - 125	1	20
Zinc	<0.020		0.500	0.600		mg/L		120	75 - 125	1	20

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-43089-1 MSD
Matrix: Water
Analysis Batch: 135985

Client Sample ID: MW-1
Prep Type: Dissolved
Prep Batch: 135687

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	<0.0010		0.0500	0.0506		mg/L		101	75 - 125	1	20
Boron	1.6		1.00	2.53		mg/L		97	75 - 125	1	20

Lab Sample ID: 500-43089-1 DU
Matrix: Water
Analysis Batch: 135736

Client Sample ID: MW-1
Prep Type: Dissolved
Prep Batch: 135687

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	0.0063		<0.0030		mg/L		NC	20
Arsenic	<0.0010		<0.0010		mg/L		NC	20
Barium	0.033		0.0337		mg/L		1	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Chromium	<0.0050		<0.0050		mg/L		NC	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20
Copper	<0.0020		<0.0020		mg/L		NC	20
Iron	0.11		0.104		mg/L		0.9	20
Lead	<0.00050		<0.00050		mg/L		NC	20
Manganese	0.17		0.171		mg/L		0.8	20
Nickel	0.0040		0.00406		mg/L		0.4	20
Selenium	0.0025		<0.0025		mg/L		NC	20
Silver	<0.00050		<0.00050		mg/L		NC	20
Thallium	<0.0020		<0.0020		mg/L		NC	20
Zinc	<0.020		<0.020		mg/L		NC	20

Lab Sample ID: 500-43089-1 DU
Matrix: Water
Analysis Batch: 135985

Client Sample ID: MW-1
Prep Type: Dissolved
Prep Batch: 135687

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Boron	1.6		1.58		mg/L		1	20

Lab Sample ID: MB 500-135687/1-A
Matrix: Water
Analysis Batch: 135736

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 135687

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:37	12/14/11 16:13	1
Arsenic	<0.0010		0.0010		mg/L		12/14/11 12:37	12/14/11 16:13	1
Barium	<0.0025		0.0025		mg/L		12/14/11 12:37	12/14/11 16:13	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:37	12/14/11 16:13	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:37	12/14/11 16:13	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:37	12/14/11 16:13	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:37	12/14/11 16:13	1
Iron	<0.10		0.10		mg/L		12/14/11 12:37	12/14/11 16:13	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:37	12/14/11 16:13	1
Manganese	<0.0025		0.0025		mg/L		12/14/11 12:37	12/14/11 16:13	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:37	12/14/11 16:13	1
Selenium	<0.0025		0.0025		mg/L		12/14/11 12:37	12/14/11 16:13	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:37	12/14/11 16:13	1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 500-135687/1-A
Matrix: Water
Analysis Batch: 135736

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 135687

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:37	12/14/11 16:13	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:37	12/14/11 16:13	1

Lab Sample ID: MB 500-135687/1-A
Matrix: Water
Analysis Batch: 136145

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 135687

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:37	12/19/11 08:59	1
Boron	<0.050		0.050		mg/L		12/14/11 12:37	12/19/11 08:59	1

Lab Sample ID: LCS 500-135687/2-A
Matrix: Water
Analysis Batch: 135736

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 135687

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.488		mg/L		98	80 - 120
Arsenic	0.100	0.105		mg/L		105	80 - 120
Barium	0.500	0.514		mg/L		103	80 - 120
Cadmium	0.0500	0.0576		mg/L		115	80 - 120
Chromium	0.200	0.218		mg/L		109	80 - 120
Cobalt	0.500	0.552		mg/L		110	80 - 120
Copper	0.250	0.255		mg/L		102	80 - 120
Iron	1.00	1.05		mg/L		105	80 - 120
Lead	0.100	0.110		mg/L		110	80 - 120
Manganese	0.500	0.543		mg/L		109	80 - 120
Nickel	0.500	0.575		mg/L		115	80 - 120
Selenium	0.100	0.112		mg/L		112	80 - 120
Silver	0.0500	0.0490		mg/L		98	80 - 120
Thallium	0.100	0.102		mg/L		102	80 - 120
Zinc	0.500	0.548		mg/L		110	80 - 120

Lab Sample ID: LCS 500-135687/2-A
Matrix: Water
Analysis Batch: 136145

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 135687

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.0500	0.0512		mg/L		102	80 - 120
Boron	1.00	1.09		mg/L		109	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-136092/7-A
Matrix: Water
Analysis Batch: 136121

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 136092

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/17/11 15:45	12/18/11 12:03	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 500-136092/8-A
Matrix: Water
Analysis Batch: 136121

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 136092

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00191		mg/L		96	80 - 120

Lab Sample ID: 500-43089-1 MS
Matrix: Water
Analysis Batch: 136121

Client Sample ID: MW-1
Prep Type: Dissolved
Prep Batch: 136092

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00020		0.00100	0.00111		mg/L		102	75 - 125

Lab Sample ID: 500-43089-1 MSD
Matrix: Water
Analysis Batch: 136121

Client Sample ID: MW-1
Prep Type: Dissolved
Prep Batch: 136092

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.00020		0.00100	0.00102		mg/L		93	75 - 125	8	20

Lab Sample ID: 500-43089-1 DU
Matrix: Water
Analysis Batch: 136121

Client Sample ID: MW-1
Prep Type: Dissolved
Prep Batch: 136092

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.00020		<0.00020		mg/L		NC	20

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 610-1002/11
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10		0.10		mg/L			12/19/11 10:55	1

Lab Sample ID: MB 610-1002/40
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10		0.10		mg/L			12/19/11 11:29	1

Lab Sample ID: MB 610-1002/68
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10	^	0.10		mg/L			12/19/11 12:02	1

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: MB 610-1002/98
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10	^	0.10		mg/L			12/19/11 12:37	1

Lab Sample ID: LCS 610-1002/41
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	5.00	5.41		mg/L		108	77 - 131

Lab Sample ID: LCS 610-1002/69
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	5.00	5.39	^	mg/L		108	77 - 131

Lab Sample ID: LCS 610-1002/9
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	5.00	5.23		mg/L		105	77 - 131

Lab Sample ID: 500-43089-4 MS
Matrix: Water
Analysis Batch: 1002

Client Sample ID: MW-4
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	0.37		5.00	5.26		mg/L		98	77 - 131

Lab Sample ID: 500-43089-4 MSD
Matrix: Water
Analysis Batch: 1002

Client Sample ID: MW-4
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	0.37		5.00	5.27		mg/L		98	77 - 131	0	26

Method: 9014 - Cyanide

Lab Sample ID: MB 500-135742/1-A
Matrix: Water
Analysis Batch: 135845

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 135742

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 17:20	12/14/11 21:11	1

Method: 9014 - Cyanide (Continued)

Lab Sample ID: LCS 500-135742/2-A
Matrix: Water
Analysis Batch: 135845

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 135742

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.105		mg/L		105	80 - 120

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 500-136372/3
Matrix: Water
Analysis Batch: 136372

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			12/20/11 00:49	1

Lab Sample ID: LCS 500-136372/4
Matrix: Water
Analysis Batch: 136372

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	21.8		mg/L		109	80 - 120

Method: 9251 - Chloride

Lab Sample ID: MB 500-136298/59
Matrix: Water
Analysis Batch: 136298

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			12/20/11 10:40	1

Lab Sample ID: LCS 500-136298/60
Matrix: Water
Analysis Batch: 136298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.1		mg/L		100	80 - 120

Lab Sample ID: 500-43089-10 MS
Matrix: Water
Analysis Batch: 136298

Client Sample ID: MW-10
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	120		50.0	165		mg/L		89	75 - 125

Lab Sample ID: 500-43089-10 MSD
Matrix: Water
Analysis Batch: 136298

Client Sample ID: MW-10
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	120		50.0	160		mg/L		79	75 - 125	3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-135605/1
Matrix: Water
Analysis Batch: 135605

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			12/14/11 00:04	1

Lab Sample ID: LCS 500-135605/2
Matrix: Water
Analysis Batch: 135605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	264		mg/L		106	80 - 120

Lab Sample ID: 500-43089-1 MS
Matrix: Water
Analysis Batch: 135605

Client Sample ID: MW-1
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	770		250	1050		mg/L		114	75 - 125

Lab Sample ID: 500-43089-1 DU
Matrix: Water
Analysis Batch: 135605

Client Sample ID: MW-1
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	770		780		mg/L		2	20

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-135706/4
Matrix: Water
Analysis Batch: 135706

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			12/14/11 12:47	1

Lab Sample ID: LCS 500-135706/5
Matrix: Water
Analysis Batch: 135706

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.1		mg/L		101	80 - 120

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-135232/3
Matrix: Water
Analysis Batch: 135232

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/09/11 13:45	1

Method: SM 4500 NO2 B - Nitrogen, Nitrite (Continued)

Lab Sample ID: LCS 500-135232/4
Matrix: Water
Analysis Batch: 135232

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Nitrite			0.100	0.103		mg/L		103	80 - 120		

Lab Sample ID: 500-43089-2 MS
Matrix: Water
Analysis Batch: 135232

Client Sample ID: MW-2
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Nitrite	<0.020		0.100	0.106		mg/L		106	75 - 125		

Lab Sample ID: 500-43089-2 MSD
Matrix: Water
Analysis Batch: 135232

Client Sample ID: MW-2
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	<0.020		0.100	0.103		mg/L		103	75 - 125	2	20

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)
Report To
Contact: Dave McCoy
Company: Patrick Engineering
Address: 4985 Varsity Dr.
Address: Lisle, IL 60532
Phone: (630) 427-7400
Fax: (630) 434-8300
E-Mail:

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-~~43088~~ 43089
Chain of Custody Number:
Page ____ of ____
Temperature °C of Cooler: 3.0, 3.3

Client: Patrick Engineering
Client Project #: 21153.017
Project Name: MWC - Will
Project Location/State: Romeoville, IL
Lab Project #:
Sampler: JLJ
Lab PM:

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	7470A-Mercury 6020-(MCD) PP Metals Hg	9251-Chloride 2540C-Total Diss. Solids 9038-Sulfate 4500-F-C-Flouride	NO2-B-Nitrogen, Nitrite	NO3-F-Nitrogen, Nitrate, Nitrite	9014-Cyanide					Comments
1		MW-1	12/8/11	1215		W	X	X	X	X	X					
2		MW-2		1130												
3		MW-3		1040												
4		MW-4		1005												
5		MW-5		0925												
6		MW-6		0800												
7		MW-7		1415												
8		MW-8		1255												
9		MW-9		1335												
10		MW-10		0840												

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ✓ 10 Days ___ 15 Days ___ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	Patrick Eng.	12/9/11	1115	[signature]	TA-Chgo	12/8/11 CS 12/9/11	1115

Lab Courier
Shipped
Hand Delivered

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

12/21/2011

MWC13-15_42778

Login Sample Receipt Checklist

Client: Midwest Generation EME LLC

Job Number: 500-43089-1

Login Number: 43089
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.0, 3.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Login Sample Receipt Checklist

Client: Midwest Generation EME LLC

Job Number: 500-43089-1

Login Number: 43089
List Number: 1
Creator: Herritz, Danica

List Source: TestAmerica Watertown
List Creation: 12/16/11 05:39 PM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Will Co. Groundwater

TestAmerica Job ID: 500-43089-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Chicago	ACLASS	DoD ELAP		ADE-1429
TestAmerica Chicago	ACLASS	ISO/IEC 17025		AT-1428
TestAmerica Chicago	Alabama	State Program	4	40461
TestAmerica Chicago	California	NELAC	9	01132CA
TestAmerica Chicago	Florida	NELAC	4	E871072
TestAmerica Chicago	Georgia	Georgia EPD	4	N/A
TestAmerica Chicago	Georgia	State Program	4	939
TestAmerica Chicago	Hawaii	State Program	9	N/A
TestAmerica Chicago	Illinois	NELAC	5	100201
TestAmerica Chicago	Indiana	State Program	5	C-IL-02
TestAmerica Chicago	Iowa	State Program	7	82
TestAmerica Chicago	Kansas	NELAC	7	E-10161
TestAmerica Chicago	Kentucky	Kentucky UST	4	66
TestAmerica Chicago	Kentucky	State Program	4	90023
TestAmerica Chicago	Louisiana	NELAC	6	30720
TestAmerica Chicago	Massachusetts	State Program	1	M-IL035
TestAmerica Chicago	Mississippi	State Program	4	N/A
TestAmerica Chicago	North Carolina	North Carolina DENR	4	291
TestAmerica Chicago	Oklahoma	State Program	6	8908
TestAmerica Chicago	South Carolina	State Program	4	77001
TestAmerica Chicago	Texas	NELAC	6	T104704252-09-TX
TestAmerica Chicago	USDA	USDA		P330-09-00027
TestAmerica Chicago	Virginia	NELAC Secondary AB	3	460142
TestAmerica Chicago	Wisconsin	State Program	5	999580010
TestAmerica Chicago	Wyoming	State Program	8	8TMS-Q
TestAmerica Watertown		WI Dept of Agriculture (Micro)		105-266
TestAmerica Watertown	Illinois	NELAC	5	100453
TestAmerica Watertown	Minnesota	NELAC	5	055-999-366
TestAmerica Watertown	Wisconsin	State Program	5	128053530

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Exhibit B11

NRG Energy
529 E. 135th Street
Romeoville, IL 60446

ANNUAL and QUARTERLY GROUNDWATER MONITORING REPORT
WILL COUNTY GENERATING STATION

January 22, 2016

Ms. Andrea Rhodes
Illinois Environmental Protection Agency
Division of Public Water Supplies
MC#19
1021 North Grand Avenue East
Springfield, IL 62794-9276

VIA FEDERAL EXPRESS

Re: Annual and Quarterly Groundwater Monitoring Results – Fourth Quarter 2015
Will County Generating Station – Ash Impoundments
Compliance Commitment Agreement VN W-2012-00058; ID# 6283

Dear Ms. Rhodes:

The fourth quarterly groundwater sampling for 2015 has been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Will County Generating Station in accordance with the signed Compliance Commitment Agreement (CCA) with Illinois Environmental Protection Agency (IEPA) dated October 24, 2012. This quarterly monitoring report summarizes the results of the sampling. This report is also intended to serve as the Annual Report and includes historical data analysis/summaries.

Well Inspection and Sampling Procedures

The groundwater monitoring network around the ash ponds at the Will County facility consists of ten wells (MW-01 through MW-10) as shown on Figure 1. As part of sampling procedures, the integrity of all monitoring wells was inspected and water levels obtained using an electronic water level meter (see summary of water level discussion below). The wells were found in good condition with locked protector casings and the concrete surface seals were intact.

Groundwater samples were collected using the low-flow sampling technique. One duplicate sample from MW-01 was collected for quality assurance purposes. In addition, a deionized water trip blank was placed with the sample bottle shipment by the laboratory and accompanied the groundwater samples bottles from and back to the laboratory. The groundwater monitoring samples and the duplicate sample were analyzed for the inorganic compounds listed in Illinois Administrative Code (IAC) 620.410(a), 620.410(d) and

620.410(e), other than radium 226/228. The trip blank was analyzed for the volatile organic compounds (VOCs) listed in IAC 620.410(d).

Groundwater Flow Evaluation

Water level data from the most recent round of sampling along with historical water levels obtained from each well are summarized in Table 1. The water levels from the most recent sampling were used to generate a groundwater flow map which is provided on Figure 2. The water elevation data indicates a general westerly flow of groundwater. The flow conditions observed during this sampling are consistent with historical conditions reported for the site.

Relative to an annual evaluation of groundwater levels, a historical hydrograph is presented in Attachment 1. The hydrograph indicates generally stable groundwater elevations since the second quarter of 2013 and appear generally consistent with historical data. Well MW-06 had a slight off-trend increase in the water level recorded for the fourth quarter sampling.

Summary of Analytical Data

A copy of the analytical data package is provided in Attachment 1. The field parameter and analytical data from the most recent sampling, along with the previous eight quarters of data, are summarized in Table 2. As stated above, the duplicate sample was collected from well MW-01. The data are generally consistent with previous data generated for the Will County site with any exceptions discussed below. The duplicate values were within an acceptable range (below +/- 30%). All wells for which the sampling data reports a value above one or more groundwater standards are located within the area of the IEPA approved Groundwater Management Zone (GMZ) and Environmental Land Use Control (ELUC) areas.

At this time a statistical evaluation of background water quality for comparing against downgradient wells has not been completed. The upgradient wells MW-01 through MW-06, indicate impacts that are not associated with the ash ponds at the site, however, IEPA does not recognize the water quality data from these wells as representative of background.

Relative to an annual evaluation of the water chemistry data, time versus concentration curves are provided for each parameter analyzed in Attachment 3. The curves include the IEPA drinking water standard for reference, where appropriate.

As noted previously, all wells for which the sampling data reports a value above one or more applicable groundwater standards are located within the area of the IEPA approved GMZ and ELUC.

If there are any questions, please contact either Sharene Shealey of NRG Energy at 815-372-4625 or Richard Gnat of KPRG at 262-781-0475.

Sincerely,

Scott Perry
Station Manager

Attachments

cc: William Buscher, IEPA
Sharene Shealey, Midwest Generatiuon
Joseph Kotas, Midwest Generation.
Richard Gnat, KPRG and Associates, Inc.

FIGURES



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

SITE MAP

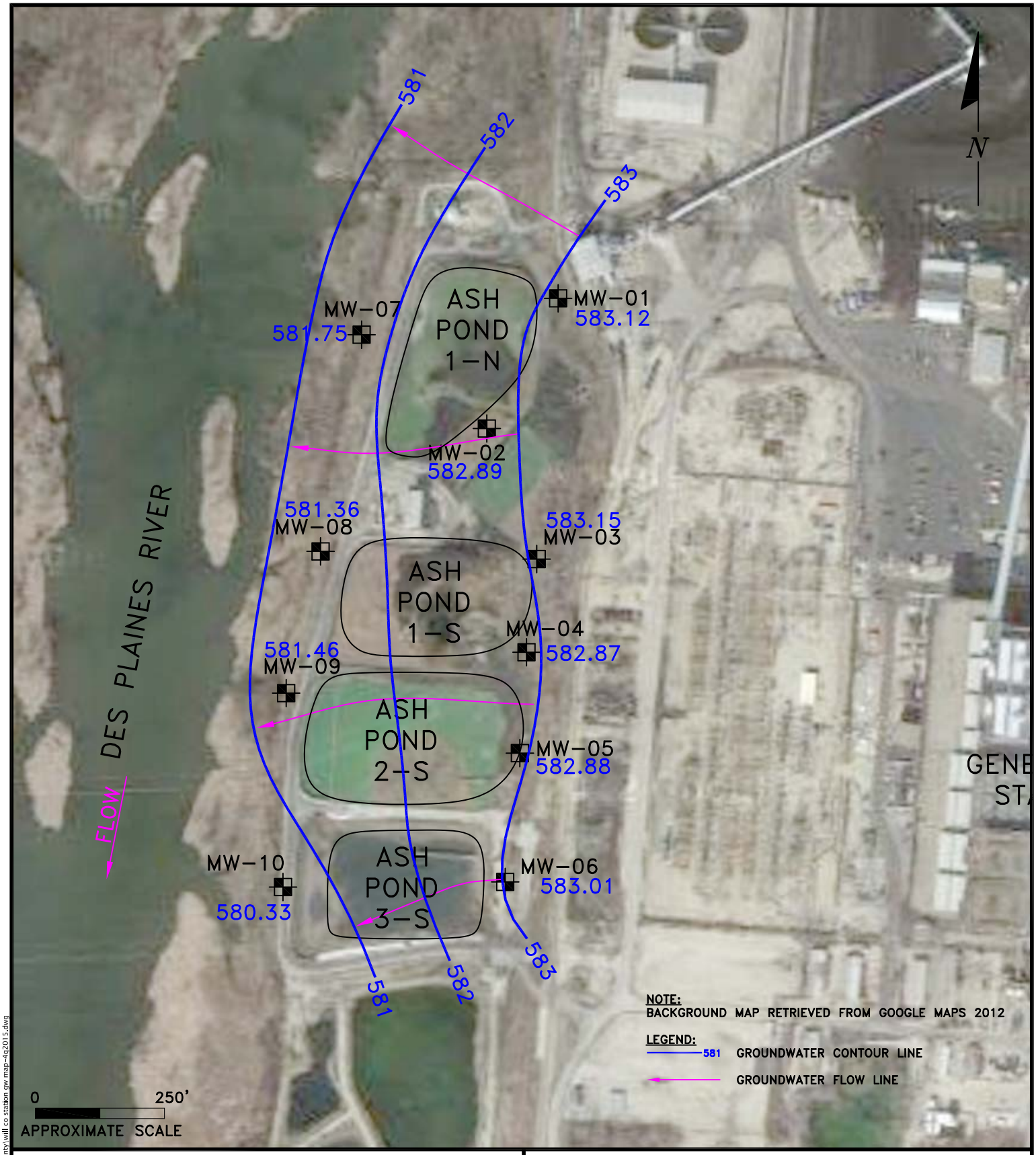
WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 250' | Date: January 23, 2015

KPRG Project No. 12313.3 | FIGURE 1

MWG13-15_50529

W:\c-p&p projects\midwest generation\groundwater sampling\will county\will co station gw map.dwg



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

GROUNDWATER CONTOUR MAP 11/2015

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 250' | Date: October 13, 2015

KPRG Project No. 12313.3 | FIGURE 2

MWG 3-16-56830

W:\c\projects\midwest generation\12313.will county\will co station gw map-4q2015.dwg

TABLES

Table 1. Groundwater Elevations - Midwest Generation, LLC, Will County Station, Romeoville, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-01	6/15/2011	592.95	589.81	583.67	583.65	570.95	9.28	9.30	22.00
	9/15/2011	592.95	589.81	583.25	583.25	570.95	9.70	9.70	22.00
	12/8/2011	592.95	589.81	583.44	583.43	570.95	9.51	9.52	22.00
	3/16/2012	592.95	589.81	583.41	583.40	570.95	9.54	9.55	22.00
	6/20/2012	592.95	589.81	583.20	583.18	570.95	9.75	9.77	22.00
	9/24/2012	592.95	589.81	583.25	583.25	570.95	9.70	9.70	22.00
	12/18/2012	592.95	589.81	583.27	583.27	570.95	9.68	9.68	22.00
	3/6/2013	592.95	589.81	583.47	583.47	570.95	9.48	9.48	22.00
	6/3/2013	592.95	589.81	583.37	583.37	570.95	9.58	9.58	22.00
	8/14/2013	592.95	589.81	582.18	582.18	570.95	10.77	10.77	22.00
	10/29/2013	592.95	589.81	581.87	581.89	570.95	11.08	11.06	22.00
	2/20/2014	592.95	589.81	582.59	582.59	570.95	10.36	10.36	22.00
	5/20/2014	592.95	589.81	583.31	583.33	570.95	9.64	9.62	22.00
	8/13/2014	592.95	589.81	583.33	583.34	570.95	9.62	9.61	22.00
	10/21/2014	592.95	589.81	583.21	583.20	570.95	9.74	9.75	22.00
	2/4/2015	592.95	589.81	583.12	583.12	570.95	9.83	9.83	22.00
	4/30/2015	592.95	589.81	583.19	583.21	570.95	9.76	9.74	22.00
	7/27/2015	592.95	589.81	583.09	583.08	570.95	9.86	9.87	22.00
	11/9/2015	592.95	589.81	583.12	583.12	570.95	9.83	9.83	22.00
MW-02	6/15/2011	593.99	590.62	583.87	583.85	568.62	10.12	10.14	25.37
	9/15/2011	593.99	590.62	583.29	583.29	568.62	10.70	10.70	25.37
	12/8/2011	593.99	590.62	583.56	583.55	568.62	10.43	10.44	25.37
	3/16/2012	593.99	590.62	583.54	583.52	568.62	10.45	10.47	25.37
	6/20/2012	593.99	590.62	583.31	583.31	568.62	10.68	10.68	25.37
	9/24/2012	593.99	590.62	583.34	583.32	568.62	10.65	10.67	25.37
	12/18/2012	593.99	590.62	583.39	583.39	568.62	10.60	10.60	25.37
	3/6/2013	593.99	590.62	583.60	583.60	568.62	10.39	10.39	25.37
	6/3/2013	593.99	590.62	583.35	583.35	568.62	10.64	10.64	25.37
	8/14/2013	593.99	590.62	581.97	581.97	568.62	12.02	12.02	25.37
	10/28/2013	593.99	590.62	581.76	581.76	568.62	12.23	12.23	25.37
	2/20/2014	593.99	590.62	582.64	582.65	568.62	11.35	11.34	25.37
	5/20/2014	593.99	590.62	583.22	583.22	568.62	10.77	10.77	25.37
	8/13/2014	593.99	590.62	583.25	583.25	568.62	10.74	10.74	25.37
	10/20/2014	593.99	590.62	583.11	583.10	568.62	10.88	10.89	25.37
	2/4/2015	593.99	590.62	582.89	582.88	568.62	11.10	11.11	25.37
	5/1/2015	593.99	590.62	583.02	583.02	568.62	10.97	10.97	25.37
	7/27/2015	593.99	590.62	582.89	582.89	568.62	11.10	11.10	25.37
	11/9/2015	593.99	590.62	582.89	582.87	568.62	11.10	11.12	25.37
MW-03	6/15/2011	593.51	590.50	583.76	583.67	573.74	9.75	9.84	19.77
	9/15/2011	593.51	590.50	582.85	582.83	573.74	10.66	10.68	19.77
	12/8/2011	593.51	590.50	583.36	583.35	573.74	10.15	10.16	19.77
	3/16/2012	593.51	590.50	583.45	583.38	573.74	10.06	10.13	19.77
	6/20/2012	593.51	590.50	582.95	582.93	573.74	10.56	10.58	19.77
	9/24/2012	593.51	590.50	582.93	582.95	573.74	10.58	10.56	19.77
	12/18/2012	593.51	590.50	583.10	583.10	573.74	10.41	10.41	19.77
	3/6/2013	593.51	590.50	583.42	583.42	573.74	10.09	10.09	19.77
	6/3/2013	593.51	590.50	583.53	583.43	573.74	9.98	10.08	19.77
	8/14/2013	593.51	590.50	581.79	581.78	573.74	11.72	11.73	19.77
	10/28/2013	593.51	590.50	581.86	581.86	573.74	11.65	11.65	19.77
	2/13/2014	593.51	590.50	582.66	582.56	573.74	10.85	10.95	19.77
	5/21/2014	593.51	590.50	583.37	583.33	573.74	10.14	10.18	19.77
	8/12/2014	593.51	590.50	583.35	583.35	573.74	10.16	10.16	19.77
	10/20/2014	593.51	590.50	583.30	583.29	573.74	10.21	10.22	19.77
	2/4/2015	593.51	590.50	583.17	583.00	573.74	10.34	10.51	19.77
	5/1/2015	593.51	590.50	583.27	583.27	573.74	10.24	10.24	19.77
	7/28/2015	593.51	590.50	582.98	582.97	573.74	10.53	10.54	19.77
	11/9/2015	593.51	590.50	583.15	583.14	573.74	10.36	10.37	19.77

Table 1. Groundwater Elevations - Midwest Generation, LLC, Will County Station, Romeoville, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-04	6/15/2011	594.25	591.22	583.49	583.48	571.77	10.76	10.77	22.48
	9/15/2011	594.25	591.22	581.47	581.42	571.77	12.78	12.83	22.48
	12/8/2011	594.25	591.22	582.07	582.07	571.77	12.18	12.18	22.48
	3/16/2012	594.25	591.22	582.08	582.05	571.77	12.17	12.20	22.48
	6/20/2012	594.25	591.22	581.60	581.56	571.77	12.65	12.69	22.48
	9/24/2012	594.25	591.22	581.45	581.39	571.77	12.80	12.86	22.48
	12/18/2012	594.25	591.22	581.71	581.71	571.77	12.54	12.54	22.48
	3/6/2013	594.25	591.22	582.07	582.07	571.77	12.18	12.18	22.48
	6/3/2013	594.25*	591.22	582*	582*	571.77	12.05	12.06	22.48
	8/14/2013	593.95	591.06	581.89	581.89	571.47	12.06	12.06	22.48
	10/28/2013	593.95	591.06	582.07	582.05	571.47	11.88	11.90	22.48
	2/13/2014	593.95	591.06	582.15	582.27	571.47	11.80	11.68	22.48
	5/21/2014	593.95	591.06	583.14	583.11	571.47	10.81	10.84	22.48
	8/13/2014	593.95	591.06	583.32	583.27	571.47	10.63	10.68	22.48
	10/20/2014	593.95	591.06	583.04	583.05	571.47	10.91	10.90	22.48
	2/4/2015	593.95	591.06	582.93	582.93	571.47	11.02	11.02	22.48
	5/1/2015	593.95	591.06	583.06	583.05	571.47	10.89	10.90	22.48
	7/28/2015	593.95	591.06	582.78	582.77	571.47	11.17	11.18	22.48
	11/9/2015	593.95	591.06	582.87	582.85	571.47	11.08	11.10	22.48
MW-05	6/15/2011	592.87	589.60	583.47	583.45	570.80	9.40	9.42	22.07
	9/15/2011	592.87	589.60	582.47	582.45	570.80	10.40	10.42	22.07
	12/8/2011	592.87	589.60	583.17	583.15	570.80	9.70	9.72	22.07
	3/16/2012	592.87	589.60	583.14	583.16	570.80	9.73	9.71	22.07
	6/20/2012	592.87	589.60	582.60	582.60	570.80	10.27	10.27	22.07
	9/24/2012	592.87	589.60	582.37	582.36	570.80	10.50	10.51	22.07
	12/18/2012	592.87	589.60	582.79	582.79	570.80	10.08	10.08	22.07
	3/6/2013	592.87	589.60	583.16	583.16	570.80	9.71	9.71	22.07
	6/3/2013	592.87	589.60	583.22	583.19	570.80	9.65	9.68	22.07
	8/14/2013	592.87	589.60	581.70	581.74	570.80	11.17	11.13	22.07
	10/28/2013	592.87	589.60	582.16	582.15	570.80	10.71	10.72	22.07
	2/13/2014	592.87	589.60	582.31	582.31	570.80	10.56	10.56	22.07
	5/21/2014	592.87	589.60	583.09	583.10	570.80	9.78	9.77	22.07
	8/12/2014	592.87	589.60	583.26	583.27	570.80	9.61	9.60	22.07
	10/20/2014	592.87	589.60	583.01	583.02	570.80	9.86	9.85	22.07
	2/3/2015	592.87	589.60	582.96	582.96	570.80	9.91	9.91	22.07
	5/1/2015	592.87	589.60	583.03	583.03	570.80	9.84	9.84	22.07
	7/28/2015	592.87	589.60	582.78	582.76	570.80	10.09	10.11	22.07
	11/9/2015	592.87	589.60	582.88	582.84	570.80	9.99	10.03	22.07
MW-06	6/15/2011	592.97	589.77	582.52	582.52	571.82	10.45	10.45	21.15
	9/15/2011	592.97	589.77	581.95	581.91	571.82	11.02	11.06	21.15
	12/8/2011	592.97	589.77	582.16	582.16	571.82	10.81	10.81	21.15
	3/16/2012	592.97	589.77	582.10	582.09	571.82	10.87	10.88	21.15
	6/20/2012	592.97	589.77	581.76	581.76	571.82	11.21	11.21	21.15
	9/24/2012	592.97	589.77	581.71	581.63	571.82	11.26	11.34	21.15
	12/18/2012	592.97	589.77	581.75	581.75	571.82	11.22	11.22	21.15
	3/6/2013	592.97	589.77	582.10	582.10	571.82	10.87	10.87	21.15
	6/3/2013	592.97	589.77	582.24	582.12	571.82	10.73	10.85	21.15
	8/14/2013	592.97	589.77	581.29	581.29	571.82	11.68	11.68	21.15
	10/28/2013	592.97	589.77	581.21	581.19	571.82	11.76	11.78	21.15
	2/13/2014	592.97	589.77	581.20	581.19	571.82	11.77	11.78	21.15
	5/20/2014	592.97	589.77	582.02	582.00	571.82	10.95	10.97	21.15
	8/12/2014	592.97	589.77	582.45	582.43	571.82	10.52	10.54	21.15
	10/20/2014	592.97	589.77	581.77	581.80	571.82	11.20	11.17	21.15
	2/3/2015	592.97	589.77	581.66	581.65	571.82	11.31	11.32	21.15
	4/30/2015	592.97	589.77	581.93	581.89	571.82	11.04	11.08	21.15
	7/28/2015	592.97	589.77	581.67	581.66	571.82	11.30	11.31	21.15
	11/9/2015	592.97	589.77	583.01	581.98	571.82	9.96	10.99	21.15

Table 1. Groundwater Elevations - Midwest Generation, LLC, Will County Station, Romeoville, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-07	6/15/2011	592.88	589.55	582.96	582.94	572.07	9.92	9.94	20.81
	9/15/2011	592.88	589.55	582.41	582.41	572.07	10.47	10.47	20.81
	12/8/2011	592.88	589.55	582.82	582.81	572.07	10.06	10.07	20.81
	3/16/2012	592.88	589.55	582.76	582.76	572.07	10.12	10.12	20.81
	6/20/2012	592.88	589.55	582.24	582.24	572.07	10.64	10.64	20.81
	9/24/2012	592.88	589.55	582.59	582.59	572.07	10.29	10.29	20.81
	12/18/2012	592.88	589.55	582.67	582.67	572.07	10.21	10.21	20.81
	3/6/2013	592.88	589.55	582.76	582.76	572.07	10.12	10.12	20.81
	6/3/2013	592.88	589.55	582.46	582.28	572.07	10.42	10.60	20.81
	8/15/2013	592.88	589.55	581.04	580.80	572.07	11.84	12.08	20.81
	10/29/2013	592.88	589.55	580.99	580.94	572.07	11.89	11.94	20.81
	2/20/2014	592.88	589.55	581.80	581.54	572.07	11.08	11.34	20.81
	5/20/2014	592.88	589.55	582.29	582.21	572.07	10.59	10.67	20.81
	8/12/2014	592.88	589.55	581.97	581.85	572.07	10.91	11.03	20.81
	10/21/2014	592.88	589.55	582.20	582.01	572.07	10.68	10.87	20.81
	2/3/2015	592.88	589.55	581.79	581.70	572.07	11.09	11.18	20.81
	4/30/2015	592.88	589.55	582.10	582.04	572.07	10.78	10.84	20.81
	7/27/2015	592.88	589.55	581.42	581.29	572.07	11.46	11.59	20.81
	11/9/2015	592.88	589.55	581.75	581.64	572.07	11.13	11.24	20.81
MW-08	6/15/2011	592.71	589.64	582.24	582.22	572.50	10.47	10.49	20.21
	9/15/2011	592.71	589.64	581.28	581.26	572.50	11.43	11.45	20.21
	12/8/2011	592.71	589.64	582.38	582.38	572.50	10.33	10.33	20.21
	3/16/2012	592.71	589.64	582.41	582.38	572.50	10.30	10.33	20.21
	6/20/2012	592.71	589.64	581.54	581.53	572.50	11.17	11.18	20.21
	9/24/2012	592.71	589.64	581.36	581.36	572.50	11.35	11.35	20.21
	12/18/2012	592.71	589.64	582.22	582.22	572.50	10.49	10.49	20.21
	3/6/2013	592.71	589.64	582.04	582.04	572.50	10.67	10.67	20.21
	6/3/2013	592.71	589.64	582.06	580.79	572.50	10.65	11.92	20.21
	8/15/2013	592.71	589.64	580.95	579.81	572.50	11.76	12.90	20.21
	10/28/2013	592.71	589.64	581.05	580.67	572.50	11.66	12.04	20.21
	2/20/2014	592.71	589.64	581.62	580.99	572.50	11.09	11.72	20.21
	5/20/2014	592.71	589.64	581.69	581.63	572.50	11.02	11.08	20.21
	8/12/2014	592.71	589.64	581.53	581.18	572.50	11.18	11.53	20.21
	10/21/2014	592.71	589.64	581.51	580.92	572.50	11.20	11.79	20.21
	2/3/2015	592.71	589.64	581.25	580.83	572.50	11.46	11.88	20.21
	4/30/2015	592.71	589.64	581.48	581.20	572.50	11.23	11.51	20.21
	7/27/2015	592.71	589.64	581.10	579.97	572.50	11.61	12.74	20.21
	11/9/2015	592.71	589.64	581.36	580.82	572.50	11.35	11.89	20.21
MW-09	6/15/2011	592.84	589.76	582.81	582.51	570.66	10.03	10.33	22.18
	9/15/2011	592.84	589.76	581.28	581.17	570.66	11.56	11.67	22.18
	12/8/2011	592.84	589.76	583.36	583.36	570.66	9.48	9.48	22.18
	3/16/2012	592.84	589.76	583.52	583.51	570.66	9.32	9.33	22.18
	6/20/2012	592.84	589.76	581.51	581.51	570.66	11.33	11.33	22.18
	9/24/2012	592.84	589.76	580.88	580.89	570.66	11.96	11.95	22.18
	12/18/2012	592.84	589.76	583.10	583.10	570.66	9.74	9.74	22.18
	3/6/2013	592.84	589.76	583.13	583.13	570.66	9.71	9.71	22.18
	6/3/2013	592.84	589.76	582.46	581.40	570.66	10.38	11.44	22.18
	8/15/2013	592.84	589.76	580.56	580.11	570.66	12.28	12.73	22.18
	10/29/2013	592.84	589.76	581.87	581.71	570.66	10.97	11.13	22.18
	2/13/2014	592.84	589.76	581.23	581.06	570.66	11.61	11.78	22.18
	5/20/2014	592.84	589.76	582.76	581.93	570.66	10.08	10.91	22.18
	8/12/2014	592.84	589.76	582.02	581.59	570.66	10.82	11.25	22.18
	10/21/2014	592.84	589.76	581.40	581.11	570.66	11.44	11.73	22.18
	2/3/2015	592.84	589.76	581.97	581.36	570.66	10.87	11.48	22.18
	4/30/2015	592.84	589.76	581.57	581.53	570.66	11.27	11.31	22.18
	7/27/2015	592.84	589.76	581.31	580.86	570.66	11.53	11.98	22.18
	11/9/2015	592.84	589.76	581.46	581.30	570.66	11.38	11.54	22.18

Table 1. Groundwater Elevations - Midwest Generation, LLC, Will County Station, Romeoville, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-10	6/15/2011	590.98	591.31	580.90	580.46	571.45	10.08	10.52	19.53
	9/15/2011	590.98	591.31	580.04	579.48	571.45	10.94	11.50	19.53
	12/8/2011	590.98	591.31	580.59	580.15	571.45	10.39	10.83	19.53
	3/16/2012	590.98	591.31	580.73	580.08	571.45	10.25	10.90	19.53
	6/20/2012	590.98	591.31	579.70	579.43	571.45	11.28	11.55	19.53
	9/24/2012	590.98	591.31	579.69	578.86	571.45	11.29	12.12	19.53
	12/18/2012	590.98	591.31	579.92	579.92	571.45	11.06	11.06	19.53
	3/6/2013	590.98	591.31	580.74	580.74	571.45	10.24	10.24	19.53
	6/3/2013	590.98	591.31	580.43	580.19	571.45	10.55	10.79	19.53
	8/15/2013	590.98	591.31	579.13	579.03	571.45	11.85	11.95	19.53
	10/28/2013	590.98	591.31	579.37	579.33	571.45	11.61	11.65	19.53
	2/20/2014	590.98	591.31	580.32	579.96	571.45	10.66	11.02	19.53
	5/20/2014	590.98	591.31	580.79	580.60	571.45	10.19	10.38	19.53
	8/13/2014	590.98	591.31	580.57	580.47	571.45	10.41	10.51	19.53
	10/20/14	590.98	591.31	580.50	580.26	571.45	10.48	10.72	19.53
	02/03/15	590.98	591.31	580.12	579.94	571.45	10.86	11.04	19.53
	04/30/15	590.98	591.31	580.37	580.26	571.45	10.61	10.72	19.53
	07/27/15	590.98	591.31	580.11	579.95	571.45	10.87	11.03	19.53
	11/9/2015	590.98	591.31	580.33	580.14	571.45	10.65	10.84	19.53

* - Estimated value due to damaged well casing which was subsequently re-surveyed.

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-01	Date	10/29/2013		2/20/2014		5/20/2014		8/13/2014		10/21/2014		2/4/2015		4/30/2015		7/27/2015		11/9/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.10	0.0025	0.085	0.0025	0.054	0.0025	0.064	0.0025	0.077	0.0025	0.066	0.0025	0.069	0.0025	0.076	0.0025	0.078
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	2.6	0.25	2.4	0.50	2.5	0.10	1.2	0.050	0.96	1.0	ND	0.25	0.81	0.050	0.91	0.050	0.73
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	160	10	120	10	87	2.0	35	2.0	29	2.0	30	2.0	28	2.0	33	2.0	26
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0022	0.0010	0.0017	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.41	0.10	0.39	0.10	0.48	0.10	0.50	0.10	0.52	0.10	0.59	0.10	0.59	0.10	0.66	0.10	0.80
Iron	5.0	0.10	1.2	0.10	0.34	0.10	0.46	0.10	0.19	0.10	0.16	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.28	0.0025	0.30	0.0025	0.26	0.0025	0.24	0.0025	0.17	0.0025	0.079	0.0025	0.011	0.0025	0.15	0.0025	0.088
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0055	0.0020	0.0058	0.0020	0.0050	0.0020	0.0025	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.27	0.10	0.25	0.10	0.19	0.10	0.15
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.27	0.10	0.25	0.10	0.19	0.10	0.15
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0028	0.0025	0.0051	0.0025	0.0053 F1	0.0025	0.0027	0.0025	0.0028
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	430	100	390	100	230	25	91	25	150	25	99	50	100	25	120	25	110
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1300	10	1300	10	890	10	600	10	600	10	570	10	510	10	570	10	470
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00059	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0013
pH	6.5 - 9.0	NA	7.04	NA	8.96	NA	7.19	NA	6.91	NA	7.12	NA	7.41	NA	7.36	NA	7.44	NA	7.25
Temperature	NA	NA	16.20	NA	11.29	NA	17.77	NA	20.79	NA	17.29	NA	12.62	NA	12.63	NA	21.71	NA	17.51
Conductivity	NA	NA	1.53	NA	1.27	NA	1.50	NA	0.95	NA	0.90	NA	0.64	NA	0.697	NA	0.858	NA	0.687
Dissolved Oxygen	NA	NA	0.57	NA	1.11	NA	0.42	NA	0.50	NA	0.45	NA	1.07	NA	2.32	NA	1.39	NA	0.62
ORP	NA	NA	-132.6	NA	-180.6	NA	-9.7	NA	-60.4	NA	-64.4	NA	-8.3	NA	31.7	NA	-122.9	NA	-0.6

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-02	Date	10/28/2013		2/20/2014		5/20/2014		8/13/2014		10/20/2014		2/4/2015		5/1/2015		7/28/2015		11/10/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0091	0.0010	0.0071	0.0010	0.0053	0.0010	0.0096	0.0010	0.013	0.0010	0.0095	0.0010	0.0076	0.0010	0.013	0.0010	0.018
Barium	2.0	0.0025	0.079	0.0025	0.080	0.0025	0.077	0.0025	0.089	0.0025	0.10	0.0025	0.092	0.0025	0.096	0.0025	0.093	0.0025	0.098
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	2.4	0.25	2.4	0.50	2.8	0.25	3.0	0.50	3.6	1.0	3.8	0.25	3.8	0.50	4.0 F1	0.50	4.4
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	180	10	170	10	130	10	100	10	97	10	130	10	110	10	90	10	110
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.47	0.10	0.44	0.10	0.39	0.10	0.41	0.10	0.39	0.10	0.41	0.10	0.38	0.10	0.38	0.10	0.40
Iron	5.0	0.10	0.33	0.10	ND	0.10	ND	0.10	0.29	0.10	0.64	0.10	0.17	0.10	ND	0.10	0.58	0.10	0.78
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.043	0.0025	0.044	0.0025	0.024	0.0025	0.074	0.0025	0.083	0.0025	0.064	0.0025	0.055	0.0025	0.085	0.0025	0.068
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0024	0.0020	0.0024	0.0020	0.0023	0.0020	0.0026	0.0020	0.0029	0.0020	0.0029	0.0020	0.0032	0.0020	0.0029	0.0020	0.0031
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	0.16	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	0.16	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	280	100	210	100	300	100	340	100	510	100	400	100	460	100	610	100	600
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	950	10	1000	10	1000	10	1100	10	1200	10	1200	10	1200	10	1300	10	1000
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00083	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00072
pH	6.5 - 9.0	NA	8.06	NA	8.97	NA	7.74	NA	7.59	NA	6.94	NA	8.14	NA	8.00	NA	7.94	NA	8.06
Temperature	NA	NA	15.02	NA	11.56	NA	17.35	NA	18.69	NA	17.11	NA	14.26	NA	18.64	NA	19.83	NA	15.84
Conductivity	NA	NA	1.06	NA	1.02	NA	1.31	NA	1.38	NA	1.63	NA	1.37	NA	1.581	NA	1.718	NA	1.495
Dissolved Oxygen	NA	NA	0.54	NA	1.31	NA	0.72	NA	0.38	NA	0.31	NA	0.90	NA	1.60	NA	0.75	NA	0.49
ORP	NA	NA	-172.5	NA	-161.4	NA	-28.3	NA	-107.9	NA	-135.2	NA	-126.8	NA	-116.1	NA	-112.8	NA	-143.6

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-03	Date	10/28/2013		2/13/2014		5/21/2014		8/12/2014		10/20/2014		2/4/2015		5/1/2015		7/28/2015		11/10/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0018	0.0010	ND	0.0010	ND	0.0010	0.0021	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.083	0.0025	0.095	0.0025	0.071	0.0025	0.064	0.0025	0.077	0.0025	0.094	0.0025	0.093	0.0025	0.081	0.0025	0.11
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	3.5	0.50	3.2	0.50	3.3	0.25	3.5	0.50	3.6	1.0	2.9	0.25	2.9	0.50	4.1	0.50	3.0
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	110	2.0	69	2.0	62	10	91	2.0	57	2.0	43	2.0	33	2.0	59	10	33
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0016	0.0010	ND	0.0010	ND	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0013	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.49	0.10	0.41	0.10	0.43	0.10	0.56	0.10	0.51	0.10	0.38	0.10	0.38	0.10	0.44	0.10	0.39
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	0.13	0.10	ND	0.10	0.18	0.10	0.12	0.10	0.13	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.16	0.0025	0.45	0.0025	0.25	0.0025	0.16	0.0025	0.29	0.0025	0.47	0.0025	0.43	0.0025	0.28	0.0025	0.42
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.011	0.0020	0.0058	0.0020	0.0061	0.0020	0.010	0.0020	0.0073	0.0020	0.0055	0.0020	0.0047	0.0020	0.0086	0.0020	0.0049
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	0.0049	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0025	0.0025	ND	0.0025	ND	0.0025	0.0043
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	540	100	560	100	560	100	570	100	570	100	320	100	250	100	520	50	280
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1100	10	1200	10	1200	10	1100	10	1100	10	1100	10	990	10	1100	10	950
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0014
pH	6.5 - 9.0	NA	7.24	NA	7.03	NA	7.21	NA	7.39	NA	6.06	NA	7.11	NA	7.07	NA	7.63	NA	6.81
Temperature	NA	NA	14.53	NA	9.92	NA	15.74	NA	16.79	NA	14.39	NA	10.34	NA	11.15	NA	18.62	NA	13.54
Conductivity	NA	NA	1.22	NA	1.03	NA	1.43	NA	1.40	NA	1.48	NA	1.11	NA	1.139	NA	1.472	NA	1.155
Dissolved Oxygen	NA	NA	0.51	NA	0.81	NA	0.73	NA	1.45	NA	0.43	NA	1.81	NA	2.99	NA	1.13	NA	1.08
ORP	NA	NA	-138.6	NA	434.5	NA	18.4	NA	-90.3	NA	47.7	NA	7.2	NA	-18.3	NA	-124.6	NA	-6.0

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-04	Date	10/28/2013		2/13/2014		5/21/2014		8/13/2014		10/20/2014		2/4/2015		5/1/2015		7/28/2015		11/11/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0054	0.0010	0.0010	0.0010	ND	0.0010	0.0010	0.0010	0.0011	0.0010	0.0013	0.0010	ND	0.0010	ND	0.0010	0.0019
Barium	2.0	0.0025	0.037	0.0025	0.034	0.0025	0.030	0.0025	0.034	0.0025	0.037	0.0025	0.031	0.0025	0.031	0.0025	0.038	0.0025	0.039
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	5.6	0.50	4.6	0.50	4.2	0.25	4.8	0.50	4.5	1.0	3.9	0.25	4.0	0.50	5.4	0.50	5.0
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	89	10	110	10	85	2.0	67	10	82	10	120	10	110	10	97	2.0	46
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0014	0.0010	0.0012	0.0010	ND	0.0010	0.0013	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0010	0.0011	0.0010	0.0013
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.47	0.10	0.43	0.10	0.43	0.10	0.47	0.10	0.54	0.10	0.52	0.10	0.47	0.10	0.56	0.10	0.43
Iron	5.0	0.10	0.92	0.10	0.64	0.10	ND	0.10	0.26	0.10	0.27	0.10	0.28	0.10	ND	0.10	0.16	0.10	0.51
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.65	0.0025	0.72	0.0025	0.49	0.0025	0.88	0.0025	0.64	0.0025	0.52	0.0025	0.45	0.0025	0.77	0.0025	0.62
Mercury	0.002	0.00020	ND	0.00020	0.00066	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0055	0.0020	0.0053	0.0020	0.0045	0.0020	0.0058	0.0020	0.0065	0.0020	0.0043	0.0020	0.0057	0.0020	0.0053	0.0020	0.0070
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	0.39	0.10	ND	0.10	0.15	0.10	0.17	0.10	0.53	0.10	0.11	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	0.39	0.10	ND	0.10	0.15	0.10	0.17	0.10	0.53	0.10	0.11	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	0.0090	0.0025	0.0055	0.0025	0.010	0.0025	0.0087	0.0025	0.020	0.0025	0.0046	0.0025	0.0081
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	250	1300	250	1400	250	1100	250	1200	250	1600	250	1100	250	860	500	1600	250	870
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	13	2400	13	2800	10	2500	10	2200	10	2600	10	2600	10	2300	17	3200	10	1900
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	6.74	NA	7.03	NA	6.96	NA	6.75	NA	5.87	NA	7.13	NA	7.15	NA	7.29	NA	6.65
Temperature	NA	NA	16.62	NA	10.22	NA	19.98	NA	18.18	NA	16.64	NA	8.13	NA	13.74	NA	20.17	NA	16.27
Conductivity	NA	NA	2.84	NA	1.42	NA	3.06	NA	2.41	NA	3.07	NA	2.21	NA	2.364	NA	3.852	NA	2.183
Dissolved Oxygen	NA	NA	0.36	NA	0.81	NA	1.66	NA	0.43	NA	0.44	NA	2.01	NA	1.83	NA	0.90	NA	1.12
ORP	NA	NA	-127.7	NA	-1.6	NA	-0.8	NA	3.6	NA	3.1	NA	16.7	NA	9.3	NA	-73.4	NA	-33.0

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-05	Date	10/28/2013		2/13/2014		5/21/2014		8/12/2014		10/20/2014		2/3/2015		5/1/2015		7/28/2015		11/11/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0021	0.0010	0.0017	0.0010	0.0015	0.0010	0.0031	0.0010	0.0014	0.0010	0.0028	0.0010	0.0019	0.0010	0.0011	0.0010	0.0014
Barium	2.0	0.0025	0.078	0.0025	0.056	0.0025	0.075	0.0025	0.066	0.0025	0.061	0.0025	0.048	0.0025	0.072	0.0025	0.063	0.0025	0.078
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	4.1	0.50	2.7	0.50	2.9	0.25	2.7	0.50	4.7	1.0	2.4	0.25	3.7	0.50	5.3	0.50	5.9
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	130	10	130	10	160	10	170	10	81	10	200	10	180	10	100	10	110
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.36	0.10	0.43	0.10	0.28	0.10	0.52	0.10	0.35	0.10	0.50	0.10	0.31	0.10	0.38	0.10	0.31
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.11	0.0025	0.053	0.0025	0.11	0.0025	0.062	0.0025	0.20	0.0025	0.046	0.0025	0.092	0.0025	0.13	0.0025	0.17
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0028	0.0020	0.0024	0.0020	0.0020	0.0020	0.0031	0.0020	0.0049	0.0020	ND	0.0020	0.0023	0.0020	0.0034	0.0020	0.0026
Nitrogen/Nitrate	10.0	0.10	0.27	0.10	0.24	0.10	0.72	0.10	ND	0.10	0.12	0.10	1.3	0.10	1.1	0.10	0.48	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	0.59	0.10	0.80	0.10	0.97	0.10	ND	0.10	0.12	0.10	1.6	0.10	1.2	0.10	0.48	0.10	ND
Nitrogen/Nitrite	NA	0.10	0.32	0.10	0.56	0.040	0.25	0.020	0.098	0.020	ND	0.040	0.34	0.020	0.099	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.17	0.0025	0.024	0.0025	0.013	0.0025	0.0051	0.0025	0.010	0.0025	0.0058	0.0025	0.020	0.0025	0.021	0.0025	0.035
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	130	560	100	690	250	1700	250	610	250	840	100	430	100	480	250	770	250	780
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1300	10	1400	10	1600	10	1400	10	2100	10	1100	10	1600	10	2000	10	1900
Vanadium	0.049	0.0050	0.013	0.0050	0.012	0.0050	0.018	0.0050	0.013	0.0050	0.010	0.0050	0.019	0.0050	0.012	0.0050	0.011	0.0050	0.016
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0015
pH	6.5 - 9.0	NA	6.75	NA	8.45	NA	7.07	NA	7.36	NA	6.87	NA	9.70	NA	7.29	NA	7.13	NA	7.24
Temperature	NA	NA	17.04	NA	9.59	NA	16.68	NA	16.80	NA	18.46	NA	8.29	NA	12.11	NA	20.61	NA	15.77
Conductivity	NA	NA	1.55	NA	0.81	NA	1.92	NA	1.60	NA	2.59	NA	1.13	NA	1.691	NA	2.467	NA	2.016
Dissolved Oxygen	NA	NA	0.92	NA	0.78	NA	0.46	NA	0.35	NA	0.81	NA	2.40	NA	1.53	NA	1.41	NA	1.17
ORP	NA	NA	-73.8	NA	89.4	NA	87.6	NA	-24.6	NA	58.1	NA	-53.5	NA	31.4	NA	-50.4	NA	46.1

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-06	Date	10/28/2013		2/13/2014		5/20/2014		8/12/2014		10/20/2014		2/3/2015		4/30/2015		7/28/2015		11/10/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0031	0.0010	ND	0.0010	ND	0.0010	0.0018	0.0010	0.0017	0.0010	0.0028	0.0010	0.0010	0.0010	ND	0.0010	0.0017
Barium	2.0	0.0025	0.063	0.0025	0.052	0.0025	0.045	0.0025	0.039	0.0025	0.066	0.0025	0.071	0.0025	0.072	0.0025	0.061	0.0025	0.044
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	3.7	0.50	3.0	0.50	2.9	0.25	2.8	0.50	3.4	1.0	3.2	0.25	3.0	0.50	3.6	0.50	3.4
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	76	2.0	55	10	120	10	120	10	81	2.0	49	10	160	10	120	10	110
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.57	0.10	0.45	0.10	0.42	0.10	0.96	0.10	0.56	0.10	0.37	0.10	0.38	0.10	0.45	0.10	0.63
Iron	5.0	0.10	ND	0.10	0.11	0.10	ND	0.10	ND	0.10	ND	0.10	0.17	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.083	0.0025	0.099	0.0025	0.056	0.0025	0.028	0.0025	0.11	0.0025	0.12	0.0025	0.068	0.0025	0.066	0.0025	0.037
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0020	0.0020	0.0020	0.0020	ND	0.0020	ND	0.0020	0.0020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	0.72	0.10	ND	0.10	ND	0.10	ND	0.10	0.23	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	0.91	0.10	0.16	0.10	ND	0.10	ND	0.10	0.30	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	0.19	0.10	0.29	0.020	ND	0.020	ND	0.020	0.067	0.020	0.077	0.020	0.032
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	0.0041	0.0025	0.0057	0.0025	0.0036	0.0025	0.0036	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0048
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	310	100	270	100	320	100	200	100	420	50	310	50	350	100	330	50	360
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	790	10	780	10	840	10	660	10	800	10	770	10	780	10	800	10	660
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.014	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	0.0005
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0028
pH	6.5 - 9.0	NA	8.50	NA	8.27	NA	8.52	NA	8.16	NA	7.26	NA	8.38	NA	8.08	NA	8.60	NA	8.63
Temperature	NA	NA	15.76	NA	9.46	NA	16.13	NA	16.21	NA	18.31	NA	8.28	NA	10.95	NA	25.89	NA	17.67
Conductivity	NA	NA	0.96	NA	0.57	NA	1.08	NA	1.00	NA	1.20	NA	0.77	NA	0.935	NA	1.289	NA	0.978
Dissolved Oxygen	NA	NA	0.23	NA	1.19	NA	0.32	NA	0.62	NA	0.66	NA	1.69	NA	1.90	NA	0.88	NA	1.67
ORP	NA	NA	-173.8	NA	35.4	NA	-94.2	NA	-3.7	NA	-94.0	NA	-142.5	NA	-61.3	NA	-132.5	NA	-101.6

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-07	Date	10/29/2013		2/20/2014		5/20/2014		8/12/2014		10/21/2014		2/3/2015		4/30/2015		7/27/2015		11/9/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0035	0.0010	0.0030	0.0010	0.0022	0.0010	0.0035	0.0010	0.0031	0.0010	0.0027	0.0010	0.0029	0.0010	0.0020	0.0010	0.0027
Barium	2.0	0.0025	0.040	0.0025	0.064	0.0025	0.074	0.0025	0.062	0.0025	0.072	0.0025	0.042	0.0025	0.048	0.0025	0.037	0.0025	0.035
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	3.0	0.50	4.0	0.50	4.8	0.50	3.9	0.50	5.1	1.0	3.0	0.25	3.3	0.25	3.1	0.50	2.9
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	180	10	210	10	190	10	200	10	190	10	170	10	160	10	170	10	160
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	0.012	0.010	0.019	0.010	0.029	0.010	0.021	0.010	ND	0.010	0.016	0.010	ND	0.010	ND	0.010	0.034
Fluoride	4.0	0.10	0.96	0.10	0.81	0.10	0.73	0.10	0.97	0.10	0.84	0.10	0.91	0.10	0.85	0.10	0.90	0.10	0.96
Iron	5.0	0.10	0.21	0.10	0.36	0.10	0.53	0.10	0.44	0.10	0.55	0.10	0.16	0.10	0.22	0.10	0.19	0.10	0.19
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.049	0.0025	0.16	0.0025	0.12	0.0025	0.10	0.0025	0.12	0.0025	0.031	0.0025	0.044	0.0025	0.024	0.0025	0.025
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0042	0.0020	0.0032	0.0020	0.0027	0.0020	0.0037	0.0020	0.0034	0.0020	0.0036	0.0020	0.0033	0.0020	0.0034	0.0020	0.0035
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	0.0066	0.0025	ND	0.0025	ND	0.0025	0.0046	0.0025	ND	0.0025	0.0039	0.0025	ND	0.0025	0.012
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	530	130	380	100	540	100	570	130	680	100	400	100	440	100	420	100	420
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1200	10	1300	10	1300	10	1300	10	1500	10	1100	10	1200	10	950	10	960
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0018
pH	6.5 - 9.0	NA	8.07	NA	8.18	NA	8.22	NA	8.26	NA	7.88	NA	8.68	NA	8.53	NA	8.75	NA	7.11
Temperature	NA	NA	13.06	NA	11.16	NA	16.71	NA	14.78	NA	14.85	NA	8.76	NA	12.23	NA	20.84	NA	14.48
Conductivity	NA	NA	1.20	NA	1.20	NA	1.50	NA	1.24	NA	1.60	NA	1.10	NA	1.32	NA	1.49	NA	1.21
Dissolved Oxygen	NA	NA	0.41	NA	0.94	NA	0.57	NA	0.28	NA	0.39	NA	1.50	NA	2.30	NA	2.23	NA	2.36
ORP	NA	NA	-168.1	NA	-118.7	NA	-76.6	NA	-126.7	NA	-151.3	NA	-154.5	NA	-134.3	NA	-163.1	NA	-69.7

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-08	Date	10/28/2013		2/20/2014		5/20/2014		8/12/2014		10/21/2014		2/3/2015		4/30/2015		7/27/2015		11/9/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0069	0.0010	0.0077	0.0010	0.0036	0.0010	0.014	0.0010	0.0082	0.0010	0.0036	0.0010	0.0047	0.0010	0.0064	0.0010	0.0040
Barium	2.0	0.0025	0.14	0.0025	0.086	0.0025	0.076	0.0025	0.078	0.0025	0.087	0.0025	0.081	0.0025	0.083	0.0025	0.066	0.0025	0.086
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	3.2	0.25	2.0	0.50	2.5	0.25	2.4	0.50	2.8	1.0	2.3	0.25	2.3	0.25	2.8	0.50	4.0
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	150	10	180	10	160	10	170	10	180	10	170	10	150	10	170	10	170
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.45	0.10	0.46	0.10	0.43	0.10	0.74	0.10	0.56	0.10	0.51	0.10	0.54	0.10	0.68	0.10	0.52
Iron	5.0	0.10	ND	0.10	0.72	0.10	0.43	0.10	1.0	0.10	1.0	0.10	0.19	0.10	0.22	0.10	0.46	0.10	0.11
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.42	0.0025	0.39	0.0025	0.35	0.0025	0.30	0.0025	0.44	0.0025	0.31	0.0025	0.28	0.0025	0.31	0.0025	0.25
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0043	0.0020	0.0037	0.0020	0.0030	0.0020	0.0040	0.0020	0.0048	0.0020	0.0036	0.0020	0.0037	0.0020	0.0041	0.0020	0.0052
Nitrogen/Nitrate	10.0	0.10	0.17	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	0.17	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.015	0.0025	0.0034	0.0025	0.0032	0.0025	ND	0.0025	0.0032	0.0025	0.0083	0.0025	0.010	0.0025	ND	0.0025	0.0065
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	130	650	130	330	100	450	100	430	200	730	100	530	100	520	100	650	200	800
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1600	10	1300	10	1400	10	1200	10	1500	10	1400	10	1400	10	1200	10	1600
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0019
pH	6.5 - 9.0	NA	6.87	NA	8.18	NA	7.04	NA	7.09	NA	7.03	NA	7.24	NA	7.23	NA	7.36	NA	6.88
Temperature	NA	NA	15.59	NA	9.15	NA	17.97	NA	16.04	NA	14.76	NA	9.43	NA	12.42	NA	17.57	NA	16.00
Conductivity	NA	NA	1.73	NA	1.26	NA	1.70	NA	1.49	NA	2.00	NA	1.46	NA	1.587	NA	1.657	NA	1.958
Dissolved Oxygen	NA	NA	0.64	NA	1.20	NA	0.44	NA	0.69	NA	0.68	NA	2.26	NA	5.61	NA	1.23	NA	1.81
ORP	NA	NA	-145.3	NA	-86.8	NA	87.7	NA	-53.3	NA	-52.9	NA	10.7	NA	14.8	NA	-124.4	NA	19.0

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-09	Date	10/29/2013		2/13/2014		5/20/2014		8/12/2014		10/21/2014		2/3/2015		4/30/2015		7/27/2015		11/11/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0066	0.0010	0.0029	0.0010	0.0029	0.0010	0.0043	0.0010	0.0046	0.0010	0.0038	0.0010	0.0044	0.0010	0.0032	0.0010	0.0057
Barium	2.0	0.0025	0.023	0.0025	0.022	0.0025	0.028	0.0025	0.027	0.0025	0.026	0.0025	0.033	0.0025	0.032	0.0025	0.026	0.0025	0.030
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	2.2	0.50	1.4	0.50	1.5	0.25	1.7	0.50	1.9	1.0	1.4	0.25	1.5	0.25	2.0	0.50	2.1
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	110	10	270	10	250	10	210	10	200	10	200	10	310	10	230	10	190
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.48	0.10	0.44	0.10	0.41	0.10	0.61	0.10	0.55	0.10	0.44	0.10	0.47	0.10	0.51	0.10	0.57
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0025	0.0025	0.0026	0.0025	ND	0.0025	0.0044	0.0025	0.0032
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0025	0.0020	0.0024	0.0020	0.0020	0.0020	ND	0.0020	0.0020	0.0020	0.0023
Nitrogen/Nitrate	10.0	0.10	1.6	0.10	2.3	0.10	1.0	0.10	ND	0.10	ND	0.10	2.2	0.10	2.7	0.10	0.32	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.50	2.2	0.50	2.9	0.10	1.5	0.10	0.20	0.10	ND	0.20	2.4	0.20	2.9	0.10	0.43	0.10	ND
Nitrogen/Nitrite	NA	0.10	0.65	0.10	0.59	0.10	0.48	0.10	0.43	0.020	0.078	0.040	0.21	0.040	0.25	0.020	0.11	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0053	0.0025	0.0032	0.0025	0.0026	0.0025	0.0031	0.0025	0.0035	0.0025	ND	0.0025	0.0025	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	310	50	220	100	380	100	310	100	430	50	300	50	270	50	290	100	400
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	680	10	780	10	880	10	870	10	820	10	810	10	930	10	760	10	760
Vanadium	0.049	0.0050	0.034	0.0050	0.017	0.0050	0.017	0.0050	0.015	0.0050	0.015	0.0050	0.011	0.0050	0.010	0.0050	0.0063	0.0050	0.0080
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	0.00057
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00287
pH	6.5 - 9.0	NA	10.01	NA	9.69	NA	9.71	NA	9.26	NA	8.73	NA	9.48	NA	9.49	NA	9.50	NA	9.12
Temperature	NA	NA	16.28	NA	11.58	NA	16.41	NA	16.36	NA	15.98	NA	5.11	NA	13.72	NA	20.11	NA	13.45
Conductivity	NA	NA	0.85	NA	0.85	NA	1.25	NA	1.12	NA	1.19	NA	0.83	NA	1.224	NA	1.197	NA	0.996
Dissolved Oxygen	NA	NA	0.56	NA	0.94	NA	0.43	NA	0.52	NA	0.48	NA	4.87	NA	1.93	NA	0.62	NA	0.76
ORP	NA	NA	-182.7	NA	195.4	NA	-22.8	NA	27.4	NA	-10.8	NA	-42.0	NA	-53.3	NA	-153.7	NA	39.7

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-10	Date	10/28/2013		2/20/2014		5/20/2014		8/13/2014		10/20/2014		2/3/2015		4/30/2015		7/27/2015		11/10/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.012	0.0010	0.0027	0.0010	0.0012	0.0010	0.0033	0.0010	0.0090	0.0010	0.012	0.0010	0.014	0.0010	0.0065	0.0010	0.017
Barium	2.0	0.0025	0.10	0.0025	0.094	0.0025	0.071	0.0025	0.071	0.0025	0.10	0.0025	0.12	0.0025	0.10	0.0025	0.084	0.0025	0.11
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	3.8	0.25	2.5	0.50	2.2	0.25	2.1	0.50	3.3	1.0	3.3	0.25	3.6	0.25	3.1	0.50	4.4
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	140	10	140	10	140	10	140	10	140	10	110	10	130	10	140	10	140
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.73	0.10	0.64	0.10	0.74	0.10	0.99	0.10	0.75	0.10	0.58	0.10	0.67	0.10	0.77	0.10	0.77
Iron	5.0	0.10	0.79	0.10	0.36	0.10	0.28	0.10	0.45	0.10	1.0	0.10	1.5	0.10	1.4	0.10	1.1	0.10	1.3
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.22	0.0025	0.18	0.0025	0.12	0.0025	0.12	0.0025	0.25	0.0025	0.38	0.0025	0.29	0.0025	0.19	0.0025	0.26
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0030	0.0020	0.0023	0.0020	ND	0.0020	0.0024	0.0020	0.0033	0.0020	0.0027	0.0020	0.0036	0.0020	0.0025	0.0020	0.0030
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0036	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	330	50	290	100	270	100	260	100	380	50	260	50	260	50	350	50	330
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	920	10	1000	10	940	10	880	10	1100	10	1100	10	1000	10	970	10	990
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0019
pH	6.5 - 9.0	NA	7.27	NA	9.18	NA	7.54	NA	7.54	NA	6.84	NA	7.32	NA	7.43	NA	7.73	NA	7.34
Temperature	NA	NA	16.70	NA	10.54	NA	15.30	NA	16.39	NA	18.21	NA	10.10	NA	10.95	NA	18.29	NA	15.44
Conductivity	NA	NA	1.25	NA	1.03	NA	1.13	NA	1.11	NA	1.46	NA	1.17	NA	1.93	NA	1.31	NA	1.25
Dissolved Oxygen	NA	NA	0.23	NA	1.50	NA	0.46	NA	0.29	NA	2.15	NA	0.79	NA	1.57	NA	0.85	NA	0.58
ORP	NA	NA	-165.8	NA	-187.5	NA	-68.3	NA	-77.9	NA	-159.3	NA	-98.6	NA	-115.0	NA	-141.9	NA	-68.9

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

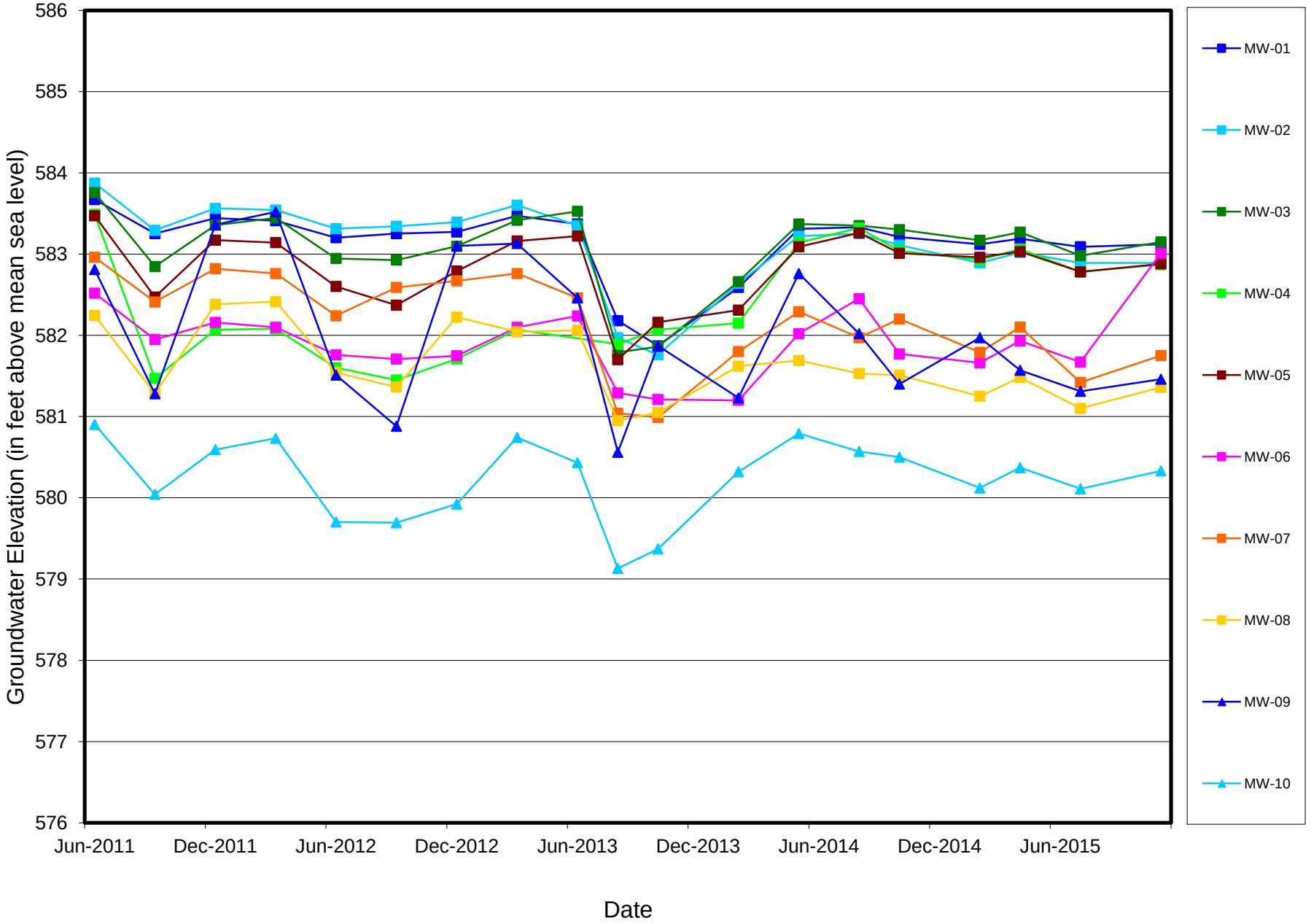
NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

ATTACHMENT 1
Hydrograph of Water Level Elevations

Midwest Generation Will County Station, Romeoville, IL

Groundwater Elevation vs Time



MWG13-15_56547

ATTACHMENT 2
Analytical Data Package

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-103774-1
Client Project/Site: Will Co. Station Ash Ponds

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Bonnie Stadelmann

Authorized for release by:
11/24/2015 4:49:02 PM

Bonnie Stadelmann, Senior Project Manager
(708)534-5200
bonnie.stadelmann@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Certification Summary 49

Job ID: 500-103774-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-103774-1

Comments
No additional comments.

Receipt
The samples were received on 11/10/2015 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 3.9º C, 4.3º C, 4.4º C and 5.5º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
314.0	Perchlorate (IC)	EPA	TAL SAC
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
9014	Cyanide	SW846	TAL CHI
9038	Sulfate, Turbidimetric	SW846	TAL CHI
9251	Chloride	SW846	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-103774-1	MW-01	Water	11/09/15 11:40	11/10/15 10:30
500-103774-2	MW-07	Water	11/09/15 13:58	11/10/15 10:30
500-103774-3	MW-08	Water	11/09/15 15:25	11/10/15 10:30
500-103774-4	Duplicate	Water	11/09/15 00:00	11/10/15 10:30
500-103774-5	MW-02	Water	11/10/15 08:50	11/11/15 10:30
500-103774-6	MW-03	Water	11/10/15 10:25	11/11/15 10:30
500-103774-7	MW-06	Water	11/10/15 11:56	11/11/15 10:30
500-103774-8	MW-10	Water	11/10/15 14:55	11/11/15 10:30
500-103774-9	MW-04	Water	11/11/15 12:40	11/11/15 16:00
500-103774-10	MW-05	Water	11/11/15 10:55	11/11/15 16:00
500-103774-11	MW-09	Water	11/11/15 09:30	11/11/15 16:00
500-103774-12	Trip Blank	Water	11/11/15 00:00	11/11/15 16:00

Client Sample ID: MW-01
Date Collected: 11/09/15 11:40
Date Received: 11/10/15 10:30

Lab Sample ID: 500-103774-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/20/15 22:57	1
Toluene	**0.0013**		0.00050		mg/L			11/20/15 22:57	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/20/15 22:57	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/20/15 22:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*		*11/20/15 22:57*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*11/20/15 22:57*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*		*11/20/15 22:57*	*1*
Dibromofluoromethane	*103*		*75 - 120*		*11/20/15 22:57*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 16:10	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:22	1
Arsenic	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:22	1
Barium	**0.078**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:22	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 17:22	1
Boron	**0.73**		0.050		mg/L		11/19/15 15:04	11/24/15 14:16	1
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:22	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:22	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:22	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:22	1
Iron	<0.10		0.10		mg/L		11/19/15 15:04	11/20/15 13:22	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:22	1
Manganese	**0.088**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:22	1
Nickel	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:22	1
Selenium	**0.0028**		0.0025		mg/L		11/19/15 15:04	11/24/15 14:33	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:22	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:22	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:22	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:22	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 11:59	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/15 11:20	11/13/15 15:01	1
Sulfate	**110**		25		mg/L			11/14/15 20:29	5
Chloride	**26**		2.0		mg/L			11/16/15 23:55	1
Nitrogen, Nitrate	**0.15**		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**470**		10		mg/L			11/12/15 05:05	1
Fluoride	**0.80**		0.10		mg/L			11/12/15 12:54	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/10/15 18:13	1
Nitrogen, Nitrate Nitrite	**0.15**		0.10		mg/L			11/15/15 23:33	1

Client Sample ID: MW-07
Date Collected: 11/09/15 13:58
Date Received: 11/10/15 10:30

Lab Sample ID: 500-103774-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/20/15 23:22	1
Toluene	**0.0018**		0.00050		mg/L			11/20/15 23:22	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/20/15 23:22	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/20/15 23:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 125*		*11/20/15 23:22*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/20/15 23:22*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/20/15 23:22*	*1*
Dibromofluoromethane	*104*		*75 - 120*		*11/20/15 23:22*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 16:56	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:40	1
Arsenic	**0.0027**		0.0010		mg/L		11/19/15 15:04	11/20/15 13:40	1
Barium	**0.035**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:40	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 17:42	1
Boron	**2.9**		0.50		mg/L		11/19/15 15:04	11/24/15 14:35	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:40	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:40	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:40	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:40	1
Iron	**0.19**		0.10		mg/L		11/19/15 15:04	11/20/15 13:40	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:40	1
Manganese	**0.025**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:40	1
Nickel	**0.0035**		0.0020		mg/L		11/19/15 15:04	11/20/15 13:40	1
Selenium	**0.012**		0.0025		mg/L		11/19/15 15:04	11/24/15 14:46	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:40	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:40	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:40	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:40	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:07	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.034**		0.010		mg/L		11/12/15 11:20	11/13/15 15:01	1
Sulfate	**420**		100		mg/L			11/14/15 20:30	20
Chloride	**160**		10		mg/L			11/17/15 00:34	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**960**		10		mg/L			11/12/15 05:10	1
Fluoride	**0.96**		0.10		mg/L			11/12/15 13:01	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/10/15 18:15	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/15/15 23:35	1

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Client Sample ID: MW-08
Date Collected: 11/09/15 15:25
Date Received: 11/10/15 10:30

Lab Sample ID: 500-103774-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/20/15 23:47	1
Toluene	**0.0019**		0.00050		mg/L			11/20/15 23:47	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/20/15 23:47	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/20/15 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 125*		*11/20/15 23:47*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/20/15 23:47*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*11/20/15 23:47*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/20/15 23:47*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 17:11	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:43	1
Arsenic	**0.0040**		0.0010		mg/L		11/19/15 15:04	11/20/15 13:43	1
Barium	**0.086**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:43	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 17:46	1
Boron	**4.0**		0.50		mg/L		11/19/15 15:04	11/24/15 14:38	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:43	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:43	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:43	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:43	1
Iron	**0.11**		0.10		mg/L		11/19/15 15:04	11/20/15 13:43	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:43	1
Manganese	**0.25**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:43	1
Nickel	**0.0052**		0.0020		mg/L		11/19/15 15:04	11/20/15 13:43	1
Selenium	**0.0065**		0.0025		mg/L		11/19/15 15:04	11/24/15 14:49	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:43	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:43	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:43	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:43	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:13	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/15 11:20	11/13/15 15:02	1
Sulfate	**800**		200		mg/L			11/14/15 20:31	40
Chloride	**170**		10		mg/L			11/17/15 00:35	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**1600**		10		mg/L			11/12/15 05:12	1
Fluoride	**0.52**		0.10		mg/L			11/12/15 13:03	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/10/15 18:16	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:36	1

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Client Sample ID: Duplicate

Date Collected: 11/09/15 00:00
Date Received: 11/10/15 10:30

Lab Sample ID: 500-103774-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/21/15 00:12	1
Toluene	**0.0010**		0.00050		mg/L			11/21/15 00:12	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/21/15 00:12	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/21/15 00:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*		*11/21/15 00:12*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/21/15 00:12*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/21/15 00:12*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/21/15 00:12*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 17:27	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:46	1
Arsenic	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:46	1
Barium	**0.083**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:46	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 17:58	1
Boron	**0.75**		0.050		mg/L		11/19/15 15:04	11/24/15 14:50	1
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:46	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:46	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:46	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:46	1
Iron	<0.10		0.10		mg/L		11/19/15 15:04	11/20/15 13:46	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:46	1
Manganese	**0.087**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:46	1
Nickel	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:46	1
Selenium	**0.0033**		0.0025		mg/L		11/19/15 15:04	11/24/15 14:52	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:46	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:46	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:46	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:46	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:15	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/15 11:20	11/13/15 15:02	1
Sulfate	**110**		20		mg/L			11/14/15 20:32	4
Chloride	**25**		2.0		mg/L			11/16/15 23:57	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**420**		10		mg/L			11/12/15 05:15	1
Fluoride	**0.80**		0.10		mg/L			11/12/15 13:06	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/10/15 18:17	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:43	1

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Client Sample ID: MW-02

Date Collected: 11/10/15 08:50
Date Received: 11/11/15 10:30

Lab Sample ID: 500-103774-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/21/15 00:37	1
Toluene	**0.00072**		0.00050		mg/L			11/21/15 00:37	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/21/15 00:37	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/21/15 00:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 125*		*11/21/15 00:37*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/21/15 00:37*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*11/21/15 00:37*	*1*
Dibromofluoromethane	*107*		*75 - 120*		*11/21/15 00:37*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 17:42	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:48	1
Arsenic	**0.018**		0.0010		mg/L		11/19/15 15:04	11/20/15 13:48	1
Barium	**0.098**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:48	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 18:01	1
Boron	**4.4**		0.50		mg/L		11/19/15 15:04	11/24/15 14:53	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:48	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:48	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:48	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:48	1
Iron	**0.78**		0.10		mg/L		11/19/15 15:04	11/20/15 13:48	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:48	1
Manganese	**0.068**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:48	1
Nickel	**0.0031**		0.0020		mg/L		11/19/15 15:04	11/20/15 13:48	1
Selenium	<0.0025		0.0025		mg/L		11/19/15 15:04	11/24/15 15:00	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:48	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:48	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:48	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:48	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:16	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/15 11:20	11/13/15 15:03	1
Sulfate	**600**		100		mg/L			11/14/15 20:35	20
Chloride	**110**		10		mg/L			11/17/15 00:36	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**1000**		10		mg/L			11/12/15 05:17	1
Fluoride	**0.40**		0.10		mg/L			11/12/15 13:08	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/11/15 18:34	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:45	1

Client Sample ID: MW-03

Date Collected: 11/10/15 10:25
Date Received: 11/11/15 10:30

Lab Sample ID: 500-103774-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/21/15 01:02	1
Toluene	**0.0014**		0.00050		mg/L			11/21/15 01:02	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/21/15 01:02	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/21/15 01:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*		*11/21/15 01:02*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*11/21/15 01:02*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/21/15 01:02*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/21/15 01:02*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 17:57	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:51	1
Arsenic	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:51	1
Barium	**0.11**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:51	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 18:05	1
Boron	**3.0**		0.50		mg/L		11/19/15 15:04	11/24/15 14:57	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:51	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:51	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:51	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:51	1
Iron	<0.10		0.10		mg/L		11/19/15 15:04	11/20/15 13:51	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:51	1
Manganese	**0.42**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:51	1
Nickel	**0.0049**		0.0020		mg/L		11/19/15 15:04	11/20/15 13:51	1
Selenium	**0.0043**		0.0025		mg/L		11/19/15 15:04	11/24/15 15:02	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:51	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:51	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:51	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:51	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:18	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/15 11:20	11/13/15 15:03	1
Sulfate	**280**		50		mg/L			11/14/15 20:36	10
Chloride	**33**		10		mg/L			11/17/15 00:02	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**950**		10		mg/L			11/12/15 05:20	1
Fluoride	**0.39**		0.10		mg/L			11/12/15 13:11	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/11/15 18:34	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:47	1

Client Sample ID: MW-06

Date Collected: 11/10/15 11:56
Date Received: 11/11/15 10:30

Lab Sample ID: 500-103774-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00050**		0.00050		mg/L			11/21/15 01:27	1
Toluene	**0.0023**		0.00050		mg/L			11/21/15 01:27	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/21/15 01:27	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/21/15 01:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 125*		*11/21/15 01:27*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/21/15 01:27*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*11/21/15 01:27*	*1*
Dibromofluoromethane	*104*		*75 - 120*		*11/21/15 01:27*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 18:13	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:54	1
Arsenic	**0.0017**		0.0010		mg/L		11/19/15 15:04	11/20/15 13:54	1
Barium	**0.044**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:54	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 18:09	1
Boron	**3.4**		0.50		mg/L		11/19/15 15:04	11/24/15 15:01	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:54	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:54	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:54	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:54	1
Iron	<0.10		0.10		mg/L		11/19/15 15:04	11/20/15 13:54	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:54	1
Manganese	**0.037**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:54	1
Nickel	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:54	1
Selenium	**0.0048**		0.0025		mg/L		11/19/15 15:04	11/24/15 15:05	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:54	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:54	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:54	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:54	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:20	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/15 11:20	11/13/15 15:03	1
Sulfate	**360**		50		mg/L			11/14/15 20:37	10
Chloride	**110**		10		mg/L			11/17/15 00:38	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**660**		10		mg/L			11/12/15 05:22	1
Fluoride	**0.63**		0.10		mg/L			11/12/15 13:20	1
Nitrogen, Nitrite	**0.032**		0.020		mg/L			11/11/15 18:35	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:49	1

Client Sample ID: MW-10

Date Collected: 11/10/15 14:55
Date Received: 11/11/15 10:30

Lab Sample ID: 500-103774-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/21/15 01:52	1
Toluene	**0.0019**		0.00050		mg/L			11/21/15 01:52	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/21/15 01:52	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/21/15 01:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*		*11/21/15 01:52*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*11/21/15 01:52*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*11/21/15 01:52*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/21/15 01:52*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 18:28	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:56	1
Arsenic	**0.017**		0.0010		mg/L		11/19/15 15:04	11/20/15 13:56	1
Barium	**0.11**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:56	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 18:13	1
Boron	**4.4**		0.50		mg/L		11/19/15 15:04	11/24/15 15:05	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:56	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:56	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:56	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:56	1
Iron	**1.3**		0.10		mg/L		11/19/15 15:04	11/20/15 13:56	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:56	1
Manganese	**0.26**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:56	1
Nickel	**0.0030**		0.0020		mg/L		11/19/15 15:04	11/20/15 13:56	1
Selenium	<0.0025		0.0025		mg/L		11/19/15 15:04	11/24/15 15:08	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:56	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:56	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:56	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:56	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:22	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/15 11:20	11/13/15 15:04	1
Sulfate	**330**		50		mg/L			11/14/15 20:38	10
Chloride	**140**		10		mg/L			11/17/15 00:39	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**990**		10		mg/L			11/12/15 05:25	1
Fluoride	**0.77**		0.10		mg/L			11/12/15 13:23	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/11/15 18:36	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:51	1

Client Sample ID: MW-04

Date Collected: 11/11/15 12:40
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103774-9

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/21/15 02:17	1
Toluene	<0.00050		0.00050		mg/L			11/21/15 02:17	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/21/15 02:17	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/21/15 02:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*		*11/21/15 02:17*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*11/21/15 02:17*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/21/15 02:17*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/21/15 02:17*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 19:14	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:59	1
Arsenic	**0.0019**		0.0010		mg/L		11/19/15 15:04	11/20/15 13:59	1
Barium	**0.039**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:59	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 18:17	1
Boron	**5.0**		0.50		mg/L		11/19/15 15:04	11/24/15 15:08	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:59	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 18:17	1
Cobalt	**0.0013**		0.0010		mg/L		11/19/15 15:04	11/20/15 18:17	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:59	1
Iron	**0.51**		0.10		mg/L		11/19/15 15:04	11/20/15 18:17	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:59	1
Manganese	**0.62**		0.0025		mg/L		11/19/15 15:04	11/20/15 18:17	1
Nickel	**0.0070**		0.0020		mg/L		11/19/15 15:04	11/20/15 18:17	1
Selenium	**0.0081**		0.0025		mg/L		11/19/15 15:04	11/24/15 16:01	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:59	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:59	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:59	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:59	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:24	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/13/15 12:35	11/13/15 17:16	1
Sulfate	**870**		250		mg/L			11/14/15 20:39	50
Chloride	**46**		2.0		mg/L			11/17/15 00:06	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**1900**		10		mg/L			11/12/15 05:27	1
Fluoride	**0.43**		0.10		mg/L			11/12/15 13:26	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/11/15 18:36	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:54	1

Client Sample ID: MW-05

Date Collected: 11/11/15 10:55
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103774-10

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/21/15 02:42	1
Toluene	**0.0015**		0.00050		mg/L			11/21/15 02:42	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/21/15 02:42	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/21/15 02:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 125*		*11/21/15 02:42*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/21/15 02:42*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*		*11/21/15 02:42*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/21/15 02:42*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 19:30	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 14:07	1
Arsenic	**0.0014**		0.0010		mg/L		11/19/15 15:04	11/20/15 14:07	1
Barium	**0.078**		0.0025		mg/L		11/19/15 15:04	11/20/15 14:07	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 18:21	1
Boron	**5.9**		0.50		mg/L		11/19/15 15:04	11/24/15 15:12	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 14:07	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 14:07	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 14:07	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 14:07	1
Iron	<0.10		0.10		mg/L		11/19/15 15:04	11/20/15 14:07	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 14:07	1
Manganese	**0.17**		0.0025		mg/L		11/19/15 15:04	11/20/15 14:07	1
Nickel	**0.0026**		0.0020		mg/L		11/19/15 15:04	11/20/15 14:07	1
Selenium	**0.035**		0.0025		mg/L		11/19/15 15:04	11/24/15 16:04	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 14:07	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 14:07	1
Vanadium	**0.016**		0.0050		mg/L		11/19/15 15:04	11/20/15 14:07	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 14:07	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:26	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/13/15 12:35	11/13/15 17:17	1
Sulfate	**780**		250		mg/L			11/14/15 20:40	50
Chloride	**110**		10		mg/L			11/17/15 00:39	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**1900**		10		mg/L			11/12/15 05:30	1
Fluoride	**0.31**		0.10		mg/L			11/12/15 13:28	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/11/15 18:36	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:55	1

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Client Sample ID: MW-09

Date Collected: 11/11/15 09:30
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103774-11

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00057**		0.00050		mg/L			11/21/15 03:07	1
Toluene	**0.0023**		0.00050		mg/L			11/21/15 03:07	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/21/15 03:07	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/21/15 03:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 125*		*11/21/15 03:07*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/21/15 03:07*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*11/21/15 03:07*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/21/15 03:07*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 19:45	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 14:10	1
Arsenic	**0.0057**		0.0010		mg/L		11/19/15 15:04	11/20/15 14:10	1
Barium	**0.030**		0.0025		mg/L		11/19/15 15:04	11/20/15 14:10	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 18:25	1
Boron	**2.1**		0.50		mg/L		11/19/15 15:04	11/24/15 15:16	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 14:10	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 14:10	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 14:10	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 14:10	1
Iron	<0.10		0.10		mg/L		11/19/15 15:04	11/20/15 14:10	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 14:10	1
Manganese	**0.0032**		0.0025		mg/L		11/19/15 15:04	11/20/15 14:10	1
Nickel	**0.0023**		0.0020		mg/L		11/19/15 15:04	11/20/15 14:10	1
Selenium	<0.0025		0.0025		mg/L		11/19/15 15:04	11/24/15 16:08	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 14:10	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 14:10	1
Vanadium	**0.0080**		0.0050		mg/L		11/19/15 15:04	11/20/15 14:10	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 14:10	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:28	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/13/15 12:35	11/13/15 17:17	1
Sulfate	**400**		100		mg/L			11/14/15 20:41	20
Chloride	**190**		10		mg/L			11/17/15 00:40	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**760**		10		mg/L			11/12/15 05:32	1
Fluoride	**0.57**		0.10		mg/L			11/12/15 13:32	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/11/15 18:37	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:56	1

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Client Sample ID: Trip Blank
Date Collected: 11/11/15 00:00
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103774-12
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/20/15 22:07	1
Toluene	<0.00050		0.00050		mg/L			11/20/15 22:07	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/20/15 22:07	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/20/15 22:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 125*		*11/20/15 22:07*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/20/15 22:07*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*11/20/15 22:07*	*1*
Dibromofluoromethane	*104*		*75 - 120*		*11/20/15 22:07*	*1*

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA

Analysis Batch: 313469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Total/NA	Water	8260B	
500-103774-1 MS	MW-01	Total/NA	Water	8260B	
500-103774-1 MSD	MW-01	Total/NA	Water	8260B	
500-103774-2	MW-07	Total/NA	Water	8260B	
500-103774-3	MW-08	Total/NA	Water	8260B	
500-103774-4	Duplicate	Total/NA	Water	8260B	
500-103774-5	MW-02	Total/NA	Water	8260B	
500-103774-6	MW-03	Total/NA	Water	8260B	
500-103774-7	MW-06	Total/NA	Water	8260B	
500-103774-8	MW-10	Total/NA	Water	8260B	
500-103774-9	MW-04	Total/NA	Water	8260B	
500-103774-10	MW-05	Total/NA	Water	8260B	
500-103774-11	MW-09	Total/NA	Water	8260B	
500-103774-12	Trip Blank	Total/NA	Water	8260B	
LCS 500-313469/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-313469/6	Method Blank	Total/NA	Water	8260B	

HPLC/IC

Analysis Batch: 92977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Total/NA	Water	314.0	
500-103774-1 MS	MW-01	Total/NA	Water	314.0	
500-103774-1 MSD	MW-01	Total/NA	Water	314.0	
500-103774-2	MW-07	Total/NA	Water	314.0	
500-103774-3	MW-08	Total/NA	Water	314.0	
500-103774-4	Duplicate	Total/NA	Water	314.0	
500-103774-5	MW-02	Total/NA	Water	314.0	
500-103774-6	MW-03	Total/NA	Water	314.0	
500-103774-7	MW-06	Total/NA	Water	314.0	
500-103774-8	MW-10	Total/NA	Water	314.0	
500-103774-9	MW-04	Total/NA	Water	314.0	
500-103774-10	MW-05	Total/NA	Water	314.0	
500-103774-11	MW-09	Total/NA	Water	314.0	
LCS 320-92977/8	Lab Control Sample	Total/NA	Water	314.0	
MB 320-92977/7	Method Blank	Total/NA	Water	314.0	
MRL 320-92977/5	Lab Control Sample	Total/NA	Water	314.0	

Metals

Prep Batch: 312447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	7470A	
500-103774-1 DU	MW-01	Dissolved	Water	7470A	
500-103774-1 MS	MW-01	Dissolved	Water	7470A	
500-103774-1 MSD	MW-01	Dissolved	Water	7470A	
500-103774-2	MW-07	Dissolved	Water	7470A	
500-103774-3	MW-08	Dissolved	Water	7470A	
500-103774-4	Duplicate	Dissolved	Water	7470A	
500-103774-5	MW-02	Dissolved	Water	7470A	

Metals (Continued)

Prep Batch: 312447 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-6	MW-03	Dissolved	Water	7470A	
500-103774-7	MW-06	Dissolved	Water	7470A	
500-103774-8	MW-10	Dissolved	Water	7470A	
500-103774-9	MW-04	Dissolved	Water	7470A	
500-103774-10	MW-05	Dissolved	Water	7470A	
500-103774-11	MW-09	Dissolved	Water	7470A	
LCS 500-312447/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-312447/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 312586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	7470A	312447
500-103774-1 DU	MW-01	Dissolved	Water	7470A	312447
500-103774-1 MS	MW-01	Dissolved	Water	7470A	312447
500-103774-1 MSD	MW-01	Dissolved	Water	7470A	312447
500-103774-2	MW-07	Dissolved	Water	7470A	312447
500-103774-3	MW-08	Dissolved	Water	7470A	312447
500-103774-4	Duplicate	Dissolved	Water	7470A	312447
500-103774-5	MW-02	Dissolved	Water	7470A	312447
500-103774-6	MW-03	Dissolved	Water	7470A	312447
500-103774-7	MW-06	Dissolved	Water	7470A	312447
500-103774-8	MW-10	Dissolved	Water	7470A	312447
500-103774-9	MW-04	Dissolved	Water	7470A	312447
500-103774-10	MW-05	Dissolved	Water	7470A	312447
500-103774-11	MW-09	Dissolved	Water	7470A	312447
LCS 500-312447/13-A	Lab Control Sample	Total/NA	Water	7470A	312447
MB 500-312447/12-A	Method Blank	Total/NA	Water	7470A	312447

Prep Batch: 313291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	Soluble Metals	
500-103774-1 DU	MW-01	Dissolved	Water	Soluble Metals	
500-103774-1 MS	MW-01	Dissolved	Water	Soluble Metals	
500-103774-1 MSD	MW-01	Dissolved	Water	Soluble Metals	
500-103774-2	MW-07	Dissolved	Water	Soluble Metals	
500-103774-3	MW-08	Dissolved	Water	Soluble Metals	
500-103774-4	Duplicate	Dissolved	Water	Soluble Metals	
500-103774-5	MW-02	Dissolved	Water	Soluble Metals	
500-103774-6	MW-03	Dissolved	Water	Soluble Metals	
500-103774-7	MW-06	Dissolved	Water	Soluble Metals	
500-103774-8	MW-10	Dissolved	Water	Soluble Metals	
500-103774-9	MW-04	Dissolved	Water	Soluble Metals	
500-103774-10	MW-05	Dissolved	Water	Soluble Metals	
500-103774-11	MW-09	Dissolved	Water	Soluble Metals	
LCS 500-313291/2-A	Lab Control Sample	Soluble	Water	Soluble Metals	
MB 500-313291/1-A	Method Blank	Soluble	Water	Soluble Metals	

Analysis Batch: 313708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	6020A	313291
500-103774-1 DU	MW-01	Dissolved	Water	6020A	313291

Metals (Continued)

Analysis Batch: 313708 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1 MS	MW-01	Dissolved	Water	6020A	313291
500-103774-1 MSD	MW-01	Dissolved	Water	6020A	313291
500-103774-2	MW-07	Dissolved	Water	6020A	313291
500-103774-3	MW-08	Dissolved	Water	6020A	313291
500-103774-4	Duplicate	Dissolved	Water	6020A	313291
500-103774-5	MW-02	Dissolved	Water	6020A	313291
500-103774-6	MW-03	Dissolved	Water	6020A	313291
500-103774-7	MW-06	Dissolved	Water	6020A	313291
500-103774-8	MW-10	Dissolved	Water	6020A	313291
500-103774-9	MW-04	Dissolved	Water	6020A	313291
500-103774-10	MW-05	Dissolved	Water	6020A	313291
500-103774-11	MW-09	Dissolved	Water	6020A	313291
LCS 500-313291/2-A	Lab Control Sample	Soluble	Water	6020A	313291
MB 500-313291/1-A	Method Blank	Soluble	Water	6020A	313291

Analysis Batch: 313816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	6020A	313291
500-103774-1 DU	MW-01	Dissolved	Water	6020A	313291
500-103774-1 MS	MW-01	Dissolved	Water	6020A	313291
500-103774-1 MSD	MW-01	Dissolved	Water	6020A	313291
500-103774-2	MW-07	Dissolved	Water	6020A	313291
500-103774-3	MW-08	Dissolved	Water	6020A	313291
500-103774-4	Duplicate	Dissolved	Water	6020A	313291
500-103774-5	MW-02	Dissolved	Water	6020A	313291
500-103774-6	MW-03	Dissolved	Water	6020A	313291
500-103774-7	MW-06	Dissolved	Water	6020A	313291
500-103774-8	MW-10	Dissolved	Water	6020A	313291
500-103774-9	MW-04	Dissolved	Water	6020A	313291
500-103774-10	MW-05	Dissolved	Water	6020A	313291
500-103774-11	MW-09	Dissolved	Water	6020A	313291
LCS 500-313291/2-A	Lab Control Sample	Soluble	Water	6020A	313291
MB 500-313291/1-A	Method Blank	Soluble	Water	6020A	313291

Analysis Batch: 314020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	6020A	313291
500-103774-1 DU	MW-01	Dissolved	Water	6020A	313291
500-103774-1 MS	MW-01	Dissolved	Water	6020A	313291
500-103774-1 MSD	MW-01	Dissolved	Water	6020A	313291
500-103774-2	MW-07	Dissolved	Water	6020A	313291
500-103774-3	MW-08	Dissolved	Water	6020A	313291
500-103774-4	Duplicate	Dissolved	Water	6020A	313291
500-103774-5	MW-02	Dissolved	Water	6020A	313291
500-103774-6	MW-03	Dissolved	Water	6020A	313291
500-103774-7	MW-06	Dissolved	Water	6020A	313291
500-103774-8	MW-10	Dissolved	Water	6020A	313291
LCS 500-313291/2-A	Lab Control Sample	Soluble	Water	6020A	313291
MB 500-313291/1-A	Method Blank	Soluble	Water	6020A	313291

Metals (Continued)

Analysis Batch: 314031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-9	MW-04	Dissolved	Water	6020A	313291

Analysis Batch: 314036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	6020A	313291
500-103774-1 DU	MW-01	Dissolved	Water	6020A	313291
500-103774-1 MS	MW-01	Dissolved	Water	6020A	313291
500-103774-1 MSD	MW-01	Dissolved	Water	6020A	313291
500-103774-2	MW-07	Dissolved	Water	6020A	313291
500-103774-3	MW-08	Dissolved	Water	6020A	313291
500-103774-4	Duplicate	Dissolved	Water	6020A	313291
500-103774-5	MW-02	Dissolved	Water	6020A	313291
500-103774-6	MW-03	Dissolved	Water	6020A	313291
500-103774-7	MW-06	Dissolved	Water	6020A	313291
500-103774-8	MW-10	Dissolved	Water	6020A	313291
500-103774-9	MW-04	Dissolved	Water	6020A	313291
500-103774-9	MW-04	Dissolved	Water	6020A	313291
500-103774-10	MW-05	Dissolved	Water	6020A	313291
500-103774-10	MW-05	Dissolved	Water	6020A	313291
500-103774-11	MW-09	Dissolved	Water	6020A	313291
500-103774-11	MW-09	Dissolved	Water	6020A	313291
LCS 500-313291/2-A	Lab Control Sample	Soluble	Water	6020A	313291
MB 500-313291/1-A	Method Blank	Soluble	Water	6020A	313291

General Chemistry

Analysis Batch: 312287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	SM 2540C	
500-103774-1 DU	MW-01	Dissolved	Water	SM 2540C	
500-103774-2	MW-07	Dissolved	Water	SM 2540C	
500-103774-3	MW-08	Dissolved	Water	SM 2540C	
500-103774-4	Duplicate	Dissolved	Water	SM 2540C	
500-103774-5	MW-02	Dissolved	Water	SM 2540C	
500-103774-6	MW-03	Dissolved	Water	SM 2540C	
500-103774-7	MW-06	Dissolved	Water	SM 2540C	
500-103774-8	MW-10	Dissolved	Water	SM 2540C	
500-103774-9	MW-04	Dissolved	Water	SM 2540C	
500-103774-10	MW-05	Dissolved	Water	SM 2540C	
500-103774-11	MW-09	Dissolved	Water	SM 2540C	
LCS 500-312287/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-312287/1	Method Blank	Total/NA	Water	SM 2540C	

Prep Batch: 312352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	9010B	
500-103774-2	MW-07	Dissolved	Water	9010B	
500-103774-3	MW-08	Dissolved	Water	9010B	
500-103774-4	Duplicate	Dissolved	Water	9010B	
500-103774-5	MW-02	Dissolved	Water	9010B	

General Chemistry (Continued)

Prep Batch: 312352 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-6	MW-03	Dissolved	Water	9010B	
500-103774-7	MW-06	Dissolved	Water	9010B	
500-103774-8	MW-10	Dissolved	Water	9010B	
LCS 500-312352/11-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-312352/10-A	Method Blank	Total/NA	Water	9010B	

Analysis Batch: 312398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-5	MW-02	Dissolved	Water	SM 4500 NO2 B	
500-103774-6	MW-03	Dissolved	Water	SM 4500 NO2 B	
500-103774-7	MW-06	Dissolved	Water	SM 4500 NO2 B	
500-103774-8	MW-10	Dissolved	Water	SM 4500 NO2 B	
500-103774-9	MW-04	Dissolved	Water	SM 4500 NO2 B	
500-103774-10	MW-05	Dissolved	Water	SM 4500 NO2 B	
500-103774-11	MW-09	Dissolved	Water	SM 4500 NO2 B	
LCS 500-312398/10	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-312398/9	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 312400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	SM 4500 NO2 B	
500-103774-1 MS	MW-01	Dissolved	Water	SM 4500 NO2 B	
500-103774-1 MSD	MW-01	Dissolved	Water	SM 4500 NO2 B	
500-103774-2	MW-07	Dissolved	Water	SM 4500 NO2 B	
500-103774-3	MW-08	Dissolved	Water	SM 4500 NO2 B	
500-103774-4	Duplicate	Dissolved	Water	SM 4500 NO2 B	
LCS 500-312400/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-312400/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 312414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	SM 4500 F C	
500-103774-1 MS	MW-01	Dissolved	Water	SM 4500 F C	
500-103774-1 MSD	MW-01	Dissolved	Water	SM 4500 F C	
500-103774-2	MW-07	Dissolved	Water	SM 4500 F C	
500-103774-3	MW-08	Dissolved	Water	SM 4500 F C	
500-103774-4	Duplicate	Dissolved	Water	SM 4500 F C	
500-103774-5	MW-02	Dissolved	Water	SM 4500 F C	
500-103774-6	MW-03	Dissolved	Water	SM 4500 F C	
500-103774-7	MW-06	Dissolved	Water	SM 4500 F C	
500-103774-8	MW-10	Dissolved	Water	SM 4500 F C	
500-103774-9	MW-04	Dissolved	Water	SM 4500 F C	
500-103774-10	MW-05	Dissolved	Water	SM 4500 F C	
500-103774-11	MW-09	Dissolved	Water	SM 4500 F C	
LCS 500-312414/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-312414/3	Method Blank	Total/NA	Water	SM 4500 F C	

Prep Batch: 312564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-9	MW-04	Dissolved	Water	9010B	
500-103774-10	MW-05	Dissolved	Water	9010B	

General Chemistry (Continued)

Prep Batch: 312564 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-11	MW-09	Dissolved	Water	9010B	
LCS 500-312564/16-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-312564/15-A	Method Blank	Total/NA	Water	9010B	

Analysis Batch: 312682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	9014	312352
500-103774-2	MW-07	Dissolved	Water	9014	312352
500-103774-3	MW-08	Dissolved	Water	9014	312352
500-103774-4	Duplicate	Dissolved	Water	9014	312352
500-103774-5	MW-02	Dissolved	Water	9014	312352
500-103774-6	MW-03	Dissolved	Water	9014	312352
500-103774-7	MW-06	Dissolved	Water	9014	312352
500-103774-8	MW-10	Dissolved	Water	9014	312352
LCS 500-312352/11-A	Lab Control Sample	Total/NA	Water	9014	312352
MB 500-312352/10-A	Method Blank	Total/NA	Water	9014	312352

Analysis Batch: 312683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-9	MW-04	Dissolved	Water	9014	312564
500-103774-10	MW-05	Dissolved	Water	9014	312564
500-103774-11	MW-09	Dissolved	Water	9014	312564
LCS 500-312564/16-A	Lab Control Sample	Total/NA	Water	9014	312564
MB 500-312564/15-A	Method Blank	Total/NA	Water	9014	312564

Analysis Batch: 312807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	9038	
500-103774-2	MW-07	Dissolved	Water	9038	
500-103774-3	MW-08	Dissolved	Water	9038	
500-103774-4	Duplicate	Dissolved	Water	9038	
500-103774-5	MW-02	Dissolved	Water	9038	
500-103774-6	MW-03	Dissolved	Water	9038	
500-103774-7	MW-06	Dissolved	Water	9038	
500-103774-8	MW-10	Dissolved	Water	9038	
500-103774-9	MW-04	Dissolved	Water	9038	
500-103774-10	MW-05	Dissolved	Water	9038	
500-103774-11	MW-09	Dissolved	Water	9038	
LCS 500-312807/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-312807/3	Method Blank	Total/NA	Water	9038	

Analysis Batch: 312871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	SM 4500 NO3 F	
500-103774-2	MW-07	Dissolved	Water	SM 4500 NO3 F	
LCS 500-312871/5	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-312871/4	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 312927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	9251	

General Chemistry (Continued)

Analysis Batch: 312927 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-2	MW-07	Dissolved	Water	9251	
500-103774-3	MW-08	Dissolved	Water	9251	
500-103774-4	Duplicate	Dissolved	Water	9251	
500-103774-5	MW-02	Dissolved	Water	9251	
500-103774-6	MW-03	Dissolved	Water	9251	
500-103774-6 MS	MW-03	Dissolved	Water	9251	
500-103774-6 MSD	MW-03	Dissolved	Water	9251	
500-103774-7	MW-06	Dissolved	Water	9251	
500-103774-8	MW-10	Dissolved	Water	9251	
500-103774-9	MW-04	Dissolved	Water	9251	
500-103774-10	MW-05	Dissolved	Water	9251	
500-103774-11	MW-09	Dissolved	Water	9251	
LCS 500-312927/5	Lab Control Sample	Total/NA	Water	9251	
MB 500-312927/4	Method Blank	Total/NA	Water	9251	

Analysis Batch: 313524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-3	MW-08	Dissolved	Water	SM 4500 NO3 F	
500-103774-3 MS	MW-08	Dissolved	Water	SM 4500 NO3 F	
500-103774-3 MSD	MW-08	Dissolved	Water	SM 4500 NO3 F	
500-103774-4	Duplicate	Dissolved	Water	SM 4500 NO3 F	
500-103774-5	MW-02	Dissolved	Water	SM 4500 NO3 F	
500-103774-6	MW-03	Dissolved	Water	SM 4500 NO3 F	
500-103774-7	MW-06	Dissolved	Water	SM 4500 NO3 F	
500-103774-8	MW-10	Dissolved	Water	SM 4500 NO3 F	
500-103774-9	MW-04	Dissolved	Water	SM 4500 NO3 F	
500-103774-10	MW-05	Dissolved	Water	SM 4500 NO3 F	
500-103774-11	MW-09	Dissolved	Water	SM 4500 NO3 F	
LCS 500-313524/13	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-313524/12	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 313639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	Nitrate by calc	
500-103774-2	MW-07	Dissolved	Water	Nitrate by calc	
500-103774-3	MW-08	Dissolved	Water	Nitrate by calc	
500-103774-4	Duplicate	Dissolved	Water	Nitrate by calc	
500-103774-5	MW-02	Dissolved	Water	Nitrate by calc	
500-103774-6	MW-03	Dissolved	Water	Nitrate by calc	
500-103774-7	MW-06	Dissolved	Water	Nitrate by calc	
500-103774-8	MW-10	Dissolved	Water	Nitrate by calc	
500-103774-9	MW-04	Dissolved	Water	Nitrate by calc	
500-103774-10	MW-05	Dissolved	Water	Nitrate by calc	
500-103774-11	MW-09	Dissolved	Water	Nitrate by calc	

Surrogate Summary

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	12DCE (75-125)	TOL (75-120)	BFB (75-120)	DBFM (75-120)
500-103774-1	MW-01	101	94	97	103
500-103774-1 MS	MW-01	103	97	96	104
500-103774-1 MSD	MW-01	104	96	92	104
500-103774-2	MW-07	106	93	94	104
500-103774-3	MW-08	104	93	95	105
500-103774-4	Duplicate	101	93	94	105
500-103774-5	MW-02	104	92	98	107
500-103774-6	MW-03	102	95	94	105
500-103774-7	MW-06	103	92	99	104
500-103774-8	MW-10	102	95	95	105
500-103774-9	MW-04	101	95	94	105
500-103774-10	MW-05	103	93	97	105
500-103774-11	MW-09	103	92	98	105
500-103774-12	Trip Blank	103	93	98	104
LCS 500-313469/4	Lab Control Sample	101	97	93	106
MB 500-313469/6	Method Blank	100	92	97	103

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-313469/6
Matrix: Water
Analysis Batch: 313469

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/20/15 21:42	1
Toluene	<0.00050		0.00050		mg/L			11/20/15 21:42	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/20/15 21:42	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/20/15 21:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*		*11/20/15 21:42*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/20/15 21:42*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*		*11/20/15 21:42*	*1*
Dibromofluoromethane	*103*		*75 - 120*		*11/20/15 21:42*	*1*

Lab Sample ID: LCS 500-313469/4
Matrix: Water
Analysis Batch: 313469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0466		mg/L		93	70 - 120
Toluene	0.0500	0.0451		mg/L		90	70 - 120
Ethylbenzene	0.0500	0.0459		mg/L		92	70 - 125
Xylenes, Total	0.100	0.0925		mg/L		92	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*
Toluene-d8 (Surr)	*97*		*75 - 120*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*
Dibromofluoromethane	*106*		*75 - 120*

Lab Sample ID: 500-103774-1 MS
Matrix: Water
Analysis Batch: 313469

Client Sample ID: MW-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00050		0.0500	0.0508		mg/L		101	70 - 120
Toluene	0.0013		0.0500	0.0496		mg/L		97	70 - 120
Ethylbenzene	<0.00050		0.0500	0.0508		mg/L		102	70 - 125
Xylenes, Total	<0.0010		0.100	0.102		mg/L		102	70 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 125*
Toluene-d8 (Surr)	*97*		*75 - 120*
4-Bromofluorobenzene (Surr)	*96*		*75 - 120*
Dibromofluoromethane	*104*		*75 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-103774-1 MSD — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 313469

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00050		0.0500	0.0502		mg/L		100	70 - 120	1	20
Toluene	0.0013		0.0500	0.0487		mg/L		95	70 - 120	2	20
Ethylbenzene	<0.00050		0.0500	0.0499		mg/L		100	70 - 125	2	20
Xylenes, Total	<0.0010		0.100	0.0995		mg/L		100	70 - 120	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 125*
Toluene-d8 (Surr)	*96*		*75 - 120*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*
Dibromofluoromethane	*104*		*75 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-92977/7 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 92977

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 13:20	1

Lab Sample ID: LCS 320-92977/8 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 92977

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	0.0500	0.0484		mg/L		97	85 - 115

Lab Sample ID: MRL 320-92977/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 92977

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	<4.0		ug/L		93	75 - 125

Lab Sample ID: 500-103774-1 MS — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 92977

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	<0.0040		0.0500	0.0411		mg/L		82	80 - 120

Lab Sample ID: 500-103774-1 MSD — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 92977

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	<0.0040		0.0500	0.0409		mg/L		82	80 - 120	0	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: 500-103774-1 MS — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 313708 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.490		mg/L		98	75 - 125
Arsenic	<0.0010		0.100	0.112		mg/L		112	75 - 125
Barium	0.078		0.500	0.559		mg/L		96	75 - 125
Cadmium	<0.00050		0.0500	0.0518		mg/L		104	75 - 125
Chromium	<0.0050		0.200	0.189		mg/L		95	75 - 125
Cobalt	<0.0010		0.500	0.482		mg/L		96	75 - 125
Copper	<0.0020		0.250	0.241		mg/L		96	75 - 125
Iron	<0.10		1.00	0.981		mg/L		98	75 - 125
Lead	<0.00050		0.100	0.103		mg/L		103	75 - 125
Manganese	0.088		0.500	0.580		mg/L		98	75 - 125
Nickel	<0.0020		0.500	0.483		mg/L		96	75 - 125
Silver	<0.00050		0.0500	0.0430		mg/L		86	75 - 125
Thallium	<0.0020		0.100	0.106		mg/L		106	75 - 125
Vanadium	<0.0050		0.500	0.485		mg/L		97	75 - 125
Zinc	<0.020		0.500	0.544		mg/L		109	75 - 125

Lab Sample ID: 500-103774-1 MS — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 313816 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	<0.0010		0.0500	0.0498		mg/L		100	75 - 125

Lab Sample ID: 500-103774-1 MS — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 314036 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.73		1.00	1.70		mg/L		97	75 - 125

Lab Sample ID: 500-103774-1 MS — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 314020 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	0.0028		0.100	0.121		mg/L		118	75 - 125

Lab Sample ID: 500-103774-1 MSD — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 313708 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.509		mg/L		102	75 - 125	4	20
Arsenic	<0.0010		0.100	0.117		mg/L		117	75 - 125	4	20
Barium	0.078		0.500	0.573		mg/L		99	75 - 125	3	20
Cadmium	<0.00050		0.0500	0.0548		mg/L		110	75 - 125	6	20
Chromium	<0.0050		0.200	0.200		mg/L		100	75 - 125	5	20
Cobalt	<0.0010		0.500	0.511		mg/L		102	75 - 125	6	20
Copper	<0.0020		0.250	0.251		mg/L		100	75 - 125	4	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-103774-1 MSD — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 313708 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	<0.10		1.00	1.02		mg/L		102	75 - 125	4	20
Lead	<0.00050		0.100	0.107		mg/L		107	75 - 125	4	20
Manganese	0.088		0.500	0.602		mg/L		103	75 - 125	4	20
Nickel	<0.0020		0.500	0.513		mg/L		102	75 - 125	6	20
Silver	<0.00050		0.0500	0.0450		mg/L		90	75 - 125	4	20
Thallium	<0.0020		0.100	0.110		mg/L		110	75 - 125	3	20
Vanadium	<0.0050		0.500	0.512		mg/L		102	75 - 125	5	20
Zinc	<0.020		0.500	0.563		mg/L		113	75 - 125	3	20

Lab Sample ID: 500-103774-1 MSD — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 313816 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	<0.0010		0.0500	0.0535		mg/L		107	75 - 125	7	20

Lab Sample ID: 500-103774-1 MSD — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 314036 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.73		1.00	1.74		mg/L		100	75 - 125	2	20

Lab Sample ID: 500-103774-1 MSD — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 314020 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium	0.0028		0.100	0.122		mg/L		119	75 - 125	1	20

Lab Sample ID: 500-103774-1 DU — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 313708 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Antimony	<0.0030			<0.0030		mg/L				NC	20
Arsenic	<0.0010			<0.0010		mg/L				NC	20
Barium	0.078			0.0778		mg/L				0.4	20
Cadmium	<0.00050			<0.00050		mg/L				NC	20
Chromium	<0.0050			<0.0050		mg/L				NC	20
Cobalt	<0.0010			<0.0010		mg/L				NC	20
Copper	<0.0020			<0.0020		mg/L				NC	20
Iron	<0.10			<0.10		mg/L				NC	20
Lead	<0.00050			<0.00050		mg/L				NC	20
Manganese	0.088			0.0884		mg/L				0.2	20
Nickel	<0.0020			<0.0020		mg/L				NC	20
Silver	<0.00050			<0.00050		mg/L				NC	20
Thallium	<0.0020			<0.0020		mg/L				NC	20
Vanadium	<0.0050			<0.0050		mg/L				NC	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-103774-1 DU
Matrix: Water
Analysis Batch: 313708

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 313291

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Zinc	<0.020			<0.020		mg/L				NC	20

Lab Sample ID: 500-103774-1 DU
Matrix: Water
Analysis Batch: 313816

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 313291

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Beryllium	<0.0010			<0.0010		mg/L				NC	20

Lab Sample ID: 500-103774-1 DU
Matrix: Water
Analysis Batch: 314036

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 313291

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Boron	0.73			0.747		mg/L				2	20

Lab Sample ID: 500-103774-1 DU
Matrix: Water
Analysis Batch: 314020

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 313291

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Selenium	0.0028			0.00266		mg/L				3	20

Lab Sample ID: MB 500-313291/1-A
Matrix: Water
Analysis Batch: 313708

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 313291

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:16	1
Arsenic	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:16	1
Barium	<0.0025		0.0025		mg/L		11/19/15 15:04	11/20/15 13:16	1
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:16	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:16	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:16	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:16	1
Iron	<0.10		0.10		mg/L		11/19/15 15:04	11/20/15 13:16	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:16	1
Manganese	<0.0025		0.0025		mg/L		11/19/15 15:04	11/20/15 13:16	1
Nickel	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:16	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:16	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:16	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:16	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:16	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 500-313291/1-A
Matrix: Water
Analysis Batch: 313816

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 313291

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 17:14	1

Lab Sample ID: MB 500-313291/1-A
Matrix: Water
Analysis Batch: 314036

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 313291

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		11/19/15 15:04	11/24/15 14:09	1

Lab Sample ID: MB 500-313291/1-A
Matrix: Water
Analysis Batch: 314020

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 313291

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.0025		0.0025		mg/L		11/19/15 15:04	11/24/15 14:28	1

Lab Sample ID: LCS 500-313291/2-A
Matrix: Water
Analysis Batch: 313708

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 313291

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.473		mg/L		95	80 - 120
Arsenic	0.100	0.0974		mg/L		97	80 - 120
Barium	0.500	0.474		mg/L		95	80 - 120
Cadmium	0.0500	0.0518		mg/L		104	80 - 120
Chromium	0.200	0.201		mg/L		100	80 - 120
Cobalt	0.500	0.521		mg/L		104	80 - 120
Copper	0.250	0.243		mg/L		97	80 - 120
Iron	1.00	1.03		mg/L		103	80 - 120
Lead	0.100	0.104		mg/L		104	80 - 120
Manganese	0.500	0.514		mg/L		103	80 - 120
Nickel	0.500	0.531		mg/L		106	80 - 120
Silver	0.0500	0.0531		mg/L		106	80 - 120
Thallium	0.100	0.107		mg/L		107	80 - 120
Vanadium	0.500	0.506		mg/L		101	80 - 120
Zinc	0.500	0.503		mg/L		101	80 - 120

Lab Sample ID: LCS 500-313291/2-A
Matrix: Water
Analysis Batch: 313816

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 313291

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.0500	0.0507		mg/L		101	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-313291/2-A
Matrix: Water
Analysis Batch: 314036

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 313291

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	80 - 120

Lab Sample ID: LCS 500-313291/2-A
Matrix: Water
Analysis Batch: 314020

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 313291

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	0.100	0.0957		mg/L		96	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-312447/12-A
Matrix: Water
Analysis Batch: 312586

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312447

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 11:55	1

Lab Sample ID: LCS 500-312447/13-A
Matrix: Water
Analysis Batch: 312586

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312447

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00180		mg/L		90	80 - 120

Lab Sample ID: 500-103774-1 MS
Matrix: Water
Analysis Batch: 312586

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 312447

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00020		0.00100	0.000845		mg/L		85	75 - 125

Lab Sample ID: 500-103774-1 MSD
Matrix: Water
Analysis Batch: 312586

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 312447

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.00020		0.00100	0.000804		mg/L		80	75 - 125	5	20

Lab Sample ID: 500-103774-1 DU
Matrix: Water
Analysis Batch: 312586

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 312447

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.00020		<0.00020		mg/L		NC	20

Method: 9014 - Cyanide

Lab Sample ID: MB 500-312352/10-A
Matrix: Water
Analysis Batch: 312682

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312352

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/15 11:20	11/13/15 14:58	1

Lab Sample ID: LCS 500-312352/11-A
Matrix: Water
Analysis Batch: 312682

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312352

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.107		mg/L		107	80 - 120

Lab Sample ID: MB 500-312564/15-A
Matrix: Water
Analysis Batch: 312683

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312564

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/13/15 12:35	11/13/15 17:15	1

Lab Sample ID: LCS 500-312564/16-A
Matrix: Water
Analysis Batch: 312683

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312564

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.110		mg/L		110	80 - 120

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 500-312807/3
Matrix: Water
Analysis Batch: 312807

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/14/15 20:23	1

Lab Sample ID: LCS 500-312807/4
Matrix: Water
Analysis Batch: 312807

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	18.4		mg/L		92	80 - 120

Method: 9251 - Chloride

Lab Sample ID: MB 500-312927/4
Matrix: Water
Analysis Batch: 312927

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/16/15 23:52	1

Method: 9251 - Chloride (Continued)

Lab Sample ID: LCS 500-312927/5
Matrix: Water
Analysis Batch: 312927

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.3		mg/L		105	80 - 120

Lab Sample ID: 500-103774-6 MS
Matrix: Water
Analysis Batch: 312927

Client Sample ID: MW-03
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	33		50.0	84.0		mg/L		102	75 - 125

Lab Sample ID: 500-103774-6 MSD
Matrix: Water
Analysis Batch: 312927

Client Sample ID: MW-03
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	33		50.0	87.0		mg/L		108	75 - 125	3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-312287/1
Matrix: Water
Analysis Batch: 312287

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/12/15 05:00	1

Lab Sample ID: LCS 500-312287/2
Matrix: Water
Analysis Batch: 312287

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	282		mg/L		113	80 - 120

Lab Sample ID: 500-103774-1 DU
Matrix: Water
Analysis Batch: 312287

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	470		466		mg/L		0	5

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-312414/3
Matrix: Water
Analysis Batch: 312414

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			11/12/15 12:49	1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: LCS 500-312414/4
Matrix: Water
Analysis Batch: 312414

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.6		mg/L		106	80 - 120

Lab Sample ID: 500-103774-1 MS
Matrix: Water
Analysis Batch: 312414

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.80		5.00	6.09		mg/L		106	75 - 125

Lab Sample ID: 500-103774-1 MSD
Matrix: Water
Analysis Batch: 312414

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.80		5.00	6.09		mg/L		106	75 - 125	0	20

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-312398/9
Matrix: Water
Analysis Batch: 312398

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/11/15 18:33	1

Lab Sample ID: LCS 500-312398/10
Matrix: Water
Analysis Batch: 312398

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.107		mg/L		107	80 - 120

Lab Sample ID: MB 500-312400/3
Matrix: Water
Analysis Batch: 312400

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/10/15 18:11	1

Lab Sample ID: LCS 500-312400/4
Matrix: Water
Analysis Batch: 312400

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.106		mg/L		106	80 - 120

Method: SM 4500 NO2 B - Nitrogen, Nitrite (Continued)

Lab Sample ID: 500-103774-1 MS
Matrix: Water
Analysis Batch: 312400

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	<0.020		0.100	0.117		mg/L		103	75 - 125

Lab Sample ID: 500-103774-1 MSD
Matrix: Water
Analysis Batch: 312400

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	<0.020		0.100	0.120		mg/L		105	75 - 125	2	20

Method: SM 4500 NO3 F - Nitrate

Lab Sample ID: MB 500-312871/4
Matrix: Water
Analysis Batch: 312871

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/15/15 22:08	1

Lab Sample ID: LCS 500-312871/5
Matrix: Water
Analysis Batch: 312871

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	0.982		mg/L		98	80 - 120

Lab Sample ID: MB 500-313524/12
Matrix: Water
Analysis Batch: 313524

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:32	1

Lab Sample ID: LCS 500-313524/13
Matrix: Water
Analysis Batch: 313524

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	1.08		mg/L		108	80 - 120

Lab Sample ID: 500-103774-3 MS
Matrix: Water
Analysis Batch: 313524

Client Sample ID: MW-08
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	<0.10		1.00	0.979		mg/L		92	75 - 125

Method: SM 4500 NO3 F - Nitrogen, Nitrate (Continued)

Lab Sample ID: 500-103774-3 MSD
Matrix: Water
Analysis Batch: 313524

Client Sample ID: MW-08
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrate Nitrite	<0.10		1.00	1.10		mg/L		104	75 - 125	11	20

TestAmerica
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	Brookfield, WI	
Phone:	262-781-0475	Phone:
Fax:		Fax:
Email:	richardg@kprginc.com	PO #:

Lab Lot # 500-103774

Package Sealed	Samples Sealed
(Yes) No	(Yes) No
Received on Ice	**Samples Intact**
(Yes) No	(Yes) No N/A

Temperature °C of Cooler 4.4

Within Hold Time	Preserv. Indicated
(Yes) No	Yes No (N/A)
pH Check OK	**Res CL_2 Check OK**
Yes No	Yes No N/A

Sample Labels and COC Agree
(Yes) No COC not present

Sampler Name:	Client Project #	Refrg #
Ian John Howieson	12313.3	# / Cont.
Project Name:	**TestAmerica Project Number:**	Volume
Will Co. Station Ash Ponds	50005079	Preserv.
Project Location:	**Date Required**	
Romeoville, IL	Hard Copy: ____/____/____	
Lab PM: Bonnie Stadelmann	Fax: ____/____/____	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# OF Containers	NO2	Additional Analyses / Remarks
1		MW-01	11-9-15	11:40	W	1	X	
2		MW-07	11-9-15	13:58	W	1	X	
3		MW-08	11-9-15	15:25	W	1	X	
4		DUPLICATE	11-9-15	—	W	1	X	

500-103774 COC

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	11-9-15	17:30	FEDEX			
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
					TA-CHI	11/10/15	10:30

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 11/10/15
Courier:
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Bill of Lading: FedEx
PAGE ____of____

STL-8208 (0600)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Rich Gnat	Contact:	
Company:	KPRG & Associates Inc.	Company:	
Address:	14665 W. Llisbon Rd. Suite 2B	Address:	
	Brookfield, WI		
Phone:	262-781-0475	Phone:	
Fax:		Fax:	
Email:	richardg@kprginc.com	PO #:	

500-103774 COC

Lab Lot # 500-103774

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No N/A

Temperature °C of Cooler: 5.5

Sampler Name:	Client Project #	Refrg #	Within Hold Time	Preserv. Indicated
Ian John Howieson	12313.3	# / Cont.	Yes No	Yes No N/A
Project Name:	**TestAmerica Project Number:**	Volume	pH Check OK	Res CL_2 Check OK
Will Co. Station Ash Ponds	50005079	Preserv.	Yes No	Yes No N/A
Project Location:	Date Required		Sample Labels and COC Agree	
Romeoville, IL	Hard Copy: ____/____/____		Yes No	COC not present
Lab PM: Bonnie Stadelmann	Fax: ____/____/____			

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# OF Containers	NO2	Additional Analyses / Remarks
500-103774-1		MW-02	11-10-15	08:50	W	1	X	
-2		MW-03	11-10-15	10:25	W	1	X	
-3		MW-06	11-10-15	11:56	W	1	X	
-4		MW-10	11-10-15	14:55	W	1	X	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	11-10-15	18:00	FEDEX			
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
					TA	11/11/15	1030

Matrix Key
WW = Wastewater, SE = Sediment
W = Water, SO = Solid
S = Soil, DL = Drum Liquid
SL = Sludge, DS = Drum Solid
MS = Miscellaneous, L = Leachate
OL = Oil, W = Wipe
A = Air, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ____/____/____
Courier:
Hand Delivered ☐
Bill of Lading:

PAGE ____of____

STL-8208 (0600)

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2417 Bond St.
University Park, IL 60484
708-534-5200

Report To:		Bill To:	
Contact:	Rich Gnat	Contact:	
Company:	KPRG & Associates Inc.	Company:	
Address:	14665 W. Llisbon Rd. Suite 2B	Address:	
	Brookfield, WI		
Phone:	262-781-0475	Phone:	
Fax:		Fax:	

500-103774 COC

Lab Lot # 500- 103774

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No N/A

Temperature °C of Cooler (3.9)(4.3)

Within Hold Time	Preserv. Indicated
Yes No	Yes No N/A
pH Check OK	**Res CL_2 Check OK**
Yes No	Yes No N/A

Sample Labels and COC Agree: Yes No COC not present

Sampler Name: John Howieson
Client Project #: 12713.3
Refrg #
/ Cont
Volume
Preserv.
Project Name: Will Co. Station Ash Ponds
TestAmerica Project Number: 50005079
Project Location: Romeoville, IL
Date Required
Hard Copy: ___/___/___
Fax: ___/___/___
Lab PM: Bonnie Stadelmann

Laboratory ID	MS-MSD	Client Sample ID	Sampling Time	Date	Matrix	# OF Containers	Metals dissolved	Cl, TDS, SO4, Fl, dissolved	NO2, dissolved	NO3+NO2, dissolved	Cyanide, dissolved	BTEX	Perchlorate				Additional Analyses / Remarks
1		MW-01	11-9-15	11:40	W	8	X	X	—	X	X	X	X				
5		MW-02	11-10-15	08:50	W	8	X	X	—	X	X	X	X				
6		MW-03	11-10-15	10:25	W	8	X	X	—	X	X	x	X				
9		MW-04	11-11-15		W	9	X	X	X	X	X	X	X				
10		MW-05	11-11-15		W	9	X	X	X	X	X	X	X				
7		MW-06	11-10-15	11:56	W	8	X	X	—	X	X	X	X				
2		MW-07	11-9-15	13:58	W	8	X	X	—	X	X	X	X				
3		MW-08	11-9-15	15:25	W	8	X	X	—	X	X	x	X				
11		MW-09	11-11-15		W	9	X	X	X	X	X	X	X				
8		MW-10	11-10-15	14:55	W	8	X	X	—	X	X	X	X				
~~—~~		~~MW-11~~			~~W~~		~~X~~	~~X~~		~~X~~	~~X~~	~~X~~	~~X~~				
4		Duplicates	11-9-15	N/A	W		X	X		X	X	X	X				
12		Trip Blank	N/A	N/A	W	2											

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH [signature]	KPRG	11-11-15	16:00	[signature]	TA	11/11/15	1600
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key
WW = Wastewater, SE = Sediment
W = Water, SO = Solid
S = Soil, DL = Drum Liquid
SL = Sludge, DS = Drum Solid
MS = Miscellaneous, L = Leachate
OL = Oil, W = Wipe
A = Air, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 11/11/15
Courier:
Hand Delivered ✓
Bill of Lading:

PAGE 1 of 2

STL-8208 (0600) MWG13-15_56589

11/24/2015



ORIGIN ID:DPAA (630) 325-1300
KPRG AND ASSOCIATES

414 PLAZA DR STE 106

WESTMONT, IL 605593509
UNITED STATES US

SHIP DATE: 09NOV15
ACTWGT: 18.80 LB
CAD: /OFFC1621
DIMS: 17x12x16 IN

BILL SENDER

TO **B. STADELMANN**
TEST AMERICA CHICAGO
2417 BOND ST

UNIVERSITY PARK IL 60484
(708) 534-5200 REF:
INV:
PO: DEPT:

FedEx Express

TRK# 0200 **8047 9394 4133**

TUE - 10 NOV 3:00P
STANDARD OVERNIGHT

79 JOTA

60484
IL-US **ORD**

500-103774 Waybill



ORIGIN ID:DPAA (630) 325-1300
IAN JOHN HOWIESON
KPRG & ASSOCIATES INC
414 PLAZA DR STE 106

WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 10NOV15
ACTWGT: 11.00 LB
CAD: 6995614/SSFO1621
DIMS: 12x9x12 IN

BILL THIRD PARTY

TO B STADELMANN
TEST AMERICA CHICAGO
2417 BOND ST

UNIVERSITY PARK IL 60484
(708) 534-6200

REF:
INV:
PO:
DEPT:

FedEx Express

TRK# 0201 7816 9028 0239

WED - 11 NOV 3:00P
STANDARD OVERNIGHT

79 JOTA

60484
IL-US ORD

500-103774 Waybill

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler	Lab PM: Stadelmann, Bonnie M	Carrier Tracking No(s):	COC No: 500-67336.1
Client Contact: Shipping/Receiving	Phone	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 500-103774-1

Address	Due Date Requested:	Analysis Requested
880 Riverside Parkway, ,	11/20/2015	
City: West Sacramento	TAT Requested (days)	
State, Zip: CA, 95605		
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #	
Email:	WO #	
Project Name: Will Co. Station Ash Ponds	Project #: 50005079	
Site: Ian John Howieson	SSOW#	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	X	X	
MW-01 (500-103774-1)	11/9/15	11 40 Central		Water			X		
MW-07 (500-103774-2)	11/9/15	13:58 Central		Water			X		
MW-08 (500-103774-3)	11/9/15	15:25 Central		Water			X		
Duplicate (500-103774-4)	11/9/15	Central		Water			X		
MW-02 (500-103774-5)	11/10/15	08:50 Central		Water			X		
MW-03 (500-103774-6)	11/10/15	10.25 Central		Water			X		
MW-06 (500-103774-7)	11/10/15	11:56 Central		Water			X		
MW-10 (500-103774-8)	11/10/15	14:55 Central		Water			X		
MW-04 (500-103774-9)	11/11/15	12.40 Central		Water			X		
MW-05 (500-103774-10)	11/11/15	10 55 Central		Water			X		
MW-09 (500-103774-11)	11/11/15	09.30 Central		Water			X		

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	11/11/15 1700	TAL	Joyce Pagayo	11/12/15 955	TAWS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 1.9

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103774-1

Login Number: 103774
List Number: 1
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103774-1

Login Number: 103774
List Number: 2
Creator: James, Jeff A

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103774-1

Login Number: 103774
List Number: 3
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(3.9)(4.3)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	No sample date and/or time on COC for 9-11, logged in per container labels.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103774-1

Login Number: 103774
List Number: 4
Creator: Paguyo, Joyce A

List Source: TestAmerica Sacramento
List Creation: 11/12/15 02:03 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Headspace in 314.0
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

Laboratory: TestAmerica Sacramento

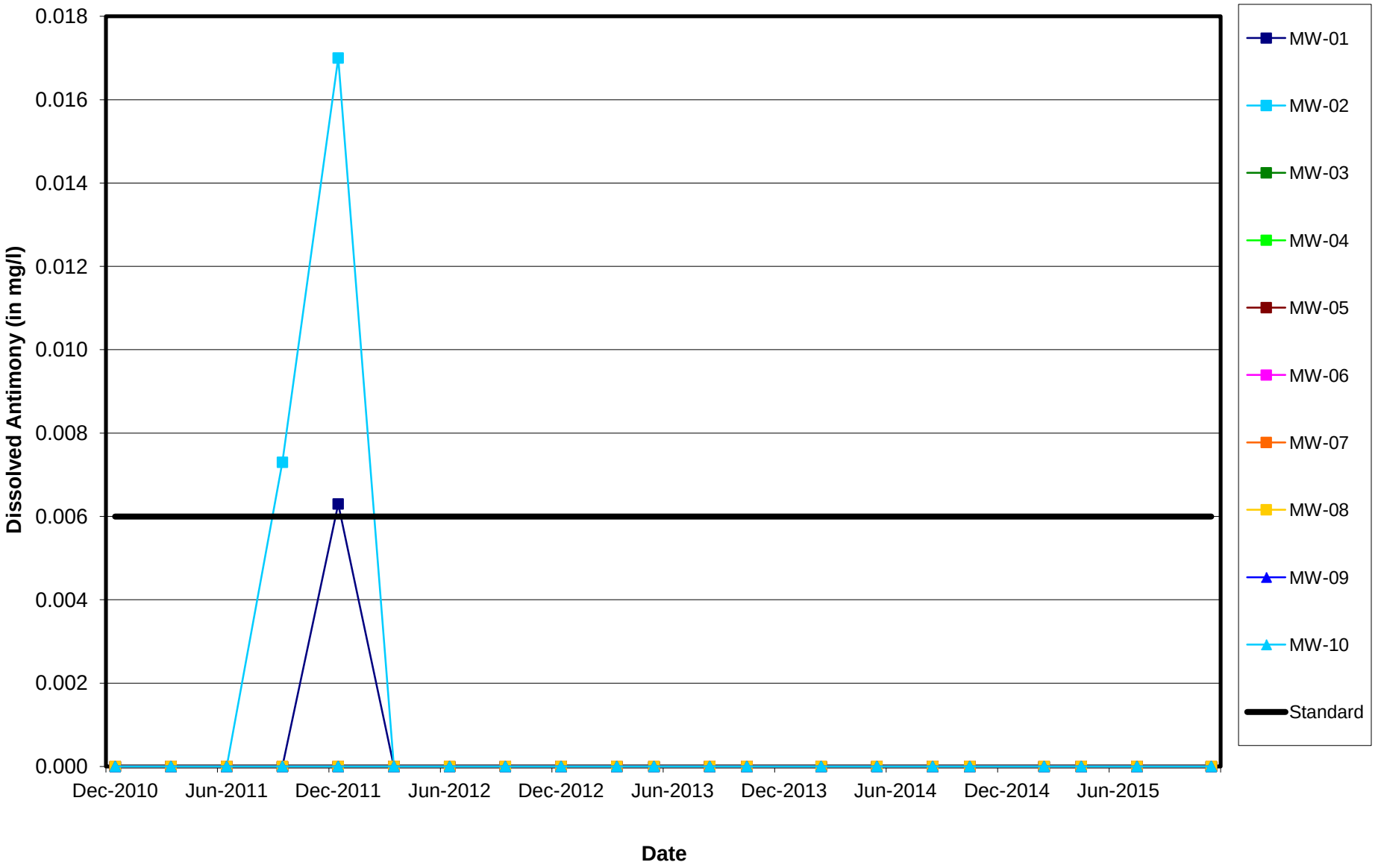
All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-16
Alaska (UST)	State Program	10	UST-055	12-18-15
Arizona	State Program	9	AZ0708	08-11-16
Arkansas DEQ	State Program	6	88-0691	06-17-16
California	State Program	9	2897	01-31-16
Colorado	State Program	8	N/A	08-31-16
Connecticut	State Program	1	PH-0691	06-30-17
Florida	NELAP	4	E87570	06-30-16
Hawaii	State Program	9	N/A	01-29-16
Illinois	NELAP	5	200060	03-17-16
Kansas	NELAP	7	E-10375	01-31-16
Louisiana	NELAP	6	30612	06-30-16
Michigan	State Program	5	9947	01-31-16
Nevada	State Program	9	CA44	07-31-16
New Jersey	NELAP	2	CA005	06-30-16
New York	NELAP	2	11666	04-01-16
Oregon	NELAP	10	CA200005	01-29-16
Pennsylvania	NELAP	3	9947	03-31-16
Texas	NELAP	6	T104704399-15-9	05-31-16
US Fish & Wildlife	Federal		LE148388-0	02-28-16
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-16
Utah	NELAP	8	QUAN1	02-28-16
Virginia	NELAP Secondary AB	3	460278	03-14-16
Washington	State Program	10	C581	05-04-16
West Virginia (DW)	State Program	3	9930C	12-31-15
Wyoming	State Program	8	8TMS-Q	01-29-16

ATTACHMENT 3
Time Versus Concentration Curves

Midwest Generation Will County Station, Romeoville, IL

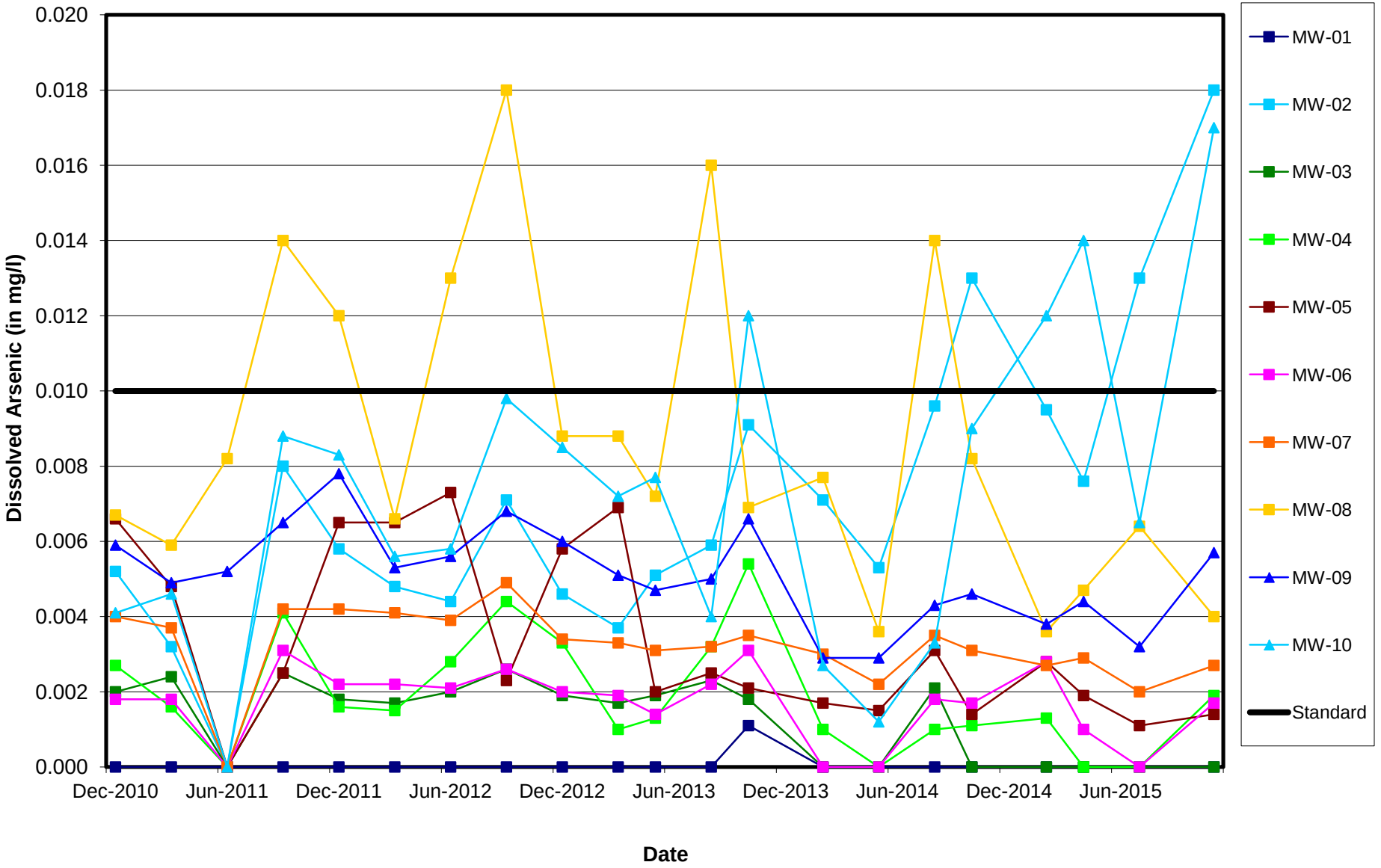
Dissolved Antimony vs. Time



MWG13-15_56599

Midwest Generation Will County Station, Romeoville, IL

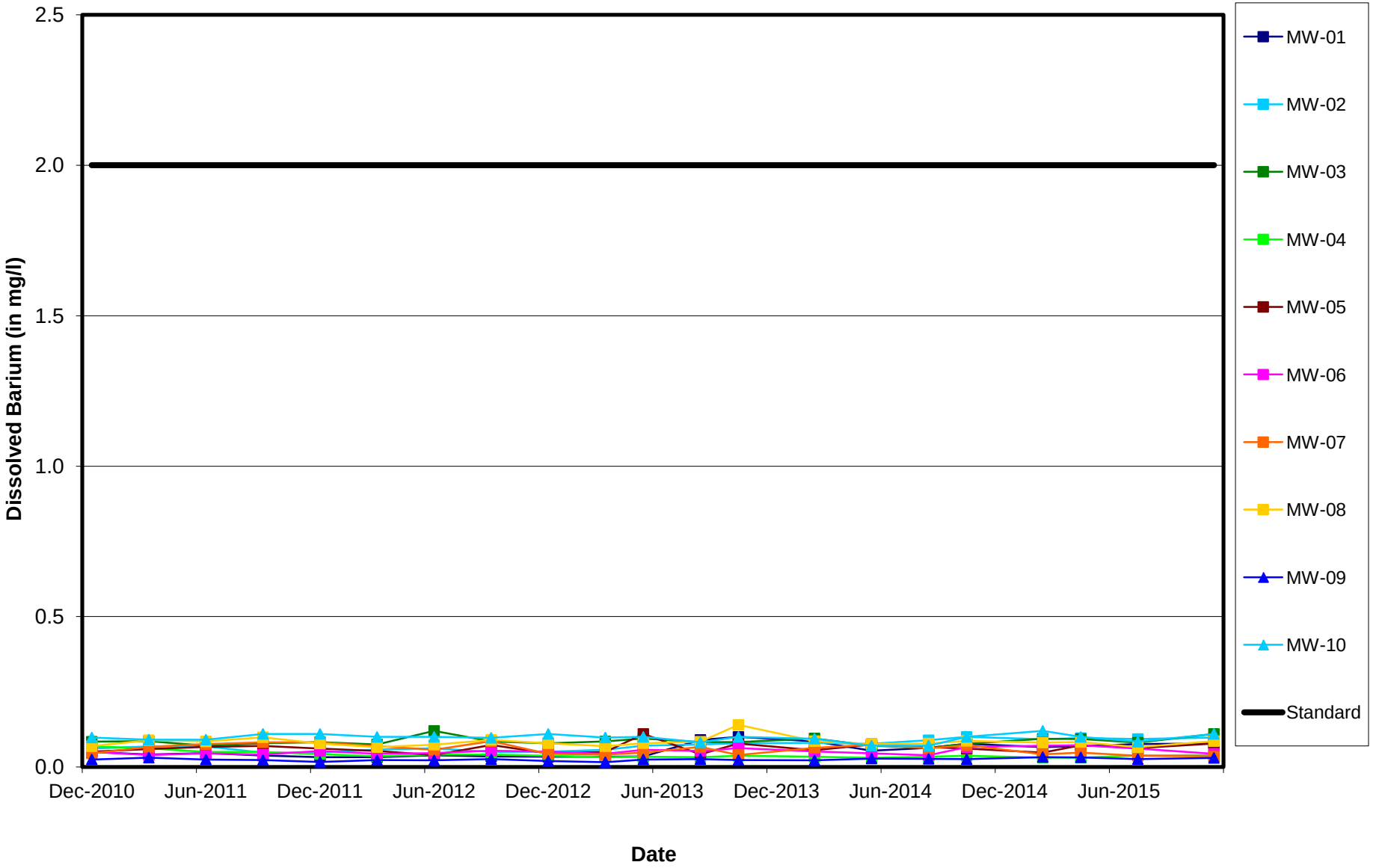
Dissolved Arsenic vs. Time



MWG13-15_56600

Midwest Generation Will County Station, Romeoville, IL

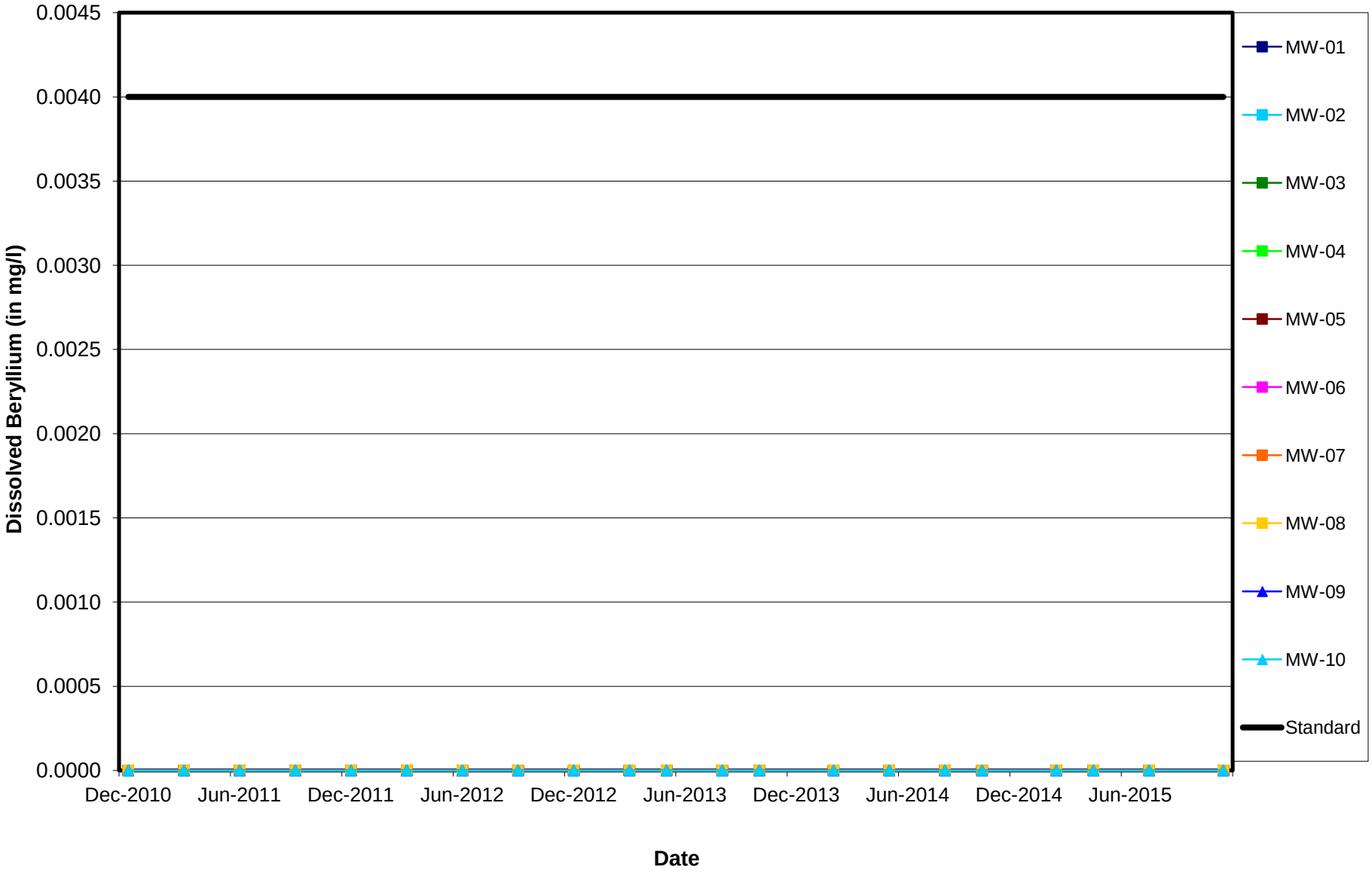
Dissolved Barium vs. Time



MWG13-15_56601

Midwest Generation Will County Station, Romeoville, IL

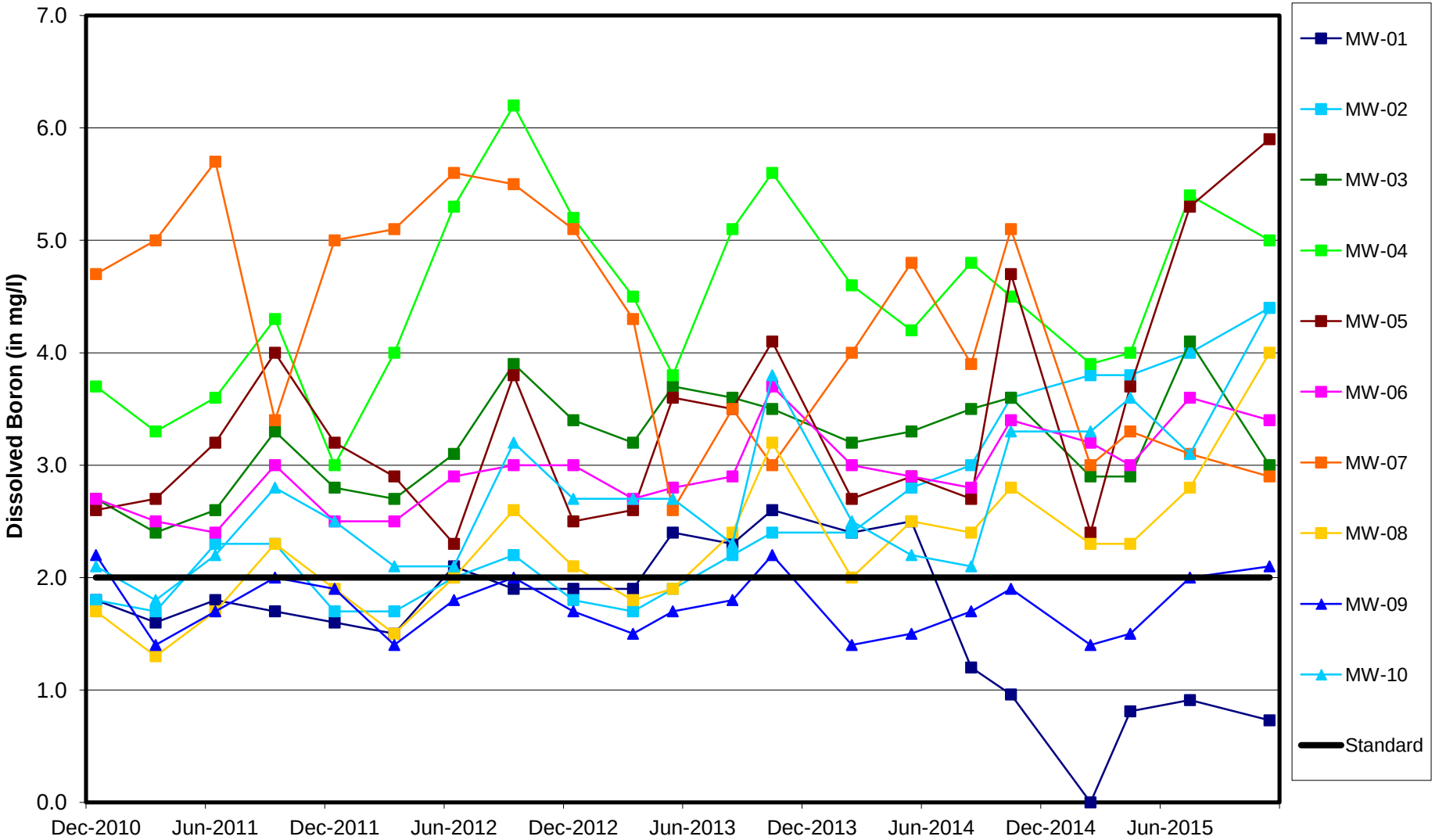
Dissolved Beryllium vs. Time



MWG13-15_56602

Midwest Generation Will County Station, Romeoville, IL

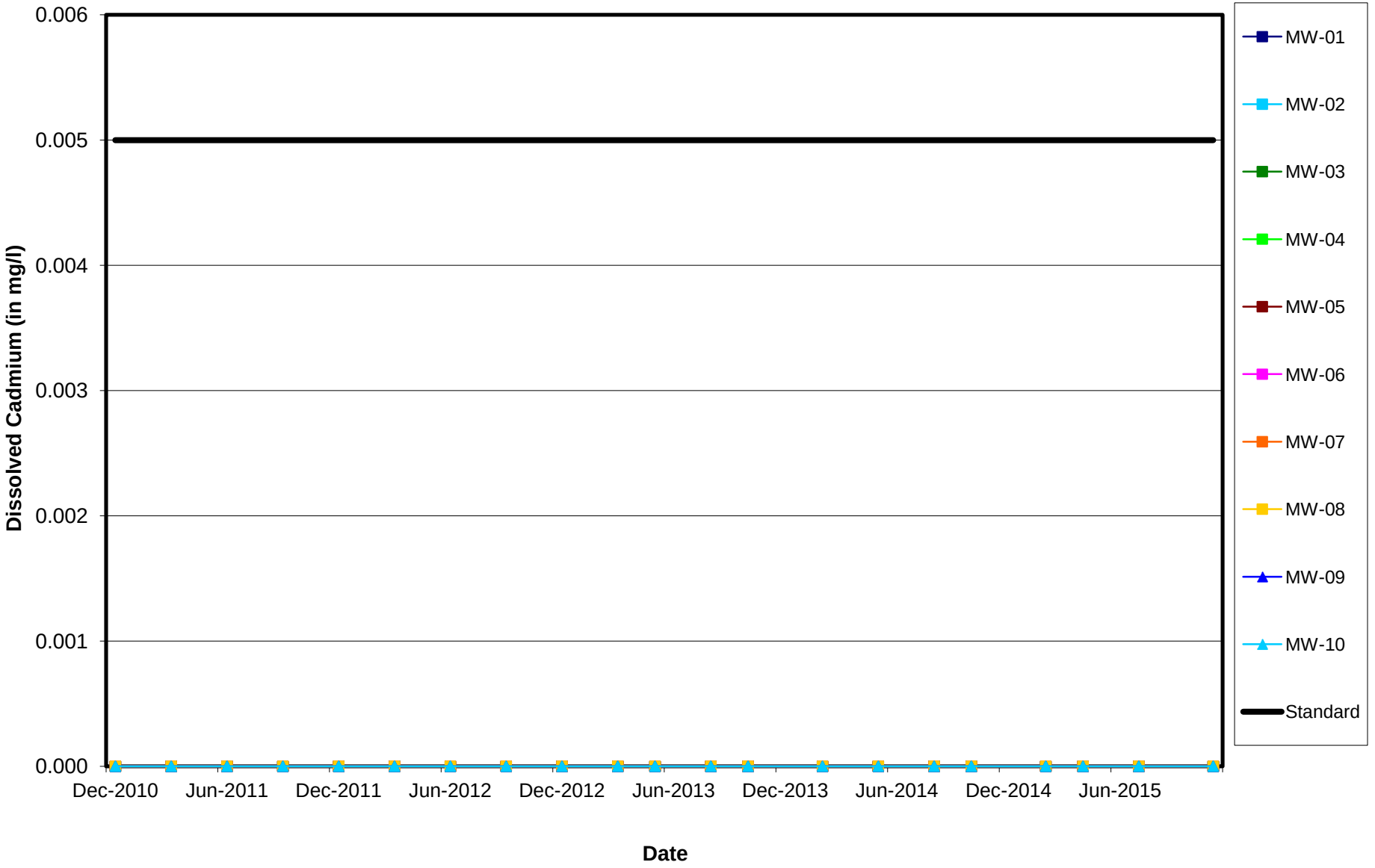
Dissolved Boron vs. Time



MWG13-15_56603

Midwest Generation Will County Station, Romeoville, IL

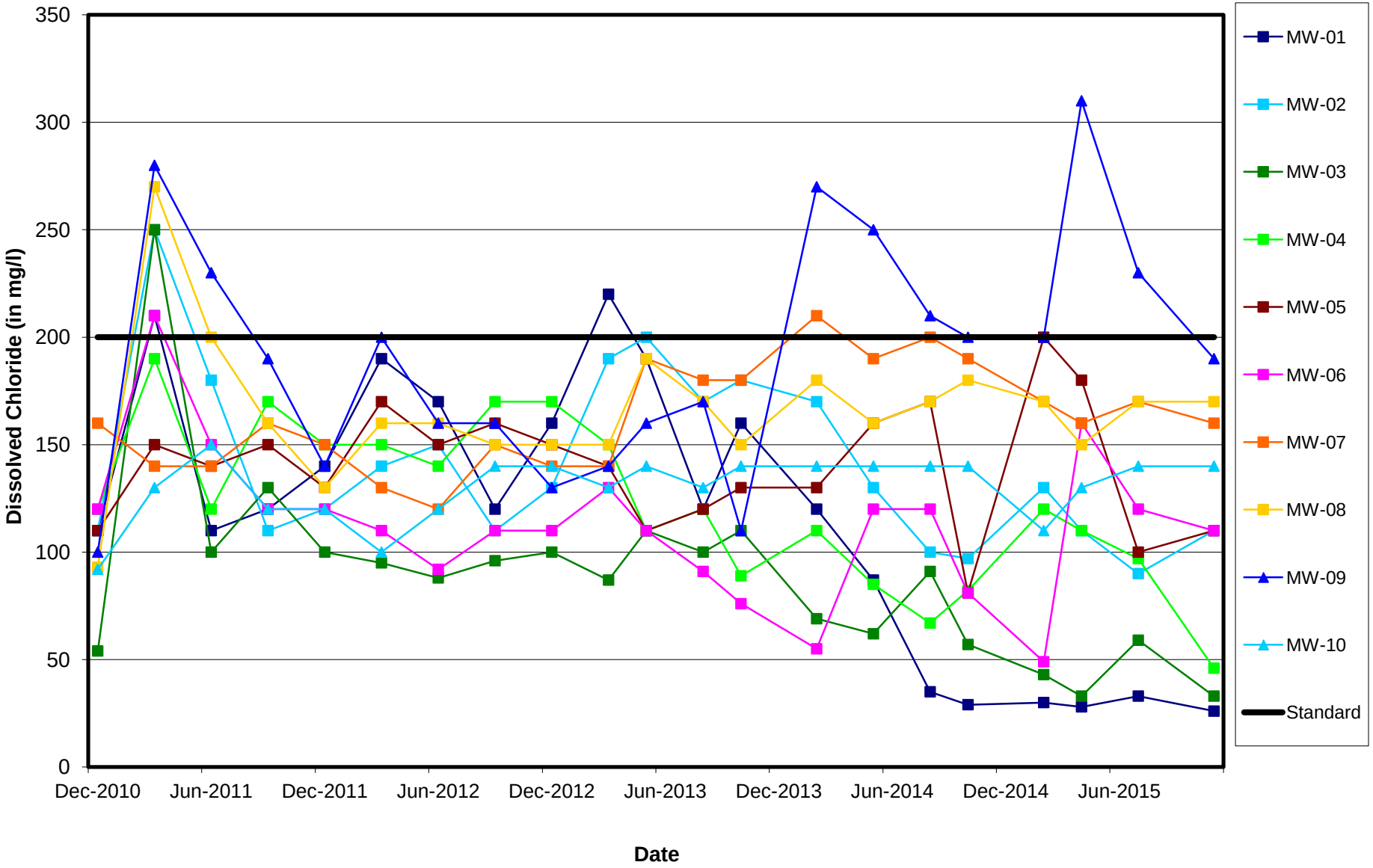
Dissolved Cadmium vs. Time



MWG13-15_56604

Midwest Generation Will County Station, Romeoville, IL

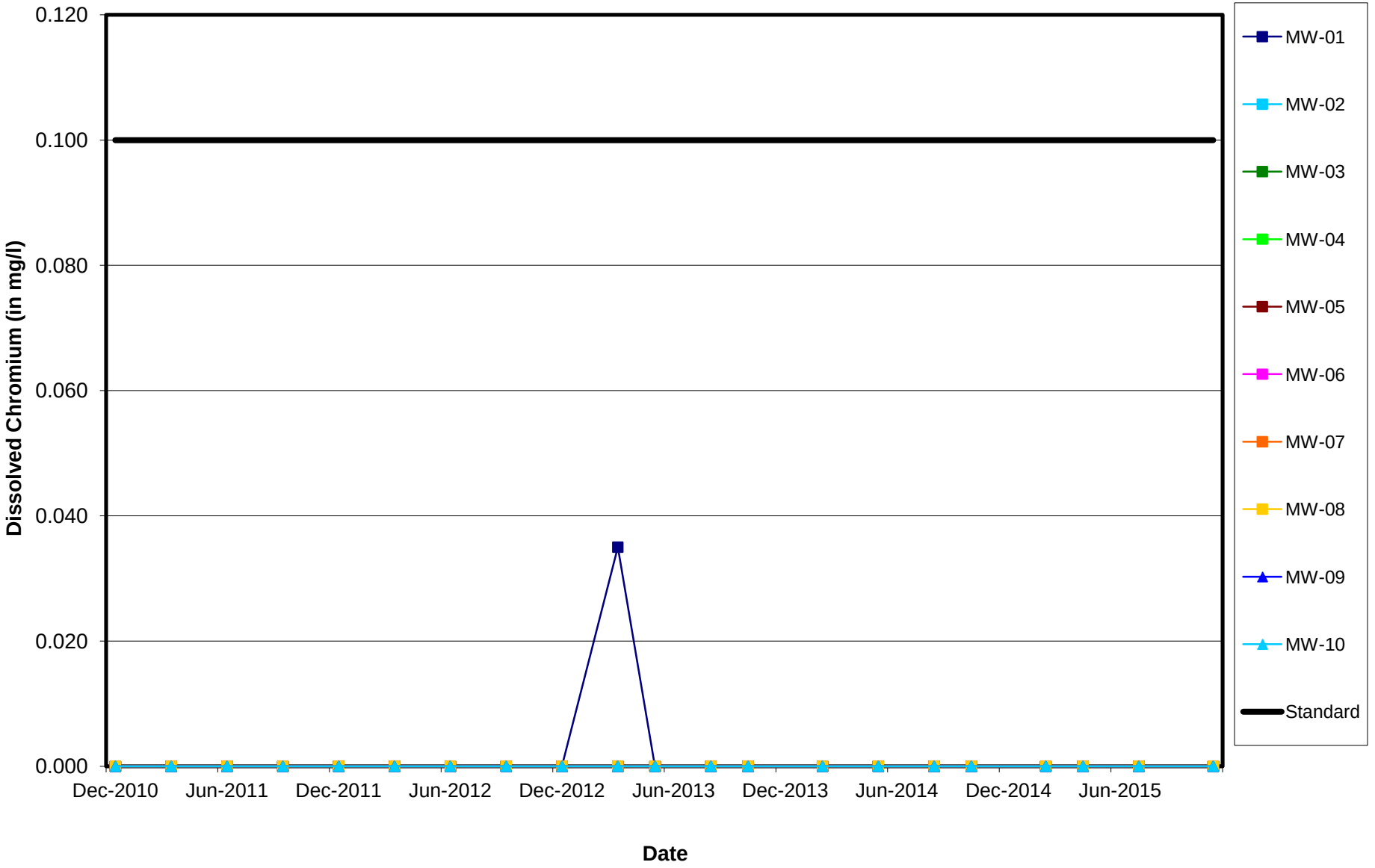
Dissolved Chloride vs. Time



MWG13-15_56605

Midwest Generation Will County Station, Romeoville, IL

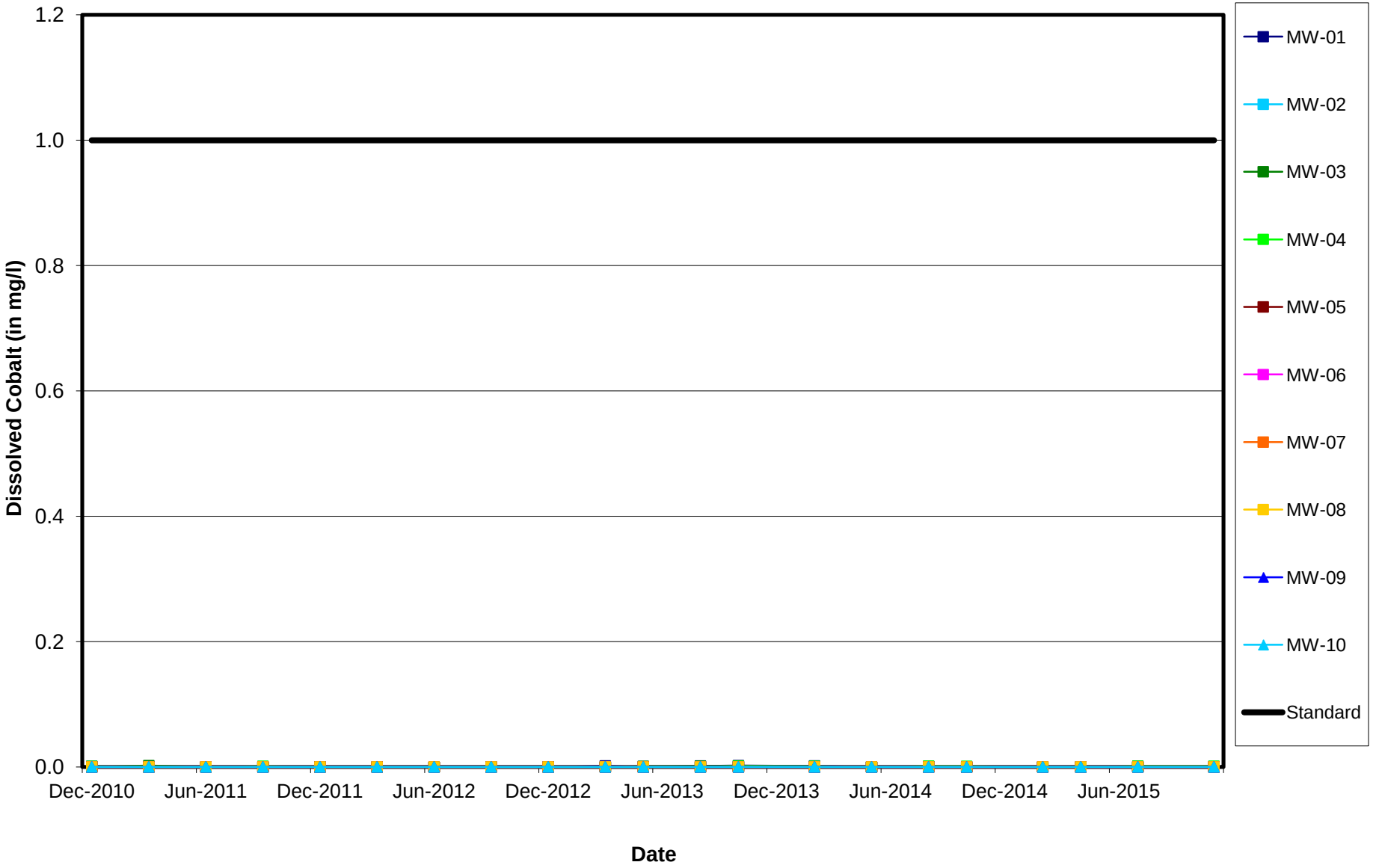
Dissolved Chromium vs. Time



MWG13-15_56606

Midwest Generation Will County Station, Romeoville, IL

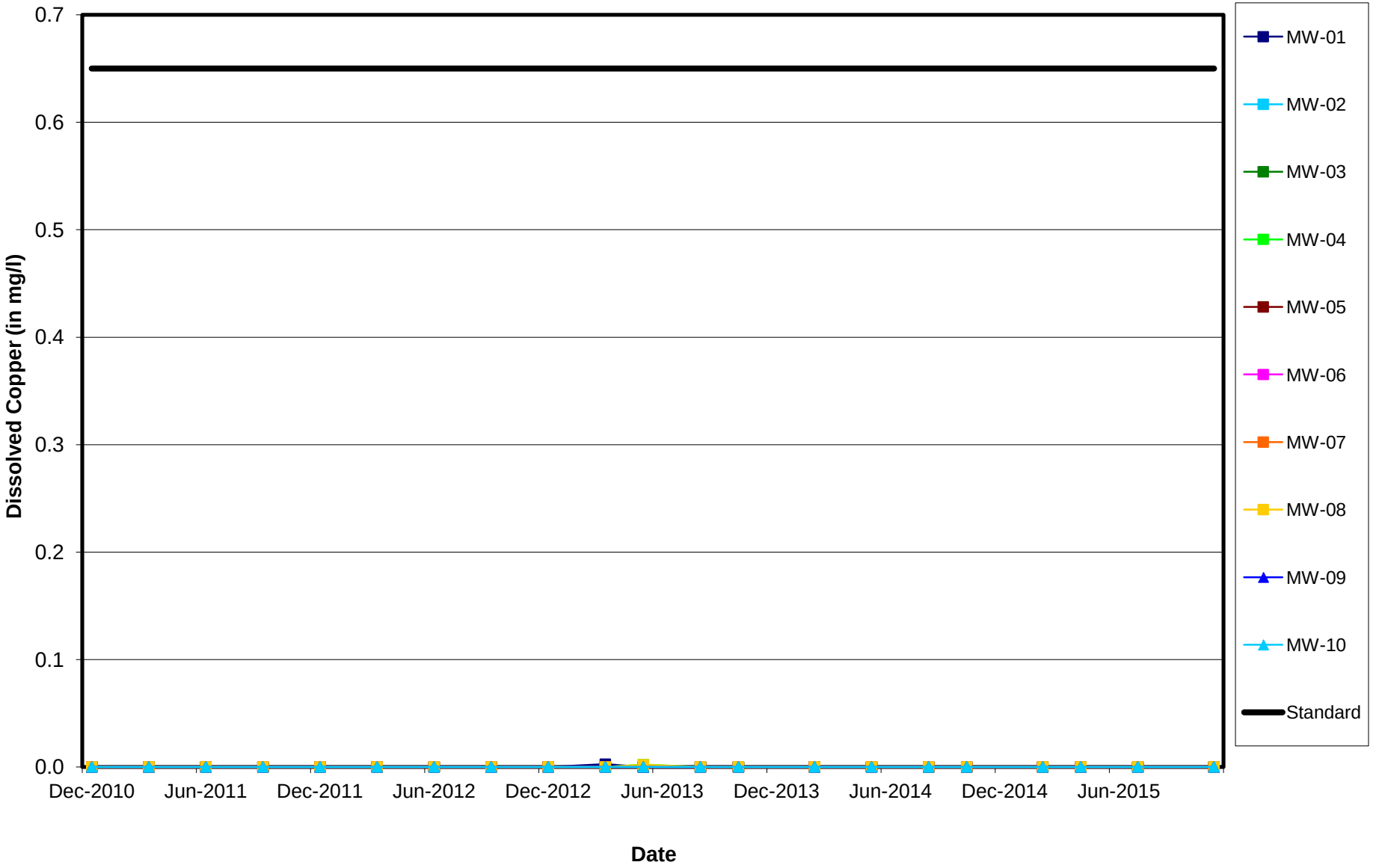
Dissolved Cobalt vs. Time



MWG13-15_56607

Midwest Generation Will County Station, Romeoville, IL

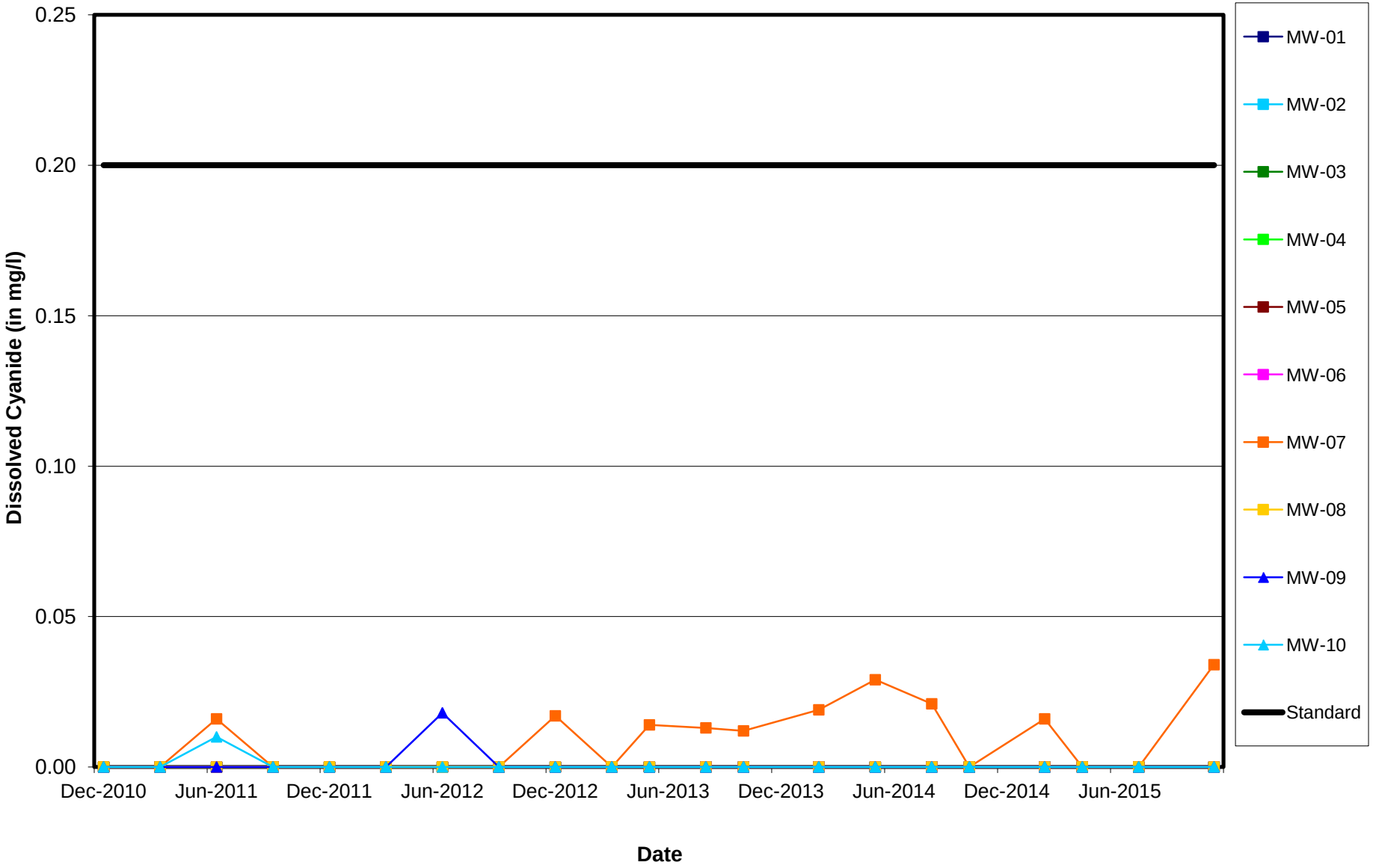
Dissolved Copper vs. Time



MWG13-15_56608

Midwest Generation Will County Station, Romeoville, IL

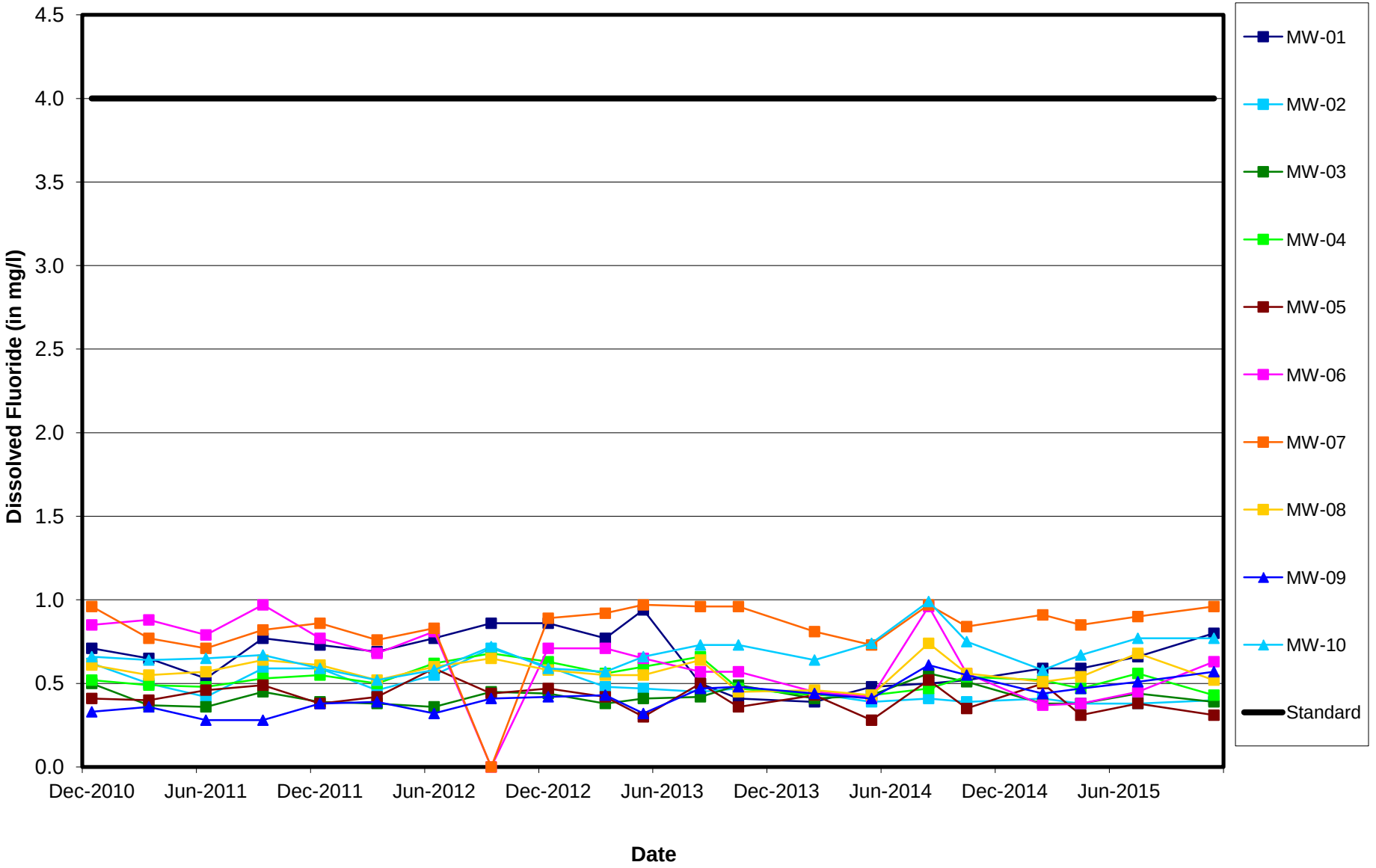
Dissolved Cyanide vs. Time



MWG13-15_56609

Midwest Generation Will County Station, Romeoville, IL

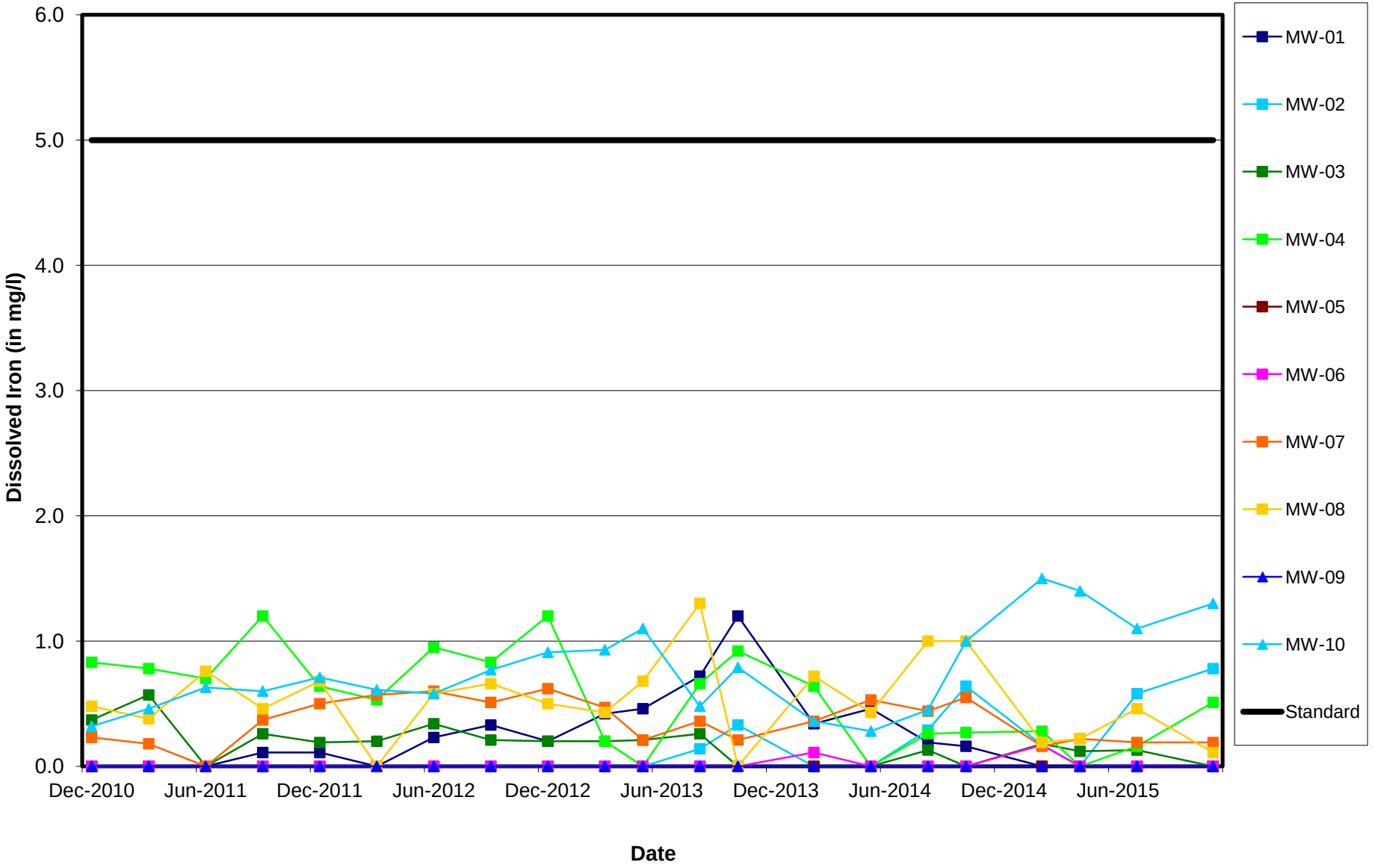
Dissolved Fluoride vs. Time



MWG13-15_56610

Midwest Generation Will County Station, Romeoville, IL

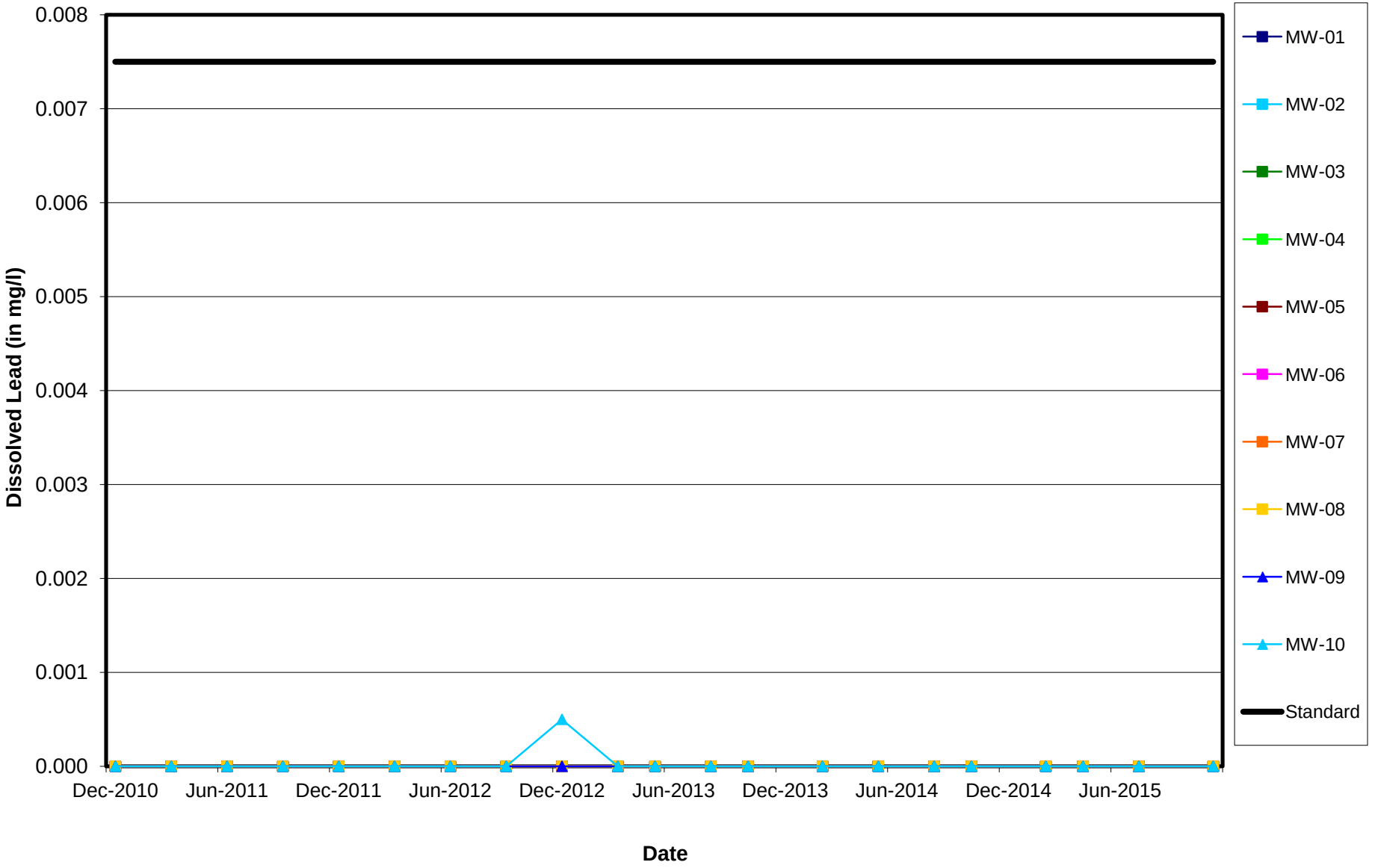
Dissolved Iron vs. Time



MWG13-15_56611

Midwest Generation Will County Station, Romeoville, IL

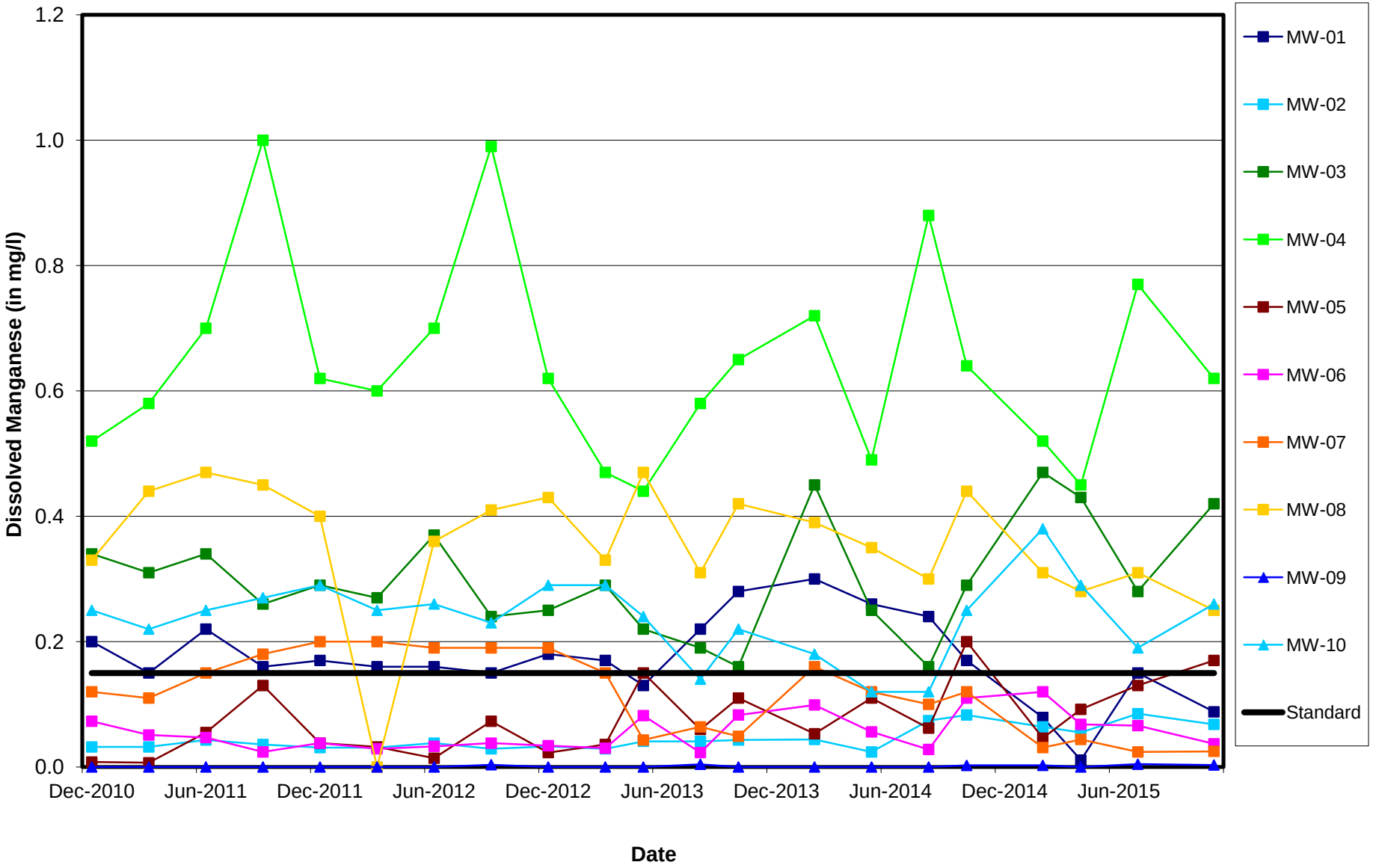
Dissolved Lead vs. Time



MWG13-15_56612

Midwest Generation Will County Station, Romeoville, IL

Dissolved Manganese vs. Time



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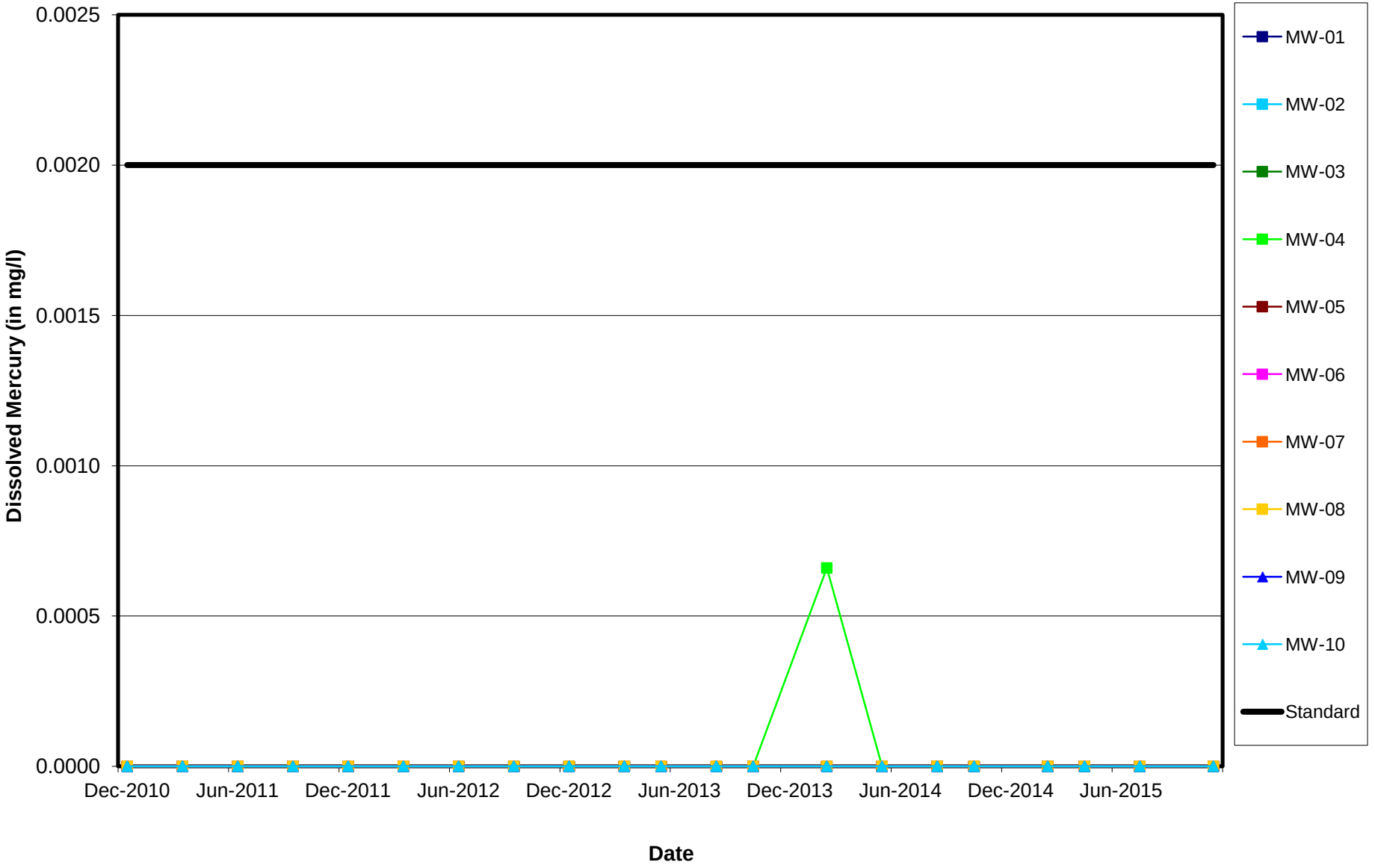
Midwest Generation Will County Station, Romeoville, IL

Dissolved Mercury vs. Time



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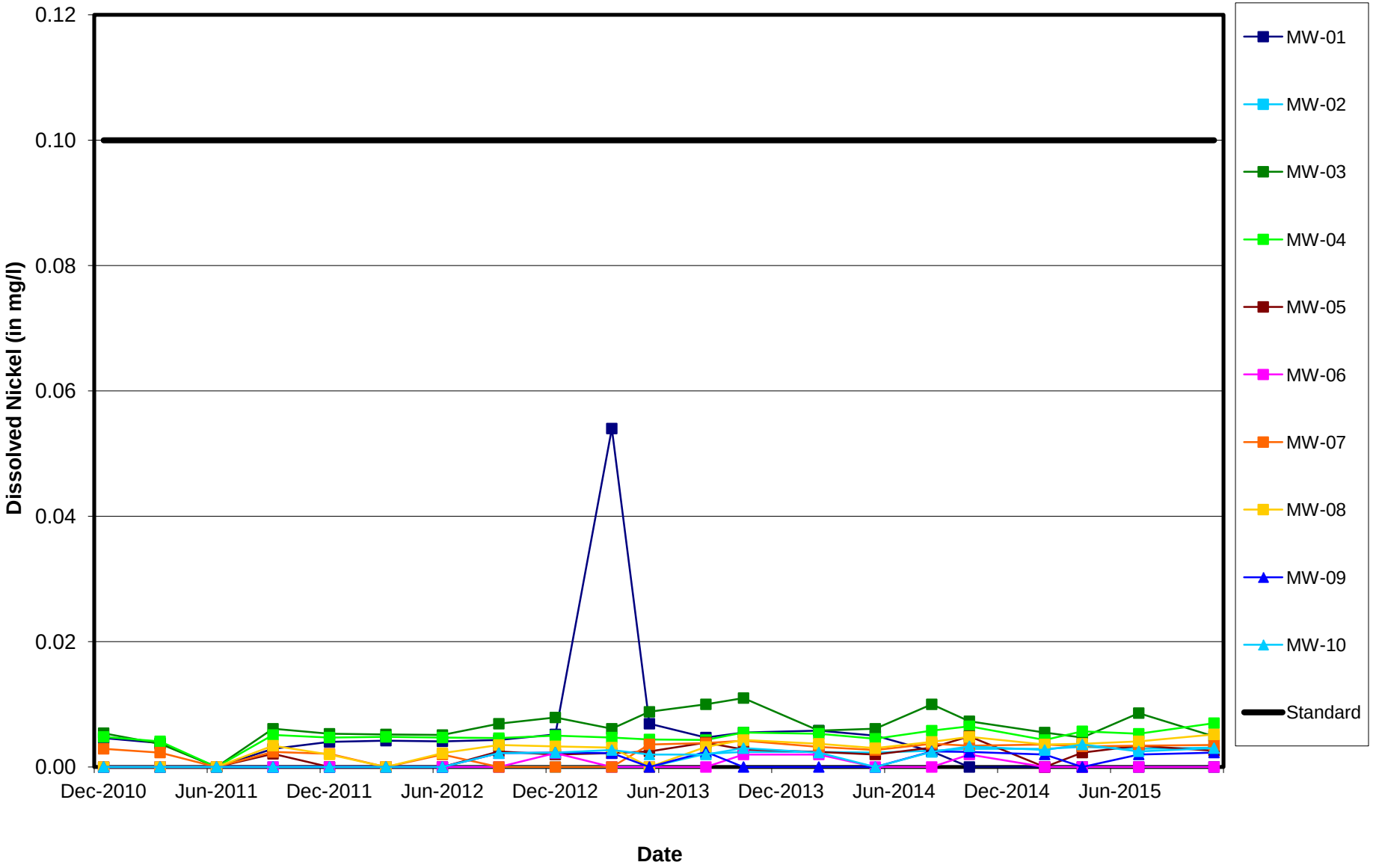
Midwest Generation Will County Station, Romeoville, IL

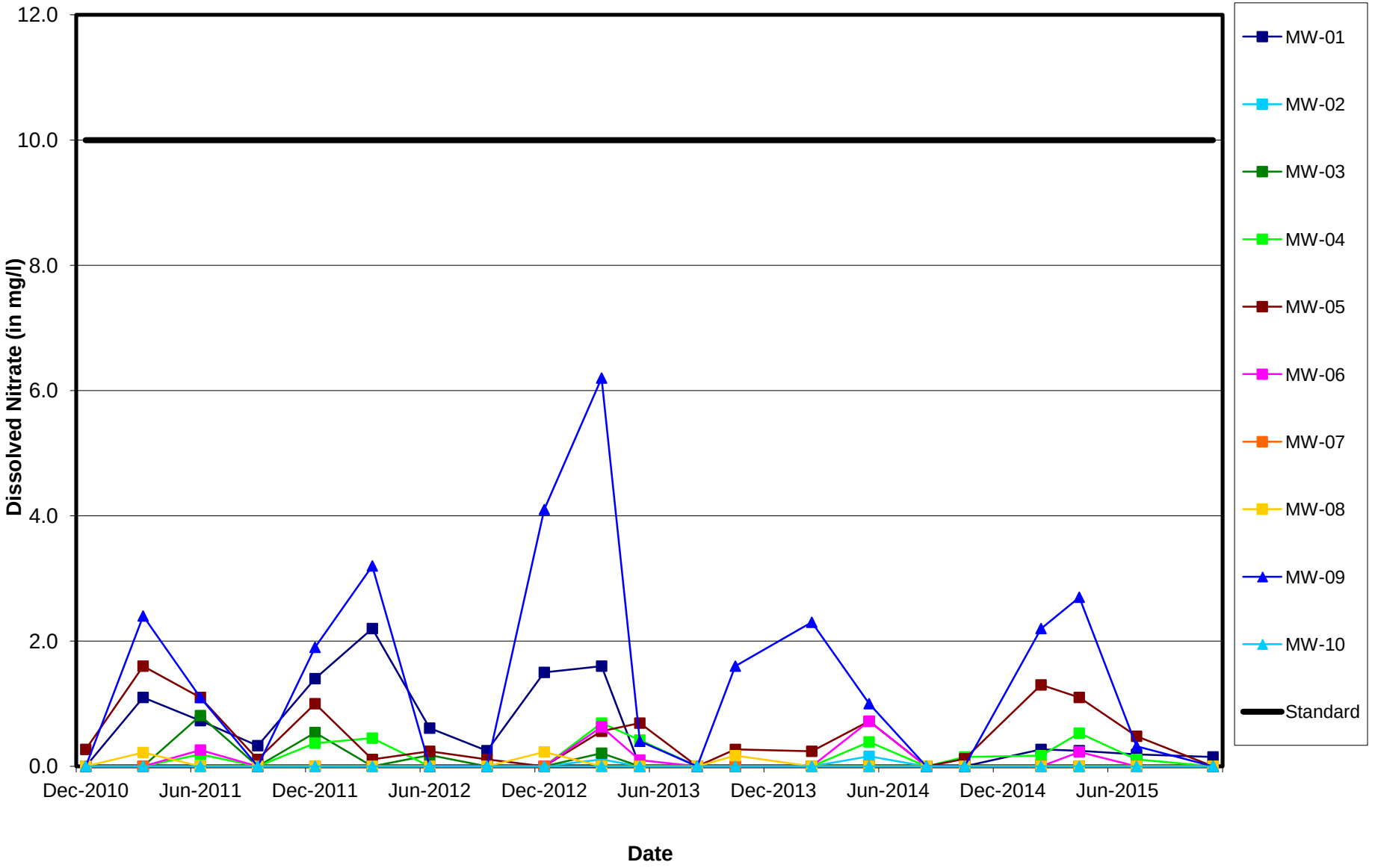
Dissolved Nickel vs. Time



MWG13-15_56615

Midwest Generation Will County Station, Romeoville, IL

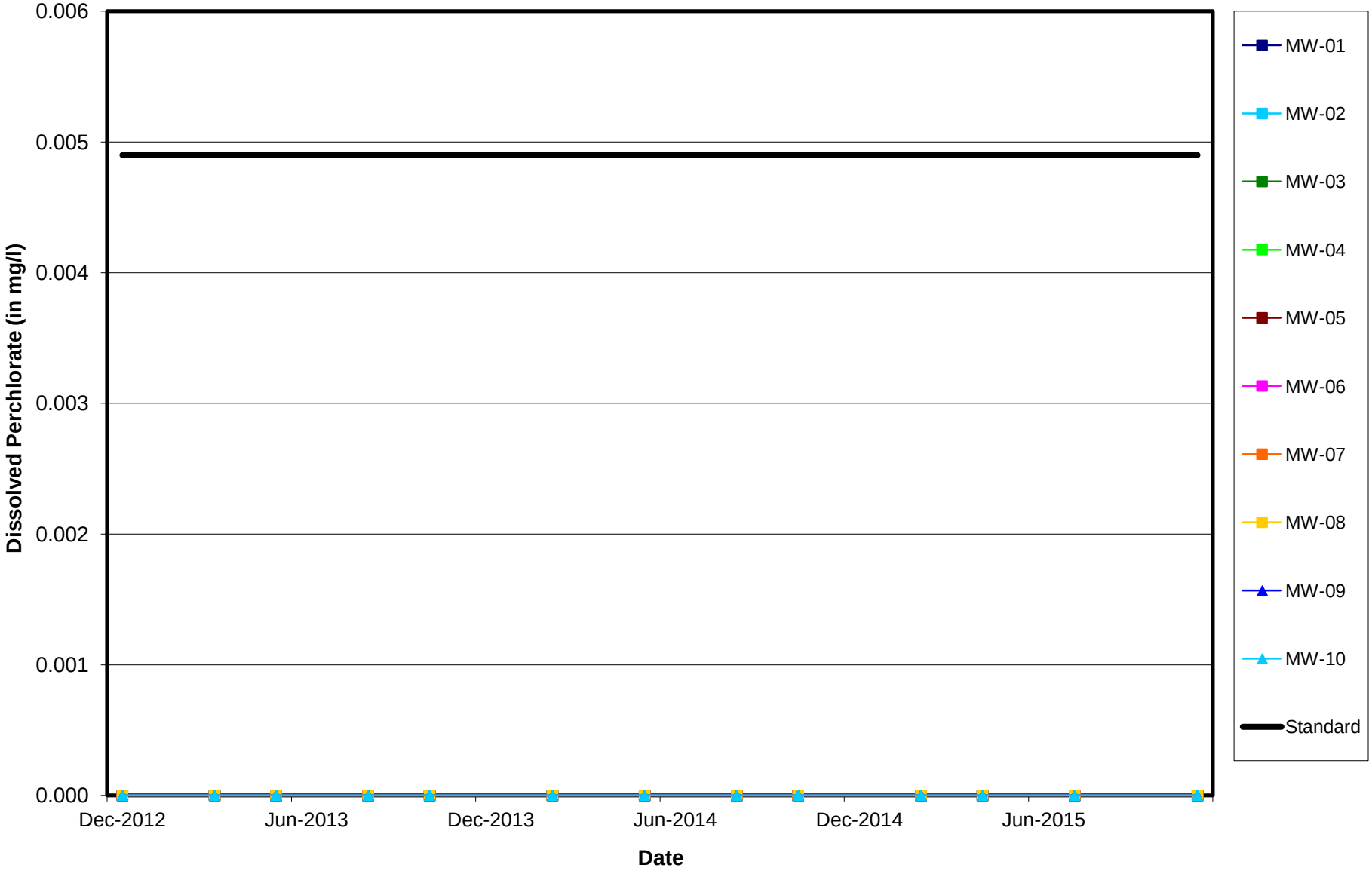
Dissolved Nitrate vs. Time



MWG13-15_56616

Midwest Generation Will County Station, Romeoville, IL

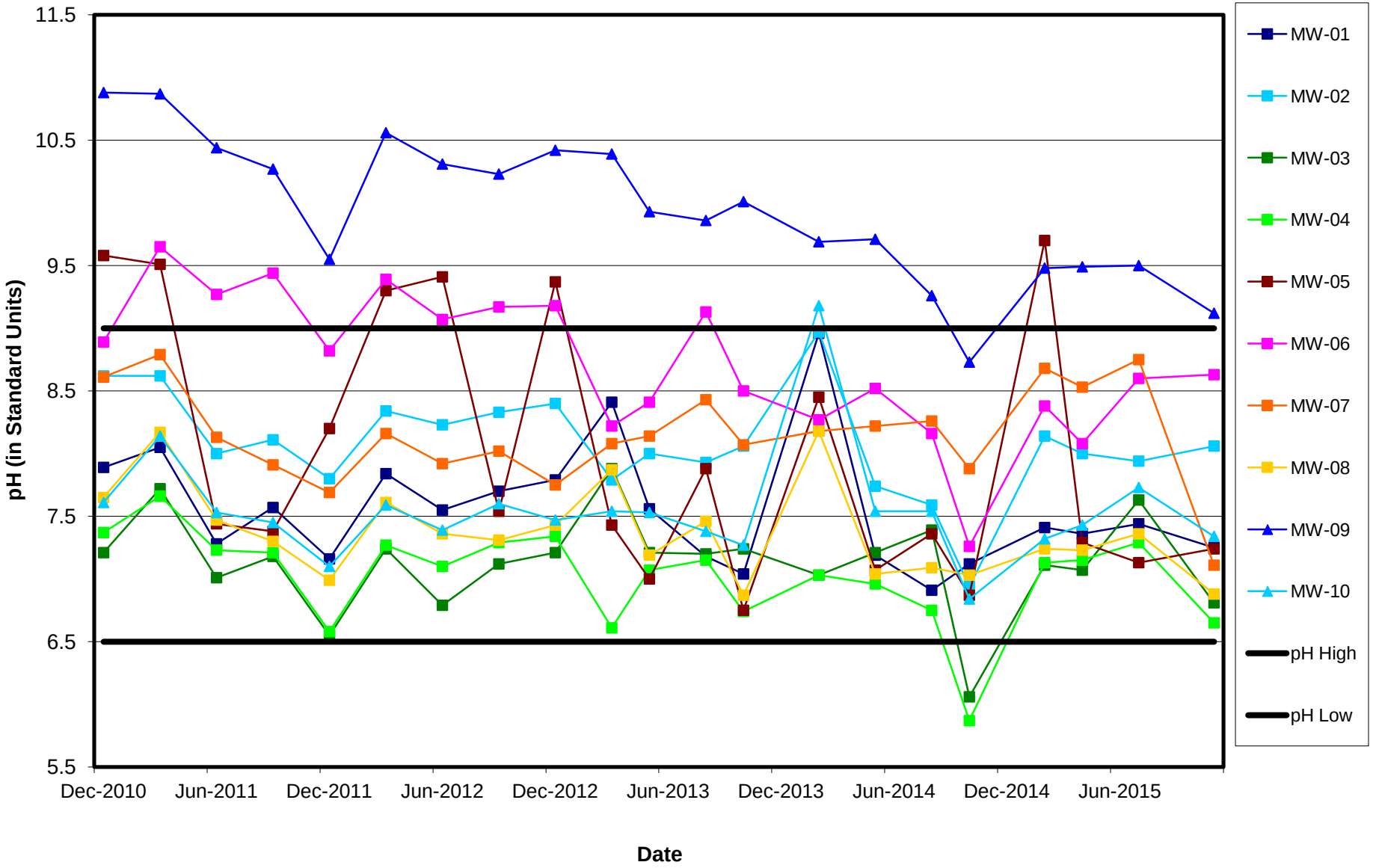
Dissolved Perchlorate vs. Time



MWG13-15_56617

Midwest Generation Will County Station, Romeoville, IL

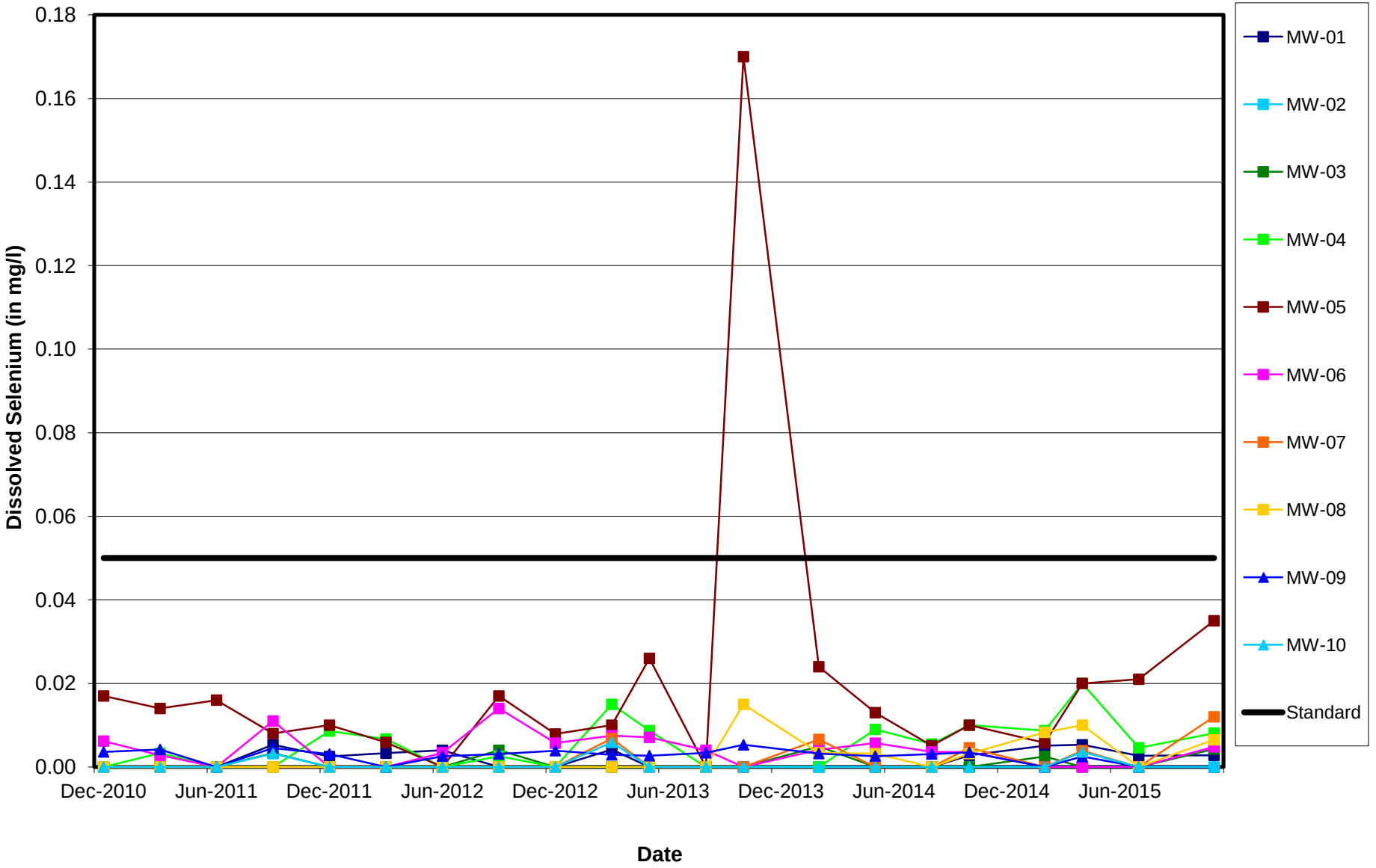
pH vs. Time



MWG13-15_56618

Midwest Generation Will County Station, Romeoville, IL

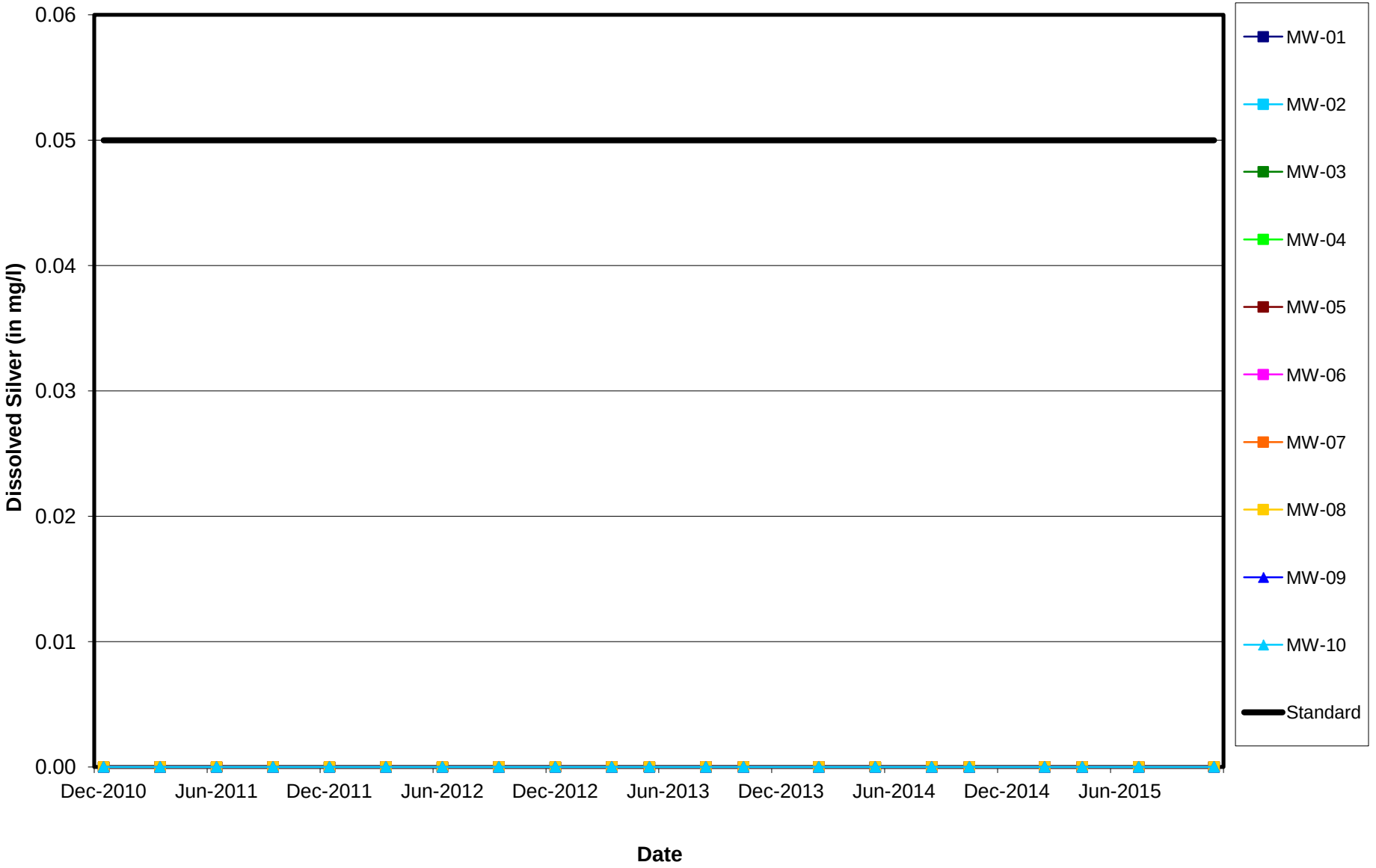
Dissolved Selenium vs. Time



MWG13-15_56619

Midwest Generation Will County Station, Romeoville, IL

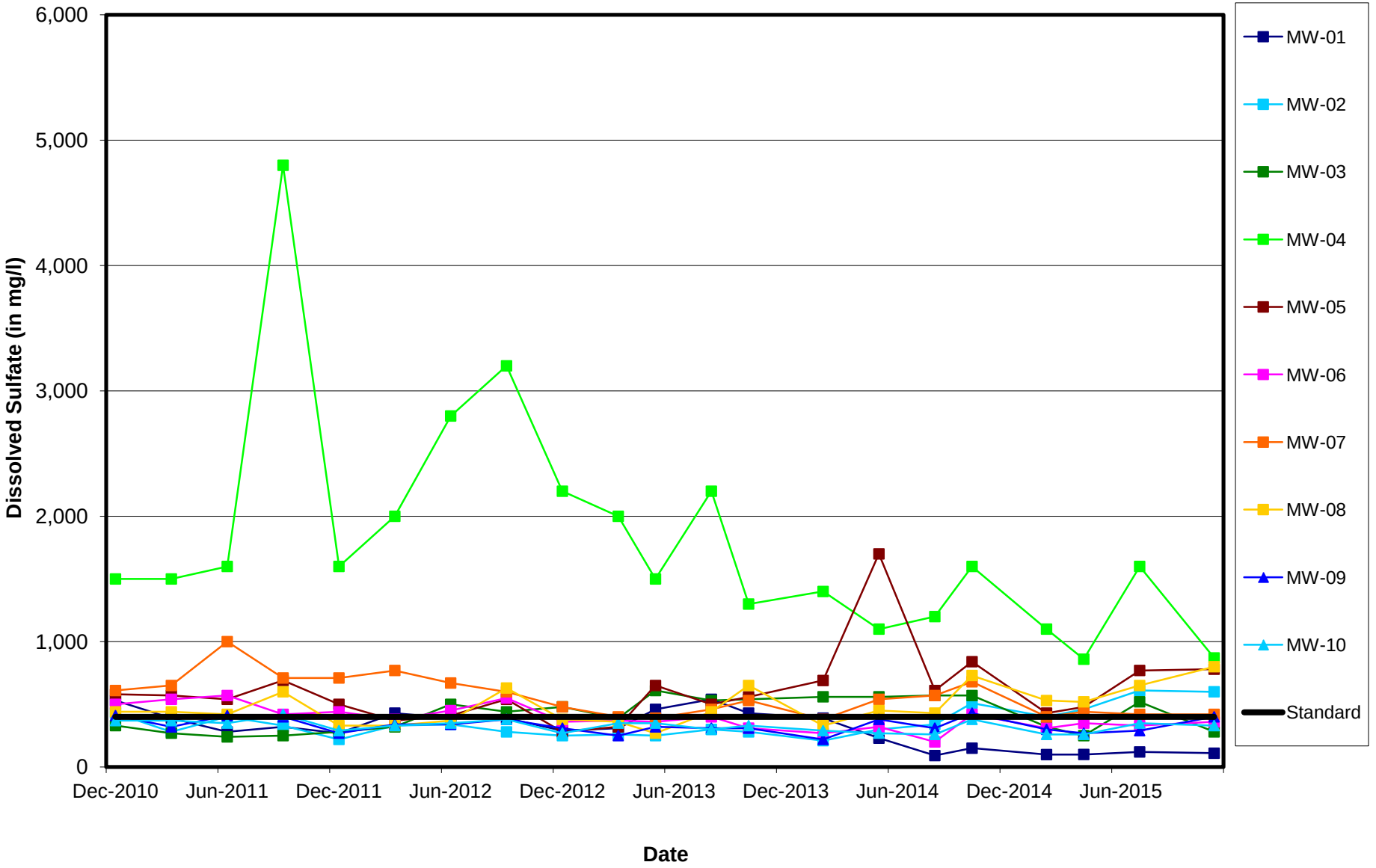
Dissolved Silver vs. Time



MWG13-15_56620

Midwest Generation Will County Station, Romeoville, IL

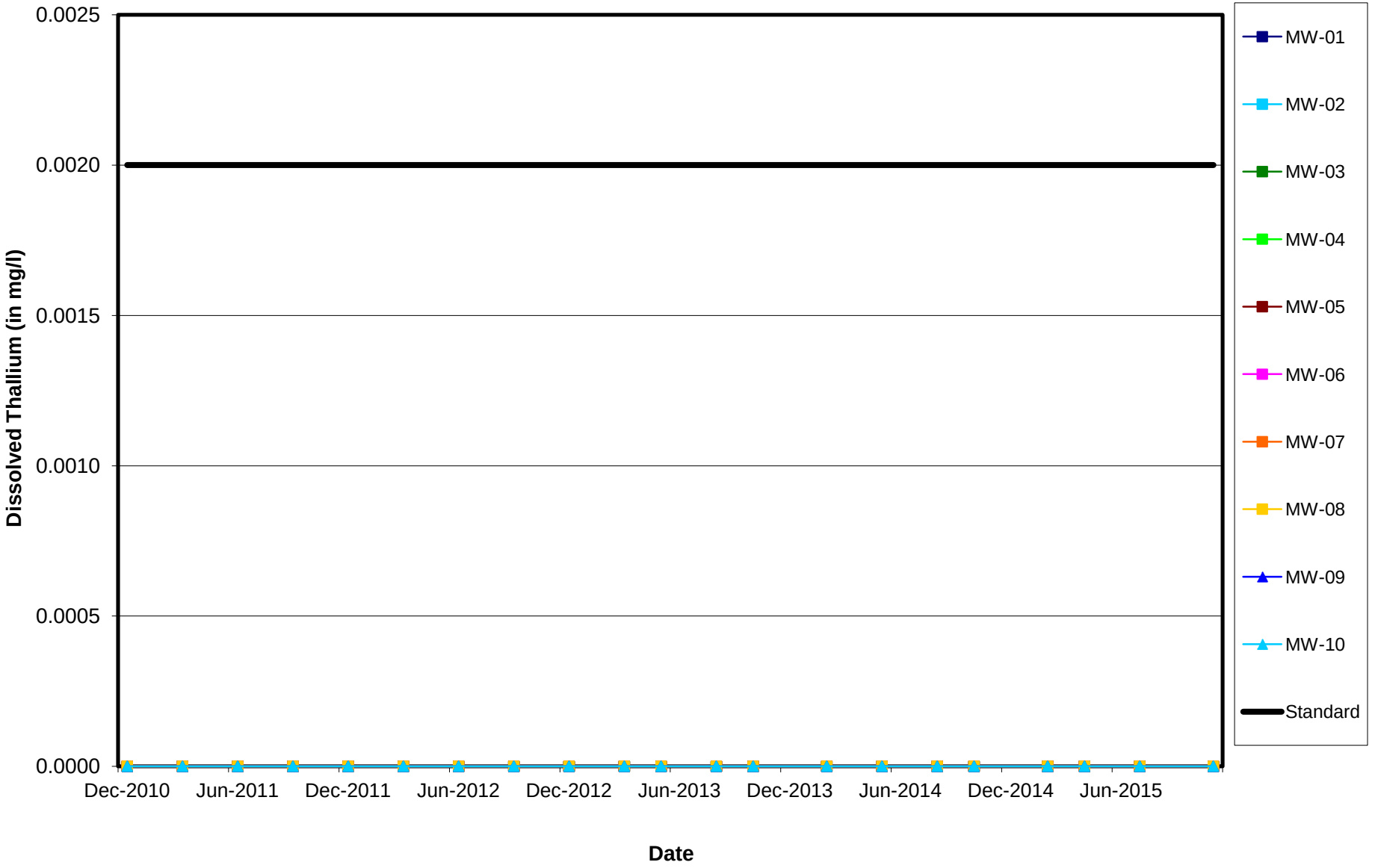
Dissolved Sulfate vs. Time



MWG13-15_56621

Midwest Generation Will County Station, Romeoville, IL

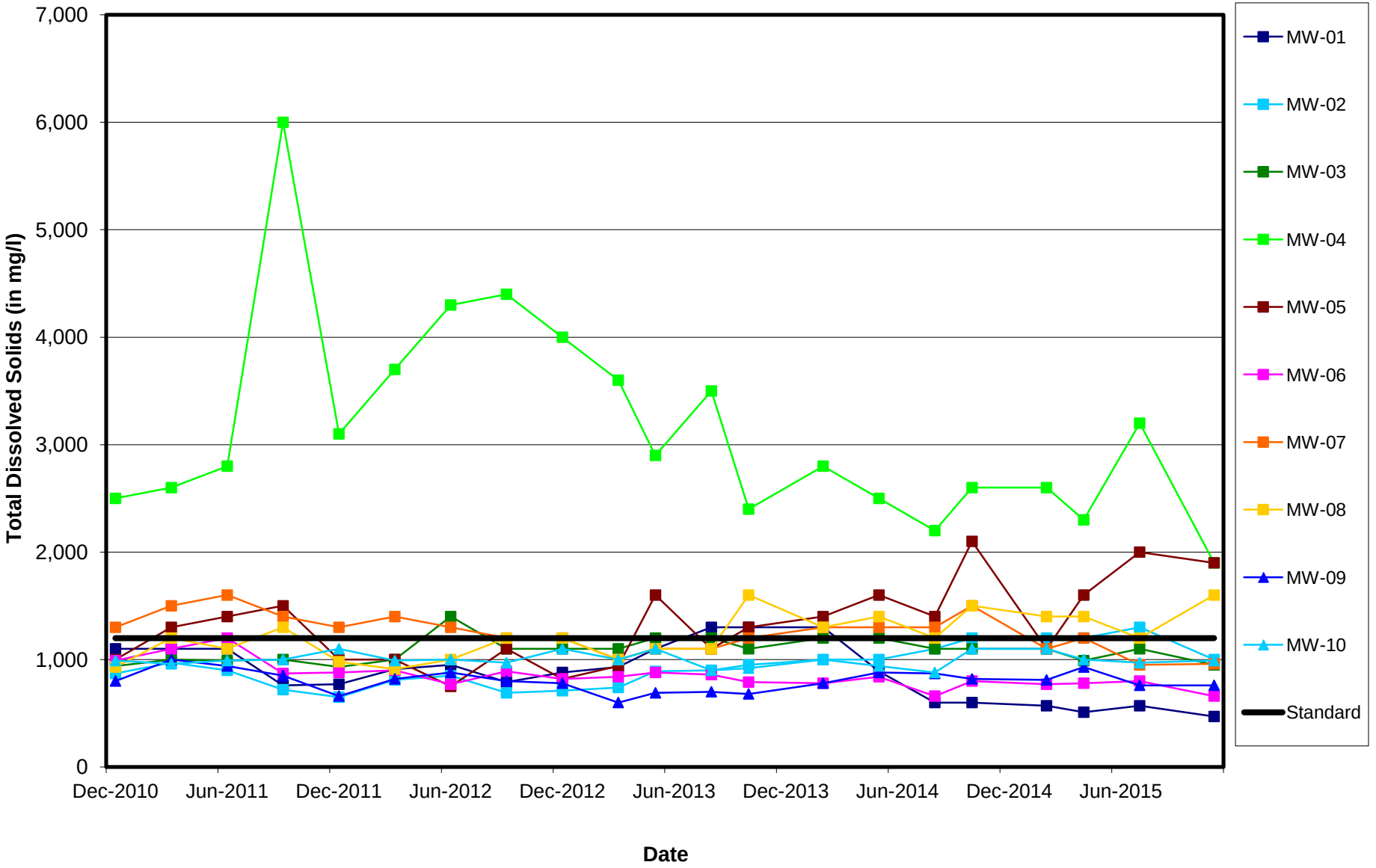
Dissolved Thallium vs. Time



MWG13-15_56622

Midwest Generation Will County Station, Romeoville, IL

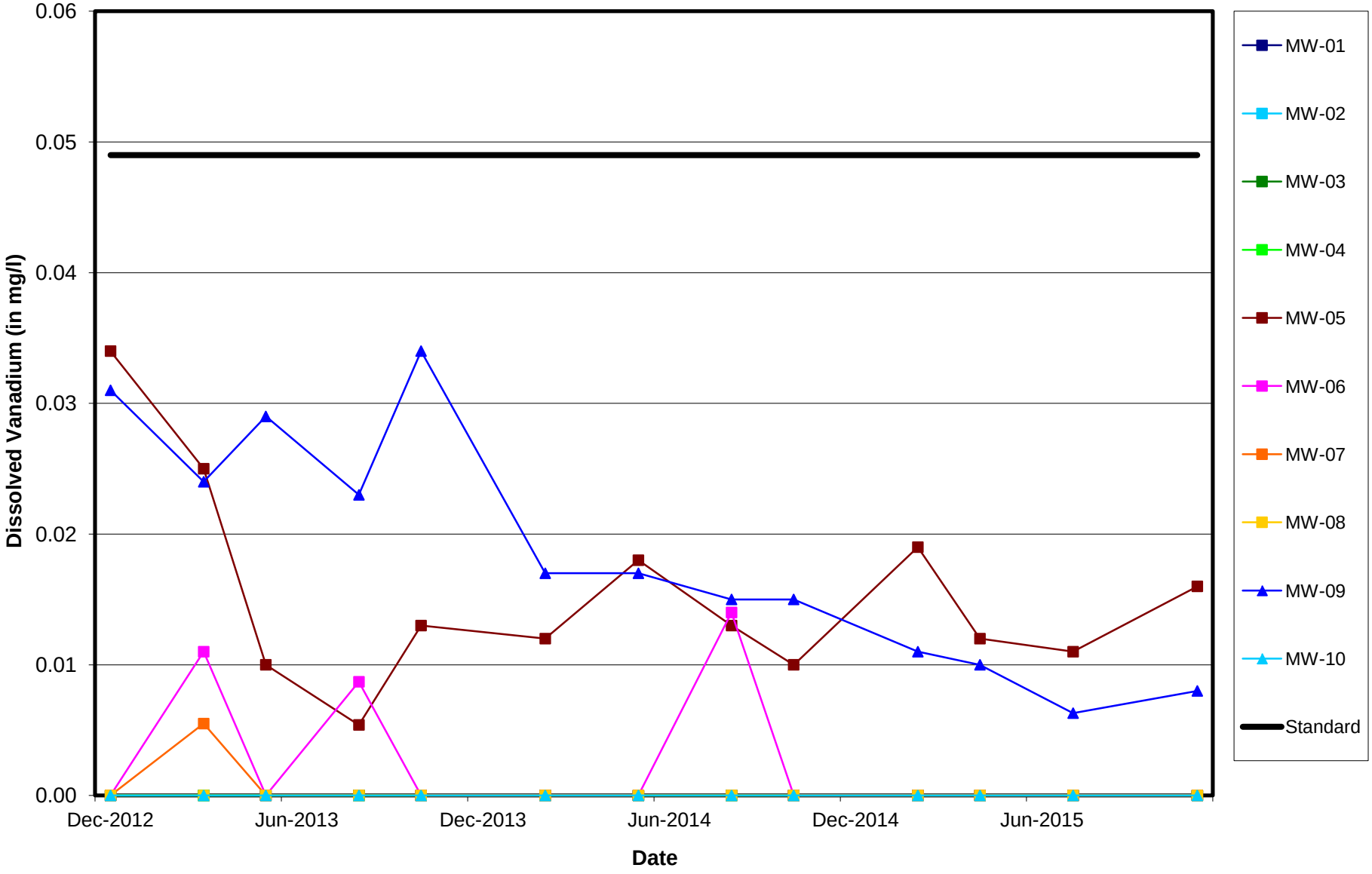
Total Dissolved Solids vs. Time



MWG13-15_56623

Midwest Generation Will County Station, Romeoville, IL

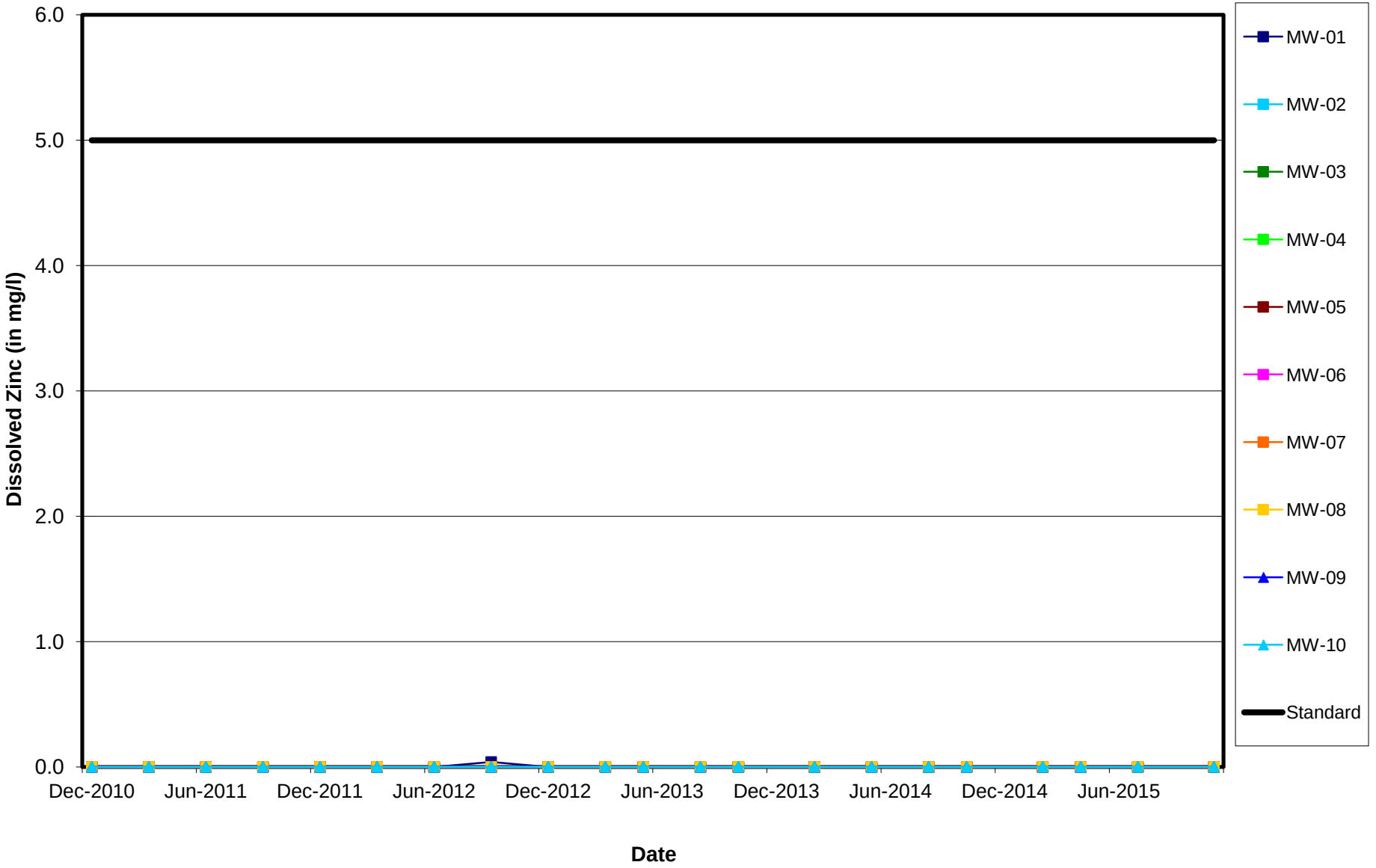
Dissolved Vanadium vs. Time



MWG13-15_56624

Midwest Generation Will County Station, Romeoville, IL

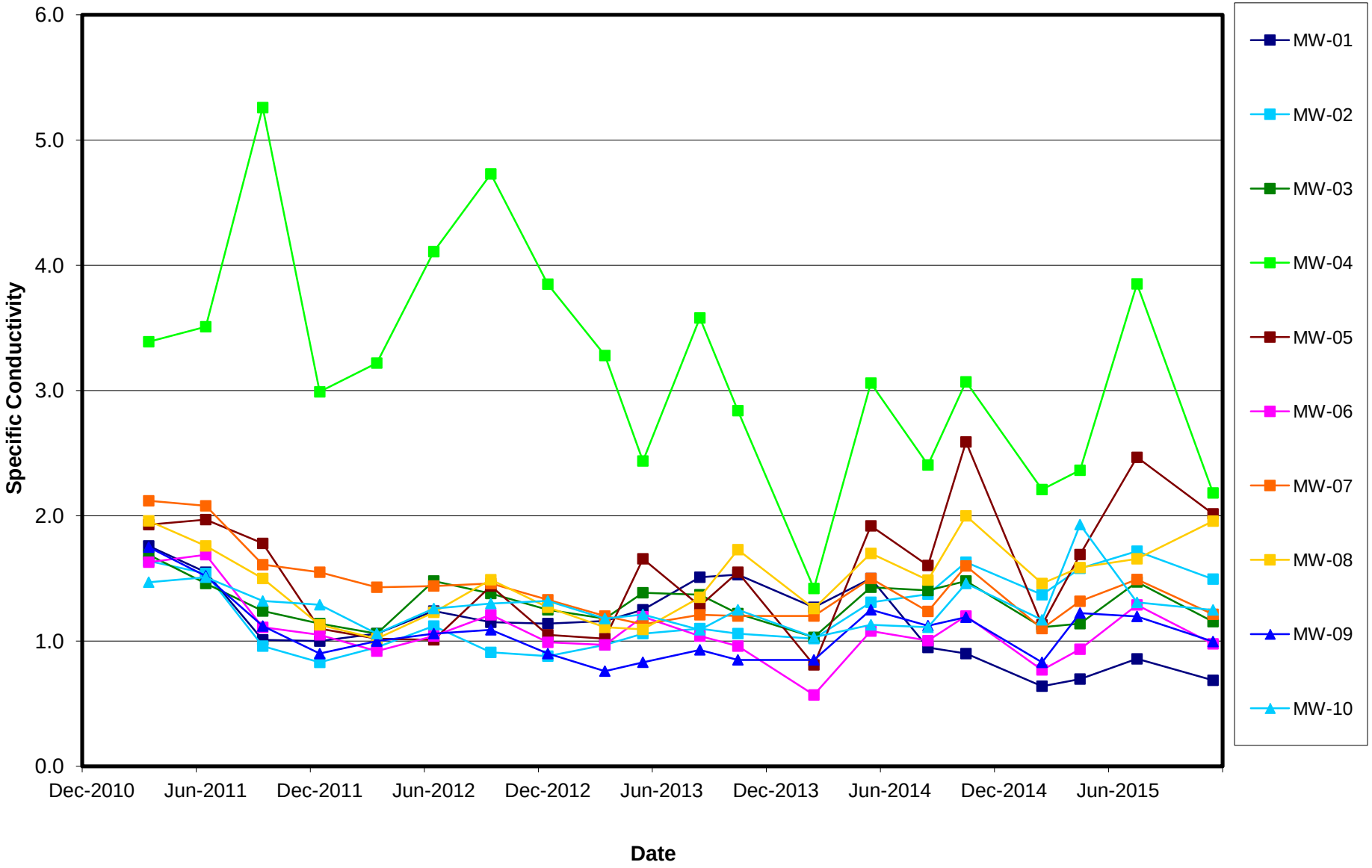
Dissolved Zinc vs. Time



MWG13-15_56625

Midwest Generation Will County Station, Romeoville, IL

Specific Conductivity vs. Time



MWG13-15_56626

Exhibit B12

FOURTH QUARTER and ANNUAL GROUNDWATER MONITORING REPORT
WILL COUNTY GENERATING STATION

January 21, 2014

Ms. Andrea Rhodes
Illinois Environmental Protection Agency
Division of Public Water Supplies
MC#19
1021 North Grand Avenue East
Springfield, IL 62794-9276

VIA FEDERAL EXPRESS

KPRG Project No. 12313.3

Re: Quarterly Groundwater Monitoring Results – Fourth Quarter 2013 and Annual
Will County Generating Station – Ash Impoundments
Compliance Commitment Agreement VN W-2012-00058; ID# 6283

Dear Ms. Rhodes:

The fourth quarterly groundwater sampling for 2013 has been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Will County Generating Station in accordance with the signed Compliance Commitment Agreement (CCA) with Illinois Environmental Protection Agency (IEPA) dated October 24, 2012. This quarterly monitoring report is being submitted by KPRG and Associates, Inc. (KPRG), on behalf of Midwest Generation, summarizing the results of the monitoring event. This report is also intended to serve as the Annual Report and includes historical data analysis/summaries.

Well Inspection and Sampling Procedures

The groundwater monitoring network around the ash ponds at this facility consists of ten wells (MW-1 through MW-10) as shown on Figure 1. As part of sampling procedures, the integrity of all monitoring wells was inspected and water levels obtained using an electronic water level meter (see summary of water level discussion below). Wells MW-1 through MW-9 were completed with stick-up protector casings. All wells were found in good condition with locked protector casings and the concrete surface seals were intact.

MWG13-15_26405

Well MW-10 was found to be damaged with the flush mount collar apparently hit by road grading work. The well itself was intact for sampling. Since the sampling, the well has been repaired and the new survey data for the top of well casing is included in Table 1.

Groundwater samples were collected using the low-flow sampling technique. One duplicate sample (well MW-09) was collected for quality assurance purposes. In addition, a deionized water trip blank was placed with the sample bottle shipment by the laboratory and accompanied the groundwater samples bottles from and back to the laboratory. The groundwater monitoring samples and the duplicate sample were analyzed for the inorganic compounds listed in Illinois Administrative Code (IAC) 620.410(a), 620.410(d) and 620.410(e), excluding radium 226/228. The trip blank was analyzed for the volatile organic compounds (VOCs) listed in IAC 620.410(d).

Groundwater Flow Evaluation

Water level data from the most recent round of sampling along with historical water levels obtained from each well are summarized in Table 1. The water levels from the most recent sampling were used to generate a groundwater flow map which is provided on Figure 2. The water elevation data indicates a general westerly flow of groundwater. The flow conditions observed during this sampling are consistent with historical conditions reported for the site.

Relative to an annual evaluation of groundwater levels, a historical hydrograph is presented in Attachment 1. The hydrograph indicates generally stable groundwater elevations since the Fall of 2011 with a drop in overall water levels by up to two feet in the 3rd and 4th quarters of 2013. Data from the nearby Lockport, Illinois gauge for Des Plaines River water levels also shows a slight drop in river water levels during this period. Ongoing liner replacement/construction work during that time can also account for some of the water level drop due to dewatering activities.

Summary of Analytical Data

A copy of the analytical data package is provided in Attachment 2. The field parameter and analytical data from the most recent sampling, along with the previous eight quarters of data, are summarized in Table 2. The duplicate sample was collected from well MW-MW-2. The data are generally consistent with previous data generated for the site. All wells for which the sampling data reports a value above one or more groundwater standards are located within the area of the approved Groundwater Management Zone (GMZ) and Environmental Land Use Control (ELUC) areas.

At this time a statistical evaluation of background water quality for comparing against downgradient wells has not been completed. The upgradient well installations (wells MW-01 through MW-06) indicate impacts that are not associated with the ash ponds at the site and therefore, IEPA does not recognize the water quality data from these wells as representative of background. Relative to an annual evaluation of the water chemistry

MWG13-15_26406

data, time versus concentration curves are provided for each parameter analyzed in Attachment 3. The curves include the Class I drinking water standard for reference, where appropriate. The following noteworthy observations are made for 2013:

- The only arsenic concentration exceedances above the Class I groundwater standard were for well MW-08 in the 3rd quarter and MW-10 in the fourth quarter. Overall arsenic concentrations appear to be stable.

- Boron concentrations at wells are overall decreasing or generally stable with the exception of boron at wells MW-01, MW-02, MW-06, MW-08, and MW-09 where there is a slight potential increasing concentration trend (wells MW-01, MW-02 and MW-06 are upgradient wells and MW-08 and MW-09 are downgradient wells). Subsequent monitoring will determine the actual nature of the trends.

- Chloride concentration curves show some scatter. Overall chloride concentrations in the wells have a seasonal/temporal variation, with the highest concentrations usually being detected during the 2nd quarter (Spring) sampling events and the lowest concentrations being recorded in the 3rd or 4th quarter sampling events. This seasonal/temporal variation may be reflective of the impact of road salt spreading which occurs during the winter months.

- Wells MW-01, MW-03, MW-04, MW-08 and MW-10 had detections of dissolved manganese above the groundwater standard in 2013. The concentrations were within general historic ranges. The trend at well MW-03 appears to be decreasing.

- Well MW-09 has consistently an overall higher pH than other wells.

- Well MW-05 indicated a spike in selenium concentration in the 4th quarter 2014 sampling. Subsequent sampling events will determine whether this increase in concentration is reproducible or whether it represents an uncharacteristic spike. All other selenium data are consistent with historical values.

- Well MW-04 has an overall sulfate concentration higher than the other wells but with a decreasing trend since the 3rd quarter 2012 sampling. Overall sulfate concentrations were stable in 2013 relative to historical data.

- Well MW-04 has an overall total dissolved solids (TDS) concentration higher than the other wells but with a decreasing trend since the 3rd quarter 2012 sampling. Overall sulfate concentrations were stable in 2013 relative to historical data.

MWG13-15_26407

As noted previously, all wells for which the sampling data reports a value above one or more applicable groundwater standards are located within the area of the approved GMZ and ELUC.

If there are any questions, please contact either Maria Race of Midwest Generation at 630-771-7862 or Richard Gnat of KPRG at 262-781-0475.

Sincerely,
KPRG and Associates, Inc.

Richard R Gnat

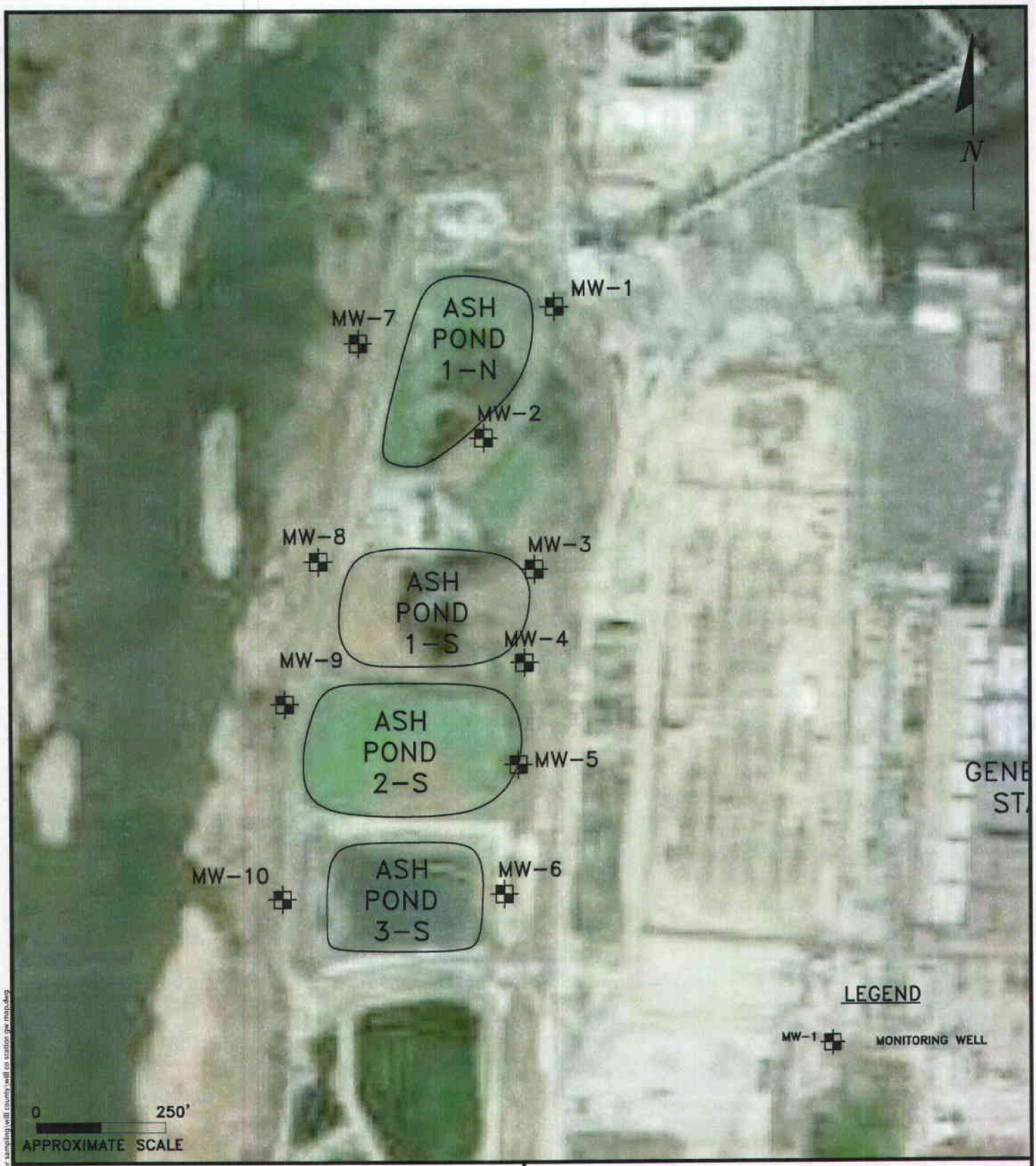
Richard R. Gnat, P.G.
Principal

Attachments

cc: William Buscher, IEPA
Maria Race, Midwest Generation
Susan Franzetti, Nijman Franzetti, LLP

MWG13-15_26408

FIGURES



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 28 Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

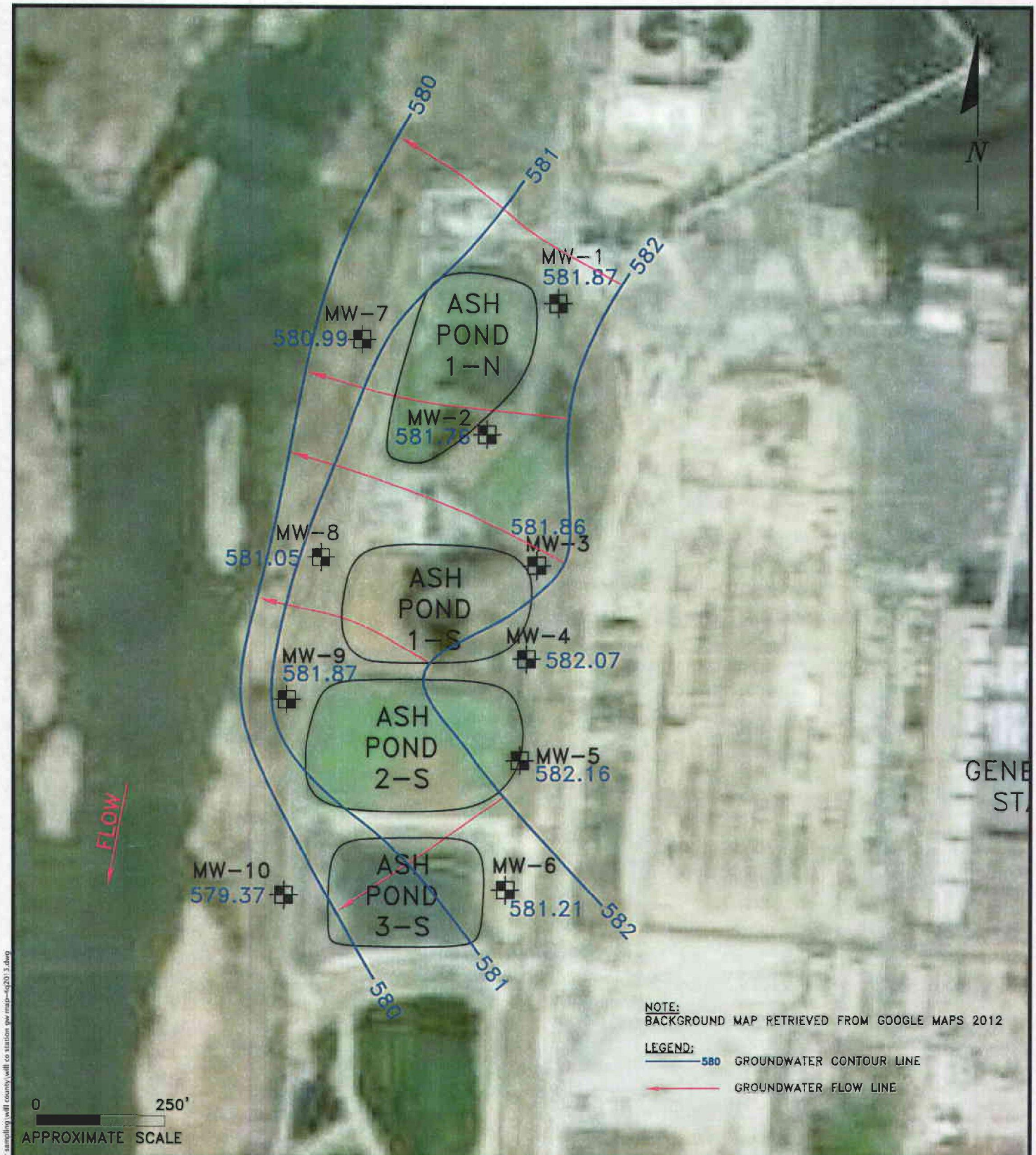
SITE MAP

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 250'	Date: July 17, 2013
KPRG Project No. 12313.3	FIGURE 1

W:\c-p&p projects\midwest generation groundwater sampling\will county\will co station gw map.dwg

MWG13-15_26410



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14665 West Lisbon Road, Suite 28 Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

GROUNDWATER CONTOUR MAP 10/2013

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 250' | Date: January 14, 2014

KPRG Project No. 12313.3 | FIGURE 2

W:\C-p&p\projects\midwest generation\groundwater sampling will county will co station gw map-4q2013.dwg

MWG13-15_26411

TABLES

Table 1. Groundwater Elevations - Midwest Generation, LLC, Will County Station, Romeoville, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-01	6/15/2011	592.95	589.81	583.67	583.65	570.95	9.28	9.30	22.00
	9/15/2011	592.95	589.81	583.25	583.25	570.95	9.70	9.70	22.00
	12/8/2011	592.95	589.81	583.44	583.43	570.95	9.51	9.52	22.00
	3/16/2012	592.95	589.81	583.41	583.40	570.95	9.54	9.55	22.00
	6/20/2012	592.95	589.81	583.20	583.18	570.95	9.75	9.77	22.00
	9/24/2012	592.95	589.81	583.25	583.25	570.95	9.70	9.70	22.00
	12/18/2012	592.95	589.81	583.27	583.27	570.95	9.68	9.68	22.00
	3/6/2013	592.95	589.81	583.47	583.47	570.95	9.48	9.48	22.00
	6/3/2013	592.95	589.81	583.37	583.37	570.95	9.58	9.58	22.00
	8/14/2013	592.95	589.81	582.18	582.18	570.95	10.77	10.77	22.00
	10/29/2013	592.95	589.81	581.87	581.89	570.95	11.08	11.06	22.00
MW-02	6/15/2011	593.99	590.62	583.87	583.85	568.62	10.12	10.14	25.37
	9/15/2011	593.99	590.62	583.29	583.29	568.62	10.70	10.70	25.37
	12/8/2011	593.99	590.62	583.56	583.55	568.62	10.43	10.44	25.37
	3/16/2012	593.99	590.62	583.54	583.52	568.62	10.45	10.47	25.37
	6/20/2012	593.99	590.62	583.31	583.31	568.62	10.68	10.68	25.37
	9/24/2012	593.99	590.62	583.34	583.32	568.62	10.65	10.67	25.37
	12/18/2012	593.99	590.62	583.39	583.39	568.62	10.60	10.60	25.37
	3/6/2013	593.99	590.62	583.60	583.60	568.62	10.39	10.39	25.37
	6/3/2013	593.99	590.62	583.35	583.35	568.62	10.64	10.64	25.37
	8/14/2013	593.99	590.62	581.97	581.97	568.62	12.02	12.02	25.37
	10/28/2013	593.99	590.62	581.76	581.76	568.62	12.23	12.23	25.37
MW-03	6/15/2011	593.51	590.50	583.76	583.67	573.74	9.75	9.84	19.77
	9/15/2011	593.51	590.50	582.85	582.83	573.74	10.66	10.68	19.77
	12/8/2011	593.51	590.50	583.36	583.35	573.74	10.15	10.16	19.77
	3/16/2012	593.51	590.50	583.45	583.38	573.74	10.06	10.13	19.77
	6/20/2012	593.51	590.50	582.95	582.93	573.74	10.56	10.58	19.77
	9/24/2012	593.51	590.50	582.93	582.95	573.74	10.58	10.56	19.77
	12/18/2012	593.51	590.50	583.10	583.10	573.74	10.41	10.41	19.77
	3/6/2013	593.51	590.50	583.42	583.42	573.74	10.09	10.09	19.77
	6/3/2013	593.51	590.50	583.53	583.43	573.74	9.98	10.08	19.77
	8/14/2013	593.51	590.50	581.79	581.78	573.74	11.72	11.73	19.77
	10/28/2013	593.51	590.50	581.86	581.86	573.74	11.65	11.65	19.77
MW-04	6/15/2011	594.25	591.22	583.49	583.48	571.77	10.76	10.77	22.48
	9/15/2011	594.25	591.22	581.47	581.42	571.77	12.78	12.83	22.48
	12/8/2011	594.25	591.22	582.07	582.07	571.77	12.18	12.18	22.48
	3/16/2012	594.25	591.22	582.08	582.05	571.77	12.17	12.20	22.48
	6/20/2012	594.25	591.22	581.60	581.56	571.77	12.65	12.69	22.48
	9/24/2012	594.25	591.22	581.45	581.39	571.77	12.80	12.86	22.48
	12/18/2012	594.25	591.22	581.71	581.71	571.77	12.54	12.54	22.48
	3/6/2013	594.25	591.22	582.07	582.07	571.77	12.18	12.18	22.48
	6/3/2013	594.25*	591.22	582*	582*	571.77	12.05	12.06	22.48
	8/14/2013	593.95	591.06	581.89	581.89	571.47	12.06	12.06	22.48
	10/28/2013	593.95	591.06	582.07	582.05	571.47	11.88	11.90	22.48
MW-05	6/15/2011	592.87	589.60	583.47	583.45	570.80	9.40	9.42	22.07
	9/15/2011	592.87	589.60	582.47	582.45	570.80	10.40	10.42	22.07
	12/8/2011	592.87	589.60	583.17	583.15	570.80	9.70	9.72	22.07
	3/16/2012	592.87	589.60	583.14	583.16	570.80	9.73	9.71	22.07
	6/20/2012	592.87	589.60	582.60	582.60	570.80	10.27	10.27	22.07
	9/24/2012	592.87	589.60	582.37	582.36	570.80	10.50	10.51	22.07
	12/18/2012	592.87	589.60	582.79	582.79	570.80	10.08	10.08	22.07
	3/6/2013	592.87	589.60	583.16	583.16	570.80	9.71	9.71	22.07
	6/3/2013	592.87	589.60	583.22	583.19	570.80	9.65	9.68	22.07
	8/14/2013	592.87	589.60	581.70	581.74	570.80	11.17	11.13	22.07
	10/28/2013	592.87	589.60	582.16	582.15	570.80	10.71	10.72	22.07
MW-06	6/15/2011	592.97	589.77	582.52	582.52	571.82	10.45	10.45	21.15
	9/15/2011	592.97	589.77	581.95	581.91	571.82	11.02	11.06	21.15
	12/8/2011	592.97	589.77	582.16	582.16	571.82	10.81	10.81	21.15
	3/16/2012	592.97	589.77	582.10	582.09	571.82	10.87	10.88	21.15
	6/20/2012	592.97	589.77	581.76	581.76	571.82	11.21	11.21	21.15
	9/24/2012	592.97	589.77	581.71	581.63	571.82	11.26	11.34	21.15
	12/18/2012	592.97	589.77	581.75	581.75	571.82	11.22	11.22	21.15
	3/6/2013	592.97	589.77	582.10	582.10	571.82	10.87	10.87	21.15
	6/3/2013	592.97	589.77	582.24	582.12	571.82	10.73	10.85	21.15
	8/14/2013	592.97	589.77	581.29	581.29	571.82	11.68	11.68	21.15
	10/28/2013	592.97	589.77	581.21	581.19	571.82	11.76	11.78	21.15
MW-07	6/15/2011	592.88	589.55	582.96	582.94	572.07	9.92	9.94	20.81
	9/15/2011	592.88	589.55	582.41	582.41	572.07	10.47	10.47	20.81
	12/8/2011	592.88	589.55	582.82	582.81	572.07	10.06	10.07	20.81
	3/16/2012	592.88	589.55	582.76	582.76	572.07	10.12	10.12	20.81
	6/20/2012	592.88	589.55	582.24	582.24	572.07	10.64	10.64	20.81
	9/24/2012	592.88	589.55	582.59	582.59	572.07	10.29	10.29	20.81
	12/18/2012	592.88	589.55	582.67	582.67	572.07	10.21	10.21	20.81
	3/6/2013	592.88	589.55	582.76	582.76	572.07	10.12	10.12	20.81
	6/3/2013	592.88	589.55	582.46	582.28	572.07	10.42	10.60	20.81
	8/15/2013	592.88	589.55	581.04	580.80	572.07	11.84	12.08	20.81
	10/29/2013	592.88	589.55	580.99	580.94	572.07	11.89	11.94	20.81

Table 1. Groundwater Elevations - Midwest Generation, LLC, Will County Station, Romeoville, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-08	6/15/2011	592.71	589.64	582.24	582.22	572.50	10.47	10.49	20.21
	9/15/2011	592.71	589.64	581.28	581.26	572.50	11.43	11.45	20.21
	12/8/2011	592.71	589.64	582.38	582.38	572.50	10.33	10.33	20.21
	3/16/2012	592.71	589.64	582.41	582.38	572.50	10.30	10.33	20.21
	6/20/2012	592.71	589.64	581.54	581.53	572.50	11.17	11.18	20.21
	9/24/2012	592.71	589.64	581.36	581.36	572.50	11.35	11.35	20.21
	12/18/2012	592.71	589.64	582.22	582.22	572.50	10.49	10.49	20.21
	3/6/2013	592.71	589.64	582.04	582.04	572.50	10.67	10.67	20.21
	6/3/2013	592.71	589.64	582.06	580.79	572.50	10.65	11.92	20.21
	8/15/2013	592.71	589.64	580.95	579.81	572.50	11.76	12.90	20.21
	10/28/2013	592.71	589.64	581.05	580.67	572.50	11.66	12.04	20.21
MW-09	6/15/2011	592.84	589.76	582.81	582.51	570.66	10.03	10.33	22.18
	9/15/2011	592.84	589.76	581.28	581.17	570.66	11.56	11.67	22.18
	12/8/2011	592.84	589.76	583.36	583.36	570.66	9.48	9.48	22.18
	3/16/2012	592.84	589.76	583.52	583.51	570.66	9.32	9.33	22.18
	6/20/2012	592.84	589.76	581.51	581.51	570.66	11.33	11.33	22.18
	9/24/2012	592.84	589.76	580.88	580.89	570.66	11.96	11.95	22.18
	12/18/2012	592.84	589.76	583.10	583.10	570.66	9.74	9.74	22.18
	3/6/2013	592.84	589.76	583.13	583.13	570.66	9.71	9.71	22.18
	6/3/2013	592.84	589.76	582.46	581.40	570.66	10.38	11.44	22.18
	8/15/2013	592.84	589.76	580.56	580.11	570.66	12.28	12.73	22.18
	10/29/2013	592.84	589.76	581.87	581.71	570.66	10.97	11.13	22.18
MW-10	6/15/2011	590.98	591.31	580.90	580.46	571.45	10.08	10.52	19.53
	9/15/2011	590.98	591.31	580.04	579.48	571.45	10.94	11.50	19.53
	12/8/2011	590.98	591.31	580.59	580.15	571.45	10.39	10.83	19.53
	3/16/2012	590.98	591.31	580.73	580.08	571.45	10.25	10.90	19.53
	6/20/2012	590.98	591.31	579.70	579.43	571.45	11.28	11.55	19.53
	9/24/2012	590.98	591.31	579.69	578.86	571.45	11.29	12.12	19.53
	12/18/2012	590.98	591.31	579.92	579.92	571.45	11.06	11.06	19.53
	3/6/2013	590.98	591.31	580.74	580.74	571.45	10.24	10.24	19.53
	6/3/2013	590.98	591.31	580.43	580.19	571.45	10.55	10.79	19.53
	8/15/2013	590.98	591.31	579.13	579.03	571.45	11.85	11.95	19.53
	10/28/2013	590.98	591.31	579.37	579.33	571.45	11.61	11.65	19.53

* - Estimated value due to damaged well casing which needs to be re-surveyed.

MWG13-15_26414

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-01	Date	12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/23/2013		8/14/2013		10/29/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	0.0063	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0011
Barium	2.0	0.0025	0.033	0.0025	0.033	0.0025	0.039	0.0025	0.035	0.0025	0.034	0.0025	0.034	0.0025	0.035	0.0025	0.090	0.0025	0.10
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	1.6	0.25	1.5	0.50	2.1	0.25	1.9	0.50	1.9	0.50	1.9	0.50	2.4	0.50	2.3	0.10	2.6
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	140	10	190	10	170	10	120	10	160	10	220	10	190	10	120	10	160
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.035	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0017	0.0010	ND	0.0010	0.0016	0.0010	0.0022
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0026	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.73	0.10	0.69	0.10	0.77	0.10	0.86	0.10	0.86 ^	0.10	0.77 ^	0.10	0.94	0.10	0.50	0.10	0.41
Iron	5.0	0.10	0.11	0.10	ND	0.10	0.23	0.10	0.33	0.10	0.20	0.10	0.42	0.10	0.46	0.10	0.72	0.10	1.2
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.17	0.0025	0.16	0.0025	0.16	0.0025	0.15	0.0025	0.18	0.0025	0.17	0.0025	0.13	0.0025	0.22	0.0025	0.28
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0040	0.0020	0.0042	0.0020	0.0041	0.0020	0.0043	0.0020	0.0052	0.0020	0.054	0.0020	0.0069	0.0020	0.0047	0.0020	0.0055
Nitrogen/Nitrate	10.0	0.10	1.4	0.10	2.2	0.10	0.61	0.10	0.25	0.10	1.5	0.10	1.6	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	1.4	0.20	2.2	0.10	0.61	0.10	0.25	0.10	1.5	0.10	1.6	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.16	NA	7.84	NA	7.55	NA	7.70	NA	7.79	NA	8.41	NA	7.56	NA	7.18	NA	7.04
Selenium	0.05	0.0025	0.0025	0.0025	0.0033	0.0025	0.0040	0.0025	ND	0.0025	ND	0.0025	0.0042	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND
Sulfate	400.0	100	270	100	430	100	390	100	390	100	290	100	310	100	460	130	540	100	430
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	770	10	910	10	950	10	790	10	880	10	930	10	1100	10	1300	10	1300
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	0.040	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	14.57	NA	12.34	NA	18.50	NA	22.35	NA	14.65	NA	9.90	NA	14.40	NA	16.82	NA	16.20
Conductivity	NA	NA	1.00	NA	1.06	NA	1.24	NA	1.15	NA	1.14	NA	1.16	NA	1.25	NA	1.51	NA	1.53
Dissolved Oxygen	NA	NA	0.06	NA	0.11	NA	0.13	NA	0.09	NA	0.06	NA	0.20	NA	0.50	NA	0.26	NA	0.57
ORP	NA	NA	-108	NA	-63	NA	-98	NA	-128	NA	-103	NA	-112.3	NA	-157.5	NA	-81.4	NA	-132.6

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_26415

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-02	Date	12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/23/2013		8/14/2013		10/28/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	0.017	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0058	0.0010	0.0048	0.0010	0.0044	0.0010	0.0071	0.0010	0.0046	0.0010	0.0037	0.0010	0.0051	0.0010	0.0059	0.0010	0.0091
Barium	2.0	0.0025	0.048	0.0025	0.058	0.0025	0.062	0.0025	0.050	0.0025	0.051	0.0025	0.057	0.0025	0.071	0.0025	0.075	0.0025	0.079
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	1.7	0.25	1.7	0.50	2.0	0.25	2.2	0.50	1.8	0.50	1.7	0.50	1.9	0.50	2.2	0.10	2.4
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	120	10	140	10	150	10	110	10	130	10	190	10	200	10	170	10	180
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.59	0.10	0.46	0.10	0.55	0.10	0.71	0.10	0.60 ^	0.10	0.48 ^	0.10	0.47	0.10	0.45	0.10	0.47
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.14	0.10	0.33
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.031	0.0025	0.031	0.0025	0.038	0.0025	0.029	0.0025	0.033	0.0025	0.029	0.0025	0.041	0.0025	0.041	0.0025	0.043
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0021	0.0020	0.0024
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.11	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.11	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.80	NA	8.34	NA	8.23	NA	8.33	NA	8.40	NA	7.79	NA	8.00	NA	7.93	NA	8.06
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND
Sulfate	400.0	50	220	50	330	100	340	50	280	50	250	50	260	50	250	100	300	100	280
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	650	10	810	10	850	10	690	10	710	10	740	10	890	10	900	10	950
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	16.14	NA	14.74	NA	16.59	NA	19.10	NA	15.58	NA	12.00	NA	15.53	NA	16.36	NA	15.02
Conductivity	NA	NA	0.83	NA	0.95	NA	1.12	NA	0.91	NA	0.88	NA	0.97	NA	1.06	NA	1.10	NA	1.06
Dissolved Oxygen	NA	NA	0.06	NA	0.02	NA	0.03	NA	0.14	NA	0.06	NA	3.81	NA	0.52	NA	0.19	NA	0.54
ORP	NA	NA	-147	NA	-104	NA	-160	NA	-156	NA	-106	NA	189.8	NA	-117.5	NA	-160.5	NA	-172.5

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm^2	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_26416

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-03	Date	12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/22/2013		8/14/2013		10/28/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0018	0.0010	0.0017	0.0010	0.0020	0.0010	0.0026	0.0010	0.0019	0.0010	0.0017	0.0010	0.0019	0.0010	0.0023	0.0010	0.0018
Barium	2.0	0.0025	0.083	0.0025	0.075	0.0025	0.12	0.0025	0.085	0.0025	0.079	0.0025	0.085	0.0025	0.095	0.0025	0.083	0.0025	0.083
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	2.8	0.25	2.7	0.50	3.1	0.25	3.9	0.50	3.4	0.50	3.2	0.50	3.7	0.50	3.6	0.10	3.5
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	100	10	95	10	88	10	96	10	100	10	87	10	110	10	100	10	110
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0011	0.0010	0.0014	0.0010	0.0016
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.39	0.10	0.38	0.10	0.36	0.10	0.45	0.10	0.44 ^	0.10	0.38 ^	0.10	0.41	0.10	0.42	0.10	0.49
Iron	5.0	0.10	0.19	0.10	0.20	0.10	0.34	0.10	0.21	0.10	0.20	0.10	0.20	0.10	0.21	0.10	0.26	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.29	0.0025	0.27	0.0025	0.37	0.0025	0.24	0.0025	0.25	0.0025	0.29	0.0025	0.22	0.0025	0.19	0.0025	0.16
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0053	0.0020	0.0052	0.0020	0.0051	0.0020	0.0069	0.0020	0.0079	0.0020	0.0061	0.0020	0.0088	0.0020	0.010	0.0020	0.011
Nitrogen/Nitrate	10.0	0.10	0.54	0.10	ND	0.10	0.18	0.10	ND	0.10	ND	0.10	0.21	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	0.54	0.10	ND	0.10	0.18	0.10	ND^	0.10	ND	0.10	0.21	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	6.55	NA	7.24	NA	6.79	NA	7.12	NA	7.21	NA	7.88	NA	7.21	NA	7.20	NA	7.24
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0040	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND
Sulfate	400.0	100	280	100	320	100	500	100	440	100	480	100	390	100	610	100	530	100	540
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	930	10	1000	10	1400	10	1100	10	1100	10	1100	10	1200	10	1200	10	1100
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	13.57	NA	11.65	NA	15.47	NA	17.33	NA	13.40	NA	9.50	NA	16.15	NA	16.84	NA	14.53
Conductivity	NA	NA	1.14	NA	1.06	NA	1.48	NA	1.38	NA	1.25	NA	1.18	NA	1.39	NA	1.37	NA	1.22
Dissolved Oxygen	NA	NA	0.06	NA	0.02	NA	0.03	NA	0.02	NA	0.15	NA	3.93	NA	0.58	NA	0.43	NA	0.51
ORP	NA	NA	-113	NA	-31	NA	-50	NA	-34	NA	-57	NA	60.1	NA	-65.3	NA	-66.4	NA	-138.6

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_26417

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-04	Date	12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/22/2013		8/14/2013		10/28/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0016	0.0010	0.0015	0.0010	0.0028	0.0010	0.0044	0.0020	0.0033	0.0010	0.0010	0.0010	0.0013	0.0010	0.0032	0.0010	0.0054
Barium	2.0	0.0025	0.043	0.0025	0.036	0.0025	0.041	0.0025	0.041	0.0050	0.037	0.0025	0.033	0.0025	0.034	0.0025	0.033	0.0025	0.037
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0020	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	3.0	0.25	4.0	0.50	5.3	0.25	6.2	0.10	5.2	0.50	4.5	0.50	3.8	0.50	5.1	0.10	5.6
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0010	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	150	10	150	10	140	10	170	10	170	10	150	10	110	10	120	10	89
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.010	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0020	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0014
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0040	ND	0.0020	ND	0.0020	0.0023	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.55	0.10	0.50	0.10	0.62	0.10	0.68	0.10	0.63 ^	0.10	0.56 ^	0.10	0.60	0.10	0.66	0.10	0.47
Iron	5.0	0.10	0.64	0.10	0.53	0.10	0.95	0.10	0.83	0.20	1.2	0.10	0.20	0.10	ND	0.10	0.66	0.10	0.92
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0010	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.62	0.0025	0.60	0.0025	0.70	0.0025	0.99	0.0050	0.62	0.0025	0.47	0.0025	0.44	0.0025	0.58	0.0025	0.65
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0047	0.0020	0.0048	0.0020	0.0047	0.0020	0.0046	0.0040	0.0050	0.0020	0.0047	0.0020	0.0044	0.0020	0.0043	0.0020	0.0055
Nitrogen/Nitrate	10.0	0.10	0.37	0.10	0.45	0.10	ND	0.10	ND	0.10	ND	0.10	0.69	0.10	0.42	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	0.37	0.10	0.45	0.10	ND	0.10	ND^	0.10	ND	0.10	0.69	0.10	0.42	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.02	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	6.58	NA	7.27	NA	7.10	NA	7.29	NA	7.34	NA	6.61	NA	7.07	NA	7.15	NA	6.74
Selenium	0.05	0.0025	0.0086	0.0025	0.0067	0.0025	ND	0.0025	0.0026	0.0050	ND	0.0025	0.015	0.0025	0.0087	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0010	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND
Sulfate	400.0	500	1600	500	2000	500	2800	500	3200	500	2200	500	2000	500	1500	500	2200	250	1300
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	13	3100	13	3700	25	4300	17	4400	17	4000	17	3600	13	2900	25	3500	13	2400
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.01	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.040	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	13.65	NA	11.77	NA	16.18	NA	17.98	NA	14.14	NA	9.60	NA	13.54	NA	17.54	NA	16.62
Conductivity	NA	NA	2.99	NA	3.22	NA	4.11	NA	4.73	NA	3.85	NA	3.28	NA	2.44	NA	3.58	NA	2.84
Dissolved Oxygen	NA	NA	0.11	NA	0.16	NA	0.03	NA	0.03	NA	0.06	NA	1.88	NA	1.07	NA	0.34	NA	0.36
ORP	NA	NA	-104	NA	-41	NA	-76	NA	-66	NA	-79	NA	87.2	NA	-3.9	NA	-38.2	NA	-127.7

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_26418

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-05	Date	12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		6/5/2013		8/14/2013		10/28/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0065	0.0010	0.0065	0.0010	0.0073	0.0010	0.0023	0.0010	0.0058	0.0010	0.0069	0.0010	0.0020	0.0010	0.0025	0.0010	0.0021
Barium	2.0	0.0025	0.061	0.0025	0.053	0.0025	0.040	0.0025	0.073	0.0025	0.045	0.0025	0.050	0.0025	0.11	0.0025	0.042	0.0025	0.078
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	3.2	0.25	2.9	0.50	2.3	0.25	3.8	0.50	2.5	0.50	2.6	0.50	3.6	0.50	3.5	0.10	4.1
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	130	10	170	10	150	10	160	10	150	10	140	10	110	10	120	10	130
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.38	0.10	0.42	0.10	0.59	0.10	0.44	0.10	0.47 ^	0.10	0.42 ^	0.10	0.30	0.10	0.50	0.10	0.36
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.038	0.0025	0.032	0.0025	0.014	0.0025	0.073	0.0025	0.023	0.0025	0.036	0.0025	0.15	0.0025	0.060	0.0025	0.11
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0025	0.0020	0.0020	0.0020	0.0022	0.0020	0.0025	0.0020	0.0039	0.0020	0.0028
Nitrogen/Nitrate	10.0	0.10	1.0	0.10	0.11	0.10	0.24	0.10	0.11	0.10	ND	0.10	0.56	0.10	0.69	0.10	ND	0.10	0.27
Nitrogen/Nitrate, Nitrite	NA	0.10	1.2	0.10	0.25	0.10	0.27	0.10	0.11	0.10	1.2	0.10	1.3	0.10	0.75	0.10	ND	0.10	0.59
Nitrogen/Nitrite	NA	0.020	0.17	0.020	0.14	0.020	0.031	0.020	ND	0.20	1.2	0.10	0.74	0.020	0.059	0.020	ND	0.10	0.32
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	8.20	NA	9.30	NA	9.41	NA	7.54	NA	9.37	NA	7.43	NA	7.00	NA	7.88	NA	6.75
Selenium	0.05	0.0025	0.010	0.0025	0.0059	0.0025	ND	0.0025	0.017	0.0025	0.0079	0.0025	0.010	0.0025	0.026	0.0025	ND	0.0025	0.17
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND
Sulfate	400.0	100	500	100	370	100	410	100	540	100	280	100	320	250	650	100	500	130	560
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1000	10	1000	10	750	10	1100	10	820	10	940	10	1600	10	1100	10	1300
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	0.034	0.0050	0.025	0.0050	0.010	0.0050	0.0054	0.0050	0.013
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	13.19	NA	10.98	NA	16.59	NA	19.67	NA	13.41	NA	8.10	NA	14.77	NA	16.72	NA	17.04
Conductivity	NA	NA	1.10	NA	1.02	NA	1.01	NA	1.44	NA	1.05	NA	1.02	NA	1.66	NA	1.28	NA	1.55
Dissolved Oxygen	NA	NA	0.39	NA	0.21	NA	0.22	NA	0.66	NA	0.19	NA	4.84	NA	0.56	NA	0.15	NA	0.92
ORP	NA	NA	-46	NA	47	NA	-1.0	NA	66	NA	8.0	NA	205.5	NA	-11.3	NA	20.8	NA	-73.8

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_26419

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-06	Date	12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/22/2013		8/14/2013		10/28/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0022	0.0010	0.0022	0.0010	0.0021	0.0010	0.0026	0.0010	0.0020	0.0010	0.0019	0.0010	0.0014	0.0010	0.0022	0.0010	0.0031
Barium	2.0	0.0025	0.053	0.0025	0.044	0.0025	0.046	0.0025	0.054	0.0025	0.051	0.0025	0.044	0.0025	0.057	0.0025	0.053	0.0025	0.063
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	2.5	0.25	2.5	0.50	2.9	0.25	3.0	0.50	3.0	0.50	2.7	0.50	2.8	0.50	2.9	0.10	3.7
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	120	10	110	10	92	10	110	10	110	10	130	10	110	10	91	10	76
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.77	0.10	0.68	0.10	0.81	0.10	ND	0.10	0.71 ^	0.10	0.71 ^	0.10	0.65	0.10	0.57	0.10	0.57
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.038	0.0025	0.029	0.0025	0.033	0.0025	0.038	0.0025	0.034	0.0025	0.030	0.0025	0.082	0.0025	0.023	0.0025	0.083
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0022	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0020
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.63	0.10	0.10	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND^	0.10	ND ^	0.10	0.82	0.10	0.20	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	0.052	0.020	0.026	0.020	ND	0.040	0.19	0.020	0.099	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND ^	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	8.82	NA	9.39	NA	9.07	NA	9.17	NA	9.18	NA	8.22	NA	8.41	NA	9.13	NA	8.50
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	0.0034	0.0025	0.014	0.0025	0.0057	0.0025	0.0075	0.0025	0.0071	0.0025	0.0040	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND
Sulfate	400.0	100	440	100	380	100	450	100	550	100	360	100	370	100	360	100	400	100	310
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	880	10	900	10	770	10	890	10	820	10	840	10	880	10	860	10	790
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	0.011	0.0050	ND	0.0050	0.0087	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	14.24	NA	10.74	NA	18.03	NA	18.96	NA	14.00	NA	10.00	NA	15.89	NA	18.56	NA	15.76
Conductivity	NA	NA	1.05	NA	0.92	NA	1.04	NA	1.21	NA	0.99	NA	0.97	NA	1.19	NA	1.04	NA	0.96
Dissolved Oxygen	NA	NA	0.13	NA	3.47	NA	3.06	NA	0.01	NA	0.36	NA	3.48	NA	0.37	NA	0.37	NA	0.23
ORP	NA	NA	-241	NA	-50	NA	-106	NA	-134	NA	-174	NA	175.2	NA	-14.3	NA	-16.6	NA	-173.8

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-07	Date	12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/22/2013		8/15/2013		10/29/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0042	0.0010	0.0041	0.0010	0.0039	0.0010	0.0049	0.0010	0.0034	0.0010	0.0033	0.0010	0.0031	0.0010	0.0032	0.0010	0.0035
Barium	2.0	0.0025	0.082	0.0025	0.069	0.0025	0.057	0.0025	0.086	0.0025	0.044	0.0025	0.041	0.0025	0.048	0.0025	0.067	0.0025	0.040
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	5.0	0.25	5.1	0.50	5.6	0.25	5.5	0.50	5.1	0.50	4.3	0.50	2.6	0.50	3.5	0.10	3.0
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	150	10	130	10	120	10	150	10	140	10	140	10	190	10	180	10	180
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.017	0.010	ND	0.010	0.014	0.010	0.013	0.010	0.012
Fluoride	4.0	0.10	0.86	0.10	0.76	0.10	0.83	0.10	ND	0.10	0.89 ^	0.10	0.92 ^	0.10	0.97	0.10	0.96	0.10	0.96
Iron	5.0	0.10	0.50	0.10	0.57	0.10	0.60	0.10	0.51	0.10	0.62	0.10	0.47	0.10	0.21	0.10	0.36	0.10	0.21
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.20	0.0025	0.20	0.0025	0.19	0.0025	0.19	0.0025	0.19	0.0025	0.15	0.0025	0.043	0.0025	0.064	0.0025	0.049
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0021	0.0020	ND	0.0020	0.0020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0036	0.0020	0.0038	0.0020	0.0042
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND^	0.10	ND ^	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	0.043	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND ^	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.69	NA	8.16	NA	7.92	NA	8.02	NA	7.75	NA	8.08	NA	8.14	NA	8.43	NA	8.07
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0068	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND
Sulfate	400.0	130	710	100	770	100	670	100	600	100	480	100	400	100	390	100	460	100	530
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1300	10	1400	10	1300	10	1200	10	1200	10	1000	10	1100	10	1100	10	1200
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	0.0055	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	15.17	NA	14.21	NA	15.67	NA	17.28	NA	14.37	NA	12.00	NA	14.25	NA	15.62	NA	13.06
Conductivity	NA	NA	1.55	NA	1.43	NA	1.44	NA	1.46	NA	1.33	NA	1.20	NA	1.13	NA	1.21	NA	1.20
Dissolved Oxygen	NA	NA	2.54	NA	0.02	NA	0.41	NA	0.20	NA	0.15	NA	0.17	NA	0.36	NA	0.10	NA	0.41
ORP	NA	NA	-210	NA	-189	NA	-161	NA	-171	NA	-150	NA	-219.9	NA	-155.1	NA	-204.2	NA	-168.1

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-08	Date	12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/23/2013		8/15/2013		10/28/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.012	0.0010	0.0066	0.0010	0.013	0.0010	0.018	0.0010	0.0088	0.0010	0.0088	0.0010	0.0072	0.0010	0.016	0.0010	0.0069
Barium	2.0	0.0025	0.078	0.0025	0.066	0.0025	0.074	0.0025	0.090	0.0025	0.079	0.0025	0.069	0.0025	0.079	0.0025	0.084	0.0025	0.14
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	1.9	0.25	1.5	0.50	2.0	0.25	2.6	0.50	2.1	0.50	1.8	0.50	1.9	0.50	2.4	0.10	3.2
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	130	10	160	10	160	10	150	10	150	10	150	10	190	10	170	10	150
Chromium	0.1	0.0050	ND	0.010	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0020	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0021	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.61	0.10	0.52	0.10	0.60	0.10	0.65	0.10	0.58 ^	0.10	0.55 ^	0.10	0.55	0.10	0.64	0.10	0.45
Iron	5.0	0.10	0.68	0.20	ND	0.10	0.58	0.10	0.66	0.10	0.50	0.10	0.43	0.10	0.68	0.10	1.3	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.40	0.0050	ND	0.0025	0.36	0.0025	0.41	0.0025	0.43	0.0025	0.33	0.0025	0.47	0.0025	0.31	0.0025	0.42
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0020	0.0040	ND	0.0020	0.0022	0.0020	0.0035	0.0020	0.0033	0.0020	0.0031	0.0020	ND	0.0020	0.0032	0.0020	0.0043
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.23	0.10	ND	0.10	ND	0.10	ND	0.10	0.17
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND^	0.10	0.23	0.10	ND	0.10	ND	0.10	ND	0.10	0.17
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND ^	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	6.99	NA	7.61	NA	7.36	NA	7.31	NA	7.43	NA	7.87	NA	7.19	NA	7.46	NA	6.87
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.015
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND
Sulfate	400.0	100	330	50	330	100	370	100	630	100	380	100	360	100	270	100	440	130	650
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	980	10	910	10	1000	10	1200	10	1200	10	1000	10	1100	10	1100	10	1600
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	14.05	NA	12.16	NA	15.28	NA	17.41	NA	13.82	NA	9.50	NA	13.12	NA	18.25	NA	15.59
Conductivity	NA	NA	1.13	NA	1.02	NA	1.23	NA	1.49	NA	1.27	NA	1.11	NA	1.09	NA	1.35	NA	1.73
Dissolved Oxygen	NA	NA	0.32	NA	1.15	NA	0.66	NA	0.94	NA	0.29	NA	1.35	NA	0.20	NA	0.30	NA	0.64
ORP	NA	NA	-139	NA	-54	NA	-105	NA	-60	NA	-80	NA	-94.1	NA	-111.3	NA	-114.8	NA	-145.3

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature °C degrees Celcius
Conductivity ms/cm^c millisiemens/centimeters
Dissolved Oxygen mg/L milligrams/liter
Oxygen Reduction Potential (ORP) mV millivolts

MWG13-15_26422

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-09	Date	12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/23/2013		8/15/2013		10/29/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0078	0.0010	0.0053	0.0010	0.0056	0.0010	0.0068	0.0010	0.0060	0.0010	0.0051	0.0010	0.0047	0.0010	0.0050	0.0010	0.0066
Barium	2.0	0.0025	0.017	0.0025	0.023	0.0025	0.022	0.0025	0.026	0.0025	0.020	0.0025	0.016	0.0025	0.025	0.0025	0.026	0.0025	0.023
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	1.9	0.25	1.4	1.0	1.8	0.25	2.0	0.50	1.7	0.50	1.5	0.50	1.7	0.50	1.8	0.10	2.2
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	140	10	200	10	160	10	160	10	130	10	140	10	160	10	170	10	110
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	0.018	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.38	0.10	0.39	0.10	0.32	0.10	0.41	0.10	0.42 ^	0.10	0.43 ^	0.10	0.32	0.10	0.47	0.10	0.48
Iron	5.0	0.10	ND^	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0036	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0043	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0022	0.0020	0.0023	0.0020	0.0022	0.0020	ND	0.0020	0.0024	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	1.9	0.10	3.2	0.10	ND	0.10	ND	0.10	4.1	0.10	6.2	0.10	0.40	0.10	ND	0.10	1.6
Nitrogen/Nitrate, Nitrite	NA	0.10	2.0	0.50	3.3	0.10	ND	0.10	ND^	0.10	4.6	1.0	6.8	0.10	1.4	0.10	0.44	0.50	2.2
Nitrogen/Nitrite	NA	0.020	0.15	0.020	0.12	0.020	0.027	0.020	0.023	0.10	0.55	0.10	0.65	0.20	1.0	0.10	0.49	0.10	0.65
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND ^	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	9.55	NA	10.56	NA	10.31	NA	10.23	NA	10.42	NA	10.39	NA	9.93	NA	9.86	NA	10.01
Selenium	0.05	0.0025	0.0031	0.0025	ND	0.0025	0.0026	0.0025	0.0031	0.0025	0.0039	0.0025	0.0029	0.0025	0.0027	0.0025	0.0034	0.0025	0.0053
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND
Sulfate	400.0	50	270	50	340	100	340	100	380	50	310	50	250	50	320	50	310	50	310
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	660	10	820	10	880	10	800	10	780	10	600	10	690	10	700	10	680
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	0.031	0.0050	0.024	0.0050	0.029	0.0050	0.023	0.0050	0.034
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	15.70	NA	13.35	NA	15.35	NA	18.14	NA	14.68	NA	11.10	NA	13.62	NA	16.90	NA	16.28
Conductivity	NA	NA	0.90	NA	1.00	NA	1.06	NA	1.09	NA	0.90	NA	0.76	NA	0.83	NA	0.93	NA	0.85
Dissolved Oxygen	NA	NA	0.05	NA	0.30	NA	0.03	NA	0.06	NA	0.11	NA	0.52	NA	0.25	NA	0.48	NA	0.56
ORP	NA	NA	-118	NA	-12	NA	-70	NA	-112	NA	-200	NA	-36	NA	-107.1	NA	-91.6	NA	-182.7

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-10	Date	12/8/2011		3/16/2012		6/20/2012		9/24/2012		12/18/2012		3/5/2013		5/22/2013		8/15/2013		10/28/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0083	0.0010	0.0056	0.0010	0.0058	0.0010	0.0098	0.0010	0.0085	0.0010	0.0072	0.0010	0.0077	0.0010	0.0040	0.0010	0.012
Barium	2.0	0.0025	0.11	0.0025	0.10	0.0025	0.10	0.0025	0.097	0.0025	0.11	0.0025	0.098	0.0025	0.10	0.0025	0.082	0.0025	0.10
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	2.5	0.25	2.1	0.50	2.1	0.25	3.2	0.50	2.7	0.50	2.7	0.50	2.7	0.50	2.3	0.10	3.8
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	120	10	100	10	120	10	140	10	140	10	130	10	140	10	130	10	140
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.59	0.10	0.52	0.10	0.58	0.10	0.72	0.10	0.59 ^	0.10	0.57 ^	0.10	0.66	0.10	0.73	0.10	0.73
Iron	5.0	0.10	0.71	0.10	0.61	0.10	0.58	0.10	0.77	0.10	0.91	0.10	0.93	0.10	1.1	0.10	0.48	0.10	0.79
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00050	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.29	0.0025	0.25	0.0025	0.26	0.0025	0.23	0.0025	0.29	0.0025	0.29	0.0025	0.24	0.0025	0.14	0.0025	0.22
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0022	0.0020	0.0023	0.0020	0.0027	0.0020	0.0020	0.0020	0.0020	0.0020	0.0030
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND^	0.10	ND ^	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.004	ND ^	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.10	NA	7.59	NA	7.39	NA	7.60	NA	7.47	NA	7.54	NA	7.53	NA	7.38	NA	7.27
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0059	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND ^	0.00050	ND
Sulfate	400.0	100	290	50	330	100	350	100	380	100	270	100	350	50	350	100	300	50	330
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1100	10	990	10	1000	10	970	10	1100	10	1000	10	1100	10	900	10	920
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	14.72	NA	11.27	NA	16.14	NA	18.45	NA	14.44	NA	10.50	NA	13.44	NA	16.41	NA	16.70
Conductivity	NA	NA	1.29	NA	1.06	NA	1.26	NA	1.30	NA	1.32	NA	1.18	NA	1.21	NA	1.09	NA	1.25
Dissolved Oxygen	NA	NA	0.09	NA	0.02	NA	0.03	NA	0.01	NA	0.36	NA	0.20	NA	0.30	NA	0.15	NA	0.23
ORP	NA	NA	-177	NA	-119	NA	-124	NA	-126	NA	-120	NA	-117.4	NA	-97.8	NA	-112.1	NA	-165.8

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

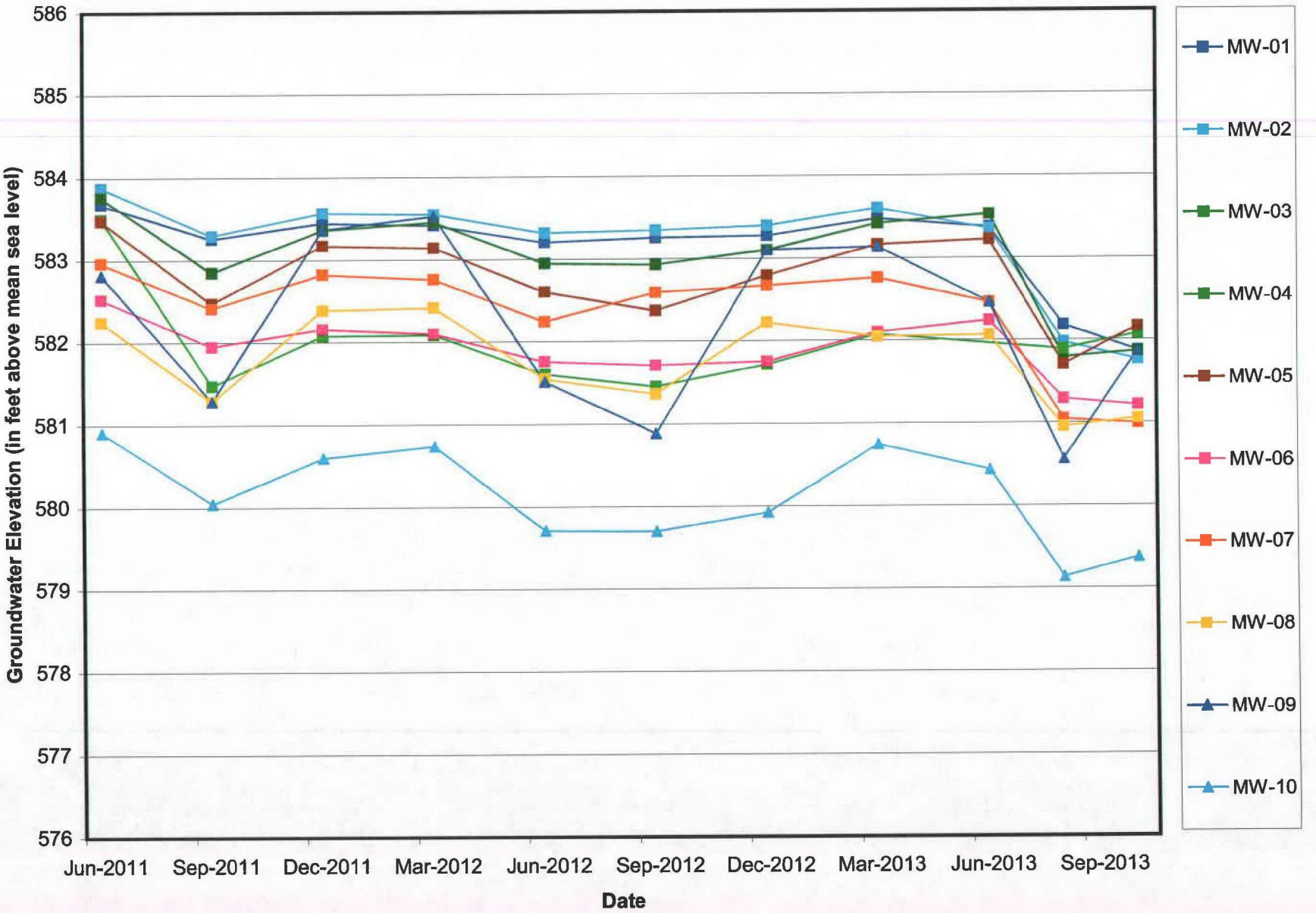
NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

ATTACHMENT 1
Hydrograph of Water Level Elevations

Midwest Generation Will County Station, Romeoville, IL

Groundwater Elevation vs Time



MWG13-15_26426

ATTACHMENT 2
Analytical Data Package(s)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-65786-1
Client Project/Site: Will Co. Station Ash Ponds

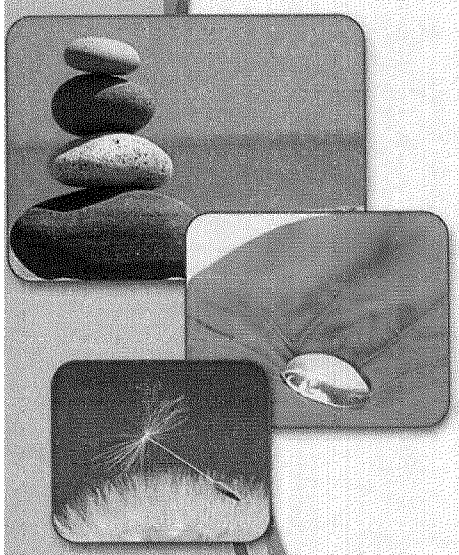
For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat



Authorized for release by:
11/12/2013 3:50:56 PM

Bonnie Stadelmann, Senior Project Manager
(708)534-5200
bonnie.stadelmann@testamericainc.com



LINKS

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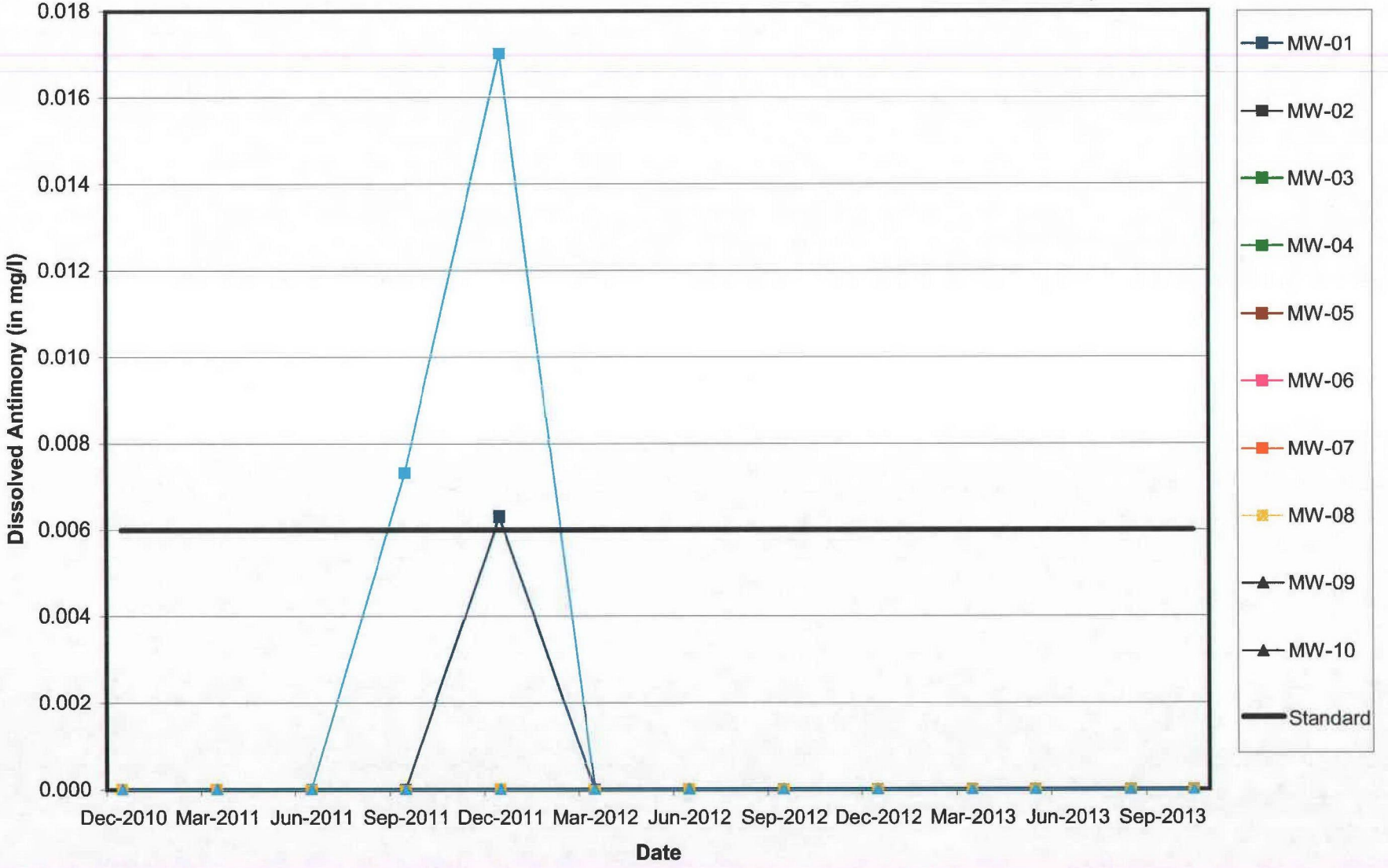
This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

ATTACHMENT 3
Time Versus Concentration Curves

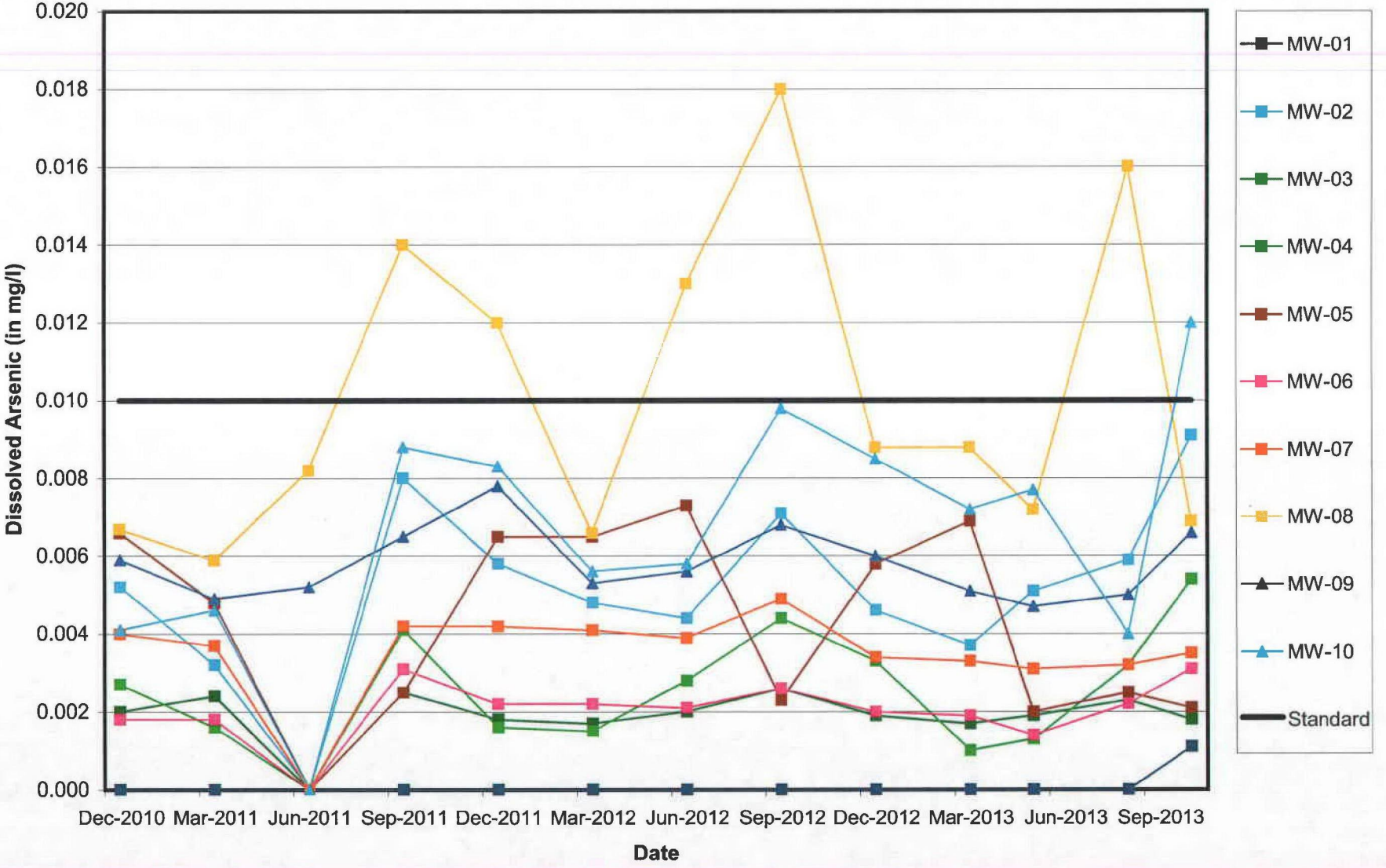
Midwest Generation Will County Station, Romeoville, IL

Dissolved Antimony vs. Time



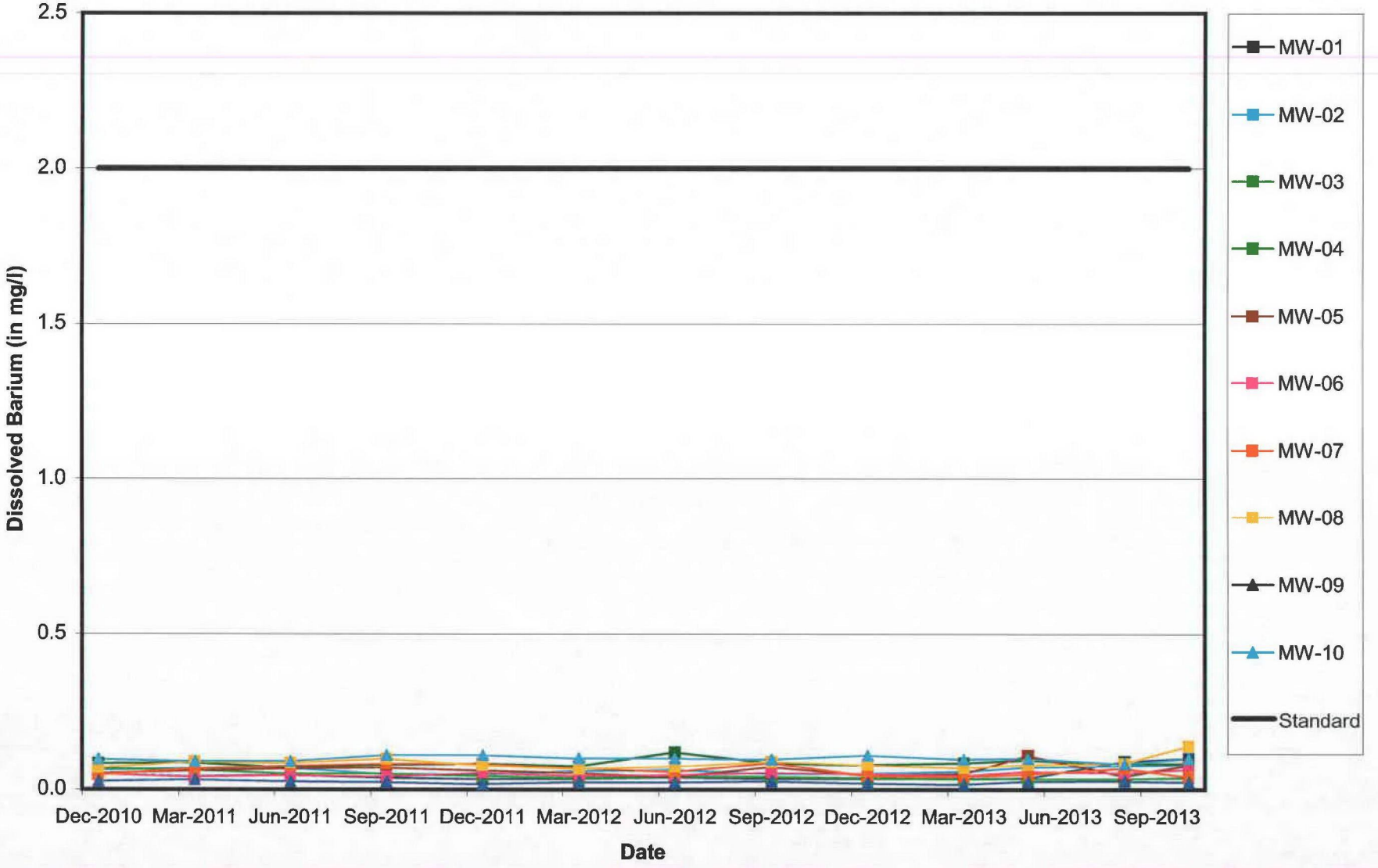
Midwest Generation Will County Station, Romeoville, IL

Dissolved Arsenic vs. Time



Midwest Generation Will County Station, Romeoville, IL

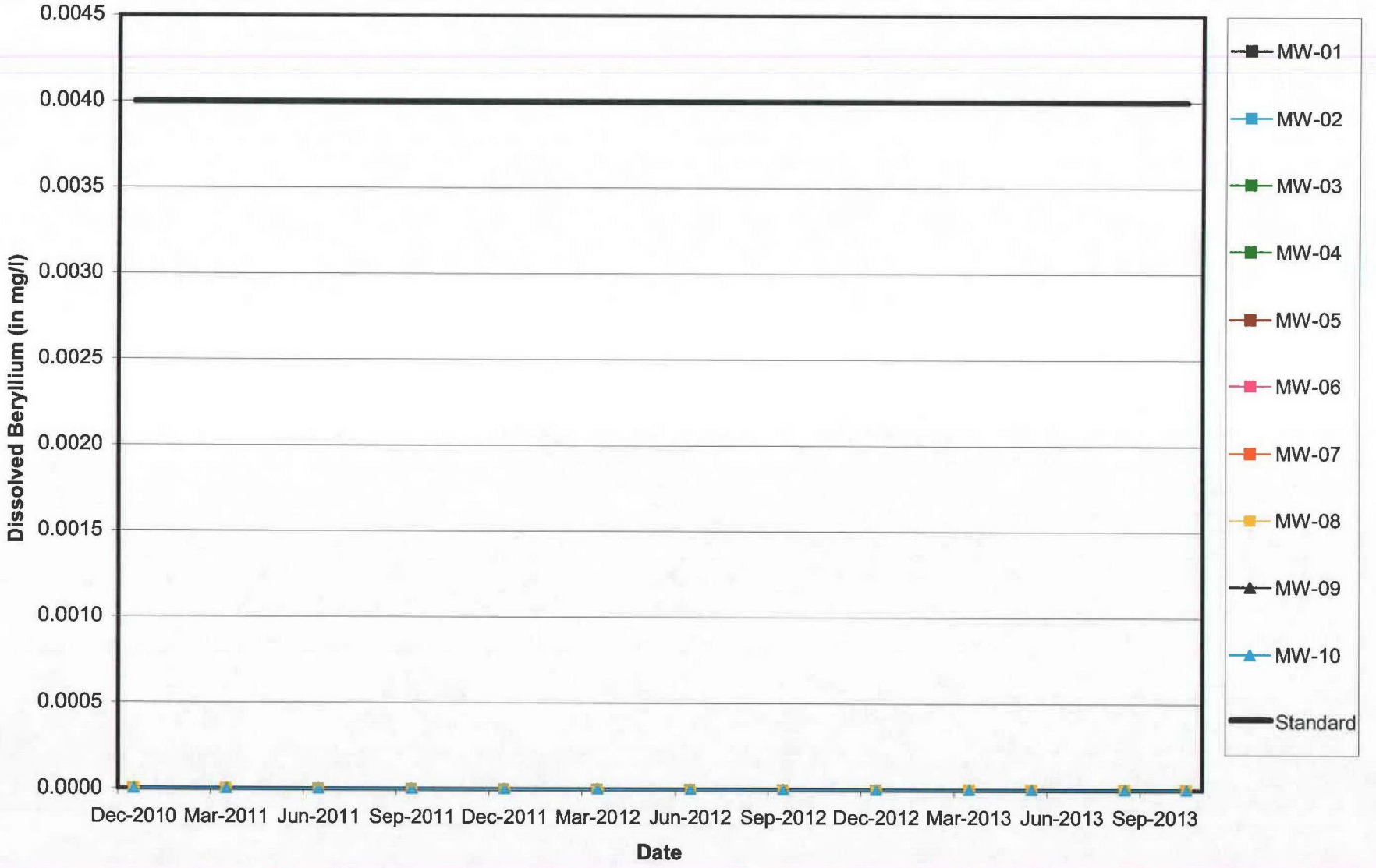
Dissolved Barium vs. Time



MWG13-15_26432

Midwest Generation Will County Station, Romeoville, IL

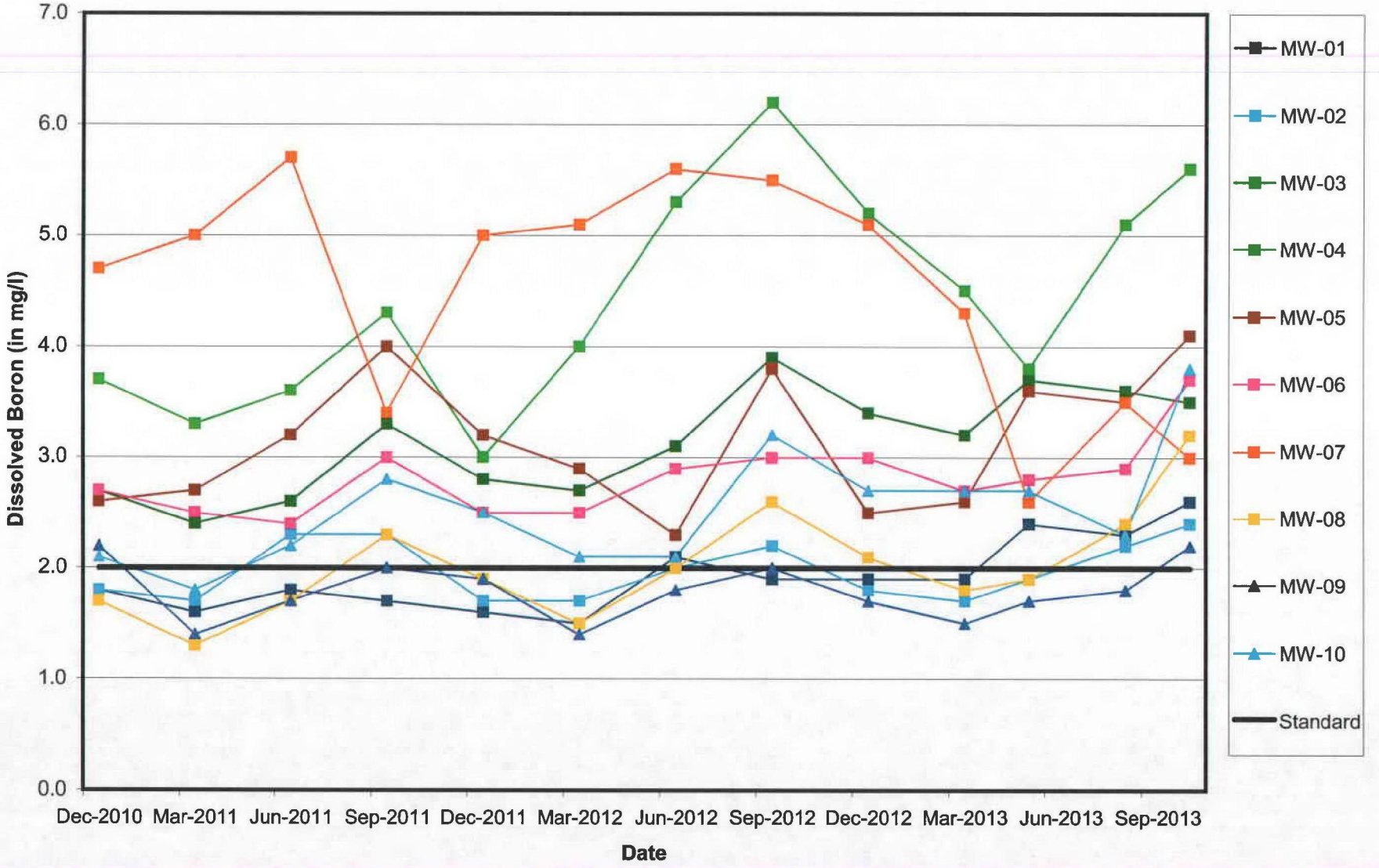
Dissolved Beryllium vs. Time



MWG13-15_26433

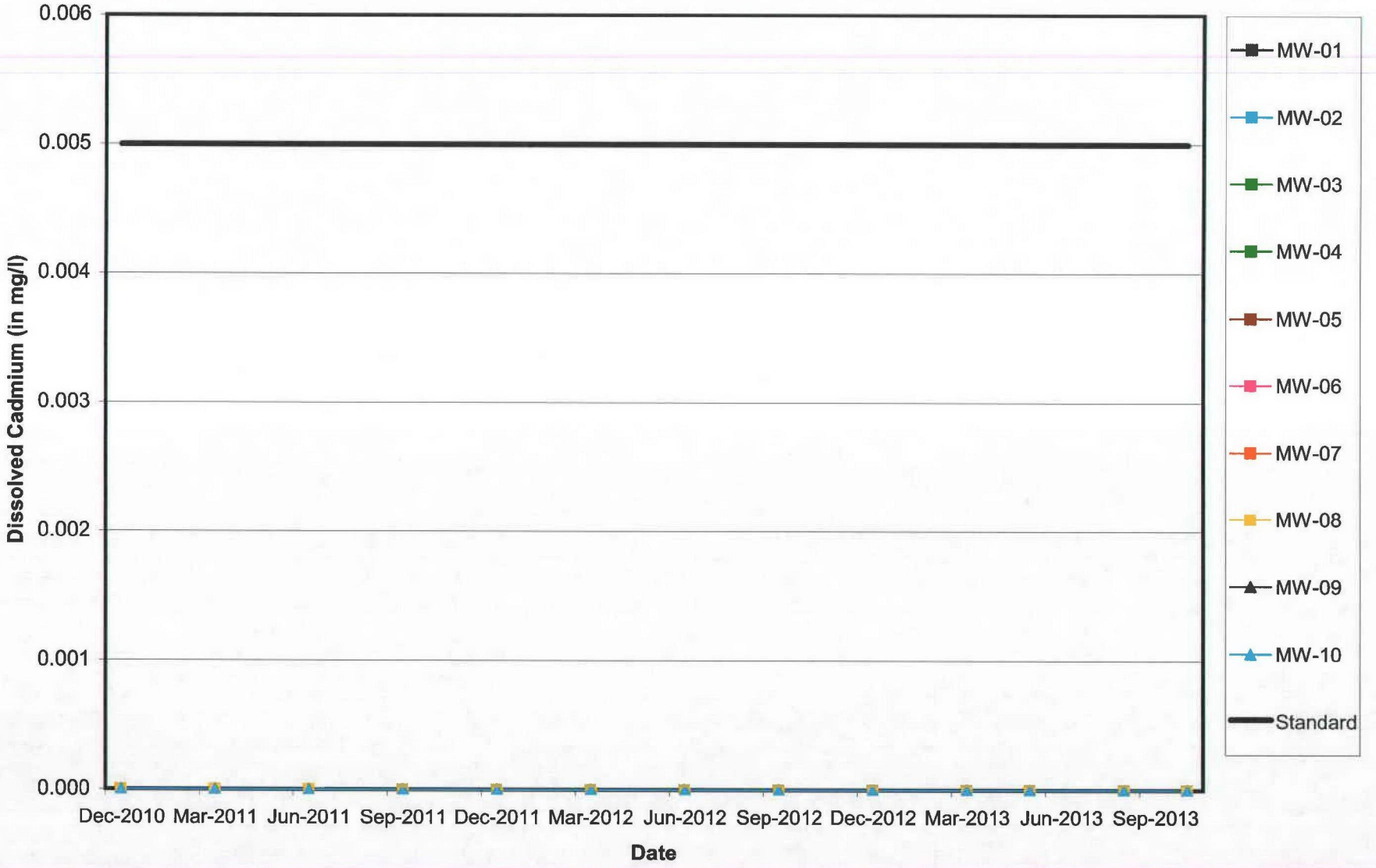
Midwest Generation Will County Station, Romeoville, IL

Dissolved Boron vs. Time



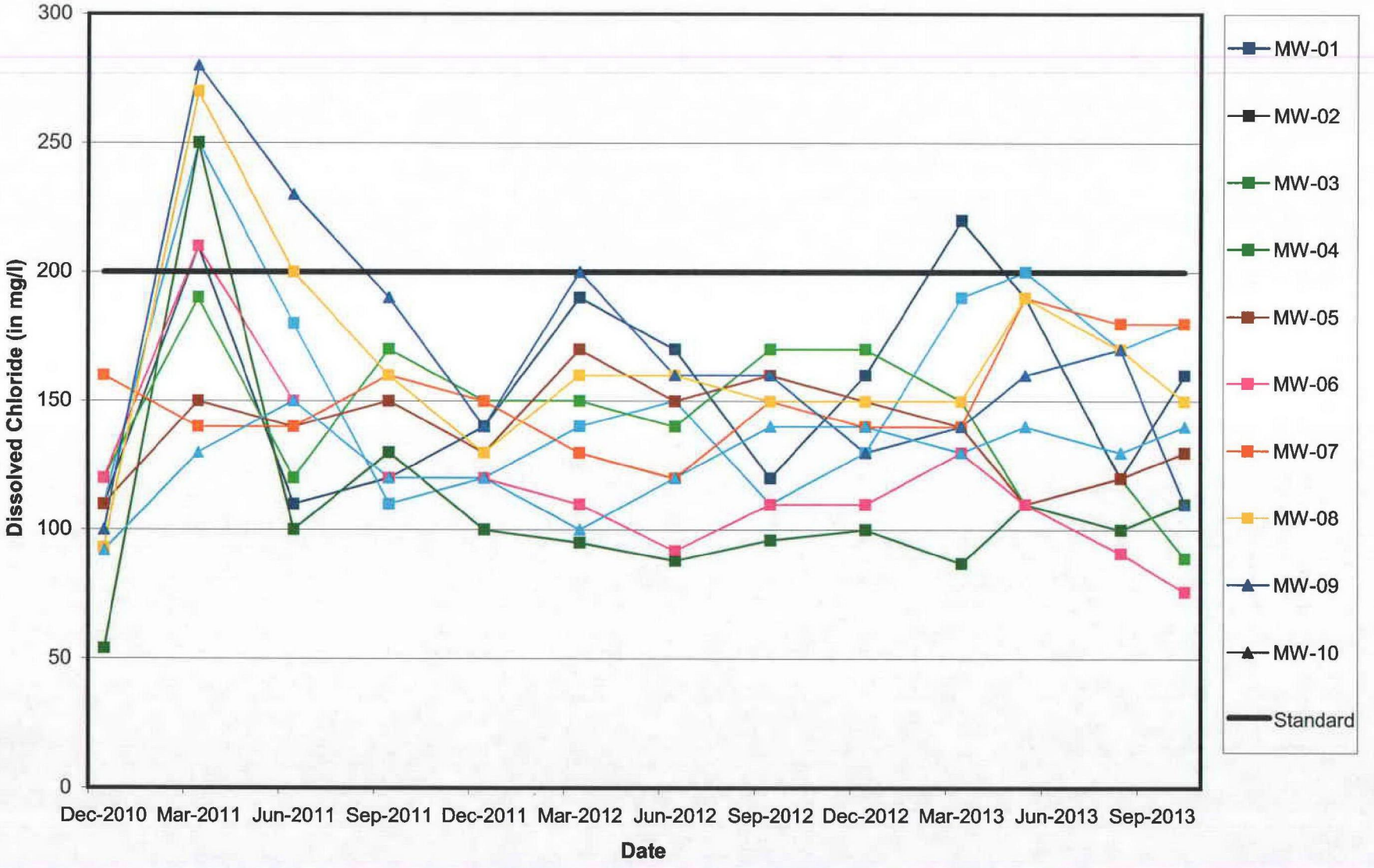
Midwest Generation Will County Station, Romeoville, IL

Dissolved Cadmium vs. Time



Midwest Generation Will County Station, Romeoville, IL

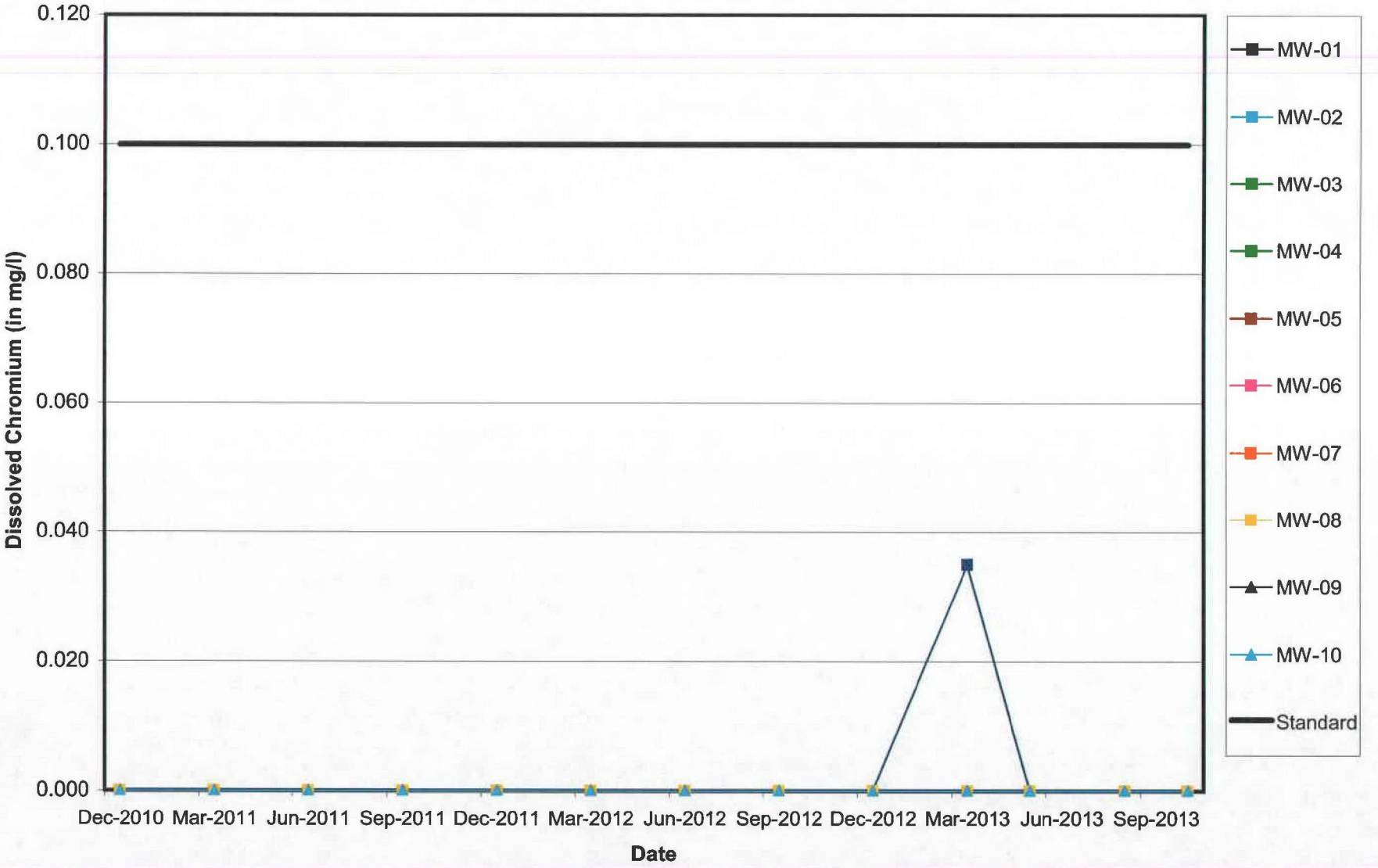
Dissolved Chloride vs. Time



MWG13-15_26436

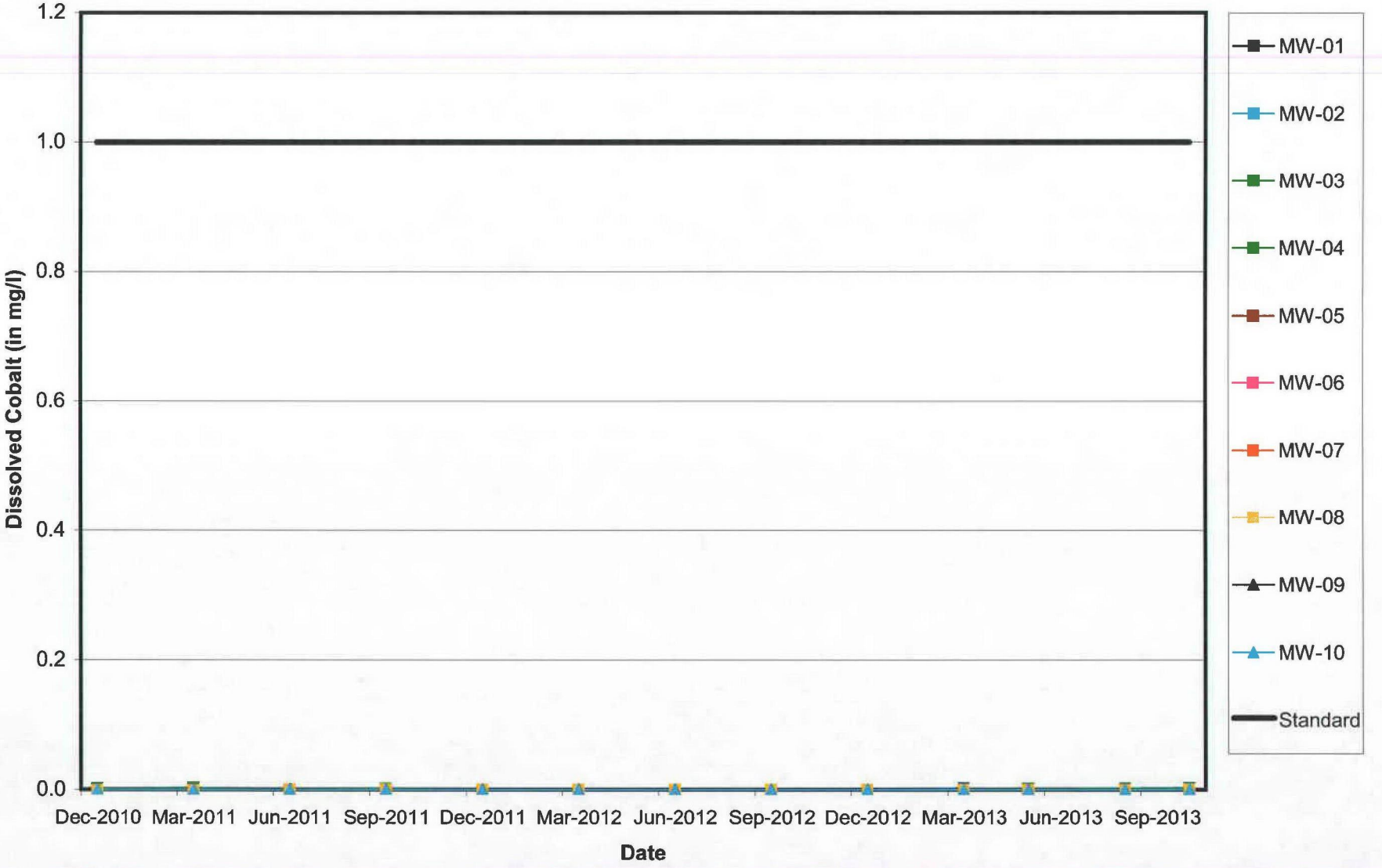
Midwest Generation Will County Station, Romeoville, IL

Dissolved Chromium vs. Time



Midwest Generation Will County Station, Romeoville, IL

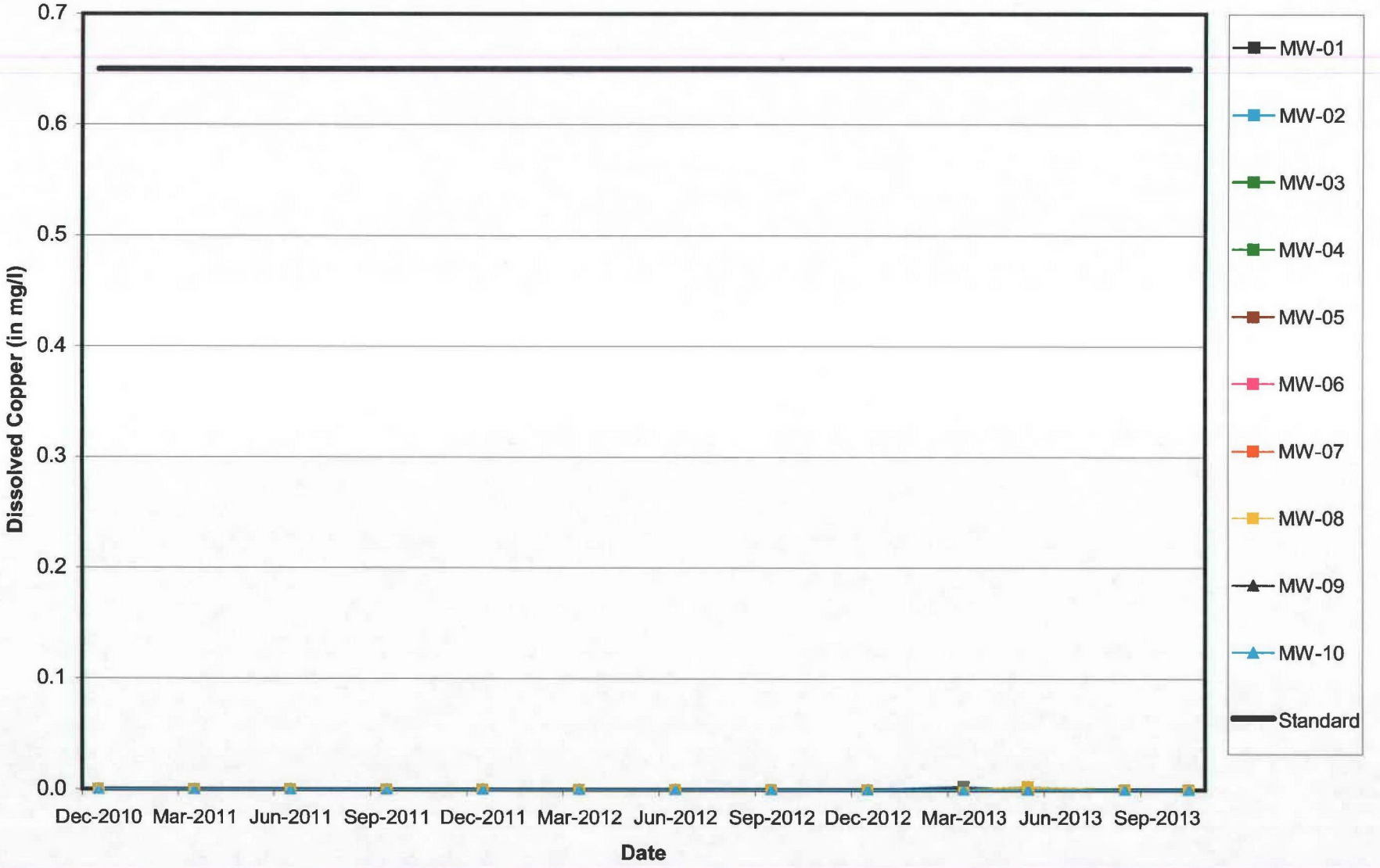
Dissolved Cobalt vs. Time



MWG13-15_26438

Midwest Generation Will County Station, Romeoville, IL

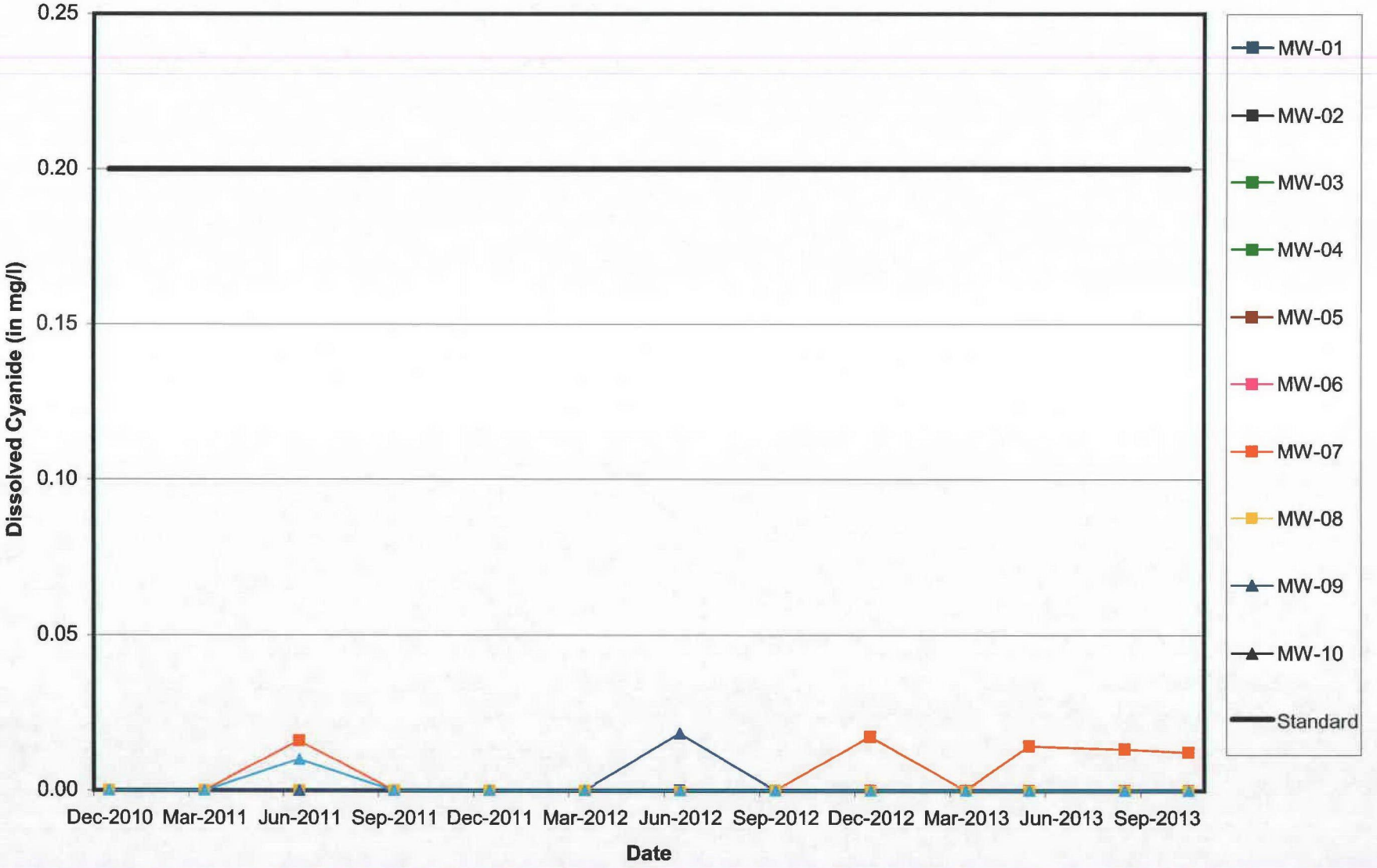
Dissolved Copper vs. Time



MWG13-15_26439

Midwest Generation Will County Station, Romeoville, IL

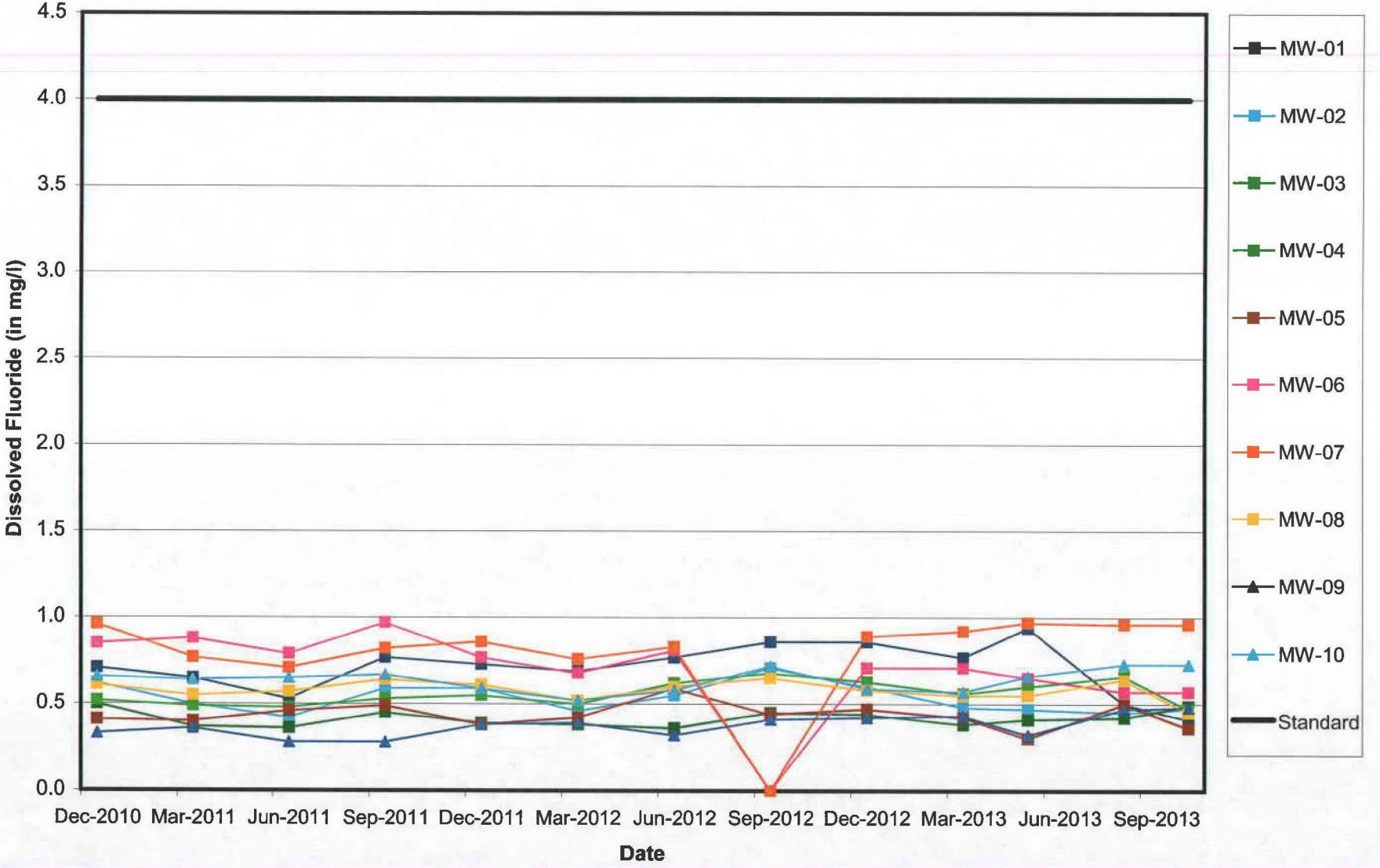
Dissolved Cyanide vs. Time



MWG13-15_26440

Midwest Generation Will County Station, Romeoville, IL

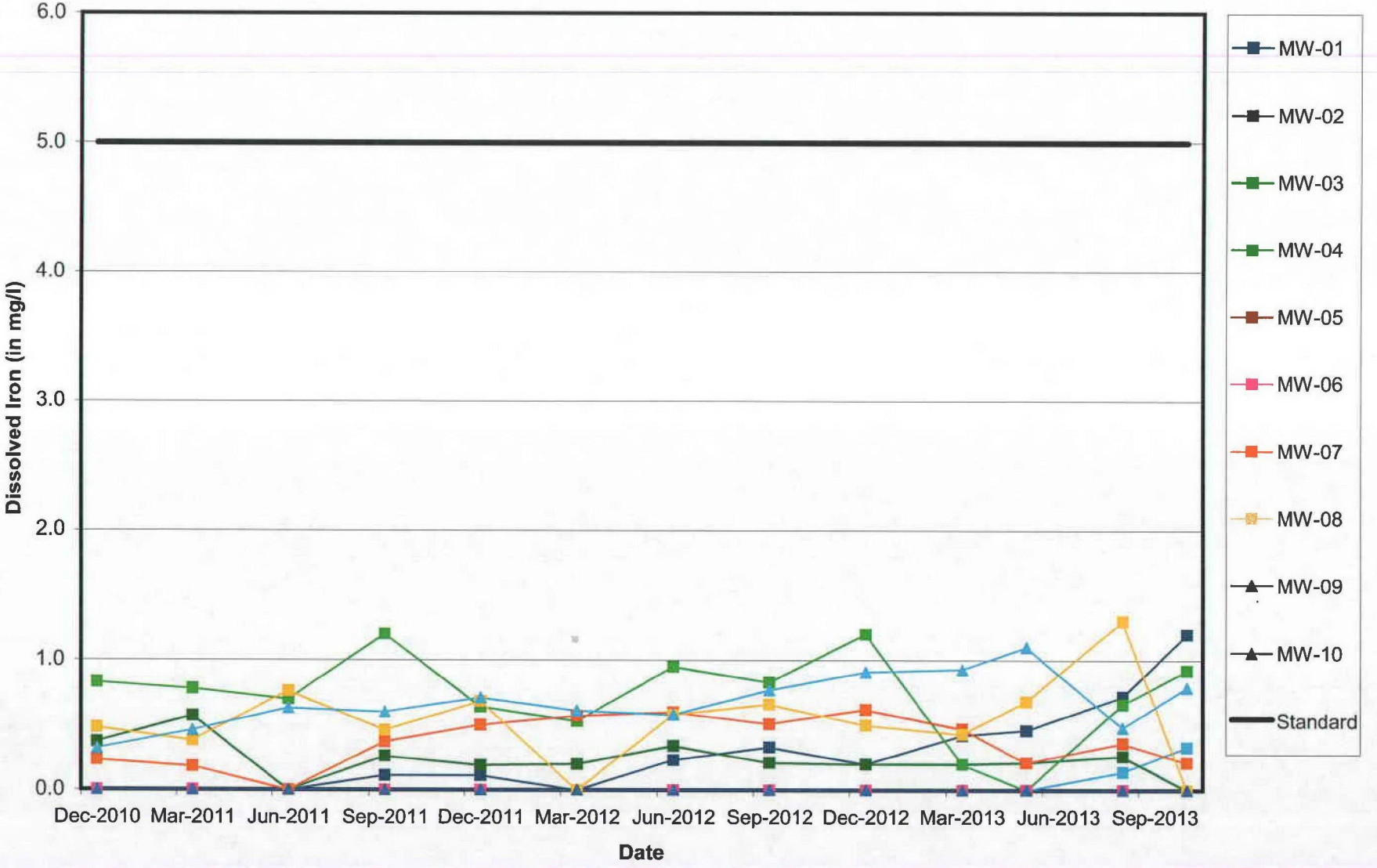
Dissolved Fluoride vs. Time



MWG13-15_26441

Midwest Generation Will County Station, Romeoville, IL

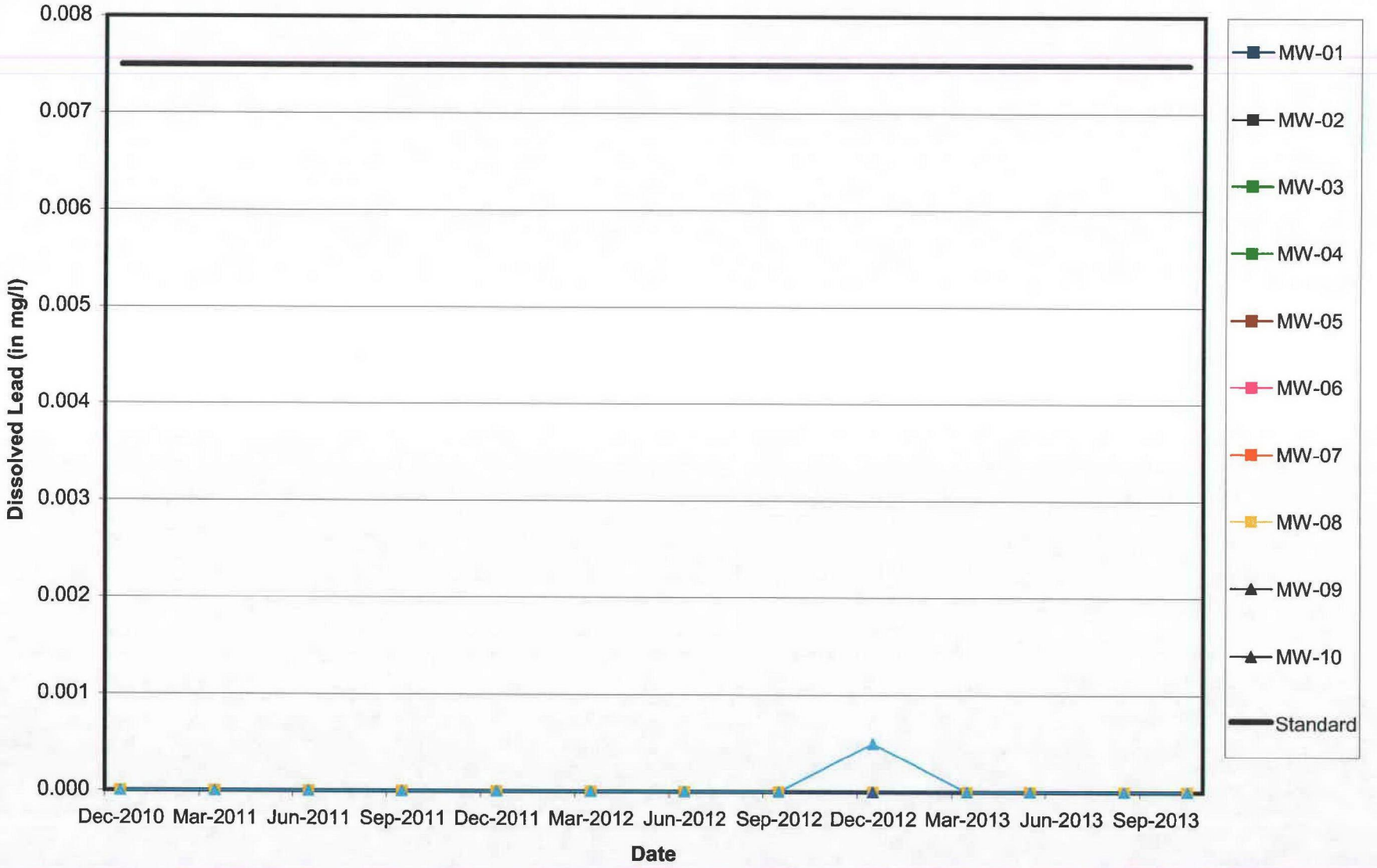
Dissolved Iron vs. Time



MWG13-15_26442

Midwest Generation Will County Station, Romeoville, IL

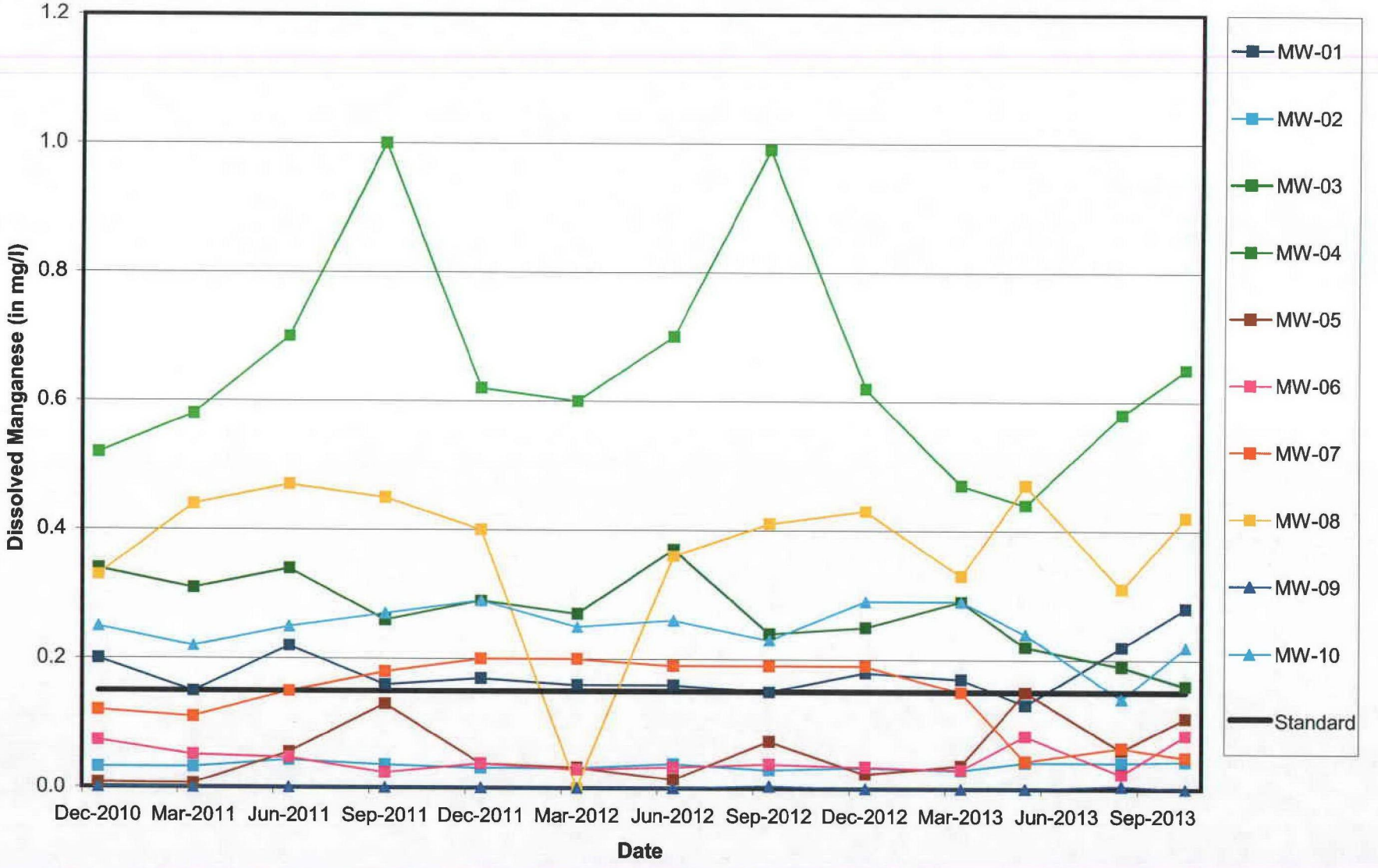
Dissolved Lead vs. Time



MWG13-15_26443

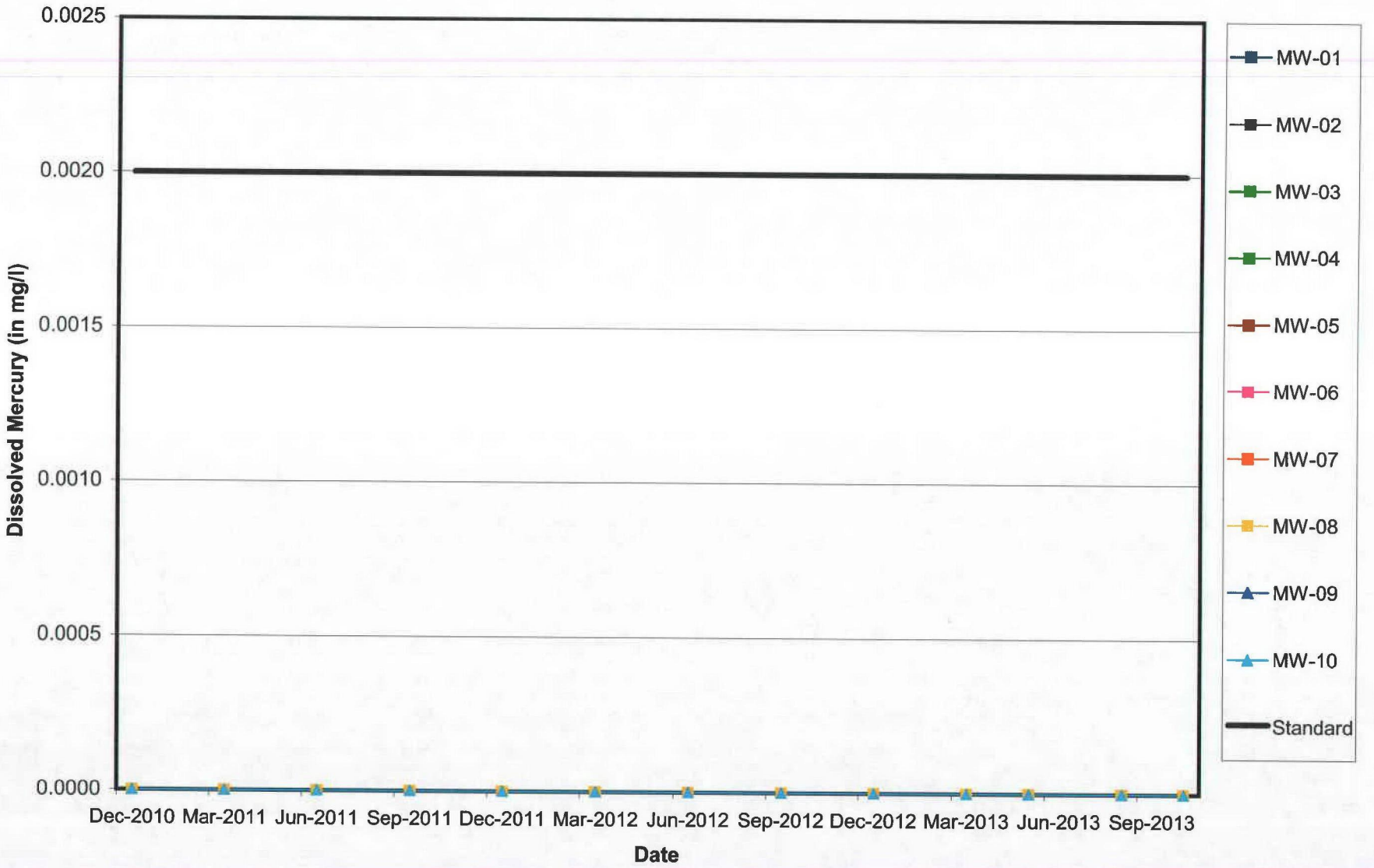
Midwest Generation Will County Station, Romeoville, IL

Dissolved Manganese vs. Time



Midwest Generation Will County Station, Romeoville, IL

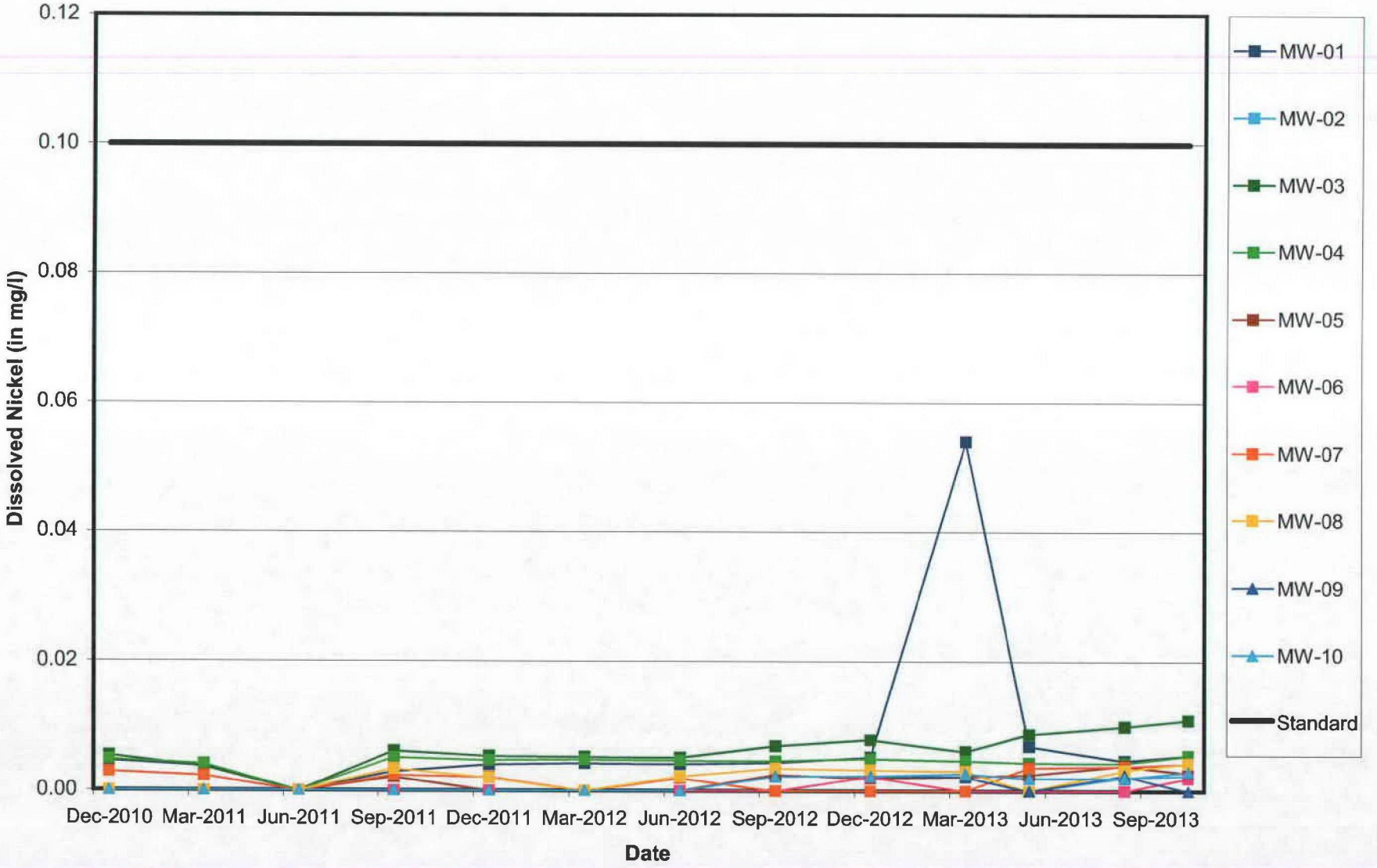
Dissolved Mercury vs. Time



MWG13-15_26445

Midwest Generation Will County Station, Romeoville, IL

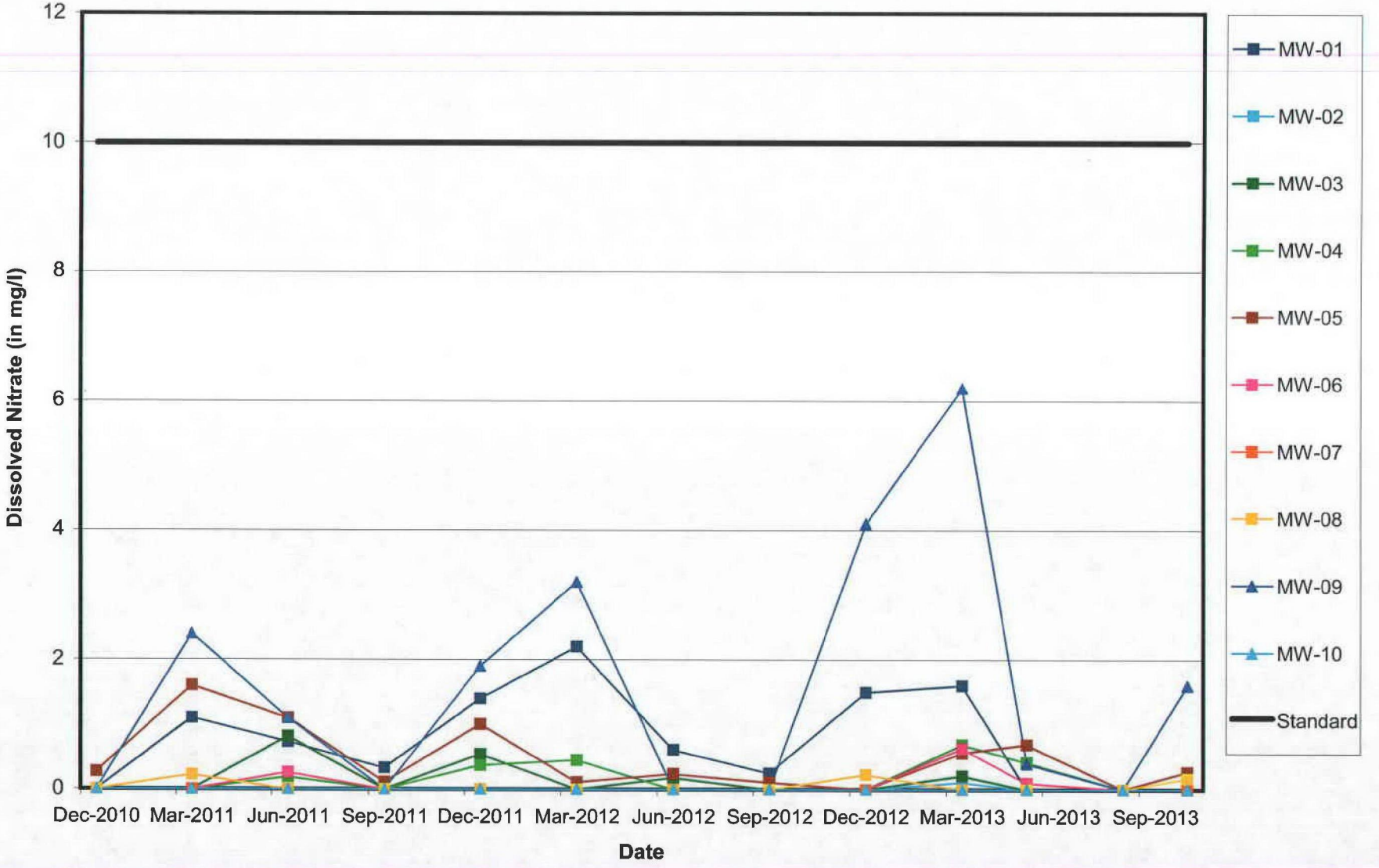
Dissolved Nickel vs. Time



MWG13-15_26446

Midwest Generation Will County Station, Romeoville, IL

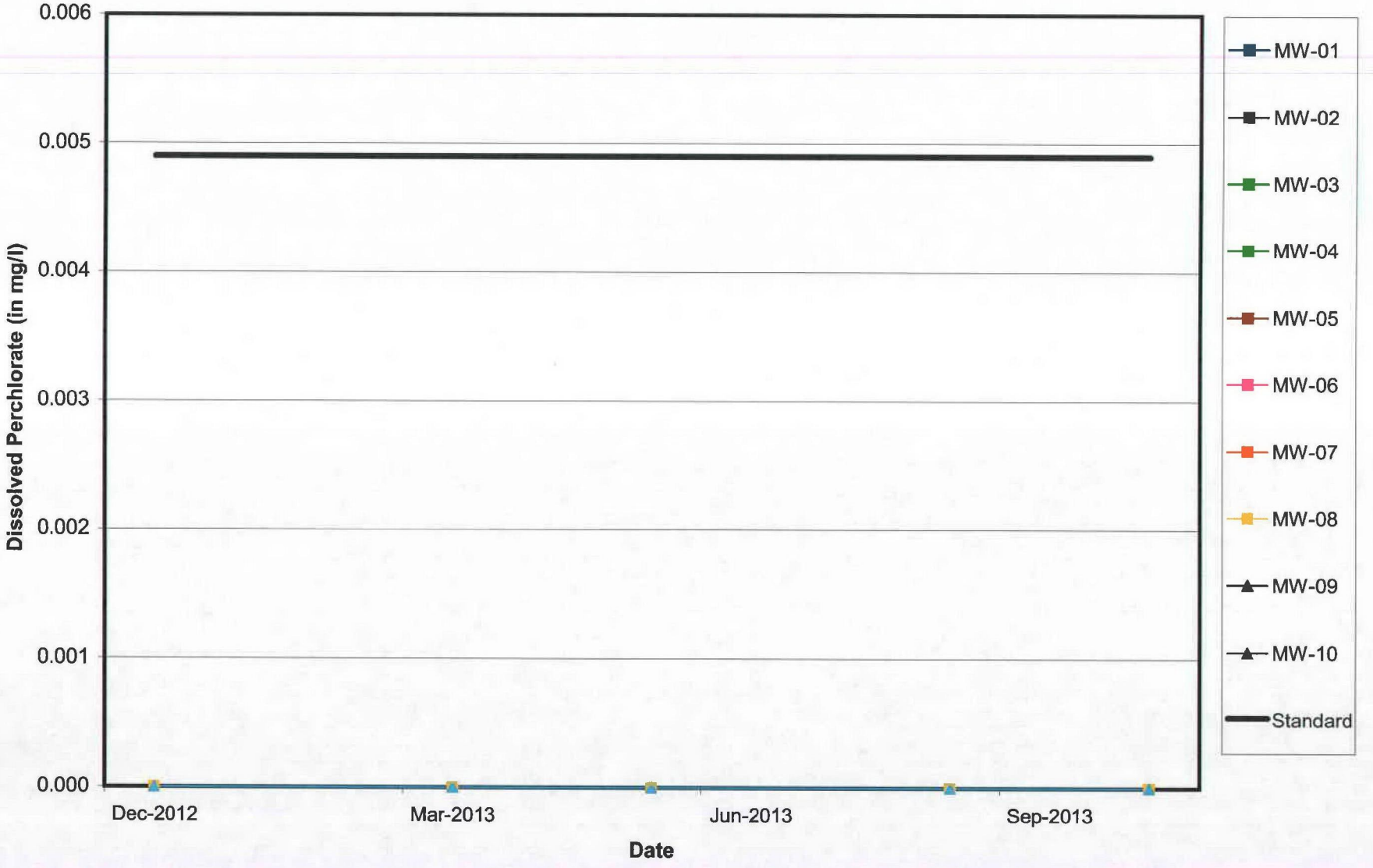
Dissolved Nitrate vs. Time



MWG13-15_26447

Midwest Generation Will County Station, Romeoville, IL

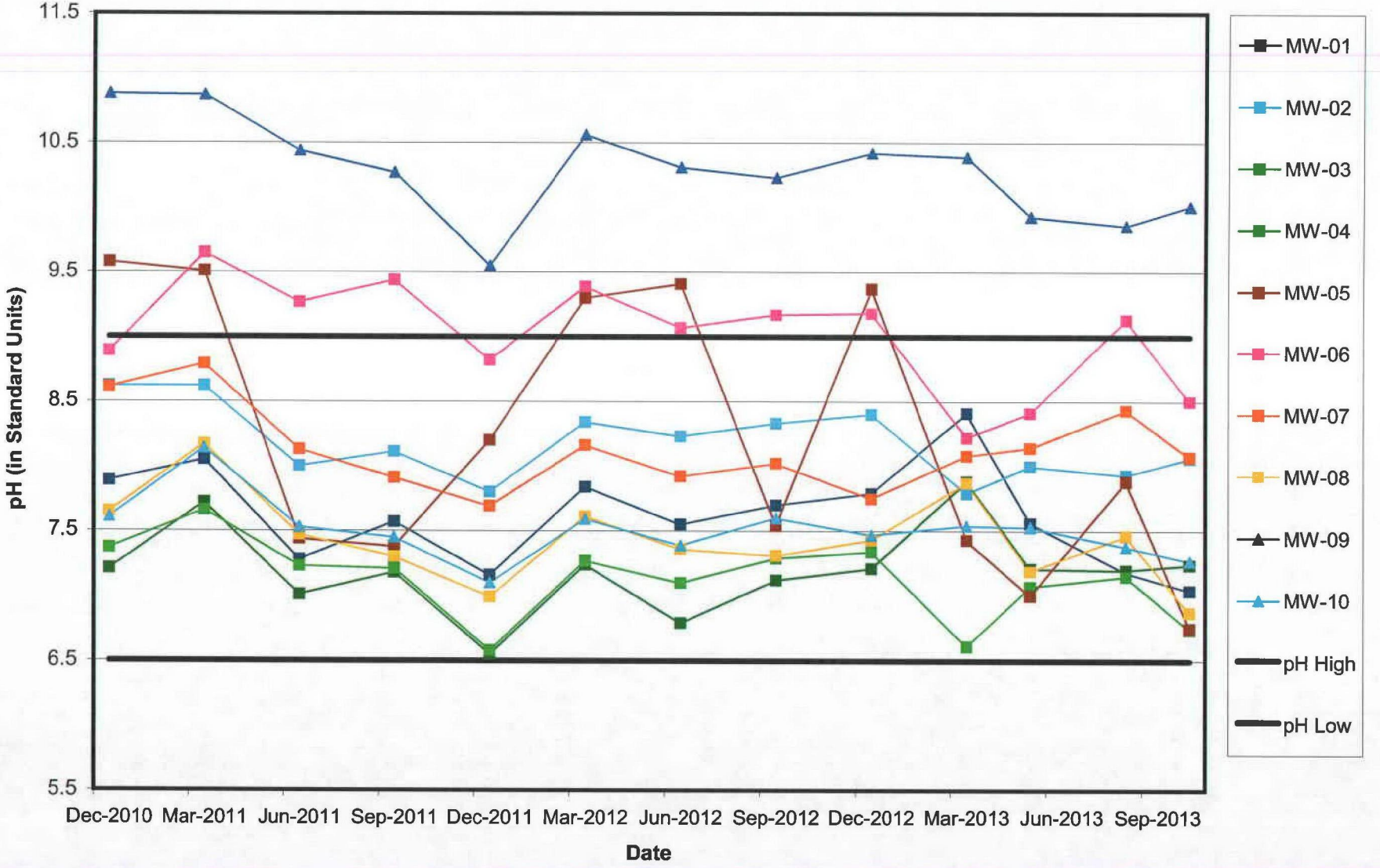
Dissolved Perchlorate vs. Time



MWG13-15_26448

Midwest Generation Will County Station, Romeoville, IL

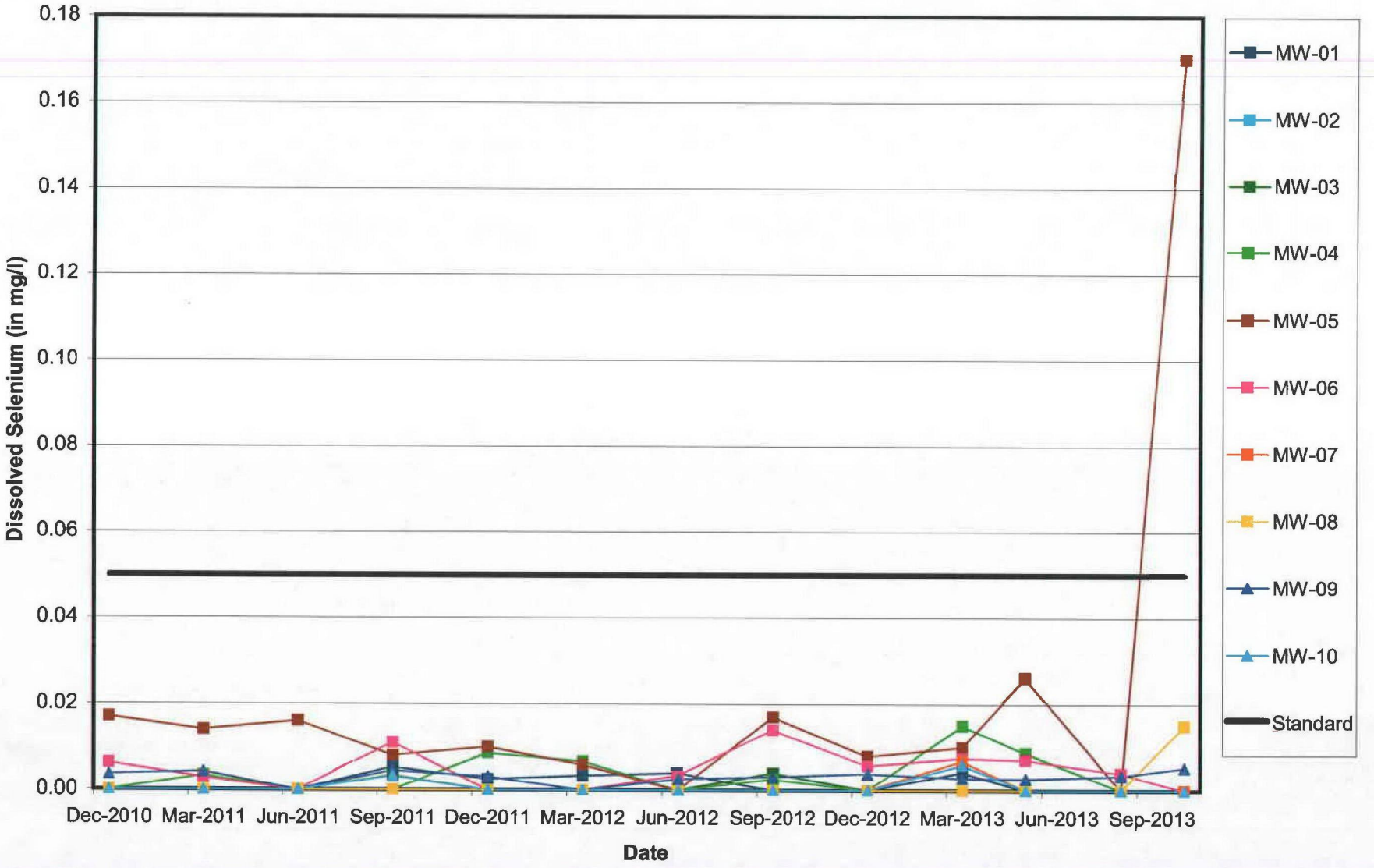
pH vs. Time



MWG13-15_26449

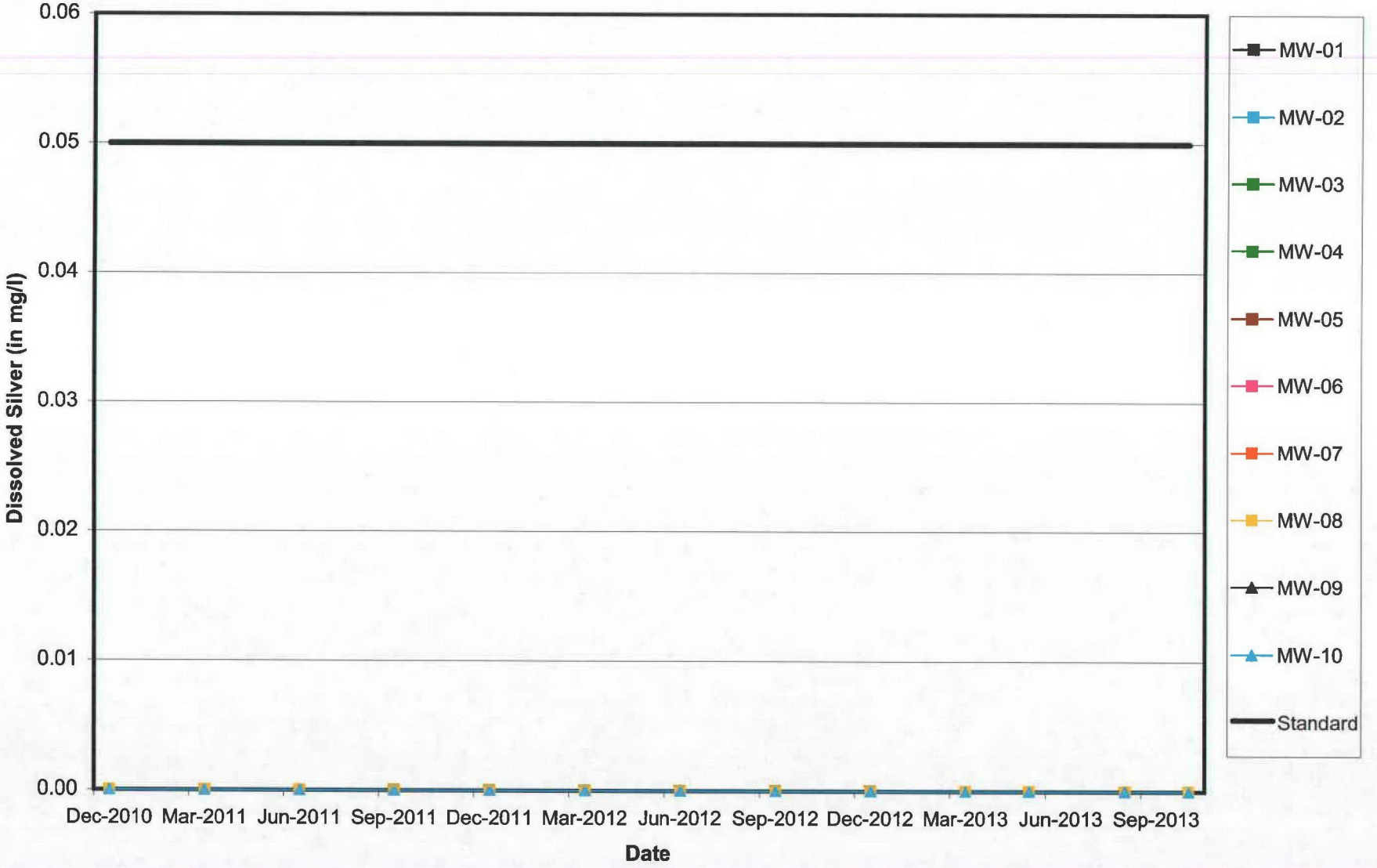
Midwest Generation Will County Station, Romeoville, IL

Dissolved Selenium vs. Time



Midwest Generation Will County Station, Romeoville, IL

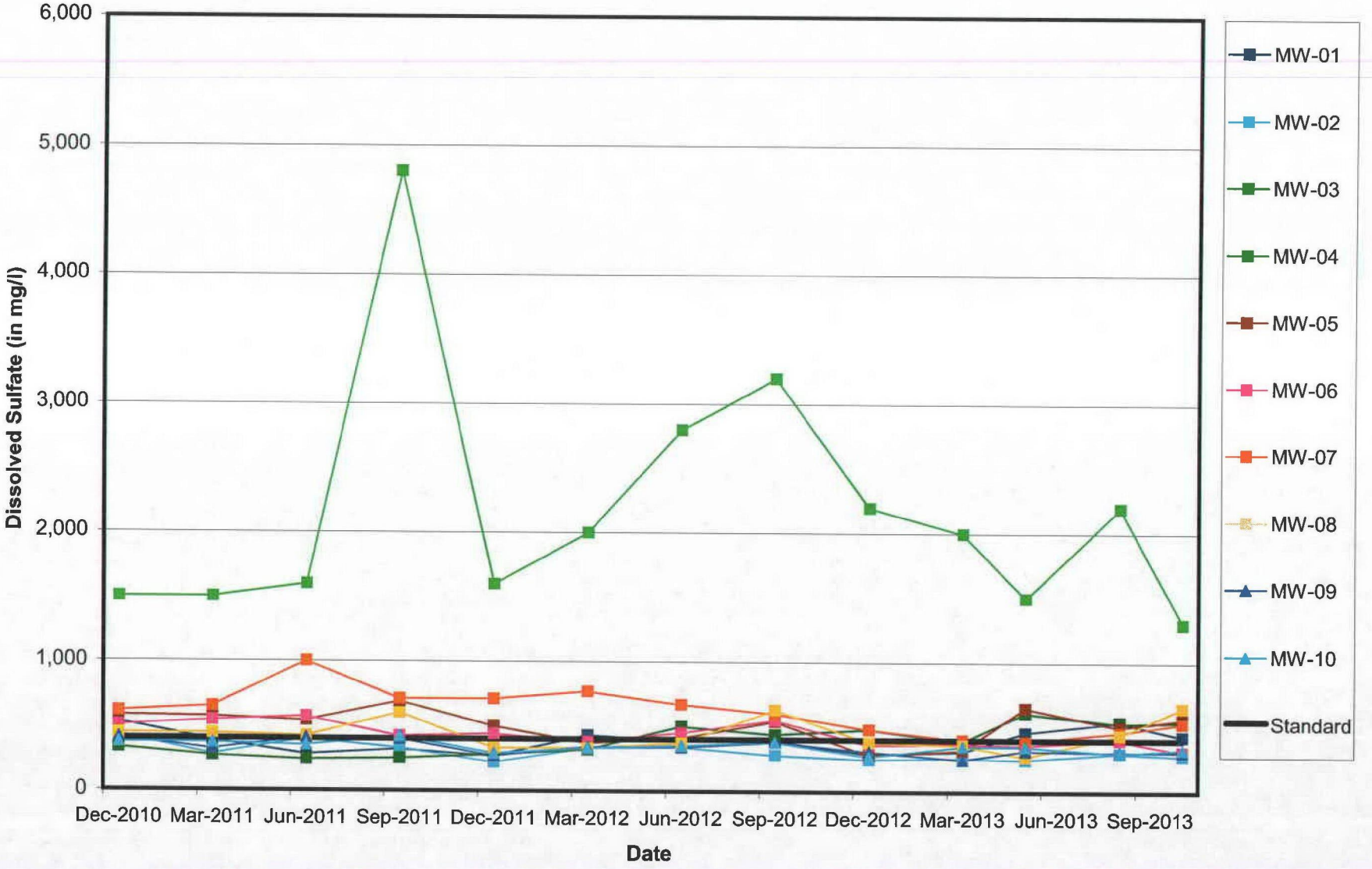
Dissolved Silver vs. Time



MWG13-15_26451

Midwest Generation Will County Station, Romeoville, IL

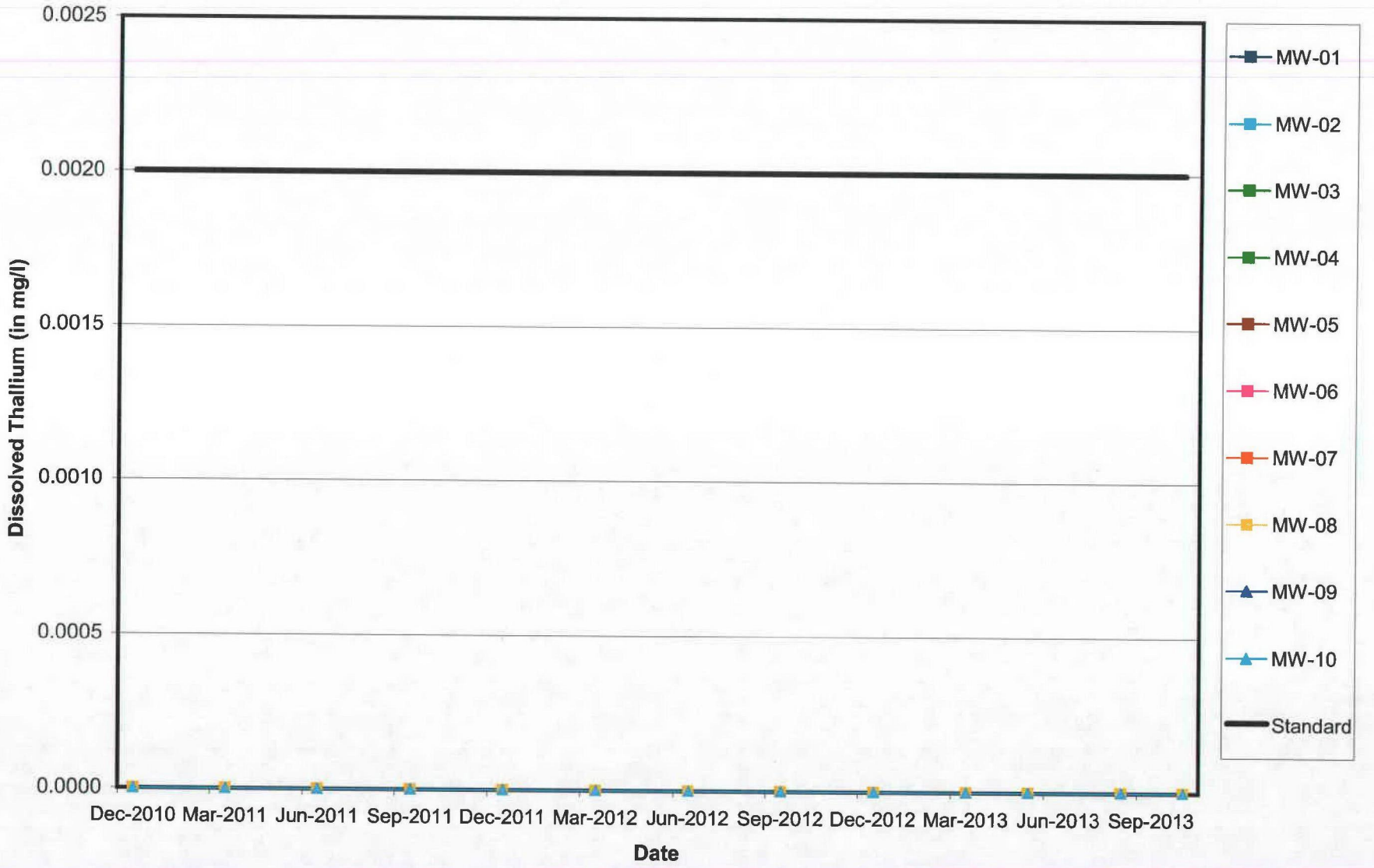
Dissolved Sulfate vs. Time



MWG13-15_26452

Midwest Generation Will County Station, Romeoville, IL

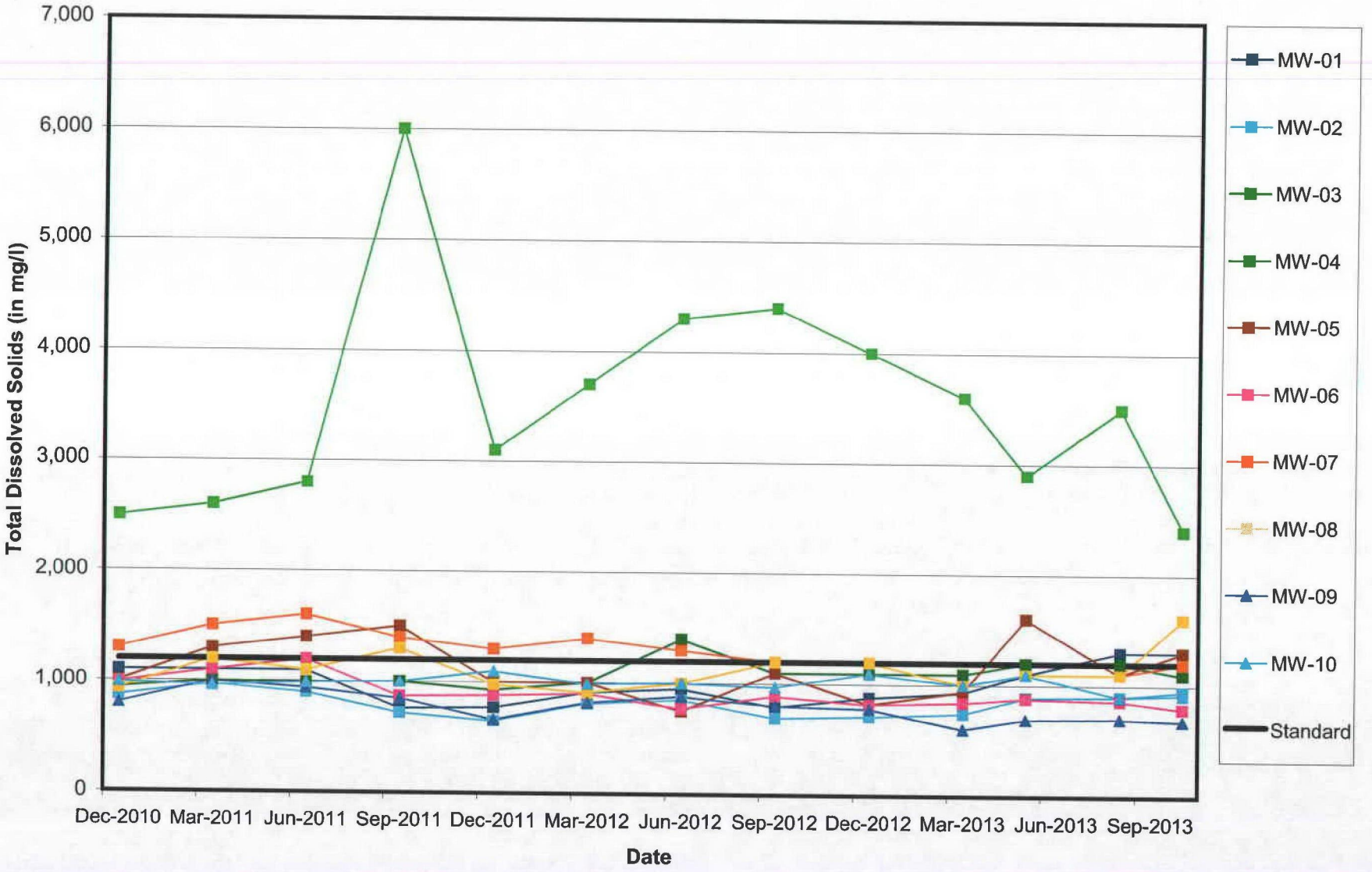
Dissolved Thallium vs. Time



MWG13-15_26453

Midwest Generation Will County Station, Romeoville, IL

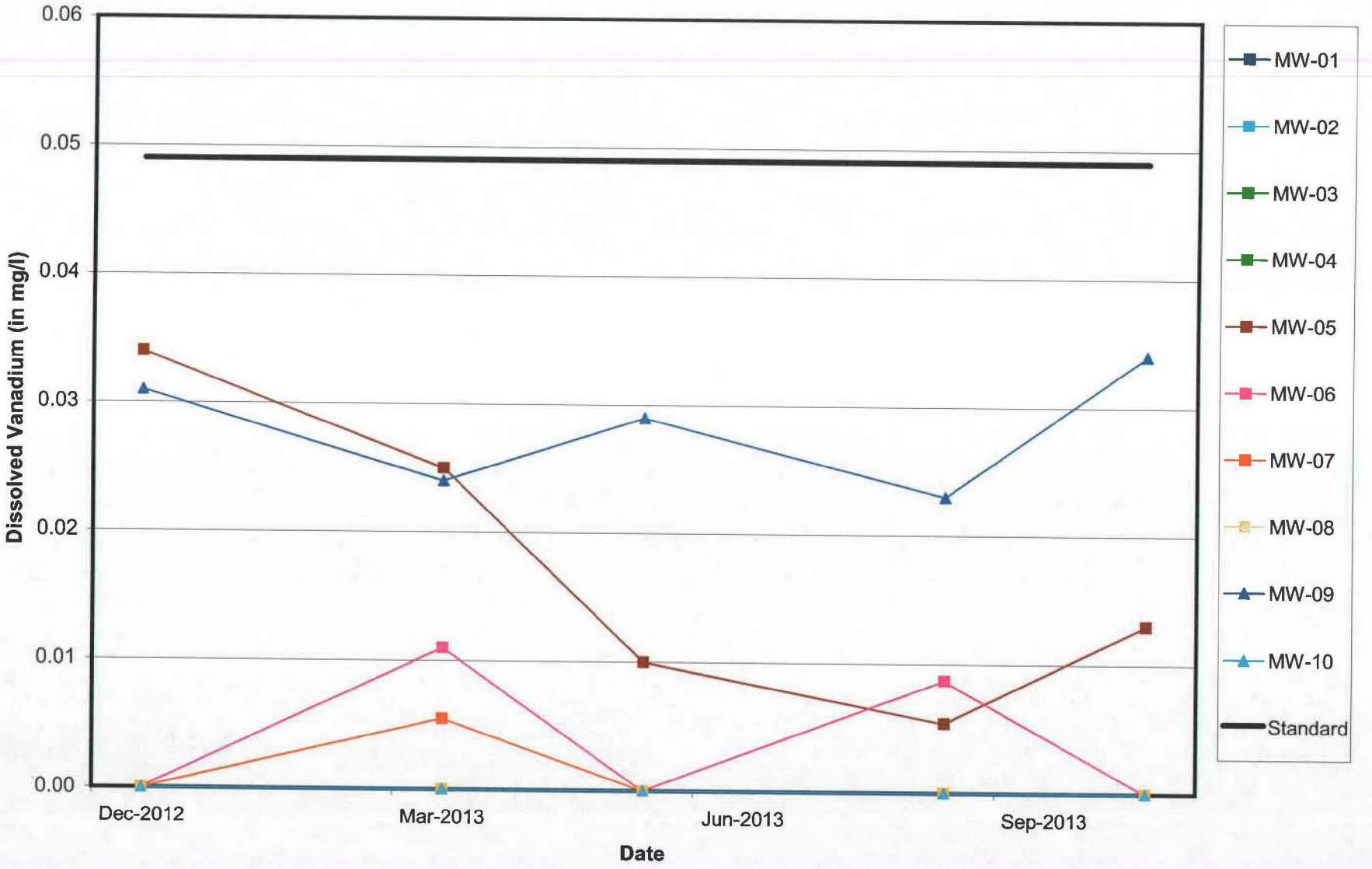
Total Dissolved Solids vs. Time



MWG13-15_26454

Midwest Generation Will County Station, Romeoville, IL

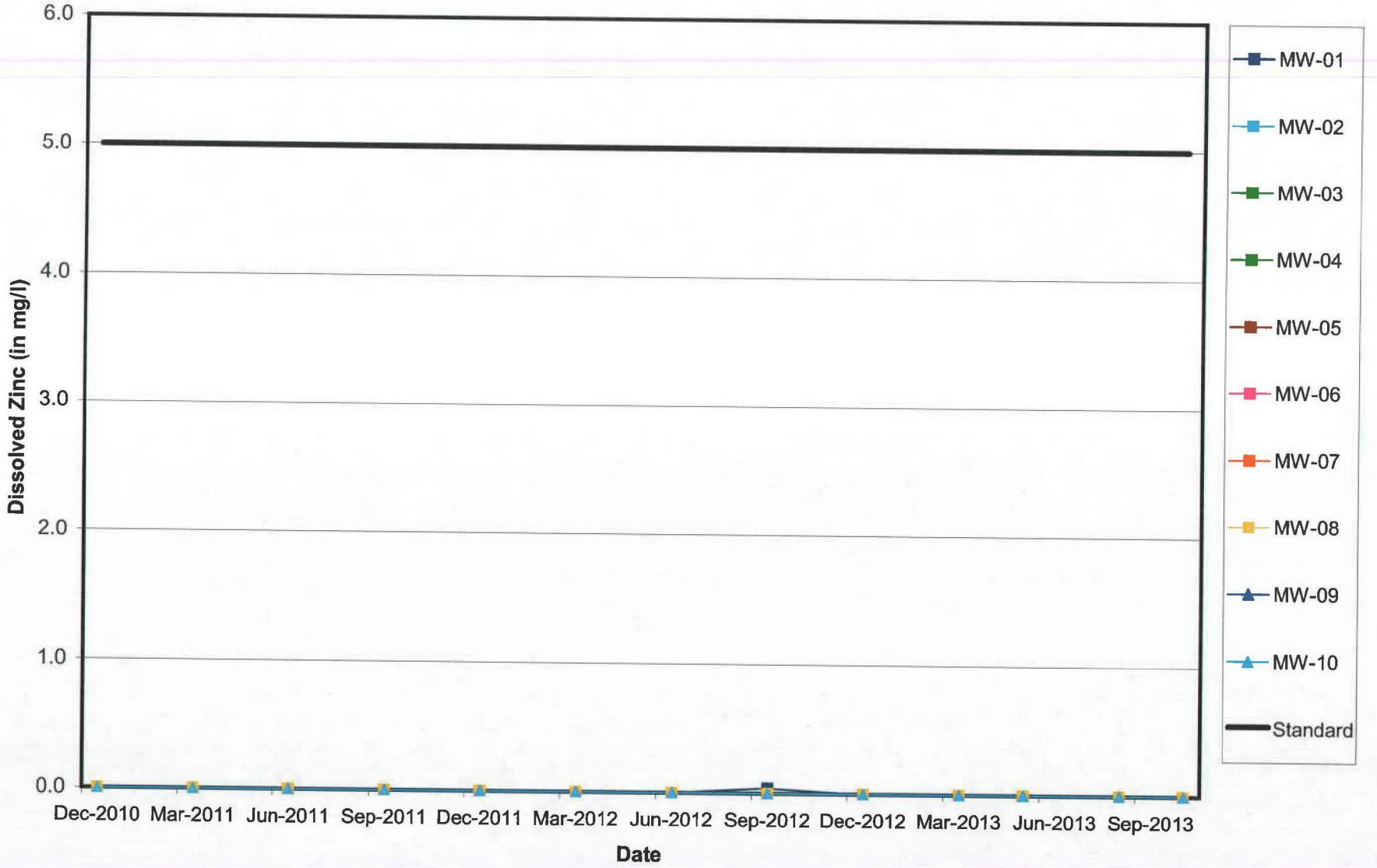
Dissolved Vanadium vs. Time



MWG13-15_26455

Midwest Generation Will County Station, Romeoville, IL

Dissolved Zinc vs. Time



MWG13-15_26456

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Job ID: 500-65786-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-65786-1

Comments
No additional comments.

Receipt
The samples were received on 10/29/2013 3:55 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 3.9° C, 4.1° C and 4.3° C.

GC/MS VOA
No analytical or quality issues were noted.

Metals
Method(s) 6020A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for sample 500-65786-2 were outside control limits for Se and B-. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Field Service / Mobile Lab
No analytical or quality issues were noted.

General Chemistry
Method(s) 314.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following samples: (500-65786-1 MS), (500-65786-1 MSD) in batch 29592 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

MWG13-15_26458

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-65786-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
314.0	Perchlorate (IC)	EPA	TAL SAC
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
9014	Cyanide	SW846	TAL CHI
9038	Sulfate, Turbidimetric	SW846	TAL CHI
9251	Chloride	SW846	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

MWG13-15_26459

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-65786-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-65786-1	MW1	Water	10/29/13 13:25	10/29/13 15:55
500-65786-2	MW2	Water	10/28/13 09:20	10/29/13 15:55
500-65786-3	MW3	Water	10/28/13 10:40	10/29/13 15:55
500-65786-4	MW4	Water	10/28/13 12:00	10/29/13 15:55
500-65786-5	MW5	Water	10/28/13 13:10	10/29/13 15:55
500-65786-6	MW6	Water	10/28/13 16:10	10/29/13 15:55
500-65786-7	MW7	Water	10/29/13 09:40	10/29/13 15:55
500-65786-8	MW8	Water	10/28/13 17:15	10/29/13 15:55
500-65786-9	MW9	Water	10/29/13 11:30	10/29/13 15:55
500-65786-10	MW10	Water	10/28/13 14:20	10/29/13 15:55
500-65786-11	Duplicate	Water	10/29/13 00:00	10/29/13 15:55
500-65786-12	Trip Blank	Water	10/28/13 00:00	10/29/13 15:55

MWG13-15_26460

Client Sample ID: MW1
Date Collected: 10/29/13 13:25
Date Received: 10/29/13 15:55

Lab Sample ID: 500-65786-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/04/13 12:45	1
Toluene	<0.00050		0.00050		mg/L			11/04/13 12:45	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/04/13 12:45	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/04/13 12:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*		*11/04/13 12:45*	*1*
Toluene-d8 (Surr)	*88*		*75 - 120*		*11/04/13 12:45*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/04/13 12:45*	*1*
Dibromofluoromethane	*97*		*75 - 120*		*11/04/13 12:45*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/07/13 11:07	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/30/13 12:00	11/11/13 10:10	1
Arsenic	**0.0011**		0.0010		mg/L		10/30/13 12:00	11/07/13 19:21	1
Barium	**0.10**		0.0025		mg/L		10/30/13 12:00	11/07/13 19:21	1
Beryllium	<0.0010		0.0010		mg/L		10/30/13 12:00	11/11/13 10:10	1
Boron	**2.6**		0.10		mg/L		10/30/13 12:00	11/11/13 14:37	2
Cadmium	<0.00050		0.00050		mg/L		10/30/13 12:00	10/30/13 15:56	1
Chromium	<0.0050		0.0050		mg/L		10/30/13 12:00	11/07/13 19:21	1
Cobalt	**0.0022**		0.0010		mg/L		10/30/13 12:00	11/07/13 19:21	1
Copper	<0.0020		0.0020		mg/L		10/30/13 12:00	10/30/13 15:56	1
Iron	**1.2**		0.10		mg/L		10/30/13 12:00	11/07/13 19:21	1
Lead	<0.00050		0.00050		mg/L		10/30/13 12:00	11/07/13 19:21	1
Manganese	**0.28**		0.0025		mg/L		10/30/13 12:00	11/07/13 19:21	1
Nickel	**0.0055**		0.0020		mg/L		10/30/13 12:00	11/07/13 19:21	1
Selenium	<0.0025		0.0025		mg/L		10/30/13 12:00	11/07/13 19:21	1
Silver	<0.00050		0.00050		mg/L		10/30/13 12:00	11/07/13 19:21	1
Thallium	<0.0020		0.0020		mg/L		10/30/13 12:00	11/07/13 19:21	1
Vanadium	<0.0050		0.0050		mg/L		10/30/13 12:00	11/07/13 19:21	1
Zinc	<0.020		0.020		mg/L		10/30/13 12:00	10/30/13 15:56	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/05/13 15:45	11/06/13 09:46	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/01/13 10:30	11/01/13 17:08	1
Sulfate	**430**		100		mg/L			11/11/13 07:17	20
Chloride	**160**		10		mg/L			11/07/13 20:22	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/07/13 00:00	1
Total Dissolved Solids	**1300**		10		mg/L			11/02/13 22:57	1
Fluoride	**0.41**		0.10		mg/L			10/31/13 15:41	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/13 18:22	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/04/13 17:17	1

Client Sample ID: MW2
Date Collected: 10/28/13 09:20
Date Received: 10/29/13 15:55

Lab Sample ID: 500-65786-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/04/13 13:12	1
Toluene	<0.00050		0.00050		mg/L			11/04/13 13:12	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/04/13 13:12	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/04/13 13:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*		*11/04/13 13:12*	*1*
Toluene-d8 (Surr)	*89*		*75 - 120*		*11/04/13 13:12*	*1*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*		*11/04/13 13:12*	*1*
Dibromofluoromethane	*98*		*75 - 120*		*11/04/13 13:12*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/07/13 11:53	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/30/13 12:00	11/11/13 10:14	1
Arsenic	**0.0091**		0.0010		mg/L		10/30/13 12:00	11/07/13 19:28	1
Barium	**0.079**		0.0025		mg/L		10/30/13 12:00	11/07/13 19:28	1
Beryllium	<0.0010		0.0010		mg/L		10/30/13 12:00	11/11/13 10:14	1
Boron	**2.4**		0.10		mg/L		10/30/13 12:00	11/11/13 14:41	2
Cadmium	<0.00050		0.00050		mg/L		10/30/13 12:00	10/30/13 15:59	1
Chromium	<0.0050		0.0050		mg/L		10/30/13 12:00	11/07/13 19:28	1
Cobalt	<0.0010		0.0010		mg/L		10/30/13 12:00	11/07/13 19:28	1
Copper	<0.0020		0.0020		mg/L		10/30/13 12:00	10/30/13 15:59	1
Iron	**0.33**		0.10		mg/L		10/30/13 12:00	11/07/13 19:28	1
Lead	<0.00050		0.00050		mg/L		10/30/13 12:00	11/07/13 19:28	1
Manganese	**0.043**		0.0025		mg/L		10/30/13 12:00	11/07/13 19:28	1
Nickel	**0.0024**		0.0020		mg/L		10/30/13 12:00	11/07/13 19:28	1
Selenium	<0.0025		0.0025		mg/L		10/30/13 12:00	11/07/13 19:28	1
Silver	<0.00050		0.00050		mg/L		10/30/13 12:00	11/07/13 19:28	1
Thallium	<0.0020		0.0020		mg/L		10/30/13 12:00	11/07/13 19:28	1
Vanadium	<0.0050		0.0050		mg/L		10/30/13 12:00	11/07/13 19:28	1
Zinc	<0.020		0.020		mg/L		10/30/13 12:00	10/30/13 15:59	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/05/13 15:45	11/06/13 09:52	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/01/13 10:30	11/01/13 17:09	1
Sulfate	**280**		100		mg/L			11/11/13 07:18	20
Chloride	**180**		10		mg/L			11/07/13 20:23	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/07/13 00:00	1
Total Dissolved Solids	**950**		10		mg/L			11/02/13 23:00	1
Fluoride	**0.47**		0.10		mg/L			10/31/13 15:45	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/13 18:23	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/04/13 17:19	1

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-65786-1

Client Sample ID: MW3
Date Collected: 10/28/13 10:40
Date Received: 10/29/13 15:55

Lab Sample ID: 500-65786-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/04/13 13:39	1
Toluene	<0.00050		0.00050		mg/L			11/04/13 13:39	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/04/13 13:39	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/04/13 13:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*		*11/04/13 13:39*	*1*
Toluene-d8 (Surr)	*90*		*75 - 120*		*11/04/13 13:39*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*		*11/04/13 13:39*	*1*
Dibromofluoromethane	*96*		*75 - 120*		*11/04/13 13:39*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/07/13 12:09	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/30/13 12:00	11/11/13 10:39	1
Arsenic	**0.0018**		0.0010		mg/L		10/30/13 12:00	11/07/13 19:40	1
Barium	**0.083**		0.0025		mg/L		10/30/13 12:00	11/07/13 19:40	1
Beryllium	<0.0010		0.0010		mg/L		10/30/13 12:00	11/11/13 10:39	1
Boron	**3.5**		0.10		mg/L		10/30/13 12:00	11/12/13 11:05	2
Cadmium	<0.00050		0.00050		mg/L		10/30/13 12:00	10/30/13 16:11	1
Chromium	<0.0050		0.0050		mg/L		10/30/13 12:00	11/07/13 19:40	1
Cobalt	**0.0016**		0.0010		mg/L		10/30/13 12:00	11/07/13 19:40	1
Copper	<0.0020		0.0020		mg/L		10/30/13 12:00	10/30/13 16:11	1
Iron	<0.10		0.10		mg/L		10/30/13 12:00	11/07/13 19:40	1
Lead	<0.00050		0.00050		mg/L		10/30/13 12:00	11/07/13 19:40	1
Manganese	**0.16**		0.0025		mg/L		10/30/13 12:00	11/07/13 19:40	1
Nickel	**0.011**		0.0020		mg/L		10/30/13 12:00	11/07/13 19:40	1
Selenium	<0.0025		0.0025		mg/L		10/30/13 12:00	11/07/13 19:40	1
Silver	<0.00050		0.00050		mg/L		10/30/13 12:00	11/07/13 19:40	1
Thallium	<0.0020		0.0020		mg/L		10/30/13 12:00	11/07/13 19:40	1
Vanadium	<0.0050		0.0050		mg/L		10/30/13 12:00	11/07/13 19:40	1
Zinc	<0.020		0.020		mg/L		10/30/13 12:00	10/30/13 16:11	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/05/13 15:45	11/06/13 09:54	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/01/13 10:30	11/01/13 17:09	1
Sulfate	**540**		100		mg/L			11/11/13 07:19	20
Chloride	**110**		10		mg/L			11/07/13 20:23	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/07/13 00:00	1
Total Dissolved Solids	**1100**		10		mg/L			11/02/13 23:02	1
Fluoride	**0.49**		0.10		mg/L			10/31/13 15:48	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/13 18:23	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/04/13 17:21	1

Client Sample ID: MW4
Date Collected: 10/28/13 12:00
Date Received: 10/29/13 15:55

Lab Sample ID: 500-65786-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/04/13 14:06	1
Toluene	<0.00050		0.00050		mg/L			11/04/13 14:06	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/04/13 14:06	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/04/13 14:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*		*11/04/13 14:06*	*1*
Toluene-d8 (Surr)	*90*		*75 - 120*		*11/04/13 14:06*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*11/04/13 14:06*	*1*
Dibromofluoromethane	*98*		*75 - 120*		*11/04/13 14:06*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/07/13 12:24	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/30/13 12:00	11/11/13 10:42	1
Arsenic	**0.0054**		0.0010		mg/L		10/30/13 12:00	11/07/13 19:43	1
Barium	**0.037**		0.0025		mg/L		10/30/13 12:00	11/07/13 19:43	1
Beryllium	<0.0010		0.0010		mg/L		10/30/13 12:00	11/11/13 10:42	1
Boron	**5.6**		0.10		mg/L		10/30/13 12:00	11/12/13 11:08	2
Cadmium	<0.00050		0.00050		mg/L		10/30/13 12:00	10/30/13 16:13	1
Chromium	<0.0050		0.0050		mg/L		10/30/13 12:00	11/07/13 19:43	1
Cobalt	**0.0014**		0.0010		mg/L		10/30/13 12:00	11/07/13 19:43	1
Copper	<0.0020		0.0020		mg/L		10/30/13 12:00	10/30/13 16:13	1
Iron	**0.92**		0.10		mg/L		10/30/13 12:00	11/07/13 19:43	1
Lead	<0.00050		0.00050		mg/L		10/30/13 12:00	11/07/13 19:43	1
Manganese	**0.65**		0.0025		mg/L		10/30/13 12:00	11/07/13 19:43	1
Nickel	**0.0055**		0.0020		mg/L		10/30/13 12:00	11/07/13 19:43	1
Selenium	<0.0025		0.0025		mg/L		10/30/13 12:00	11/07/13 19:43	1
Silver	<0.00050		0.00050		mg/L		10/30/13 12:00	11/07/13 19:43	1
Thallium	<0.0020		0.0020		mg/L		10/30/13 12:00	11/07/13 19:43	1
Vanadium	<0.0050		0.0050		mg/L		10/30/13 12:00	11/07/13 19:43	1
Zinc	<0.020		0.020		mg/L		10/30/13 12:00	10/30/13 16:13	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/05/13 15:45	11/06/13 09:56	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/01/13 10:30	11/01/13 17:10	1
Sulfate	**1300**		250		mg/L			11/11/13 07:20	50
Chloride	**89**		10		mg/L			11/07/13 20:24	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/07/13 00:00	1
Total Dissolved Solids	**2400**		13		mg/L			11/02/13 23:05	1
Fluoride	**0.47**		0.10		mg/L			10/31/13 15:51	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/13 18:23	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/04/13 17:23	1

Client Sample ID: MW5
Date Collected: 10/28/13 13:10
Date Received: 10/29/13 15:55

Lab Sample ID: 500-65786-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/04/13 14:33	1
Toluene	<0.00050		0.00050		mg/L			11/04/13 14:33	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/04/13 14:33	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/04/13 14:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 125*		*11/04/13 14:33*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/04/13 14:33*	*1*
4-Bromofluorobenzene (Surr)	*96*		*75 - 120*		*11/04/13 14:33*	*1*
Dibromofluoromethane	*92*		*75 - 120*		*11/04/13 14:33*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/07/13 12:40	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/30/13 12:00	11/11/13 10:46	1
Arsenic	**0.0021**		0.0010		mg/L		10/30/13 12:00	11/07/13 19:45	1
Barium	**0.078**		0.0025		mg/L		10/30/13 12:00	11/07/13 19:45	1
Beryllium	<0.0010		0.0010		mg/L		10/30/13 12:00	11/11/13 10:46	1
Boron	**4.1**		0.10		mg/L		10/30/13 12:00	11/12/13 11:12	2
Cadmium	<0.00050		0.00050		mg/L		10/30/13 12:00	10/30/13 16:21	1
Chromium	<0.0050		0.0050		mg/L		10/30/13 12:00	11/07/13 19:45	1
Cobalt	<0.0010		0.0010		mg/L		10/30/13 12:00	11/07/13 19:45	1
Copper	<0.0020		0.0020		mg/L		10/30/13 12:00	10/30/13 16:21	1
Iron	<0.10		0.10		mg/L		10/30/13 12:00	11/07/13 19:45	1
Lead	<0.00050		0.00050		mg/L		10/30/13 12:00	11/07/13 19:45	1
Manganese	**0.11**		0.0025		mg/L		10/30/13 12:00	11/07/13 19:45	1
Nickel	**0.0028**		0.0020		mg/L		10/30/13 12:00	11/07/13 19:45	1
Selenium	**0.17**		0.0025		mg/L		10/30/13 12:00	11/07/13 19:45	1
Silver	<0.00050		0.00050		mg/L		10/30/13 12:00	11/07/13 19:45	1
Thallium	<0.0020		0.0020		mg/L		10/30/13 12:00	11/07/13 19:45	1
Vanadium	**0.013**		0.0050		mg/L		10/30/13 12:00	11/07/13 19:45	1
Zinc	<0.020		0.020		mg/L		10/30/13 12:00	10/30/13 16:21	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/05/13 15:45	11/06/13 09:58	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/01/13 10:30	11/01/13 17:11	1
Sulfate	**560**		130		mg/L			11/11/13 07:21	25
Chloride	**130**		10		mg/L			11/07/13 20:24	5
Nitrogen, Nitrate	**0.27**		0.10		mg/L			11/07/13 00:00	1
Total Dissolved Solids	**1300**		10		mg/L			11/02/13 23:07	1
Fluoride	**0.36**		0.10		mg/L			10/31/13 15:54	1
Nitrogen, Nitrite	**0.32**		0.10		mg/L			10/29/13 18:26	5
Nitrogen, Nitrate Nitrite	**0.59**		0.10		mg/L			11/04/13 17:25	1

Client Sample ID: MW6
Date Collected: 10/28/13 16:10
Date Received: 10/29/13 15:55

Lab Sample ID: 500-65786-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/05/13 01:01	1
Toluene	<0.00050		0.00050		mg/L			11/05/13 01:01	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/05/13 01:01	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/05/13 01:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*		*11/05/13 01:01*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/05/13 01:01*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*11/05/13 01:01*	*1*
Dibromofluoromethane	*91*		*75 - 120*		*11/05/13 01:01*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/07/13 13:26	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/30/13 12:00	11/11/13 10:50	1
Arsenic	**0.0031**		0.0010		mg/L		10/30/13 12:00	11/07/13 19:48	1
Barium	**0.063**		0.0025		mg/L		10/30/13 12:00	11/07/13 19:48	1
Beryllium	<0.0010		0.0010		mg/L		10/30/13 12:00	11/11/13 10:50	1
Boron	**3.7**		0.10		mg/L		10/30/13 12:00	11/12/13 11:27	2
Cadmium	<0.00050		0.00050		mg/L		10/30/13 12:00	10/30/13 16:23	1
Chromium	<0.0050		0.0050		mg/L		10/30/13 12:00	11/07/13 19:48	1
Cobalt	<0.0010		0.0010		mg/L		10/30/13 12:00	11/07/13 19:48	1
Copper	<0.0020		0.0020		mg/L		10/30/13 12:00	10/30/13 16:23	1
Iron	<0.10		0.10		mg/L		10/30/13 12:00	11/07/13 19:48	1
Lead	<0.00050		0.00050		mg/L		10/30/13 12:00	11/07/13 19:48	1
Manganese	**0.083**		0.0025		mg/L		10/30/13 12:00	11/07/13 19:48	1
Nickel	**0.0020**		0.0020		mg/L		10/30/13 12:00	11/07/13 19:48	1
Selenium	<0.0025		0.0025		mg/L		10/30/13 12:00	11/07/13 19:48	1
Silver	<0.00050		0.00050		mg/L		10/30/13 12:00	11/07/13 19:48	1
Thallium	<0.0020		0.0020		mg/L		10/30/13 12:00	11/07/13 19:48	1
Vanadium	<0.0050		0.0050		mg/L		10/30/13 12:00	11/07/13 19:48	1
Zinc	<0.020		0.020		mg/L		10/30/13 12:00	10/30/13 16:23	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/05/13 15:45	11/06/13 10:00	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/01/13 10:30	11/01/13 17:12	1
Sulfate	**310**		100		mg/L			11/11/13 07:22	20
Chloride	**76**		10		mg/L			11/07/13 20:25	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/07/13 00:00	1
Total Dissolved Solids	**790**		10		mg/L			11/02/13 23:10	1
Fluoride	**0.57**		0.10		mg/L			10/31/13 15:57	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/13 18:26	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/04/13 17:27	1

Client Sample ID: MW7
Date Collected: 10/29/13 09:40
Date Received: 10/29/13 15:55

Lab Sample ID: 500-65786-7
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/05/13 01:28	1
Toluene	<0.00050		0.00050		mg/L			11/05/13 01:28	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/05/13 01:28	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/05/13 01:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*		*11/05/13 01:28*	*1*
Toluene-d8 (Surr)	*89*		*75 - 120*		*11/05/13 01:28*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*		*11/05/13 01:28*	*1*
Dibromofluoromethane	*98*		*75 - 120*		*11/05/13 01:28*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/07/13 13:41	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/30/13 12:03	11/11/13 10:53	1
Arsenic	**0.0035**		0.0010		mg/L		10/30/13 12:03	11/07/13 19:50	1
Barium	**0.040**		0.0025		mg/L		10/30/13 12:03	11/07/13 19:50	1
Beryllium	<0.0010		0.0010		mg/L		10/30/13 12:03	11/11/13 10:53	1
Boron	**3.0**		0.10		mg/L		10/30/13 12:03	11/12/13 11:31	2
Cadmium	<0.00050		0.00050		mg/L		10/30/13 12:03	10/30/13 16:26	1
Chromium	<0.0050		0.0050		mg/L		10/30/13 12:03	11/07/13 19:50	1
Cobalt	<0.0010		0.0010		mg/L		10/30/13 12:03	11/07/13 19:50	1
Copper	<0.0020		0.0020		mg/L		10/30/13 12:03	10/30/13 16:26	1
Iron	**0.21**		0.10		mg/L		10/30/13 12:03	11/07/13 19:50	1
Lead	<0.00050		0.00050		mg/L		10/30/13 12:03	11/07/13 19:50	1
Manganese	**0.049**		0.0025		mg/L		10/30/13 12:03	11/07/13 19:50	1
Nickel	**0.0042**		0.0020		mg/L		10/30/13 12:03	11/07/13 19:50	1
Selenium	<0.0025		0.0025		mg/L		10/30/13 12:03	11/07/13 19:50	1
Silver	<0.00050		0.00050		mg/L		10/30/13 12:03	11/07/13 19:50	1
Thallium	<0.0020		0.0020		mg/L		10/30/13 12:03	11/07/13 19:50	1
Vanadium	<0.0050		0.0050		mg/L		10/30/13 12:03	11/07/13 19:50	1
Zinc	<0.020		0.020		mg/L		10/30/13 12:03	10/30/13 16:26	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/05/13 15:45	11/06/13 10:02	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.012**		0.010		mg/L		11/01/13 10:30	11/01/13 17:12	1
Sulfate	**530**		100		mg/L			11/11/13 07:23	20
Chloride	**180**		10		mg/L			11/07/13 20:25	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/07/13 00:00	1
Total Dissolved Solids	**1200**		10		mg/L			11/02/13 23:12	1
Fluoride	**0.96**		0.10		mg/L			10/31/13 16:00	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/13 18:26	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/04/13 17:30	1

Client Sample ID: MW8
Date Collected: 10/28/13 17:15
Date Received: 10/29/13 15:55

Lab Sample ID: 500-65786-8
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/05/13 01:55	1
Toluene	<0.00050		0.00050		mg/L			11/05/13 01:55	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/05/13 01:55	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/05/13 01:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*		*11/05/13 01:55*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*11/05/13 01:55*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*		*11/05/13 01:55*	*1*
Dibromofluoromethane	*98*		*75 - 120*		*11/05/13 01:55*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/07/13 13:57	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/30/13 12:03	11/11/13 10:57	1
Arsenic	**0.0069**		0.0010		mg/L		10/30/13 12:03	11/07/13 20:00	1
Barium	**0.14**		0.0025		mg/L		10/30/13 12:03	11/07/13 20:00	1
Beryllium	<0.0010		0.0010		mg/L		10/30/13 12:03	11/11/13 10:57	1
Boron	**3.2**		0.10		mg/L		10/30/13 12:03	11/12/13 11:34	2
Cadmium	<0.00050		0.00050		mg/L		10/30/13 12:03	10/30/13 16:28	1
Chromium	<0.0050		0.0050		mg/L		10/30/13 12:03	11/07/13 20:00	1
Cobalt	<0.0010		0.0010		mg/L		10/30/13 12:03	11/07/13 20:00	1
Copper	<0.0020		0.0020		mg/L		10/30/13 12:03	10/30/13 16:28	1
Iron	<0.10		0.10		mg/L		10/30/13 12:03	11/07/13 20:00	1
Lead	<0.00050		0.00050		mg/L		10/30/13 12:03	11/07/13 20:00	1
Manganese	**0.42**		0.0025		mg/L		10/30/13 12:03	11/07/13 20:00	1
Nickel	**0.0043**		0.0020		mg/L		10/30/13 12:03	11/07/13 20:00	1
Selenium	**0.015**		0.0025		mg/L		10/30/13 12:03	11/07/13 20:00	1
Silver	<0.00050		0.00050		mg/L		10/30/13 12:03	11/07/13 20:00	1
Thallium	<0.0020		0.0020		mg/L		10/30/13 12:03	11/07/13 20:00	1
Vanadium	<0.0050		0.0050		mg/L		10/30/13 12:03	11/07/13 20:00	1
Zinc	<0.020		0.020		mg/L		10/30/13 12:03	10/30/13 16:28	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/05/13 15:45	11/06/13 10:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/01/13 10:30	11/01/13 17:12	1
Sulfate	**650**		130		mg/L			11/11/13 07:24	25
Chloride	**150**		10		mg/L			11/07/13 20:26	5
Nitrogen, Nitrate	**0.17**		0.10		mg/L			11/07/13 00:00	1
Total Dissolved Solids	**1600**		10		mg/L			11/02/13 23:15	1
Fluoride	**0.45**		0.10		mg/L			10/31/13 16:03	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/13 18:27	1
Nitrogen, Nitrate Nitrite	**0.17**		0.10		mg/L			11/04/13 17:32	1

Client Sample ID: MW9
Date Collected: 10/29/13 11:30
Date Received: 10/29/13 15:55

Lab Sample ID: 500-65786-9
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/05/13 02:21	1
Toluene	<0.00050		0.00050		mg/L			11/05/13 02:21	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/05/13 02:21	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/05/13 02:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*		*11/05/13 02:21*	*1*
Toluene-d8 (Surr)	*89*		*75 - 120*		*11/05/13 02:21*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/05/13 02:21*	*1*
Dibromofluoromethane	*97*		*75 - 120*		*11/05/13 02:21*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/07/13 14:12	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/30/13 12:03	11/11/13 11:08	1
Arsenic	**0.0066**		0.0010		mg/L		10/30/13 12:03	11/07/13 20:02	1
Barium	**0.023**		0.0025		mg/L		10/30/13 12:03	11/07/13 20:02	1
Beryllium	<0.0010		0.0010		mg/L		10/30/13 12:03	11/11/13 11:08	1
Boron	**2.2**		0.10		mg/L		10/30/13 12:03	11/12/13 11:38	2
Cadmium	<0.00050		0.00050		mg/L		10/30/13 12:03	10/30/13 16:30	1
Chromium	<0.0050		0.0050		mg/L		10/30/13 12:03	11/07/13 20:02	1
Cobalt	<0.0010		0.0010		mg/L		10/30/13 12:03	11/07/13 20:02	1
Copper	<0.0020		0.0020		mg/L		10/30/13 12:03	10/30/13 16:30	1
Iron	<0.10		0.10		mg/L		10/30/13 12:03	11/07/13 20:02	1
Lead	<0.00050		0.00050		mg/L		10/30/13 12:03	11/07/13 20:02	1
Manganese	<0.0025		0.0025		mg/L		10/30/13 12:03	11/07/13 20:02	1
Nickel	<0.0020		0.0020		mg/L		10/30/13 12:03	11/07/13 20:02	1
Selenium	**0.0053**		0.0025		mg/L		10/30/13 12:03	11/07/13 20:02	1
Silver	<0.00050		0.00050		mg/L		10/30/13 12:03	11/07/13 20:02	1
Thallium	<0.0020		0.0020		mg/L		10/30/13 12:03	11/07/13 20:02	1
Vanadium	**0.034**		0.0050		mg/L		10/30/13 12:03	11/07/13 20:02	1
Zinc	<0.020		0.020		mg/L		10/30/13 12:03	10/30/13 16:30	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/05/13 15:45	11/06/13 10:10	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/01/13 10:30	11/01/13 17:13	1
Sulfate	**310**		50		mg/L			11/11/13 07:27	10
Chloride	**110**		10		mg/L			11/07/13 20:26	5
Nitrogen, Nitrate	**1.6**		0.10		mg/L			11/07/13 00:00	1
Total Dissolved Solids	**680**		10		mg/L			11/02/13 23:17	1
Fluoride	**0.48**		0.10		mg/L			10/31/13 16:06	1
Nitrogen, Nitrite	**0.65**		0.10		mg/L			10/29/13 18:27	5
Nitrogen, Nitrate Nitrite	**2.2**		0.50		mg/L			11/04/13 18:03	5

Client Sample ID: MW10
Date Collected: 10/28/13 14:20
Date Received: 10/29/13 15:55

Lab Sample ID: 500-65786-10
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/05/13 02:48	1
Toluene	<0.00050		0.00050		mg/L			11/05/13 02:48	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/05/13 02:48	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/05/13 02:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 125*		*11/05/13 02:48*	*1*
Toluene-d8 (Surr)	*90*		*75 - 120*		*11/05/13 02:48*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*		*11/05/13 02:48*	*1*
Dibromofluoromethane	*92*		*75 - 120*		*11/05/13 02:48*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/07/13 14:27	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/30/13 12:03	11/11/13 11:11	1
Arsenic	**0.012**		0.0010		mg/L		10/30/13 12:03	11/07/13 20:04	1
Barium	**0.10**		0.0025		mg/L		10/30/13 12:03	11/07/13 20:04	1
Beryllium	<0.0010		0.0010		mg/L		10/30/13 12:03	11/11/13 11:11	1
Boron	**3.8**		0.10		mg/L		10/30/13 12:03	11/12/13 11:41	2
Cadmium	<0.00050		0.00050		mg/L		10/30/13 12:03	10/30/13 16:33	1
Chromium	<0.0050		0.0050		mg/L		10/30/13 12:03	11/07/13 20:04	1
Cobalt	<0.0010		0.0010		mg/L		10/30/13 12:03	11/07/13 20:04	1
Copper	<0.0020		0.0020		mg/L		10/30/13 12:03	10/30/13 16:33	1
Iron	**0.79**		0.10		mg/L		10/30/13 12:03	11/07/13 20:04	1
Lead	<0.00050		0.00050		mg/L		10/30/13 12:03	11/07/13 20:04	1
Manganese	**0.22**		0.0025		mg/L		10/30/13 12:03	11/07/13 20:04	1
Nickel	**0.0030**		0.0020		mg/L		10/30/13 12:03	11/07/13 20:04	1
Selenium	<0.0025		0.0025		mg/L		10/30/13 12:03	11/07/13 20:04	1
Silver	<0.00050		0.00050		mg/L		10/30/13 12:03	11/07/13 20:04	1
Thallium	<0.0020		0.0020		mg/L		10/30/13 12:03	11/07/13 20:04	1
Vanadium	<0.0050		0.0050		mg/L		10/30/13 12:03	11/07/13 20:04	1
Zinc	<0.020		0.020		mg/L		10/30/13 12:03	10/30/13 16:33	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/05/13 15:45	11/06/13 10:16	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/01/13 10:30	11/01/13 17:13	1
Sulfate	**330**		50		mg/L			11/11/13 07:28	10
Chloride	**140**		10		mg/L			11/07/13 20:29	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/07/13 00:00	1
Total Dissolved Solids	**920**		10		mg/L			11/02/13 23:20	1
Fluoride	**0.73**		0.10		mg/L			10/31/13 16:19	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/13 18:28	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/04/13 17:36	1

Client Sample ID: Duplicate
Date Collected: 10/29/13 00:00
Date Received: 10/29/13 15:55

Lab Sample ID: 500-65786-11
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/05/13 03:15	1
Toluene	<0.00050		0.00050		mg/L			11/05/13 03:15	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/05/13 03:15	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/05/13 03:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*		*11/05/13 03:15*	*1*
Toluene-d8 (Surr)	*90*		*75 - 120*		*11/05/13 03:15*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*		*11/05/13 03:15*	*1*
Dibromofluoromethane	*97*		*75 - 120*		*11/05/13 03:15*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/07/13 14:43	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/30/13 12:03	11/11/13 11:15	1
Arsenic	**0.0069**		0.0010		mg/L		10/30/13 12:03	11/07/13 20:07	1
Barium	**0.023**		0.0025		mg/L		10/30/13 12:03	11/07/13 20:07	1
Beryllium	<0.0010		0.0010		mg/L		10/30/13 12:03	11/11/13 11:15	1
Boron	**2.1**		0.10		mg/L		10/30/13 12:03	11/12/13 11:45	2
Cadmium	<0.00050		0.00050		mg/L		10/30/13 12:03	10/30/13 16:35	1
Chromium	<0.0050		0.0050		mg/L		10/30/13 12:03	11/07/13 20:07	1
Cobalt	<0.0010		0.0010		mg/L		10/30/13 12:03	11/07/13 20:07	1
Copper	<0.0020		0.0020		mg/L		10/30/13 12:03	10/30/13 16:35	1
Iron	<0.10		0.10		mg/L		10/30/13 12:03	11/07/13 20:07	1
Lead	<0.00050		0.00050		mg/L		10/30/13 12:03	11/07/13 20:07	1
Manganese	<0.0025		0.0025		mg/L		10/30/13 12:03	11/07/13 20:07	1
Nickel	<0.0020		0.0020		mg/L		10/30/13 12:03	11/07/13 20:07	1
Selenium	**0.0052**		0.0025		mg/L		10/30/13 12:03	11/07/13 20:07	1
Silver	<0.00050		0.00050		mg/L		10/30/13 12:03	11/07/13 20:07	1
Thallium	<0.0020		0.0020		mg/L		10/30/13 12:03	11/07/13 20:07	1
Vanadium	**0.034**		0.0050		mg/L		10/30/13 12:03	11/07/13 20:07	1
Zinc	<0.020		0.020		mg/L		10/30/13 12:03	10/30/13 16:35	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/05/13 15:45	11/06/13 10:18	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/01/13 10:30	11/01/13 17:14	1
Sulfate	**340**		50		mg/L			11/11/13 07:29	10
Chloride	**110**		10		mg/L			11/07/13 20:29	5
Nitrogen, Nitrate	**1.7**		0.10		mg/L			11/07/13 00:00	1
Total Dissolved Solids	**670**		10		mg/L			11/02/13 23:22	1
Fluoride	**0.49**		0.10		mg/L			10/31/13 16:23	1
Nitrogen, Nitrite	**0.65**		0.10		mg/L			10/29/13 18:28	5
Nitrogen, Nitrate Nitrite	**2.3**		0.50		mg/L			11/06/13 18:04	5

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-65786-1

Client Sample ID: Trip Blank
Date Collected: 10/28/13 00:00
Date Received: 10/29/13 15:55

Lab Sample ID: 500-65786-12
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/05/13 00:34	1
Toluene	<0.00050		0.00050		mg/L			11/05/13 00:34	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/05/13 00:34	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/05/13 00:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*		*11/05/13 00:34*	*1*
Toluene-d8 (Surr)	*90*		*75 - 120*		*11/05/13 00:34*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*11/05/13 00:34*	*1*
Dibromofluoromethane	*93*		*75 - 120*		*11/05/13 00:34*	*1*

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits

Metals

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA

Analysis Batch: 210046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Total/NA	Water	8260B	
500-65786-2	MW2	Total/NA	Water	8260B	
500-65786-3	MW3	Total/NA	Water	8260B	
500-65786-4	MW4	Total/NA	Water	8260B	
500-65786-5	MW5	Total/NA	Water	8260B	
LCS 500-210046/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-210046/6	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 210112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-6	MW6	Total/NA	Water	8260B	
500-65786-7	MW7	Total/NA	Water	8260B	
500-65786-8	MW8	Total/NA	Water	8260B	
500-65786-9	MW9	Total/NA	Water	8260B	
500-65786-10	MW10	Total/NA	Water	8260B	
500-65786-11	Duplicate	Total/NA	Water	8260B	
500-65786-12	Trip Blank	Total/NA	Water	8260B	
LCS 500-210112/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-210112/6	Method Blank	Total/NA	Water	8260B	

HPLC/IC

Analysis Batch: 29592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Total/NA	Water	314.0	
500-65786-1 MSD	MW1	Total/NA	Water	314.0	
500-65786-2	MW2	Total/NA	Water	314.0	
500-65786-3	MW3	Total/NA	Water	314.0	
500-65786-4	MW4	Total/NA	Water	314.0	
500-65786-5	MW5	Total/NA	Water	314.0	
500-65786-6	MW6	Total/NA	Water	314.0	
500-65786-7	MW7	Total/NA	Water	314.0	
500-65786-8	MW8	Total/NA	Water	314.0	
500-65786-9	MW9	Total/NA	Water	314.0	
500-65786-10	MW10	Total/NA	Water	314.0	
500-65786-11	Duplicate	Total/NA	Water	314.0	
LCS 320-29592/7	Lab Control Sample	Total/NA	Water	314.0	
MB 320-29592/6	Method Blank	Total/NA	Water	314.0	
MRL 320-29592/5 MRL	Lab Control Sample	Total/NA	Water	314.0	

Metals

Prep Batch: 209425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Dissolved	Water	Soluble Metals	
500-65786-2	MW2	Dissolved	Water	Soluble Metals	
500-65786-2 DU	MW2	Dissolved	Water	Soluble Metals	
500-65786-2 MS	MW2	Dissolved	Water	Soluble Metals	
500-65786-2 MSD	MW2	Dissolved	Water	Soluble Metals	
500-65786-3	MW3	Dissolved	Water	Soluble Metals	

Metals (Continued)

Prep Batch: 209425 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-4	MW4	Dissolved	Water	Soluble Metals	
500-65786-5	MW5	Dissolved	Water	Soluble Metals	
500-65786-6	MW6	Dissolved	Water	Soluble Metals	
500-65786-7	MW7	Dissolved	Water	Soluble Metals	
500-65786-8	MW8	Dissolved	Water	Soluble Metals	
500-65786-9	MW9	Dissolved	Water	Soluble Metals	
500-65786-10	MW10	Dissolved	Water	Soluble Metals	
500-65786-11	Duplicate	Dissolved	Water	Soluble Metals	
LCS 500-209425/2-A	Lab Control Sample	Soluble	Water	Soluble Metals	
MB 500-209425/1-A	Method Blank	Soluble	Water	Soluble Metals	

Analysis Batch: 209584

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Dissolved	Water	6020A	209425
500-65786-2	MW2	Dissolved	Water	6020A	209425
500-65786-2 DU	MW2	Dissolved	Water	6020A	209425
500-65786-2 MS	MW2	Dissolved	Water	6020A	209425
500-65786-2 MSD	MW2	Dissolved	Water	6020A	209425
500-65786-3	MW3	Dissolved	Water	6020A	209425
500-65786-4	MW4	Dissolved	Water	6020A	209425
500-65786-5	MW5	Dissolved	Water	6020A	209425
500-65786-6	MW6	Dissolved	Water	6020A	209425
500-65786-7	MW7	Dissolved	Water	6020A	209425
500-65786-8	MW8	Dissolved	Water	6020A	209425
500-65786-9	MW9	Dissolved	Water	6020A	209425
500-65786-10	MW10	Dissolved	Water	6020A	209425
500-65786-11	Duplicate	Dissolved	Water	6020A	209425
LCS 500-209425/2-A	Lab Control Sample	Soluble	Water	6020A	209425
MB 500-209425/1-A	Method Blank	Soluble	Water	6020A	209425

Prep Batch: 210341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Dissolved	Water	7470A	
500-65786-2	MW2	Dissolved	Water	7470A	
500-65786-3	MW3	Dissolved	Water	7470A	
500-65786-4	MW4	Dissolved	Water	7470A	
500-65786-5	MW5	Dissolved	Water	7470A	
500-65786-6	MW6	Dissolved	Water	7470A	
500-65786-7	MW7	Dissolved	Water	7470A	
LCS 500-210341/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-210341/12-A	Method Blank	Total/NA	Water	7470A	

Prep Batch: 210343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-8	MW8	Dissolved	Water	7470A	
500-65786-9	MW9	Dissolved	Water	7470A	
500-65786-10	MW10	Dissolved	Water	7470A	
500-65786-11	Duplicate	Dissolved	Water	7470A	
LCS 500-210343/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-210343/12-A	Method Blank	Total/NA	Water	7470A	

Metals (Continued)

Analysis Batch: 210505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Dissolved	Water	7470A	210341
500-65786-2	MW2	Dissolved	Water	7470A	210341
500-65786-3	MW3	Dissolved	Water	7470A	210341
500-65786-4	MW4	Dissolved	Water	7470A	210341
500-65786-5	MW5	Dissolved	Water	7470A	210341
500-65786-6	MW6	Dissolved	Water	7470A	210341
500-65786-7	MW7	Dissolved	Water	7470A	210341
500-65786-8	MW8	Dissolved	Water	7470A	210343
500-65786-9	MW9	Dissolved	Water	7470A	210343
500-65786-10	MW10	Dissolved	Water	7470A	210343
500-65786-11	Duplicate	Dissolved	Water	7470A	210343
LCS 500-210341/13-A	Lab Control Sample	Total/NA	Water	7470A	210341
LCS 500-210343/13-A	Lab Control Sample	Total/NA	Water	7470A	210343
MB 500-210341/12-A	Method Blank	Total/NA	Water	7470A	210341
MB 500-210343/12-A	Method Blank	Total/NA	Water	7470A	210343

Analysis Batch: 210826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Dissolved	Water	6020A	209425
500-65786-2	MW2	Dissolved	Water	6020A	209425
500-65786-2 DU	MW2	Dissolved	Water	6020A	209425
500-65786-2 MS	MW2	Dissolved	Water	6020A	209425
500-65786-2 MSD	MW2	Dissolved	Water	6020A	209425
500-65786-3	MW3	Dissolved	Water	6020A	209425
500-65786-4	MW4	Dissolved	Water	6020A	209425
500-65786-5	MW5	Dissolved	Water	6020A	209425
500-65786-6	MW6	Dissolved	Water	6020A	209425
500-65786-7	MW7	Dissolved	Water	6020A	209425
500-65786-8	MW8	Dissolved	Water	6020A	209425
500-65786-9	MW9	Dissolved	Water	6020A	209425
500-65786-10	MW10	Dissolved	Water	6020A	209425
500-65786-11	Duplicate	Dissolved	Water	6020A	209425
LCS 500-209425/2-A	Lab Control Sample	Soluble	Water	6020A	209425
MB 500-209425/1-A	Method Blank	Soluble	Water	6020A	209425

Analysis Batch: 211216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Dissolved	Water	6020A	209425
500-65786-2	MW2	Dissolved	Water	6020A	209425
500-65786-2 DU	MW2	Dissolved	Water	6020A	209425
500-65786-2 MS	MW2	Dissolved	Water	6020A	209425
500-65786-2 MSD	MW2	Dissolved	Water	6020A	209425
500-65786-3	MW3	Dissolved	Water	6020A	209425
500-65786-4	MW4	Dissolved	Water	6020A	209425
500-65786-5	MW5	Dissolved	Water	6020A	209425
500-65786-6	MW6	Dissolved	Water	6020A	209425
500-65786-7	MW7	Dissolved	Water	6020A	209425
500-65786-8	MW8	Dissolved	Water	6020A	209425
500-65786-9	MW9	Dissolved	Water	6020A	209425
500-65786-10	MW10	Dissolved	Water	6020A	209425
500-65786-11	Duplicate	Dissolved	Water	6020A	209425

Metals (Continued)

Analysis Batch: 211216 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-209425/2-A	Lab Control Sample	Soluble	Water	6020A	209425
MB 500-209425/1-A	Method Blank	Soluble	Water	6020A	209425

Analysis Batch: 211273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Dissolved	Water	6020A	209425
500-65786-2	MW2	Dissolved	Water	6020A	209425
500-65786-2 DU	MW2	Dissolved	Water	6020A	209425
LCS 500-209425/2-A	Lab Control Sample	Soluble	Water	6020A	209425
MB 500-209425/1-A	Method Blank	Soluble	Water	6020A	209425

Analysis Batch: 211426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-2 MS	MW2	Dissolved	Water	6020A	209425
500-65786-2 MSD	MW2	Dissolved	Water	6020A	209425
500-65786-3	MW3	Dissolved	Water	6020A	209425
500-65786-4	MW4	Dissolved	Water	6020A	209425
500-65786-5	MW5	Dissolved	Water	6020A	209425
500-65786-6	MW6	Dissolved	Water	6020A	209425
500-65786-7	MW7	Dissolved	Water	6020A	209425
500-65786-8	MW8	Dissolved	Water	6020A	209425
500-65786-9	MW9	Dissolved	Water	6020A	209425
500-65786-10	MW10	Dissolved	Water	6020A	209425
500-65786-11	Duplicate	Dissolved	Water	6020A	209425

General Chemistry

Analysis Batch: 209604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Dissolved	Water	SM 4500 NO2 B	
500-65786-2	MW2	Dissolved	Water	SM 4500 NO2 B	
500-65786-3	MW3	Dissolved	Water	SM 4500 NO2 B	
500-65786-4	MW4	Dissolved	Water	SM 4500 NO2 B	
500-65786-4 MS	MW4	Dissolved	Water	SM 4500 NO2 B	
500-65786-4 MSD	MW4	Dissolved	Water	SM 4500 NO2 B	
500-65786-5	MW5	Dissolved	Water	SM 4500 NO2 B	
500-65786-6	MW6	Dissolved	Water	SM 4500 NO2 B	
500-65786-7	MW7	Dissolved	Water	SM 4500 NO2 B	
500-65786-8	MW8	Dissolved	Water	SM 4500 NO2 B	
500-65786-9	MW9	Dissolved	Water	SM 4500 NO2 B	
500-65786-10	MW10	Dissolved	Water	SM 4500 NO2 B	
500-65786-11	Duplicate	Dissolved	Water	SM 4500 NO2 B	
LCS 500-209604/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-209604/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 209685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Dissolved	Water	SM 4500 F C	
500-65786-2	MW2	Dissolved	Water	SM 4500 F C	
500-65786-3	MW3	Dissolved	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 209685 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-4	MW4	Dissolved	Water	SM 4500 F C	
500-65786-5	MW5	Dissolved	Water	SM 4500 F C	
500-65786-6	MW6	Dissolved	Water	SM 4500 F C	
500-65786-7	MW7	Dissolved	Water	SM 4500 F C	
500-65786-8	MW8	Dissolved	Water	SM 4500 F C	
500-65786-9	MW9	Dissolved	Water	SM 4500 F C	
500-65786-10	MW10	Dissolved	Water	SM 4500 F C	
500-65786-11	Duplicate	Dissolved	Water	SM 4500 F C	
LCS 500-209685/32	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-209685/31	Method Blank	Total/NA	Water	SM 4500 F C	

Prep Batch: 209747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Dissolved	Water	9010B	
500-65786-2	MW2	Dissolved	Water	9010B	
500-65786-3	MW3	Dissolved	Water	9010B	
500-65786-4	MW4	Dissolved	Water	9010B	
500-65786-5	MW5	Dissolved	Water	9010B	
500-65786-6	MW6	Dissolved	Water	9010B	
500-65786-7	MW7	Dissolved	Water	9010B	
500-65786-8	MW8	Dissolved	Water	9010B	
500-65786-9	MW9	Dissolved	Water	9010B	
500-65786-10	MW10	Dissolved	Water	9010B	
500-65786-11	Duplicate	Dissolved	Water	9010B	
LCS 500-209747/2-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-209747/1-A	Method Blank	Total/NA	Water	9010B	

Analysis Batch: 209930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Dissolved	Water	9014	209747
500-65786-2	MW2	Dissolved	Water	9014	209747
500-65786-3	MW3	Dissolved	Water	9014	209747
500-65786-4	MW4	Dissolved	Water	9014	209747
500-65786-5	MW5	Dissolved	Water	9014	209747
500-65786-6	MW6	Dissolved	Water	9014	209747
500-65786-7	MW7	Dissolved	Water	9014	209747
500-65786-8	MW8	Dissolved	Water	9014	209747
500-65786-9	MW9	Dissolved	Water	9014	209747
500-65786-10	MW10	Dissolved	Water	9014	209747
500-65786-11	Duplicate	Dissolved	Water	9014	209747
LCS 500-209747/2-A	Lab Control Sample	Total/NA	Water	9014	209747
MB 500-209747/1-A	Method Blank	Total/NA	Water	9014	209747

Analysis Batch: 209944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Dissolved	Water	SM 2540C	
500-65786-2	MW2	Dissolved	Water	SM 2540C	
500-65786-3	MW3	Dissolved	Water	SM 2540C	
500-65786-4	MW4	Dissolved	Water	SM 2540C	
500-65786-5	MW5	Dissolved	Water	SM 2540C	
500-65786-6	MW6	Dissolved	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 209944 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-7	MW7	Dissolved	Water	SM 2540C	
500-65786-8	MW8	Dissolved	Water	SM 2540C	
500-65786-9	MW9	Dissolved	Water	SM 2540C	
500-65786-10	MW10	Dissolved	Water	SM 2540C	
500-65786-11	Duplicate	Dissolved	Water	SM 2540C	
LCS 500-209944/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-209944/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 210468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Dissolved	Water	SM 4500 NO3 F	
500-65786-2	MW2	Dissolved	Water	SM 4500 NO3 F	
500-65786-3	MW3	Dissolved	Water	SM 4500 NO3 F	
500-65786-4	MW4	Dissolved	Water	SM 4500 NO3 F	
500-65786-5	MW5	Dissolved	Water	SM 4500 NO3 F	
500-65786-6	MW6	Dissolved	Water	SM 4500 NO3 F	
500-65786-7	MW7	Dissolved	Water	SM 4500 NO3 F	
500-65786-8	MW8	Dissolved	Water	SM 4500 NO3 F	
500-65786-9	MW9	Dissolved	Water	SM 4500 NO3 F	
500-65786-10	MW10	Dissolved	Water	SM 4500 NO3 F	
500-65786-11	Duplicate	Dissolved	Water	SM 4500 NO3 F	
LCS 500-210468/4	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-210468/3	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 210654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Dissolved	Water	Nitrate by calc	
500-65786-2	MW2	Dissolved	Water	Nitrate by calc	
500-65786-3	MW3	Dissolved	Water	Nitrate by calc	
500-65786-4	MW4	Dissolved	Water	Nitrate by calc	
500-65786-5	MW5	Dissolved	Water	Nitrate by calc	
500-65786-6	MW6	Dissolved	Water	Nitrate by calc	
500-65786-7	MW7	Dissolved	Water	Nitrate by calc	
500-65786-8	MW8	Dissolved	Water	Nitrate by calc	
500-65786-9	MW9	Dissolved	Water	Nitrate by calc	
500-65786-10	MW10	Dissolved	Water	Nitrate by calc	
500-65786-11	Duplicate	Dissolved	Water	Nitrate by calc	

Analysis Batch: 210814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Dissolved	Water	9251	
500-65786-2	MW2	Dissolved	Water	9251	
500-65786-3	MW3	Dissolved	Water	9251	
500-65786-4	MW4	Dissolved	Water	9251	
500-65786-5	MW5	Dissolved	Water	9251	
500-65786-6	MW6	Dissolved	Water	9251	
500-65786-7	MW7	Dissolved	Water	9251	
500-65786-8	MW8	Dissolved	Water	9251	
500-65786-9	MW9	Dissolved	Water	9251	
500-65786-10	MW10	Dissolved	Water	9251	
500-65786-11	Duplicate	Dissolved	Water	9251	

General Chemistry (Continued)

Analysis Batch: 210814 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-11 MS	Duplicate	Dissolved	Water	9251	
500-65786-11 MSD	Duplicate	Dissolved	Water	9251	
LCS 500-210814/5	Lab Control Sample	Total/NA	Water	9251	
MB 500-210814/4	Method Blank	Total/NA	Water	9251	

Analysis Batch: 211305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65786-1	MW1	Dissolved	Water	9038	
500-65786-2	MW2	Dissolved	Water	9038	
500-65786-3	MW3	Dissolved	Water	9038	
500-65786-4	MW4	Dissolved	Water	9038	
500-65786-5	MW5	Dissolved	Water	9038	
500-65786-6	MW6	Dissolved	Water	9038	
500-65786-7	MW7	Dissolved	Water	9038	
500-65786-8	MW8	Dissolved	Water	9038	
500-65786-9	MW9	Dissolved	Water	9038	
500-65786-10	MW10	Dissolved	Water	9038	
500-65786-11	Duplicate	Dissolved	Water	9038	
LCS 500-211305/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-211305/3	Method Blank	Total/NA	Water	9038	

Surrogate Summary

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-65786-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	12DCE (75-125)	TOL (75-120)	BFB (75-120)	DBFM (75-120)
500-65786-1	MW1	101	88	94	97
500-65786-2	MW2	100	89	91	98
500-65786-3	MW3	100	90	93	96
500-65786-4	MW4	101	90	95	98
500-65786-5	MW5	98	92	96	92
500-65786-6	MW6	100	92	95	91
500-65786-7	MW7	100	89	93	98
500-65786-8	MW8	100	91	97	98
500-65786-9	MW9	100	89	94	97
500-65786-10	MW10	99	90	97	92
500-65786-11	Duplicate	100	90	93	97
500-65786-12	Trip Blank	100	90	95	93
LCS 500-210046/4	Lab Control Sample	101	90	94	101
LCS 500-210112/4	Lab Control Sample	103	87	94	105
MB 500-210046/6	Method Blank	100	90	94	95
MB 500-210112/6	Method Blank	100	88	92	98

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-210046/6
Matrix: Water
Analysis Batch: 210046

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/04/13 11:25	1
Toluene	<0.00050		0.00050		mg/L			11/04/13 11:25	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/04/13 11:25	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/04/13 11:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*		*11/04/13 11:25*	*1*
Toluene-d8 (Surr)	*90*		*75 - 120*		*11/04/13 11:25*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/04/13 11:25*	*1*
Dibromofluoromethane	*95*		*75 - 120*		*11/04/13 11:25*	*1*

Lab Sample ID: LCS 500-210046/4
Matrix: Water
Analysis Batch: 210046

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0429		mg/L		86	70 - 120
Toluene	0.0500	0.0425		mg/L		85	70 - 120
Ethylbenzene	0.0500	0.0435		mg/L		87	75 - 120
Xylenes, Total	0.100	0.0868		mg/L		87	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*
Toluene-d8 (Surr)	*90*		*75 - 120*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*
Dibromofluoromethane	*101*		*75 - 120*

Lab Sample ID: MB 500-210112/6
Matrix: Water
Analysis Batch: 210112

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/04/13 23:41	1
Toluene	<0.00050		0.00050		mg/L			11/04/13 23:41	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/04/13 23:41	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/04/13 23:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*		*11/04/13 23:41*	*1*
Toluene-d8 (Surr)	*88*		*75 - 120*		*11/04/13 23:41*	*1*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*		*11/04/13 23:41*	*1*
Dibromofluoromethane	*98*		*75 - 120*		*11/04/13 23:41*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-210112/4
Matrix: Water
Analysis Batch: 210112

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0516		mg/L		103	70 - 120
Toluene	0.0500	0.0492		mg/L		98	70 - 120
Ethylbenzene	0.0500	0.0513		mg/L		103	75 - 120
Xylenes, Total	0.100	0.102		mg/L		102	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 125*
Toluene-d8 (Surr)	*87*		*75 - 120*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*
Dibromofluoromethane	*105*		*75 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-29592/6
Matrix: Water
Analysis Batch: 29592

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/07/13 10:21	1

Lab Sample ID: LCS 320-29592/7
Matrix: Water
Analysis Batch: 29592

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	0.0500	0.0496		mg/L		99	85 - 115

Lab Sample ID: MRL 320-29592/5 MRL
Matrix: Water
Analysis Batch: 29592

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	<4.0		ug/L		97	75 - 125

Lab Sample ID: 500-65786-1 MSD
Matrix: Water
Analysis Batch: 29592

Client Sample ID: MW1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	<0.0040		0.0500	0.0392	F	mg/L		78	80 - 120	1	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: 500-65786-2 MS
Matrix: Water
Analysis Batch: 209584

Client Sample ID: MW2
Prep Type: Dissolved
Prep Batch: 209425

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	<0.00050		0.0500	0.0573		mg/L		115	75 - 125
Copper	<0.0020		0.250	0.274		mg/L		109	75 - 125
Zinc	<0.020		0.500	0.574		mg/L		115	75 - 125

Lab Sample ID: 500-65786-2 MS
Matrix: Water
Analysis Batch: 210826

Client Sample ID: MW2
Prep Type: Dissolved
Prep Batch: 209425

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0091		0.100	0.131		mg/L		122	75 - 125
Barium	0.079		0.500	0.605		mg/L		105	75 - 125
Chromium	<0.0050		0.200	0.200		mg/L		100	75 - 125
Cobalt	<0.0010		0.500	0.503		mg/L		101	75 - 125
Iron	0.33		1.00	1.26		mg/L		92	75 - 125
Lead	<0.00050		0.100	0.102		mg/L		102	75 - 125
Manganese	0.043		0.500	0.510		mg/L		93	75 - 125
Nickel	0.0024		0.500	0.506		mg/L		101	75 - 125
Selenium	<0.0025		0.100	0.133	F	mg/L		133	75 - 125
Silver	<0.00050		0.0500	0.0406		mg/L		81	75 - 125
Thallium	<0.0020		0.100	0.108		mg/L		108	75 - 125
Vanadium	<0.0050		0.500	0.501		mg/L		100	75 - 125

Lab Sample ID: 500-65786-2 MS
Matrix: Water
Analysis Batch: 211216

Client Sample ID: MW2
Prep Type: Dissolved
Prep Batch: 209425

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.384		mg/L		77	75 - 125
Beryllium	<0.0010		0.0500	0.0525		mg/L		105	75 - 125

Lab Sample ID: 500-65786-2 MS
Matrix: Water
Analysis Batch: 211426

Client Sample ID: MW2
Prep Type: Dissolved
Prep Batch: 209425

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	2.4		1.00	4.61	F	mg/L		221	75 - 125

Lab Sample ID: 500-65786-2 MSD
Matrix: Water
Analysis Batch: 209584

Client Sample ID: MW2
Prep Type: Dissolved
Prep Batch: 209425

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	<0.00050		0.0500	0.0574		mg/L		115	75 - 125	0	20
Copper	<0.0020		0.250	0.282		mg/L		113	75 - 125	3	20
Zinc	<0.020		0.500	0.570		mg/L		114	75 - 125	1	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-65786-2 MSD — **Client Sample ID: MW2**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 210826 — **Prep Batch: 209425**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0091		0.100	0.131		mg/L		122	75 - 125	0	20
Barium	0.079		0.500	0.618		mg/L		108	75 - 125	2	20
Chromium	<0.0050		0.200	0.201		mg/L		101	75 - 125	1	20
Cobalt	<0.0010		0.500	0.506		mg/L		101	75 - 125	1	20
Iron	0.33		1.00	1.24		mg/L		91	75 - 125	1	20
Lead	<0.00050		0.100	0.103		mg/L		103	75 - 125	0	20
Manganese	0.043		0.500	0.516		mg/L		95	75 - 125	1	20
Nickel	0.0024		0.500	0.512		mg/L		102	75 - 125	1	20
Selenium	<0.0025		0.100	0.132	F	mg/L		132	75 - 125	0	20
Silver	<0.00050		0.0500	0.0405		mg/L		81	75 - 125	0	20
Thallium	<0.0020		0.100	0.109		mg/L		109	75 - 125	1	20
Vanadium	<0.0050		0.500	0.506		mg/L		101	75 - 125	1	20

Lab Sample ID: 500-65786-2 MSD — **Client Sample ID: MW2**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 211216 — **Prep Batch: 209425**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.380		mg/L		76	75 - 125	1	20
Beryllium	<0.0010		0.0500	0.0520		mg/L		104	75 - 125	1	20

Lab Sample ID: 500-65786-2 MSD — **Client Sample ID: MW2**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 211426 — **Prep Batch: 209425**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	2.4		1.00	4.80	F	mg/L		240	75 - 125	4	20

Lab Sample ID: 500-65786-2 DU — **Client Sample ID: MW2**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 209584 — **Prep Batch: 209425**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Copper	<0.0020		<0.0020		mg/L		NC	20
Zinc	<0.020		<0.020		mg/L		NC	20

Lab Sample ID: 500-65786-2 DU — **Client Sample ID: MW2**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 210826 — **Prep Batch: 209425**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.0091		0.00913		mg/L		0.5	20
Barium	0.079		0.0798		mg/L		0.5	20
Chromium	<0.0050		<0.0050		mg/L		NC	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20
Iron	0.33		0.335		mg/L		0.6	20
Lead	<0.00050		<0.00050		mg/L		NC	20
Manganese	0.043		0.0434		mg/L		0.8	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-65786-2 DU
Matrix: Water
Analysis Batch: 210826

Client Sample ID: MW2
Prep Type: Dissolved
Prep Batch: 209425

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nickel	0.0024		0.00246		mg/L		3	20
Selenium	<0.0025		<0.0025		mg/L		NC	20
Silver	<0.00050		<0.00050		mg/L		NC	20
Thallium	<0.0020		<0.0020		mg/L		NC	20
Vanadium	<0.0050		<0.0050		mg/L		NC	20

Lab Sample ID: 500-65786-2 DU
Matrix: Water
Analysis Batch: 211216

Client Sample ID: MW2
Prep Type: Dissolved
Prep Batch: 209425

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0030		<0.0030		mg/L		NC	20
Beryllium	<0.0010		<0.0010		mg/L		NC	20

Lab Sample ID: 500-65786-2 DU
Matrix: Water
Analysis Batch: 211273

Client Sample ID: MW2
Prep Type: Dissolved
Prep Batch: 209425

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	2.4		2.46		mg/L		3	20

Lab Sample ID: MB 500-209425/1-A
Matrix: Water
Analysis Batch: 209584

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 209425

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.00050		0.00050		mg/L		10/30/13 12:00	10/30/13 15:52	1
Copper	<0.0020		0.0020		mg/L		10/30/13 12:00	10/30/13 15:52	1
Zinc	<0.020		0.020		mg/L		10/30/13 12:00	10/30/13 15:52	1

Lab Sample ID: MB 500-209425/1-A
Matrix: Water
Analysis Batch: 210826

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 209425

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0010		0.0010		mg/L		10/30/13 12:00	11/07/13 19:16	1
Barium	<0.0025		0.0025		mg/L		10/30/13 12:00	11/07/13 19:16	1
Chromium	<0.0050		0.0050		mg/L		10/30/13 12:00	11/07/13 19:16	1
Cobalt	<0.0010		0.0010		mg/L		10/30/13 12:00	11/07/13 19:16	1
Iron	<0.10		0.10		mg/L		10/30/13 12:00	11/07/13 19:16	1
Lead	<0.00050		0.00050		mg/L		10/30/13 12:00	11/07/13 19:16	1
Manganese	<0.0025		0.0025		mg/L		10/30/13 12:00	11/07/13 19:16	1
Nickel	<0.0020		0.0020		mg/L		10/30/13 12:00	11/07/13 19:16	1
Selenium	<0.0025		0.0025		mg/L		10/30/13 12:00	11/07/13 19:16	1
Silver	<0.00050		0.00050		mg/L		10/30/13 12:00	11/07/13 19:16	1
Thallium	<0.0020		0.0020		mg/L		10/30/13 12:00	11/07/13 19:16	1
Vanadium	<0.0050		0.0050		mg/L		10/30/13 12:00	11/07/13 19:16	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 500-209425/1-A
Matrix: Water
Analysis Batch: 211216

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 209425

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/30/13 12:00	11/11/13 10:03	1
Beryllium	<0.0010		0.0010		mg/L		10/30/13 12:00	11/11/13 10:03	1

Lab Sample ID: MB 500-209425/1-A
Matrix: Water
Analysis Batch: 211273

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 209425

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		10/30/13 12:00	11/11/13 14:15	1

Lab Sample ID: LCS 500-209425/2-A
Matrix: Water
Analysis Batch: 209584

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 209425

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	0.0500	0.0533		mg/L		107	80 - 120
Copper	0.250	0.251		mg/L		100	80 - 120
Zinc	0.500	0.583		mg/L		117	80 - 120

Lab Sample ID: LCS 500-209425/2-A
Matrix: Water
Analysis Batch: 210826

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 209425

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.109		mg/L		109	80 - 120
Barium	0.500	0.507		mg/L		101	80 - 120
Chromium	0.200	0.205		mg/L		102	80 - 120
Cobalt	0.500	0.525		mg/L		105	80 - 120
Iron	1.00	0.954		mg/L		95	80 - 120
Lead	0.100	0.100		mg/L		100	80 - 120
Manganese	0.500	0.474		mg/L		95	80 - 120
Nickel	0.500	0.540		mg/L		108	80 - 120
Selenium	0.100	0.109		mg/L		109	80 - 120
Silver	0.0500	0.0515		mg/L		103	80 - 120
Thallium	0.100	0.107		mg/L		107	80 - 120
Vanadium	0.500	0.503		mg/L		101	80 - 120

Lab Sample ID: LCS 500-209425/2-A
Matrix: Water
Analysis Batch: 211216

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 209425

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.424		mg/L		85	80 - 120
Beryllium	0.0500	0.0482		mg/L		96	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-209425/2-A
Matrix: Water
Analysis Batch: 211273

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 209425

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.986		mg/L		99	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-210341/12-A
Matrix: Water
Analysis Batch: 210505

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 210341

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/05/13 15:45	11/06/13 09:07	1

Lab Sample ID: LCS 500-210341/13-A
Matrix: Water
Analysis Batch: 210505

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 210341

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00207		mg/L		104	80 - 120

Lab Sample ID: MB 500-210343/12-A
Matrix: Water
Analysis Batch: 210505

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 210343

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/05/13 15:45	11/06/13 10:04	1

Lab Sample ID: LCS 500-210343/13-A
Matrix: Water
Analysis Batch: 210505

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 210343

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00206		mg/L		103	80 - 120

Method: 9014 - Cyanide

Lab Sample ID: MB 500-209747/1-A
Matrix: Water
Analysis Batch: 209930

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209747

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/01/13 10:30	11/01/13 17:05	1

Lab Sample ID: LCS 500-209747/2-A
Matrix: Water
Analysis Batch: 209930

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209747

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.100		mg/L		100	80 - 120

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 500-211305/3
Matrix: Water
Analysis Batch: 211305

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/11/13 07:15	1

Lab Sample ID: LCS 500-211305/4
Matrix: Water
Analysis Batch: 211305

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.9		mg/L		100	80 - 120

Method: 9251 - Chloride

Lab Sample ID: MB 500-210814/4
Matrix: Water
Analysis Batch: 210814

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/07/13 19:12	1

Lab Sample ID: LCS 500-210814/5
Matrix: Water
Analysis Batch: 210814

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.2		mg/L		98	80 - 120

Lab Sample ID: 500-65786-11 MS
Matrix: Water
Analysis Batch: 210814

Client Sample ID: Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	110		50.0	161		mg/L		108	75 - 125

Lab Sample ID: 500-65786-11 MSD
Matrix: Water
Analysis Batch: 210814

Client Sample ID: Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	110		50.0	159		mg/L		105	75 - 125	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-209944/1
Matrix: Water
Analysis Batch: 209944

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/02/13 22:45	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 500-209944/2
Matrix: Water
Analysis Batch: 209944

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	234		mg/L		94	80 - 120

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-209685/31
Matrix: Water
Analysis Batch: 209685

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			10/31/13 15:11	1

Lab Sample ID: LCS 500-209685/32
Matrix: Water
Analysis Batch: 209685

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.3		mg/L		103	80 - 120

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-209604/3
Matrix: Water
Analysis Batch: 209604

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/13 18:20	1

Lab Sample ID: LCS 500-209604/4
Matrix: Water
Analysis Batch: 209604

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.102		mg/L		102	80 - 120

Lab Sample ID: 500-65786-4 MS
Matrix: Water
Analysis Batch: 209604

Client Sample ID: MW4
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	<0.020		0.100	0.0868		mg/L		87	75 - 125

Lab Sample ID: 500-65786-4 MSD
Matrix: Water
Analysis Batch: 209604

Client Sample ID: MW4
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	<0.020		0.100	0.0881		mg/L		88	75 - 125	1	20

Method: SM 4500 NO3 F - Nitrogen, Nitrate

Lab Sample ID: MB 500-210468/3
Matrix: Water
Analysis Batch: 210468

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/04/13 16:49	1

Lab Sample ID: LCS 500-210468/4
Matrix: Water
Analysis Batch: 210468

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	0.894		mg/L		89	80 - 120

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 60
Phone: 708.534.5200 Fax: 708.534

500-65786 COC

(optional)
Report To
Contact: RICH GNAT
Company: KPRG & ASSOCIATES INC.
Address: 14665 W. LISBON RD.
Address: BROOKFIELD, WI
Phone: 262-781-0475
Fax:
E-Mail:

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-65786

Chain of Custody Number:

Page ____ of ____

Temperature °C of Cooler: (4.3)(3.9)(4.1)

Client: KPRG & ASSOC INC.
Client Project #: 12313.3
Project Name: WILL COUNTY STATION ASH PONDS.
Project Location/State: ROMEOVILLE, IL
Lab Project #:
Sampler: IAN J. HOWESON
Lab PM: B. STADELMANN

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date (2013)	Sampling Time	# of Containers	Matrix	DISSOLVED METALS	TDS, Fl Cl, SO4	NO2	NO3-NO2	CYANIDE	BTEX BENZENE	PERCHLORATE			Comments
							3	7	7	2	4	1	7			
1		MW 1	10.29	13:25	9	W	X	X	X	X	X	X	X			
2		MW 2	10.28	09:20	9	W										
3		MW 3	10.28	10:40	9	W										
4		MW 4	10.28	12:00	9	W										
5		MW 5	10.28	13:10	9	W										
6		MW 6	10.28	16:10	9	W										
7		MW 7	10.29	09:40	9	W										
8		MW 8	10.28	17:15	9	W										
9		MW 9	10.29	11:30	9	W										
10		MW 10	10.28	14:20	9	W	X	X	X	X	X	X	X			

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days ___ Other
Requested Due Date ____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	KPRG	10-29-13	15:55	[signature]	TAL-Chicago	10/29/13	1555

Lab Courier:
Shipped:
Hand Delivered: KPRG

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

11/12/2013

MWG13-15_26492

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)
Report To
Contact: RICH GNAT
Company: KPRG & ASSOCIATES INC
Address: 14665 W. LISBON RD
Address: BROOKFIELD, WI
Phone: 262-781-0475
Fax:
E-Mail:

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-65786
Chain of Custody Number:
Page ____ of ____
Temperature °C of Cooler:

Client: KPRG & ASSOC INC
Client Project #: 12313.3
Project Name: WILL COUNTY STATION ASH PONDS.
Project Location/State: ROMEOVILLE, IL
Lab Project #:
Sampler: IAN J. HOWIESON
Lab PM: B. STADELMANN

Lab ID	MS/MSD	Sample ID	Sampling Date (2013)	Sampling Time	# of Containers	Matrix	DISSOLVED METALS.	TDS, Fl, Cl, SO4	NO2	NO3-NO2	CYANIDE	BTEX BENZENE	PERCHLORATE			Comments
						Preservative	3	7	7	2	4	1	7			
11		DUPLICATE	10.29	—	9	W	X	X	X	X	X	X	X			
12		TRIP BLANK	—	—	2	W										

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days ___ Other
Requested Due Date ____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	KPRG	10-29-13	15:55	[signature]	TAL-Chicago	10/29/13	1555

Lab Courier:
Shipped:
Hand Delivered: KPRG

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

11/12/2013

MWG13-15_26493

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TEST

11/12/2013

Client Information (Sub Contract Lab)	Sampler	Lab PM: Stadelmann, Bonnie M	Carrier Tracking No(s)	COC No: 500-41793 1
Client Contact: Shipping/Receiving	Phone	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 500-65786-1
Address: 880 Riverside Parkway,	Due Date Requested: 11/11/2013			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #			
Email	WO #			
Project Name: Will Co. Station Ash Ponds	Project #: 50005079			
Site:	SSOW#:			

Analysis Requested

500-65786 Chain of Custody

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW1 (500-65786-1)	10/29/13	13.25 Central		Water			X	1	
MW2 (500-65786-2)	10/28/13	09:20 Central		Water			X	1	
MW3 (500-65786-3)	10/28/13	10:40 Central		Water			X	1	
MW4 (500-65786-4)	10/28/13	12.00 Central		Water			X	1	
MW5 (500-65786-5)	10/28/13	13.10 Central		Water			X	1	
MW6 (500-65786-6)	10/28/13	16:10 Central		Water			X	1	
MW7 (500-65786-7)	10/29/13	09:40 Central		Water			X	1	
MW8 (500-65786-8)	10/28/13	17:15 Central		Water			X	1	
MW9 (500-65786-9)	10/29/13	11 30 Central		Water			X	1	
MW10 (500-65786-10)	10/28/13	14:20 Central		Water			X	1	
Duplicate (500-65786-11)	10/29/13	Central		Water			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:	
Relinquished by:		Date/Time: 10/30/13 1600	Company: TAL Chicago	Received by: Kim Nelson	Date/Time: 11/1/13 905	Company: TAS	
Relinquished by		Date/Time	Company	Received by	Date/Time	Company	
Relinquished by		Date/Time	Company	Received by	Date/Time	Company	

0.4°C

MWG13-15_26494

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-65786-1

Login Number: 65786
List Number: 1
Creator: Lunt, Jeff T

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	4.3,3.9,4.1
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-65786-1

Login Number: 65786
List Number: 1
Creator: Nelson, Kym D

List Source: TestAmerica Sacramento
List Creation: 11/01/13 01:13 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

MWG13-15_26496

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-65786-1

Laboratory: TestAmerica Chicago

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40461	04-30-14
California	NELAP	9	01132CA	04-30-14
Georgia	State Program	4	N/A	04-30-14
Hawaii	State Program	9	N/A	04-30-14
Illinois	NELAP	5	100201	04-30-14
Indiana	State Program	5	C-IL-02	04-30-14
Iowa	State Program	7	82	05-01-14
Kansas	NELAP	7	E-10161	10-31-14 *
Kentucky	State Program	4	90023	12-31-13
Kentucky (UST)	State Program	4	66	04-30-14
Louisiana	NELAP	6	30720	06-30-14
Massachusetts	State Program	1	M-IL035	06-30-14
Mississippi	State Program	4	N/A	04-30-14
North Carolina DENR	State Program	4	291	12-31-13
North Dakota	State Program	8	R-194	04-30-14
Oklahoma	State Program	6	8908	08-31-14
South Carolina	State Program	4	77001	04-30-14
Texas	NELAP	6	T104704252-09-TX	02-28-14
USDA	Federal		P330-12-00038	02-06-15
Wisconsin	State Program	5	999580010	08-31-14
Wyoming	State Program	8	8TMS-Q	04-30-14

Laboratory: TestAmerica Sacramento

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NE-OS-22-13	01-31-14
A2LA	DoD ELAP		2928-01	01-31-14
Alaska (UST)	State Program	10	UST-055	12-18-13
Arizona	State Program	9	AZ0708	08-11-14
Arkansas DEQ	State Program	6	88-0691	06-17-14
California	NELAP	9	1119CA	01-31-14
Connecticut	State Program	1	PH-0691	06-30-15
Florida	NELAP	4	E87570	06-30-14
Guam	State Program	9	N/A	08-31-14
Hawaii	State Program	9	N/A	01-31-14
Illinois	NELAP	5	200060	03-17-14
Kansas	NELAP	7	E-10375	10-31-14
Louisiana	NELAP	6	30612	06-30-14
Michigan	State Program	5	9947	01-31-14
Nebraska	State Program	7	NE-OS-22-13	01-31-14
Nevada	State Program	9	CA44	07-31-14
New Jersey	NELAP	2	CA005	06-30-14
New York	NELAP	2	11666	04-01-14
Northern Mariana Islands	State Program	9	MP0007	02-01-14
Oregon	NELAP	10	CA200005	03-28-14
Pennsylvania	NELAP	3	68-01272	03-31-14
South Carolina	State Program	4	87014	06-30-14
Texas	NELAP	6	T104704399-08-TX	05-31-14
US Fish & Wildlife	Federal		LE148388-0	12-31-13

* Expired certification is currently pending renewal and is considered valid.

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-65786-1

Laboratory: TestAmerica Sacramento (Continued)

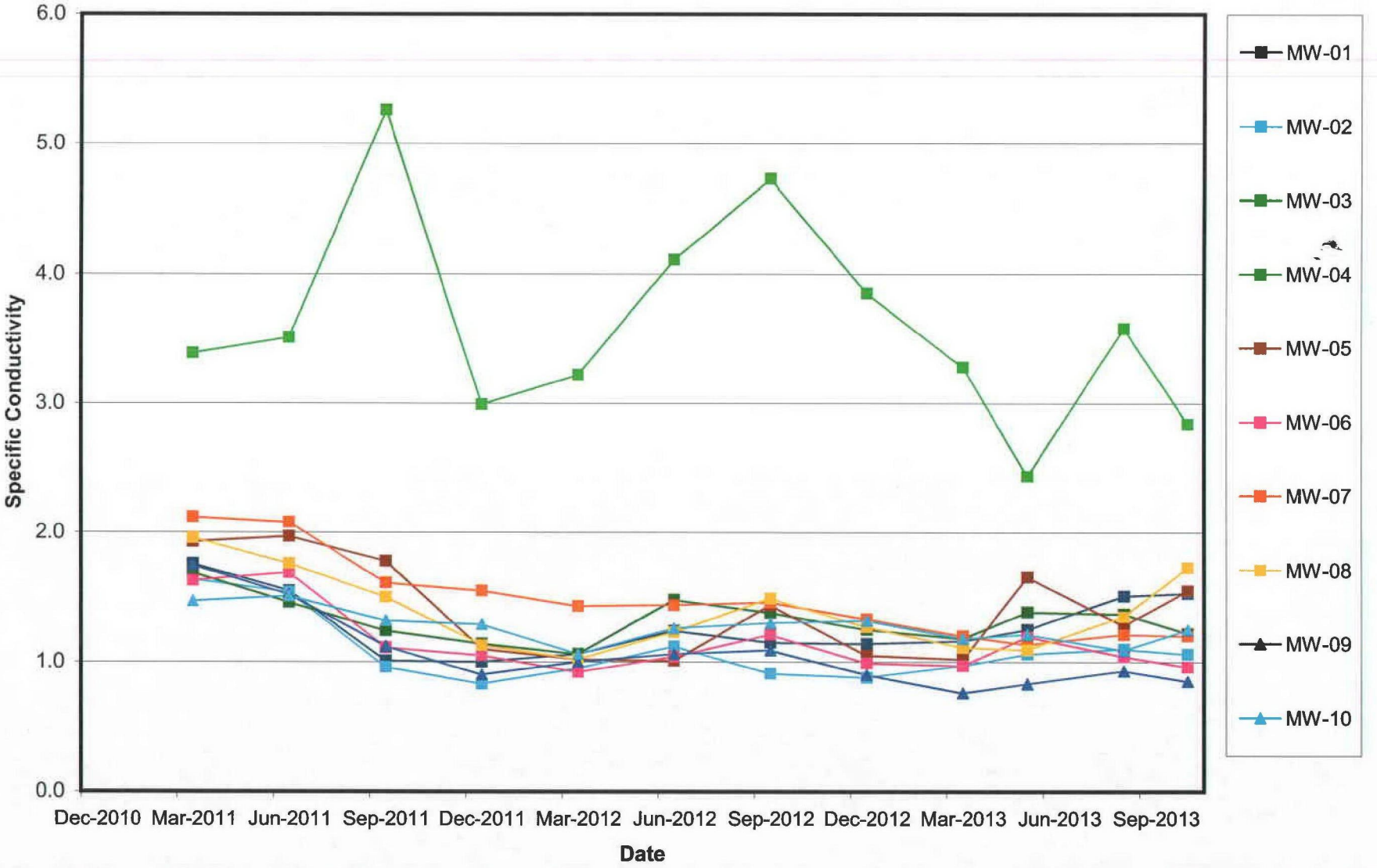
All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
USDA	Federal		P330-11-00436	12-30-14
USEPA UCMR	Federal	1	CA00044	11-06-14
Utah	NELAP	8	QUAN1	01-31-14
Washington	State Program	10	C581	05-05-14
West Virginia	State Program	3	9930C	12-31-13
Wyoming	State Program	8	8TMS-Q	01-31-14

MWG13-15_26498

Midwest Generation Will County Station, Romeoville, IL

Specific Conductivity vs. Time



MWG13-15_26499

Exhibit B13

NRG Energy
529 E. 135th Street
Romeoville, IL 60446

ANNUAL and QUARTERLY GROUNDWATER MONITORING REPORT
WILL COUNTY GENERATING STATION

January 22, 2016

Ms. Andrea Rhodes
Illinois Environmental Protection Agency
Division of Public Water Supplies
MC#19
1021 North Grand Avenue East
Springfield, IL 62794-9276

VIA FEDERAL EXPRESS

Re: Annual and Quarterly Groundwater Monitoring Results – Fourth Quarter 2015
Will County Generating Station – Ash Impoundments
Compliance Commitment Agreement VN W-2012-00058; ID# 6283

Dear Ms. Rhodes:

The fourth quarterly groundwater sampling for 2015 has been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Will County Generating Station in accordance with the signed Compliance Commitment Agreement (CCA) with Illinois Environmental Protection Agency (IEPA) dated October 24, 2012. This quarterly monitoring report summarizes the results of the sampling. This report is also intended to serve as the Annual Report and includes historical data analysis/summaries.

Well Inspection and Sampling Procedures

The groundwater monitoring network around the ash ponds at the Will County facility consists of ten wells (MW-01 through MW-10) as shown on Figure 1. As part of sampling procedures, the integrity of all monitoring wells was inspected and water levels obtained using an electronic water level meter (see summary of water level discussion below). The wells were found in good condition with locked protector casings and the concrete surface seals were intact.

Groundwater samples were collected using the low-flow sampling technique. One duplicate sample from MW-01 was collected for quality assurance purposes. In addition, a deionized water trip blank was placed with the sample bottle shipment by the laboratory and accompanied the groundwater samples bottles from and back to the laboratory. The groundwater monitoring samples and the duplicate sample were analyzed for the inorganic compounds listed in Illinois Administrative Code (IAC) 620.410(a), 620.410(d) and

620.410(e), other than radium 226/228. The trip blank was analyzed for the volatile organic compounds (VOCs) listed in IAC 620.410(d).

Groundwater Flow Evaluation

Water level data from the most recent round of sampling along with historical water levels obtained from each well are summarized in Table 1. The water levels from the most recent sampling were used to generate a groundwater flow map which is provided on Figure 2. The water elevation data indicates a general westerly flow of groundwater. The flow conditions observed during this sampling are consistent with historical conditions reported for the site.

Relative to an annual evaluation of groundwater levels, a historical hydrograph is presented in Attachment 1. The hydrograph indicates generally stable groundwater elevations since the second quarter of 2013 and appear generally consistent with historical data. Well MW-06 had a slight off-trend increase in the water level recorded for the fourth quarter sampling.

Summary of Analytical Data

A copy of the analytical data package is provided in Attachment 1. The field parameter and analytical data from the most recent sampling, along with the previous eight quarters of data, are summarized in Table 2. As stated above, the duplicate sample was collected from well MW-01. The data are generally consistent with previous data generated for the Will County site with any exceptions discussed below. The duplicate values were within an acceptable range (below +/- 30%). All wells for which the sampling data reports a value above one or more groundwater standards are located within the area of the IEPA approved Groundwater Management Zone (GMZ) and Environmental Land Use Control (ELUC) areas.

At this time a statistical evaluation of background water quality for comparing against downgradient wells has not been completed. The upgradient wells MW-01 through MW-06, indicate impacts that are not associated with the ash ponds at the site, however, IEPA does not recognize the water quality data from these wells as representative of background.

Relative to an annual evaluation of the water chemistry data, time versus concentration curves are provided for each parameter analyzed in Attachment 3. The curves include the IEPA drinking water standard for reference, where appropriate.

As noted previously, all wells for which the sampling data reports a value above one or more applicable groundwater standards are located within the area of the IEPA approved GMZ and ELUC.

If there are any questions, please contact either Sharene Shealey of NRG Energy at 815-372-4625 or Richard Gnat of KPRG at 262-781-0475.

Sincerely,

Scott Perry
Station Manager

Attachments

cc: William Buscher, IEPA
Sharene Shealey, Midwest Generatiuon
Joseph Kotas, Midwest Generation.
Richard Gnat, KPRG and Associates, Inc.

FIGURES



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

SITE MAP

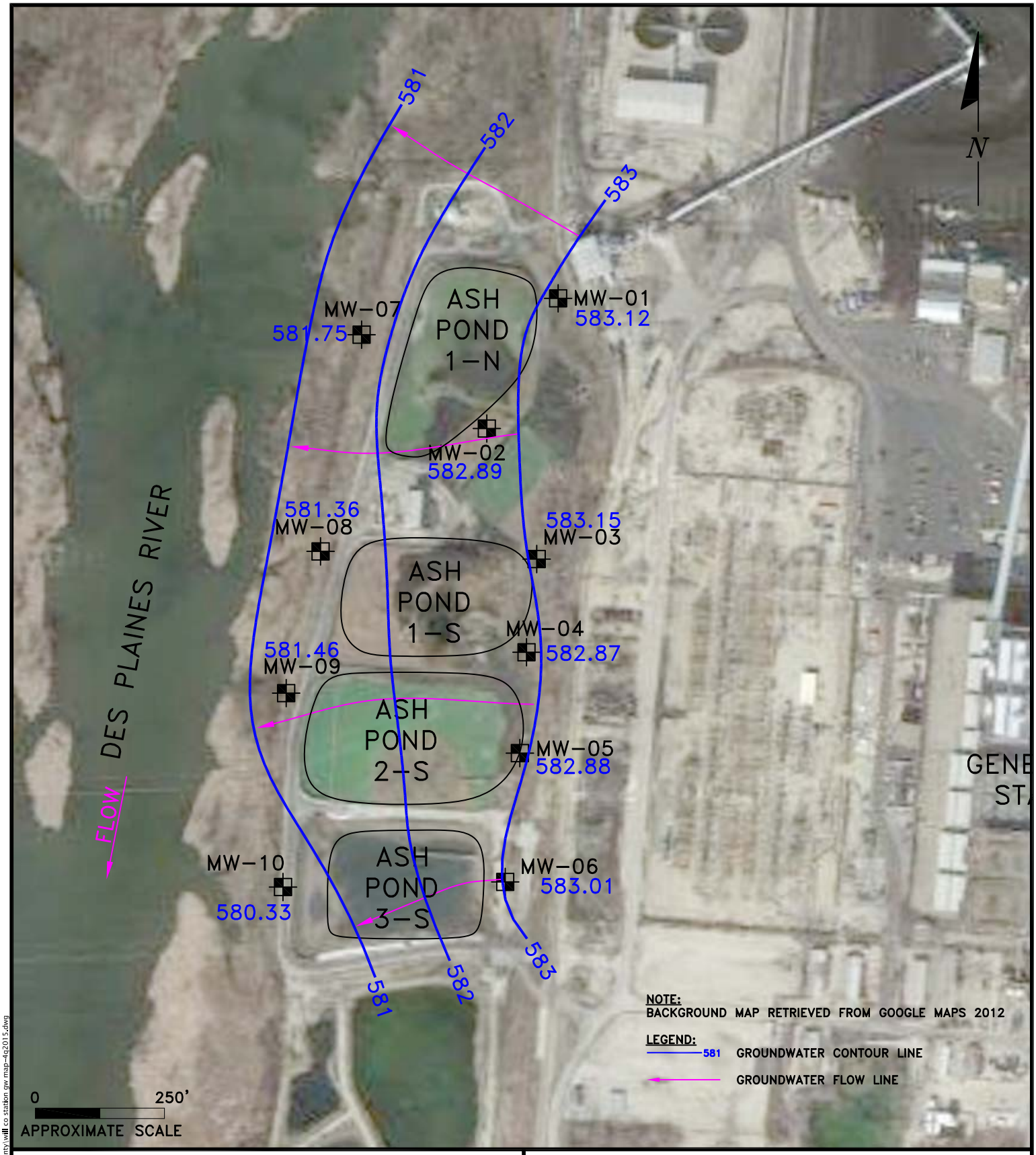
WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 250' | Date: January 23, 2015

KPRG Project No. 12313.3 | FIGURE 1

MWG13-15_50529

W:\c-p&p projects\midwest generation\groundwater sampling\will county\will co station gw map.dwg



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

GROUNDWATER CONTOUR MAP 11/2015

WILL COUNTY STATION
ROMEOVILLE, ILLINOIS

Scale: 1" = 250' | Date: October 13, 2015

KPRG Project No. 12313.3 | FIGURE 2

MWG 3-16-56830

W:\c\projects\midwest generation\12313.will county\will co station gw map-4q2015.dwg

TABLES

Table 1. Groundwater Elevations - Midwest Generation, LLC, Will County Station, Romeoville, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-01	6/15/2011	592.95	589.81	583.67	583.65	570.95	9.28	9.30	22.00
	9/15/2011	592.95	589.81	583.25	583.25	570.95	9.70	9.70	22.00
	12/8/2011	592.95	589.81	583.44	583.43	570.95	9.51	9.52	22.00
	3/16/2012	592.95	589.81	583.41	583.40	570.95	9.54	9.55	22.00
	6/20/2012	592.95	589.81	583.20	583.18	570.95	9.75	9.77	22.00
	9/24/2012	592.95	589.81	583.25	583.25	570.95	9.70	9.70	22.00
	12/18/2012	592.95	589.81	583.27	583.27	570.95	9.68	9.68	22.00
	3/6/2013	592.95	589.81	583.47	583.47	570.95	9.48	9.48	22.00
	6/3/2013	592.95	589.81	583.37	583.37	570.95	9.58	9.58	22.00
	8/14/2013	592.95	589.81	582.18	582.18	570.95	10.77	10.77	22.00
	10/29/2013	592.95	589.81	581.87	581.89	570.95	11.08	11.06	22.00
	2/20/2014	592.95	589.81	582.59	582.59	570.95	10.36	10.36	22.00
	5/20/2014	592.95	589.81	583.31	583.33	570.95	9.64	9.62	22.00
	8/13/2014	592.95	589.81	583.33	583.34	570.95	9.62	9.61	22.00
	10/21/2014	592.95	589.81	583.21	583.20	570.95	9.74	9.75	22.00
	2/4/2015	592.95	589.81	583.12	583.12	570.95	9.83	9.83	22.00
	4/30/2015	592.95	589.81	583.19	583.21	570.95	9.76	9.74	22.00
	7/27/2015	592.95	589.81	583.09	583.08	570.95	9.86	9.87	22.00
	11/9/2015	592.95	589.81	583.12	583.12	570.95	9.83	9.83	22.00
MW-02	6/15/2011	593.99	590.62	583.87	583.85	568.62	10.12	10.14	25.37
	9/15/2011	593.99	590.62	583.29	583.29	568.62	10.70	10.70	25.37
	12/8/2011	593.99	590.62	583.56	583.55	568.62	10.43	10.44	25.37
	3/16/2012	593.99	590.62	583.54	583.52	568.62	10.45	10.47	25.37
	6/20/2012	593.99	590.62	583.31	583.31	568.62	10.68	10.68	25.37
	9/24/2012	593.99	590.62	583.34	583.32	568.62	10.65	10.67	25.37
	12/18/2012	593.99	590.62	583.39	583.39	568.62	10.60	10.60	25.37
	3/6/2013	593.99	590.62	583.60	583.60	568.62	10.39	10.39	25.37
	6/3/2013	593.99	590.62	583.35	583.35	568.62	10.64	10.64	25.37
	8/14/2013	593.99	590.62	581.97	581.97	568.62	12.02	12.02	25.37
	10/28/2013	593.99	590.62	581.76	581.76	568.62	12.23	12.23	25.37
	2/20/2014	593.99	590.62	582.64	582.65	568.62	11.35	11.34	25.37
	5/20/2014	593.99	590.62	583.22	583.22	568.62	10.77	10.77	25.37
	8/13/2014	593.99	590.62	583.25	583.25	568.62	10.74	10.74	25.37
	10/20/2014	593.99	590.62	583.11	583.10	568.62	10.88	10.89	25.37
	2/4/2015	593.99	590.62	582.89	582.88	568.62	11.10	11.11	25.37
	5/1/2015	593.99	590.62	583.02	583.02	568.62	10.97	10.97	25.37
	7/27/2015	593.99	590.62	582.89	582.89	568.62	11.10	11.10	25.37
	11/9/2015	593.99	590.62	582.89	582.87	568.62	11.10	11.12	25.37
MW-03	6/15/2011	593.51	590.50	583.76	583.67	573.74	9.75	9.84	19.77
	9/15/2011	593.51	590.50	582.85	582.83	573.74	10.66	10.68	19.77
	12/8/2011	593.51	590.50	583.36	583.35	573.74	10.15	10.16	19.77
	3/16/2012	593.51	590.50	583.45	583.38	573.74	10.06	10.13	19.77
	6/20/2012	593.51	590.50	582.95	582.93	573.74	10.56	10.58	19.77
	9/24/2012	593.51	590.50	582.93	582.95	573.74	10.58	10.56	19.77
	12/18/2012	593.51	590.50	583.10	583.10	573.74	10.41	10.41	19.77
	3/6/2013	593.51	590.50	583.42	583.42	573.74	10.09	10.09	19.77
	6/3/2013	593.51	590.50	583.53	583.43	573.74	9.98	10.08	19.77
	8/14/2013	593.51	590.50	581.79	581.78	573.74	11.72	11.73	19.77
	10/28/2013	593.51	590.50	581.86	581.86	573.74	11.65	11.65	19.77
	2/13/2014	593.51	590.50	582.66	582.56	573.74	10.85	10.95	19.77
	5/21/2014	593.51	590.50	583.37	583.33	573.74	10.14	10.18	19.77
	8/12/2014	593.51	590.50	583.35	583.35	573.74	10.16	10.16	19.77
	10/20/2014	593.51	590.50	583.30	583.29	573.74	10.21	10.22	19.77
	2/4/2015	593.51	590.50	583.17	583.00	573.74	10.34	10.51	19.77
	5/1/2015	593.51	590.50	583.27	583.27	573.74	10.24	10.24	19.77
	7/28/2015	593.51	590.50	582.98	582.97	573.74	10.53	10.54	19.77
	11/9/2015	593.51	590.50	583.15	583.14	573.74	10.36	10.37	19.77

Table 1. Groundwater Elevations - Midwest Generation, LLC, Will County Station, Romeoville, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-04	6/15/2011	594.25	591.22	583.49	583.48	571.77	10.76	10.77	22.48
	9/15/2011	594.25	591.22	581.47	581.42	571.77	12.78	12.83	22.48
	12/8/2011	594.25	591.22	582.07	582.07	571.77	12.18	12.18	22.48
	3/16/2012	594.25	591.22	582.08	582.05	571.77	12.17	12.20	22.48
	6/20/2012	594.25	591.22	581.60	581.56	571.77	12.65	12.69	22.48
	9/24/2012	594.25	591.22	581.45	581.39	571.77	12.80	12.86	22.48
	12/18/2012	594.25	591.22	581.71	581.71	571.77	12.54	12.54	22.48
	3/6/2013	594.25	591.22	582.07	582.07	571.77	12.18	12.18	22.48
	6/3/2013	594.25*	591.22	582*	582*	571.77	12.05	12.06	22.48
	8/14/2013	593.95	591.06	581.89	581.89	571.47	12.06	12.06	22.48
	10/28/2013	593.95	591.06	582.07	582.05	571.47	11.88	11.90	22.48
	2/13/2014	593.95	591.06	582.15	582.27	571.47	11.80	11.68	22.48
	5/21/2014	593.95	591.06	583.14	583.11	571.47	10.81	10.84	22.48
	8/13/2014	593.95	591.06	583.32	583.27	571.47	10.63	10.68	22.48
	10/20/2014	593.95	591.06	583.04	583.05	571.47	10.91	10.90	22.48
	2/4/2015	593.95	591.06	582.93	582.93	571.47	11.02	11.02	22.48
	5/1/2015	593.95	591.06	583.06	583.05	571.47	10.89	10.90	22.48
	7/28/2015	593.95	591.06	582.78	582.77	571.47	11.17	11.18	22.48
	11/9/2015	593.95	591.06	582.87	582.85	571.47	11.08	11.10	22.48
MW-05	6/15/2011	592.87	589.60	583.47	583.45	570.80	9.40	9.42	22.07
	9/15/2011	592.87	589.60	582.47	582.45	570.80	10.40	10.42	22.07
	12/8/2011	592.87	589.60	583.17	583.15	570.80	9.70	9.72	22.07
	3/16/2012	592.87	589.60	583.14	583.16	570.80	9.73	9.71	22.07
	6/20/2012	592.87	589.60	582.60	582.60	570.80	10.27	10.27	22.07
	9/24/2012	592.87	589.60	582.37	582.36	570.80	10.50	10.51	22.07
	12/18/2012	592.87	589.60	582.79	582.79	570.80	10.08	10.08	22.07
	3/6/2013	592.87	589.60	583.16	583.16	570.80	9.71	9.71	22.07
	6/3/2013	592.87	589.60	583.22	583.19	570.80	9.65	9.68	22.07
	8/14/2013	592.87	589.60	581.70	581.74	570.80	11.17	11.13	22.07
	10/28/2013	592.87	589.60	582.16	582.15	570.80	10.71	10.72	22.07
	2/13/2014	592.87	589.60	582.31	582.31	570.80	10.56	10.56	22.07
	5/21/2014	592.87	589.60	583.09	583.10	570.80	9.78	9.77	22.07
	8/12/2014	592.87	589.60	583.26	583.27	570.80	9.61	9.60	22.07
	10/20/2014	592.87	589.60	583.01	583.02	570.80	9.86	9.85	22.07
	2/3/2015	592.87	589.60	582.96	582.96	570.80	9.91	9.91	22.07
	5/1/2015	592.87	589.60	583.03	583.03	570.80	9.84	9.84	22.07
	7/28/2015	592.87	589.60	582.78	582.76	570.80	10.09	10.11	22.07
	11/9/2015	592.87	589.60	582.88	582.84	570.80	9.99	10.03	22.07
MW-06	6/15/2011	592.97	589.77	582.52	582.52	571.82	10.45	10.45	21.15
	9/15/2011	592.97	589.77	581.95	581.91	571.82	11.02	11.06	21.15
	12/8/2011	592.97	589.77	582.16	582.16	571.82	10.81	10.81	21.15
	3/16/2012	592.97	589.77	582.10	582.09	571.82	10.87	10.88	21.15
	6/20/2012	592.97	589.77	581.76	581.76	571.82	11.21	11.21	21.15
	9/24/2012	592.97	589.77	581.71	581.63	571.82	11.26	11.34	21.15
	12/18/2012	592.97	589.77	581.75	581.75	571.82	11.22	11.22	21.15
	3/6/2013	592.97	589.77	582.10	582.10	571.82	10.87	10.87	21.15
	6/3/2013	592.97	589.77	582.24	582.12	571.82	10.73	10.85	21.15
	8/14/2013	592.97	589.77	581.29	581.29	571.82	11.68	11.68	21.15
	10/28/2013	592.97	589.77	581.21	581.19	571.82	11.76	11.78	21.15
	2/13/2014	592.97	589.77	581.20	581.19	571.82	11.77	11.78	21.15
	5/20/2014	592.97	589.77	582.02	582.00	571.82	10.95	10.97	21.15
	8/12/2014	592.97	589.77	582.45	582.43	571.82	10.52	10.54	21.15
	10/20/2014	592.97	589.77	581.77	581.80	571.82	11.20	11.17	21.15
	2/3/2015	592.97	589.77	581.66	581.65	571.82	11.31	11.32	21.15
	4/30/2015	592.97	589.77	581.93	581.89	571.82	11.04	11.08	21.15
	7/28/2015	592.97	589.77	581.67	581.66	571.82	11.30	11.31	21.15
	11/9/2015	592.97	589.77	583.01	581.98	571.82	9.96	10.99	21.15

Table 1. Groundwater Elevations - Midwest Generation, LLC, Will County Station, Romeoville, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-07	6/15/2011	592.88	589.55	582.96	582.94	572.07	9.92	9.94	20.81
	9/15/2011	592.88	589.55	582.41	582.41	572.07	10.47	10.47	20.81
	12/8/2011	592.88	589.55	582.82	582.81	572.07	10.06	10.07	20.81
	3/16/2012	592.88	589.55	582.76	582.76	572.07	10.12	10.12	20.81
	6/20/2012	592.88	589.55	582.24	582.24	572.07	10.64	10.64	20.81
	9/24/2012	592.88	589.55	582.59	582.59	572.07	10.29	10.29	20.81
	12/18/2012	592.88	589.55	582.67	582.67	572.07	10.21	10.21	20.81
	3/6/2013	592.88	589.55	582.76	582.76	572.07	10.12	10.12	20.81
	6/3/2013	592.88	589.55	582.46	582.28	572.07	10.42	10.60	20.81
	8/15/2013	592.88	589.55	581.04	580.80	572.07	11.84	12.08	20.81
	10/29/2013	592.88	589.55	580.99	580.94	572.07	11.89	11.94	20.81
	2/20/2014	592.88	589.55	581.80	581.54	572.07	11.08	11.34	20.81
	5/20/2014	592.88	589.55	582.29	582.21	572.07	10.59	10.67	20.81
	8/12/2014	592.88	589.55	581.97	581.85	572.07	10.91	11.03	20.81
	10/21/2014	592.88	589.55	582.20	582.01	572.07	10.68	10.87	20.81
	2/3/2015	592.88	589.55	581.79	581.70	572.07	11.09	11.18	20.81
	4/30/2015	592.88	589.55	582.10	582.04	572.07	10.78	10.84	20.81
	7/27/2015	592.88	589.55	581.42	581.29	572.07	11.46	11.59	20.81
	11/9/2015	592.88	589.55	581.75	581.64	572.07	11.13	11.24	20.81
MW-08	6/15/2011	592.71	589.64	582.24	582.22	572.50	10.47	10.49	20.21
	9/15/2011	592.71	589.64	581.28	581.26	572.50	11.43	11.45	20.21
	12/8/2011	592.71	589.64	582.38	582.38	572.50	10.33	10.33	20.21
	3/16/2012	592.71	589.64	582.41	582.38	572.50	10.30	10.33	20.21
	6/20/2012	592.71	589.64	581.54	581.53	572.50	11.17	11.18	20.21
	9/24/2012	592.71	589.64	581.36	581.36	572.50	11.35	11.35	20.21
	12/18/2012	592.71	589.64	582.22	582.22	572.50	10.49	10.49	20.21
	3/6/2013	592.71	589.64	582.04	582.04	572.50	10.67	10.67	20.21
	6/3/2013	592.71	589.64	582.06	580.79	572.50	10.65	11.92	20.21
	8/15/2013	592.71	589.64	580.95	579.81	572.50	11.76	12.90	20.21
	10/28/2013	592.71	589.64	581.05	580.67	572.50	11.66	12.04	20.21
	2/20/2014	592.71	589.64	581.62	580.99	572.50	11.09	11.72	20.21
	5/20/2014	592.71	589.64	581.69	581.63	572.50	11.02	11.08	20.21
	8/12/2014	592.71	589.64	581.53	581.18	572.50	11.18	11.53	20.21
	10/21/2014	592.71	589.64	581.51	580.92	572.50	11.20	11.79	20.21
	2/3/2015	592.71	589.64	581.25	580.83	572.50	11.46	11.88	20.21
	4/30/2015	592.71	589.64	581.48	581.20	572.50	11.23	11.51	20.21
	7/27/2015	592.71	589.64	581.10	579.97	572.50	11.61	12.74	20.21
	11/9/2015	592.71	589.64	581.36	580.82	572.50	11.35	11.89	20.21
MW-09	6/15/2011	592.84	589.76	582.81	582.51	570.66	10.03	10.33	22.18
	9/15/2011	592.84	589.76	581.28	581.17	570.66	11.56	11.67	22.18
	12/8/2011	592.84	589.76	583.36	583.36	570.66	9.48	9.48	22.18
	3/16/2012	592.84	589.76	583.52	583.51	570.66	9.32	9.33	22.18
	6/20/2012	592.84	589.76	581.51	581.51	570.66	11.33	11.33	22.18
	9/24/2012	592.84	589.76	580.88	580.89	570.66	11.96	11.95	22.18
	12/18/2012	592.84	589.76	583.10	583.10	570.66	9.74	9.74	22.18
	3/6/2013	592.84	589.76	583.13	583.13	570.66	9.71	9.71	22.18
	6/3/2013	592.84	589.76	582.46	581.40	570.66	10.38	11.44	22.18
	8/15/2013	592.84	589.76	580.56	580.11	570.66	12.28	12.73	22.18
	10/29/2013	592.84	589.76	581.87	581.71	570.66	10.97	11.13	22.18
	2/13/2014	592.84	589.76	581.23	581.06	570.66	11.61	11.78	22.18
	5/20/2014	592.84	589.76	582.76	581.93	570.66	10.08	10.91	22.18
	8/12/2014	592.84	589.76	582.02	581.59	570.66	10.82	11.25	22.18
	10/21/2014	592.84	589.76	581.40	581.11	570.66	11.44	11.73	22.18
	2/3/2015	592.84	589.76	581.97	581.36	570.66	10.87	11.48	22.18
	4/30/2015	592.84	589.76	581.57	581.53	570.66	11.27	11.31	22.18
	7/27/2015	592.84	589.76	581.31	580.86	570.66	11.53	11.98	22.18
	11/9/2015	592.84	589.76	581.46	581.30	570.66	11.38	11.54	22.18

Table 1. Groundwater Elevations - Midwest Generation, LLC, Will County Station, Romeoville, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-10	6/15/2011	590.98	591.31	580.90	580.46	571.45	10.08	10.52	19.53
	9/15/2011	590.98	591.31	580.04	579.48	571.45	10.94	11.50	19.53
	12/8/2011	590.98	591.31	580.59	580.15	571.45	10.39	10.83	19.53
	3/16/2012	590.98	591.31	580.73	580.08	571.45	10.25	10.90	19.53
	6/20/2012	590.98	591.31	579.70	579.43	571.45	11.28	11.55	19.53
	9/24/2012	590.98	591.31	579.69	578.86	571.45	11.29	12.12	19.53
	12/18/2012	590.98	591.31	579.92	579.92	571.45	11.06	11.06	19.53
	3/6/2013	590.98	591.31	580.74	580.74	571.45	10.24	10.24	19.53
	6/3/2013	590.98	591.31	580.43	580.19	571.45	10.55	10.79	19.53
	8/15/2013	590.98	591.31	579.13	579.03	571.45	11.85	11.95	19.53
	10/28/2013	590.98	591.31	579.37	579.33	571.45	11.61	11.65	19.53
	2/20/2014	590.98	591.31	580.32	579.96	571.45	10.66	11.02	19.53
	5/20/2014	590.98	591.31	580.79	580.60	571.45	10.19	10.38	19.53
	8/13/2014	590.98	591.31	580.57	580.47	571.45	10.41	10.51	19.53
	10/20/14	590.98	591.31	580.50	580.26	571.45	10.48	10.72	19.53
	02/03/15	590.98	591.31	580.12	579.94	571.45	10.86	11.04	19.53
	04/30/15	590.98	591.31	580.37	580.26	571.45	10.61	10.72	19.53
	07/27/15	590.98	591.31	580.11	579.95	571.45	10.87	11.03	19.53
	11/9/2015	590.98	591.31	580.33	580.14	571.45	10.65	10.84	19.53

* - Estimated value due to damaged well casing which was subsequently re-surveyed.

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-01	Date	10/29/2013		2/20/2014		5/20/2014		8/13/2014		10/21/2014		2/4/2015		4/30/2015		7/27/2015		11/9/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.10	0.0025	0.085	0.0025	0.054	0.0025	0.064	0.0025	0.077	0.0025	0.066	0.0025	0.069	0.0025	0.076	0.0025	0.078
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	2.6	0.25	2.4	0.50	2.5	0.10	1.2	0.050	0.96	1.0	ND	0.25	0.81	0.050	0.91	0.050	0.73
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	160	10	120	10	87	2.0	35	2.0	29	2.0	30	2.0	28	2.0	33	2.0	26
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0022	0.0010	0.0017	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.41	0.10	0.39	0.10	0.48	0.10	0.50	0.10	0.52	0.10	0.59	0.10	0.59	0.10	0.66	0.10	0.80
Iron	5.0	0.10	1.2	0.10	0.34	0.10	0.46	0.10	0.19	0.10	0.16	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.28	0.0025	0.30	0.0025	0.26	0.0025	0.24	0.0025	0.17	0.0025	0.079	0.0025	0.011	0.0025	0.15	0.0025	0.088
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0055	0.0020	0.0058	0.0020	0.0050	0.0020	0.0025	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.27	0.10	0.25	0.10	0.19	0.10	0.15
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.27	0.10	0.25	0.10	0.19	0.10	0.15
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0028	0.0025	0.0051	0.0025	0.0053 F1	0.0025	0.0027	0.0025	0.0028
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	430	100	390	100	230	25	91	25	150	25	99	50	100	25	120	25	110
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1300	10	1300	10	890	10	600	10	600	10	570	10	510	10	570	10	470
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00059	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0013
pH	6.5 - 9.0	NA	7.04	NA	8.96	NA	7.19	NA	6.91	NA	7.12	NA	7.41	NA	7.36	NA	7.44	NA	7.25
Temperature	NA	NA	16.20	NA	11.29	NA	17.77	NA	20.79	NA	17.29	NA	12.62	NA	12.63	NA	21.71	NA	17.51
Conductivity	NA	NA	1.53	NA	1.27	NA	1.50	NA	0.95	NA	0.90	NA	0.64	NA	0.697	NA	0.858	NA	0.687
Dissolved Oxygen	NA	NA	0.57	NA	1.11	NA	0.42	NA	0.50	NA	0.45	NA	1.07	NA	2.32	NA	1.39	NA	0.62
ORP	NA	NA	-132.6	NA	-180.6	NA	-9.7	NA	-60.4	NA	-64.4	NA	-8.3	NA	31.7	NA	-122.9	NA	-0.6

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-02	Date	10/28/2013		2/20/2014		5/20/2014		8/13/2014		10/20/2014		2/4/2015		5/1/2015		7/28/2015		11/10/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0091	0.0010	0.0071	0.0010	0.0053	0.0010	0.0096	0.0010	0.013	0.0010	0.0095	0.0010	0.0076	0.0010	0.013	0.0010	0.018
Barium	2.0	0.0025	0.079	0.0025	0.080	0.0025	0.077	0.0025	0.089	0.0025	0.10	0.0025	0.092	0.0025	0.096	0.0025	0.093	0.0025	0.098
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	2.4	0.25	2.4	0.50	2.8	0.25	3.0	0.50	3.6	1.0	3.8	0.25	3.8	0.50	4.0 F1	0.50	4.4
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	180	10	170	10	130	10	100	10	97	10	130	10	110	10	90	10	110
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.47	0.10	0.44	0.10	0.39	0.10	0.41	0.10	0.39	0.10	0.41	0.10	0.38	0.10	0.38	0.10	0.40
Iron	5.0	0.10	0.33	0.10	ND	0.10	ND	0.10	0.29	0.10	0.64	0.10	0.17	0.10	ND	0.10	0.58	0.10	0.78
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.043	0.0025	0.044	0.0025	0.024	0.0025	0.074	0.0025	0.083	0.0025	0.064	0.0025	0.055	0.0025	0.085	0.0025	0.068
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0024	0.0020	0.0024	0.0020	0.0023	0.0020	0.0026	0.0020	0.0029	0.0020	0.0029	0.0020	0.0032	0.0020	0.0029	0.0020	0.0031
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	0.16	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	0.16	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	280	100	210	100	300	100	340	100	510	100	400	100	460	100	610	100	600
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	950	10	1000	10	1000	10	1100	10	1200	10	1200	10	1200	10	1300	10	1000
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00083	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00072
pH	6.5 - 9.0	NA	8.06	NA	8.97	NA	7.74	NA	7.59	NA	6.94	NA	8.14	NA	8.00	NA	7.94	NA	8.06
Temperature	NA	NA	15.02	NA	11.56	NA	17.35	NA	18.69	NA	17.11	NA	14.26	NA	18.64	NA	19.83	NA	15.84
Conductivity	NA	NA	1.06	NA	1.02	NA	1.31	NA	1.38	NA	1.63	NA	1.37	NA	1.581	NA	1.718	NA	1.495
Dissolved Oxygen	NA	NA	0.54	NA	1.31	NA	0.72	NA	0.38	NA	0.31	NA	0.90	NA	1.60	NA	0.75	NA	0.49
ORP	NA	NA	-172.5	NA	-161.4	NA	-28.3	NA	-107.9	NA	-135.2	NA	-126.8	NA	-116.1	NA	-112.8	NA	-143.6

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-03	Date	10/28/2013		2/13/2014		5/21/2014		8/12/2014		10/20/2014		2/4/2015		5/1/2015		7/28/2015		11/10/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0018	0.0010	ND	0.0010	ND	0.0010	0.0021	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.083	0.0025	0.095	0.0025	0.071	0.0025	0.064	0.0025	0.077	0.0025	0.094	0.0025	0.093	0.0025	0.081	0.0025	0.11
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	3.5	0.50	3.2	0.50	3.3	0.25	3.5	0.50	3.6	1.0	2.9	0.25	2.9	0.50	4.1	0.50	3.0
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	110	2.0	69	2.0	62	10	91	2.0	57	2.0	43	2.0	33	2.0	59	10	33
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0016	0.0010	ND	0.0010	ND	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0013	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.49	0.10	0.41	0.10	0.43	0.10	0.56	0.10	0.51	0.10	0.38	0.10	0.38	0.10	0.44	0.10	0.39
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	0.13	0.10	ND	0.10	0.18	0.10	0.12	0.10	0.13	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.16	0.0025	0.45	0.0025	0.25	0.0025	0.16	0.0025	0.29	0.0025	0.47	0.0025	0.43	0.0025	0.28	0.0025	0.42
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.011	0.0020	0.0058	0.0020	0.0061	0.0020	0.010	0.0020	0.0073	0.0020	0.0055	0.0020	0.0047	0.0020	0.0086	0.0020	0.0049
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	0.0049	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0025	0.0025	ND	0.0025	ND	0.0025	0.0043
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	540	100	560	100	560	100	570	100	570	100	320	100	250	100	520	50	280
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1100	10	1200	10	1200	10	1100	10	1100	10	1100	10	990	10	1100	10	950
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0014
pH	6.5 - 9.0	NA	7.24	NA	7.03	NA	7.21	NA	7.39	NA	6.06	NA	7.11	NA	7.07	NA	7.63	NA	6.81
Temperature	NA	NA	14.53	NA	9.92	NA	15.74	NA	16.79	NA	14.39	NA	10.34	NA	11.15	NA	18.62	NA	13.54
Conductivity	NA	NA	1.22	NA	1.03	NA	1.43	NA	1.40	NA	1.48	NA	1.11	NA	1.139	NA	1.472	NA	1.155
Dissolved Oxygen	NA	NA	0.51	NA	0.81	NA	0.73	NA	1.45	NA	0.43	NA	1.81	NA	2.99	NA	1.13	NA	1.08
ORP	NA	NA	-138.6	NA	434.5	NA	18.4	NA	-90.3	NA	47.7	NA	7.2	NA	-18.3	NA	-124.6	NA	-6.0

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-04	Date	10/28/2013		2/13/2014		5/21/2014		8/13/2014		10/20/2014		2/4/2015		5/1/2015		7/28/2015		11/11/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0054	0.0010	0.0010	0.0010	ND	0.0010	0.0010	0.0010	0.0011	0.0010	0.0013	0.0010	ND	0.0010	ND	0.0010	0.0019
Barium	2.0	0.0025	0.037	0.0025	0.034	0.0025	0.030	0.0025	0.034	0.0025	0.037	0.0025	0.031	0.0025	0.031	0.0025	0.038	0.0025	0.039
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	5.6	0.50	4.6	0.50	4.2	0.25	4.8	0.50	4.5	1.0	3.9	0.25	4.0	0.50	5.4	0.50	5.0
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	89	10	110	10	85	2.0	67	10	82	10	120	10	110	10	97	2.0	46
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0014	0.0010	0.0012	0.0010	ND	0.0010	0.0013	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0010	0.0011	0.0010	0.0013
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.47	0.10	0.43	0.10	0.43	0.10	0.47	0.10	0.54	0.10	0.52	0.10	0.47	0.10	0.56	0.10	0.43
Iron	5.0	0.10	0.92	0.10	0.64	0.10	ND	0.10	0.26	0.10	0.27	0.10	0.28	0.10	ND	0.10	0.16	0.10	0.51
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.65	0.0025	0.72	0.0025	0.49	0.0025	0.88	0.0025	0.64	0.0025	0.52	0.0025	0.45	0.0025	0.77	0.0025	0.62
Mercury	0.002	0.00020	ND	0.00020	0.00066	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0055	0.0020	0.0053	0.0020	0.0045	0.0020	0.0058	0.0020	0.0065	0.0020	0.0043	0.0020	0.0057	0.0020	0.0053	0.0020	0.0070
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	0.39	0.10	ND	0.10	0.15	0.10	0.17	0.10	0.53	0.10	0.11	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	0.39	0.10	ND	0.10	0.15	0.10	0.17	0.10	0.53	0.10	0.11	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	0.0090	0.0025	0.0055	0.0025	0.010	0.0025	0.0087	0.0025	0.020	0.0025	0.0046	0.0025	0.0081
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	250	1300	250	1400	250	1100	250	1200	250	1600	250	1100	250	860	500	1600	250	870
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	13	2400	13	2800	10	2500	10	2200	10	2600	10	2600	10	2300	17	3200	10	1900
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
pH	6.5 - 9.0	NA	6.74	NA	7.03	NA	6.96	NA	6.75	NA	5.87	NA	7.13	NA	7.15	NA	7.29	NA	6.65
Temperature	NA	NA	16.62	NA	10.22	NA	19.98	NA	18.18	NA	16.64	NA	8.13	NA	13.74	NA	20.17	NA	16.27
Conductivity	NA	NA	2.84	NA	1.42	NA	3.06	NA	2.41	NA	3.07	NA	2.21	NA	2.364	NA	3.852	NA	2.183
Dissolved Oxygen	NA	NA	0.36	NA	0.81	NA	1.66	NA	0.43	NA	0.44	NA	2.01	NA	1.83	NA	0.90	NA	1.12
ORP	NA	NA	-127.7	NA	-1.6	NA	-0.8	NA	3.6	NA	3.1	NA	16.7	NA	9.3	NA	-73.4	NA	-33.0

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-05	Date	10/28/2013		2/13/2014		5/21/2014		8/12/2014		10/20/2014		2/3/2015		5/1/2015		7/28/2015		11/11/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0021	0.0010	0.0017	0.0010	0.0015	0.0010	0.0031	0.0010	0.0014	0.0010	0.0028	0.0010	0.0019	0.0010	0.0011	0.0010	0.0014
Barium	2.0	0.0025	0.078	0.0025	0.056	0.0025	0.075	0.0025	0.066	0.0025	0.061	0.0025	0.048	0.0025	0.072	0.0025	0.063	0.0025	0.078
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	4.1	0.50	2.7	0.50	2.9	0.25	2.7	0.50	4.7	1.0	2.4	0.25	3.7	0.50	5.3	0.50	5.9
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	130	10	130	10	160	10	170	10	81	10	200	10	180	10	100	10	110
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.36	0.10	0.43	0.10	0.28	0.10	0.52	0.10	0.35	0.10	0.50	0.10	0.31	0.10	0.38	0.10	0.31
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.11	0.0025	0.053	0.0025	0.11	0.0025	0.062	0.0025	0.20	0.0025	0.046	0.0025	0.092	0.0025	0.13	0.0025	0.17
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0028	0.0020	0.0024	0.0020	0.0020	0.0020	0.0031	0.0020	0.0049	0.0020	ND	0.0020	0.0023	0.0020	0.0034	0.0020	0.0026
Nitrogen/Nitrate	10.0	0.10	0.27	0.10	0.24	0.10	0.72	0.10	ND	0.10	0.12	0.10	1.3	0.10	1.1	0.10	0.48	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	0.59	0.10	0.80	0.10	0.97	0.10	ND	0.10	0.12	0.10	1.6	0.10	1.2	0.10	0.48	0.10	ND
Nitrogen/Nitrite	NA	0.10	0.32	0.10	0.56	0.040	0.25	0.020	0.098	0.020	ND	0.040	0.34	0.020	0.099	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.17	0.0025	0.024	0.0025	0.013	0.0025	0.0051	0.0025	0.010	0.0025	0.0058	0.0025	0.020	0.0025	0.021	0.0025	0.035
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	130	560	100	690	250	1700	250	610	250	840	100	430	100	480	250	770	250	780
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1300	10	1400	10	1600	10	1400	10	2100	10	1100	10	1600	10	2000	10	1900
Vanadium	0.049	0.0050	0.013	0.0050	0.012	0.0050	0.018	0.0050	0.013	0.0050	0.010	0.0050	0.019	0.0050	0.012	0.0050	0.011	0.0050	0.016
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0015
pH	6.5 - 9.0	NA	6.75	NA	8.45	NA	7.07	NA	7.36	NA	6.87	NA	9.70	NA	7.29	NA	7.13	NA	7.24
Temperature	NA	NA	17.04	NA	9.59	NA	16.68	NA	16.80	NA	18.46	NA	8.29	NA	12.11	NA	20.61	NA	15.77
Conductivity	NA	NA	1.55	NA	0.81	NA	1.92	NA	1.60	NA	2.59	NA	1.13	NA	1.691	NA	2.467	NA	2.016
Dissolved Oxygen	NA	NA	0.92	NA	0.78	NA	0.46	NA	0.35	NA	0.81	NA	2.40	NA	1.53	NA	1.41	NA	1.17
ORP	NA	NA	-73.8	NA	89.4	NA	87.6	NA	-24.6	NA	58.1	NA	-53.5	NA	31.4	NA	-50.4	NA	46.1

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-06	Date	10/28/2013		2/13/2014		5/20/2014		8/12/2014		10/20/2014		2/3/2015		4/30/2015		7/28/2015		11/10/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0031	0.0010	ND	0.0010	ND	0.0010	0.0018	0.0010	0.0017	0.0010	0.0028	0.0010	0.0010	0.0010	ND	0.0010	0.0017
Barium	2.0	0.0025	0.063	0.0025	0.052	0.0025	0.045	0.0025	0.039	0.0025	0.066	0.0025	0.071	0.0025	0.072	0.0025	0.061	0.0025	0.044
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	3.7	0.50	3.0	0.50	2.9	0.25	2.8	0.50	3.4	1.0	3.2	0.25	3.0	0.50	3.6	0.50	3.4
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	76	2.0	55	10	120	10	120	10	81	2.0	49	10	160	10	120	10	110
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.57	0.10	0.45	0.10	0.42	0.10	0.96	0.10	0.56	0.10	0.37	0.10	0.38	0.10	0.45	0.10	0.63
Iron	5.0	0.10	ND	0.10	0.11	0.10	ND	0.10	ND	0.10	ND	0.10	0.17	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.083	0.0025	0.099	0.0025	0.056	0.0025	0.028	0.0025	0.11	0.0025	0.12	0.0025	0.068	0.0025	0.066	0.0025	0.037
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0020	0.0020	0.0020	0.0020	ND	0.0020	ND	0.0020	0.0020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	0.72	0.10	ND	0.10	ND	0.10	ND	0.10	0.23	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	0.91	0.10	0.16	0.10	ND	0.10	ND	0.10	0.30	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	0.19	0.10	0.29	0.020	ND	0.020	ND	0.020	0.067	0.020	0.077	0.020	0.032
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	0.0041	0.0025	0.0057	0.0025	0.0036	0.0025	0.0036	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0048
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	310	100	270	100	320	100	200	100	420	50	310	50	350	100	330	50	360
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	790	10	780	10	840	10	660	10	800	10	770	10	780	10	800	10	660
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.014	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	0.0005
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0028
pH	6.5 - 9.0	NA	8.50	NA	8.27	NA	8.52	NA	8.16	NA	7.26	NA	8.38	NA	8.08	NA	8.60	NA	8.63
Temperature	NA	NA	15.76	NA	9.46	NA	16.13	NA	16.21	NA	18.31	NA	8.28	NA	10.95	NA	25.89	NA	17.67
Conductivity	NA	NA	0.96	NA	0.57	NA	1.08	NA	1.00	NA	1.20	NA	0.77	NA	0.935	NA	1.289	NA	0.978
Dissolved Oxygen	NA	NA	0.23	NA	1.19	NA	0.32	NA	0.62	NA	0.66	NA	1.69	NA	1.90	NA	0.88	NA	1.67
ORP	NA	NA	-173.8	NA	35.4	NA	-94.2	NA	-3.7	NA	-94.0	NA	-142.5	NA	-61.3	NA	-132.5	NA	-101.6

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-07	Date	10/29/2013		2/20/2014		5/20/2014		8/12/2014		10/21/2014		2/3/2015		4/30/2015		7/27/2015		11/9/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0035	0.0010	0.0030	0.0010	0.0022	0.0010	0.0035	0.0010	0.0031	0.0010	0.0027	0.0010	0.0029	0.0010	0.0020	0.0010	0.0027
Barium	2.0	0.0025	0.040	0.0025	0.064	0.0025	0.074	0.0025	0.062	0.0025	0.072	0.0025	0.042	0.0025	0.048	0.0025	0.037	0.0025	0.035
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	3.0	0.50	4.0	0.50	4.8	0.50	3.9	0.50	5.1	1.0	3.0	0.25	3.3	0.25	3.1	0.50	2.9
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	180	10	210	10	190	10	200	10	190	10	170	10	160	10	170	10	160
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	0.012	0.010	0.019	0.010	0.029	0.010	0.021	0.010	ND	0.010	0.016	0.010	ND	0.010	ND	0.010	0.034
Fluoride	4.0	0.10	0.96	0.10	0.81	0.10	0.73	0.10	0.97	0.10	0.84	0.10	0.91	0.10	0.85	0.10	0.90	0.10	0.96
Iron	5.0	0.10	0.21	0.10	0.36	0.10	0.53	0.10	0.44	0.10	0.55	0.10	0.16	0.10	0.22	0.10	0.19	0.10	0.19
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.049	0.0025	0.16	0.0025	0.12	0.0025	0.10	0.0025	0.12	0.0025	0.031	0.0025	0.044	0.0025	0.024	0.0025	0.025
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0042	0.0020	0.0032	0.0020	0.0027	0.0020	0.0037	0.0020	0.0034	0.0020	0.0036	0.0020	0.0033	0.0020	0.0034	0.0020	0.0035
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	0.0066	0.0025	ND	0.0025	ND	0.0025	0.0046	0.0025	ND	0.0025	0.0039	0.0025	ND	0.0025	0.012
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	530	130	380	100	540	100	570	130	680	100	400	100	440	100	420	100	420
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1200	10	1300	10	1300	10	1300	10	1500	10	1100	10	1200	10	950	10	960
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0018
pH	6.5 - 9.0	NA	8.07	NA	8.18	NA	8.22	NA	8.26	NA	7.88	NA	8.68	NA	8.53	NA	8.75	NA	7.11
Temperature	NA	NA	13.06	NA	11.16	NA	16.71	NA	14.78	NA	14.85	NA	8.76	NA	12.23	NA	20.84	NA	14.48
Conductivity	NA	NA	1.20	NA	1.20	NA	1.50	NA	1.24	NA	1.60	NA	1.10	NA	1.32	NA	1.49	NA	1.21
Dissolved Oxygen	NA	NA	0.41	NA	0.94	NA	0.57	NA	0.28	NA	0.39	NA	1.50	NA	2.30	NA	2.23	NA	2.36
ORP	NA	NA	-168.1	NA	-118.7	NA	-76.6	NA	-126.7	NA	-151.3	NA	-154.5	NA	-134.3	NA	-163.1	NA	-69.7

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-08	Date	10/28/2013		2/20/2014		5/20/2014		8/12/2014		10/21/2014		2/3/2015		4/30/2015		7/27/2015		11/9/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0069	0.0010	0.0077	0.0010	0.0036	0.0010	0.014	0.0010	0.0082	0.0010	0.0036	0.0010	0.0047	0.0010	0.0064	0.0010	0.0040
Barium	2.0	0.0025	0.14	0.0025	0.086	0.0025	0.076	0.0025	0.078	0.0025	0.087	0.0025	0.081	0.0025	0.083	0.0025	0.066	0.0025	0.086
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	3.2	0.25	2.0	0.50	2.5	0.25	2.4	0.50	2.8	1.0	2.3	0.25	2.3	0.25	2.8	0.50	4.0
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	150	10	180	10	160	10	170	10	180	10	170	10	150	10	170	10	170
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.45	0.10	0.46	0.10	0.43	0.10	0.74	0.10	0.56	0.10	0.51	0.10	0.54	0.10	0.68	0.10	0.52
Iron	5.0	0.10	ND	0.10	0.72	0.10	0.43	0.10	1.0	0.10	1.0	0.10	0.19	0.10	0.22	0.10	0.46	0.10	0.11
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.42	0.0025	0.39	0.0025	0.35	0.0025	0.30	0.0025	0.44	0.0025	0.31	0.0025	0.28	0.0025	0.31	0.0025	0.25
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0043	0.0020	0.0037	0.0020	0.0030	0.0020	0.0040	0.0020	0.0048	0.0020	0.0036	0.0020	0.0037	0.0020	0.0041	0.0020	0.0052
Nitrogen/Nitrate	10.0	0.10	0.17	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	0.17	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.015	0.0025	0.0034	0.0025	0.0032	0.0025	ND	0.0025	0.0032	0.0025	0.0083	0.0025	0.010	0.0025	ND	0.0025	0.0065
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	130	650	130	330	100	450	100	430	200	730	100	530	100	520	100	650	200	800
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1600	10	1300	10	1400	10	1200	10	1500	10	1400	10	1400	10	1200	10	1600
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0019
pH	6.5 - 9.0	NA	6.87	NA	8.18	NA	7.04	NA	7.09	NA	7.03	NA	7.24	NA	7.23	NA	7.36	NA	6.88
Temperature	NA	NA	15.59	NA	9.15	NA	17.97	NA	16.04	NA	14.76	NA	9.43	NA	12.42	NA	17.57	NA	16.00
Conductivity	NA	NA	1.73	NA	1.26	NA	1.70	NA	1.49	NA	2.00	NA	1.46	NA	1.587	NA	1.657	NA	1.958
Dissolved Oxygen	NA	NA	0.64	NA	1.20	NA	0.44	NA	0.69	NA	0.68	NA	2.26	NA	5.61	NA	1.23	NA	1.81
ORP	NA	NA	-145.3	NA	-86.8	NA	87.7	NA	-53.3	NA	-52.9	NA	10.7	NA	14.8	NA	-124.4	NA	19.0

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-09	Date	10/29/2013		2/13/2014		5/20/2014		8/12/2014		10/21/2014		2/3/2015		4/30/2015		7/27/2015		11/11/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0066	0.0010	0.0029	0.0010	0.0029	0.0010	0.0043	0.0010	0.0046	0.0010	0.0038	0.0010	0.0044	0.0010	0.0032	0.0010	0.0057
Barium	2.0	0.0025	0.023	0.0025	0.022	0.0025	0.028	0.0025	0.027	0.0025	0.026	0.0025	0.033	0.0025	0.032	0.0025	0.026	0.0025	0.030
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	2.2	0.50	1.4	0.50	1.5	0.25	1.7	0.50	1.9	1.0	1.4	0.25	1.5	0.25	2.0	0.50	2.1
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	110	10	270	10	250	10	210	10	200	10	200	10	310	10	230	10	190
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.48	0.10	0.44	0.10	0.41	0.10	0.61	0.10	0.55	0.10	0.44	0.10	0.47	0.10	0.51	0.10	0.57
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0025	0.0025	0.0026	0.0025	ND	0.0025	0.0044	0.0025	0.0032
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0025	0.0020	0.0024	0.0020	0.0020	0.0020	ND	0.0020	0.0020	0.0020	0.0023
Nitrogen/Nitrate	10.0	0.10	1.6	0.10	2.3	0.10	1.0	0.10	ND	0.10	ND	0.10	2.2	0.10	2.7	0.10	0.32	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.50	2.2	0.50	2.9	0.10	1.5	0.10	0.20	0.10	ND	0.20	2.4	0.20	2.9	0.10	0.43	0.10	ND
Nitrogen/Nitrite	NA	0.10	0.65	0.10	0.59	0.10	0.48	0.10	0.43	0.020	0.078	0.040	0.21	0.040	0.25	0.020	0.11	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0053	0.0025	0.0032	0.0025	0.0026	0.0025	0.0031	0.0025	0.0035	0.0025	ND	0.0025	0.0025	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	310	50	220	100	380	100	310	100	430	50	300	50	270	50	290	100	400
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	680	10	780	10	880	10	870	10	820	10	810	10	930	10	760	10	760
Vanadium	0.049	0.0050	0.034	0.0050	0.017	0.0050	0.017	0.0050	0.015	0.0050	0.015	0.0050	0.011	0.0050	0.010	0.0050	0.0063	0.0050	0.0080
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	0.00057
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00287
pH	6.5 - 9.0	NA	10.01	NA	9.69	NA	9.71	NA	9.26	NA	8.73	NA	9.48	NA	9.49	NA	9.50	NA	9.12
Temperature	NA	NA	16.28	NA	11.58	NA	16.41	NA	16.36	NA	15.98	NA	5.11	NA	13.72	NA	20.11	NA	13.45
Conductivity	NA	NA	0.85	NA	0.85	NA	1.25	NA	1.12	NA	1.19	NA	0.83	NA	1.224	NA	1.197	NA	0.996
Dissolved Oxygen	NA	NA	0.56	NA	0.94	NA	0.43	NA	0.52	NA	0.48	NA	4.87	NA	1.93	NA	0.62	NA	0.76
ORP	NA	NA	-182.7	NA	195.4	NA	-22.8	NA	27.4	NA	-10.8	NA	-42.0	NA	-53.3	NA	-153.7	NA	39.7

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Will County Station, Romeoville, IL

Sample: MW-10	Date	10/28/2013		2/20/2014		5/20/2014		8/13/2014		10/20/2014		2/3/2015		4/30/2015		7/27/2015		11/10/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.012	0.0010	0.0027	0.0010	0.0012	0.0010	0.0033	0.0010	0.0090	0.0010	0.012	0.0010	0.014	0.0010	0.0065	0.0010	0.017
Barium	2.0	0.0025	0.10	0.0025	0.094	0.0025	0.071	0.0025	0.071	0.0025	0.10	0.0025	0.12	0.0025	0.10	0.0025	0.084	0.0025	0.11
Beryllium	0.004	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.10	3.8	0.25	2.5	0.50	2.2	0.25	2.1	0.50	3.3	1.0	3.3	0.25	3.6	0.25	3.1	0.50	4.4
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	140	10	140	10	140	10	140	10	140	10	110	10	130	10	140	10	140
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.73	0.10	0.64	0.10	0.74	0.10	0.99	0.10	0.75	0.10	0.58	0.10	0.67	0.10	0.77	0.10	0.77
Iron	5.0	0.10	0.79	0.10	0.36	0.10	0.28	0.10	0.45	0.10	1.0	0.10	1.5	0.10	1.4	0.10	1.1	0.10	1.3
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.22	0.0025	0.18	0.0025	0.12	0.0025	0.12	0.0025	0.25	0.0025	0.38	0.0025	0.29	0.0025	0.19	0.0025	0.26
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0030	0.0020	0.0023	0.0020	ND	0.0020	0.0024	0.0020	0.0033	0.0020	0.0027	0.0020	0.0036	0.0020	0.0025	0.0020	0.0030
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0036	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	330	50	290	100	270	100	260	100	380	50	260	50	260	50	350	50	330
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	920	10	1000	10	940	10	880	10	1100	10	1100	10	1000	10	970	10	990
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0019
pH	6.5 - 9.0	NA	7.27	NA	9.18	NA	7.54	NA	7.54	NA	6.84	NA	7.32	NA	7.43	NA	7.73	NA	7.34
Temperature	NA	NA	16.70	NA	10.54	NA	15.30	NA	16.39	NA	18.21	NA	10.10	NA	10.95	NA	18.29	NA	15.44
Conductivity	NA	NA	1.25	NA	1.03	NA	1.13	NA	1.11	NA	1.46	NA	1.17	NA	1.93	NA	1.31	NA	1.25
Dissolved Oxygen	NA	NA	0.23	NA	1.50	NA	0.46	NA	0.29	NA	2.15	NA	0.79	NA	1.57	NA	0.85	NA	0.58
ORP	NA	NA	-165.8	NA	-187.5	NA	-68.3	NA	-77.9	NA	-159.3	NA	-98.6	NA	-115.0	NA	-141.9	NA	-68.9

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

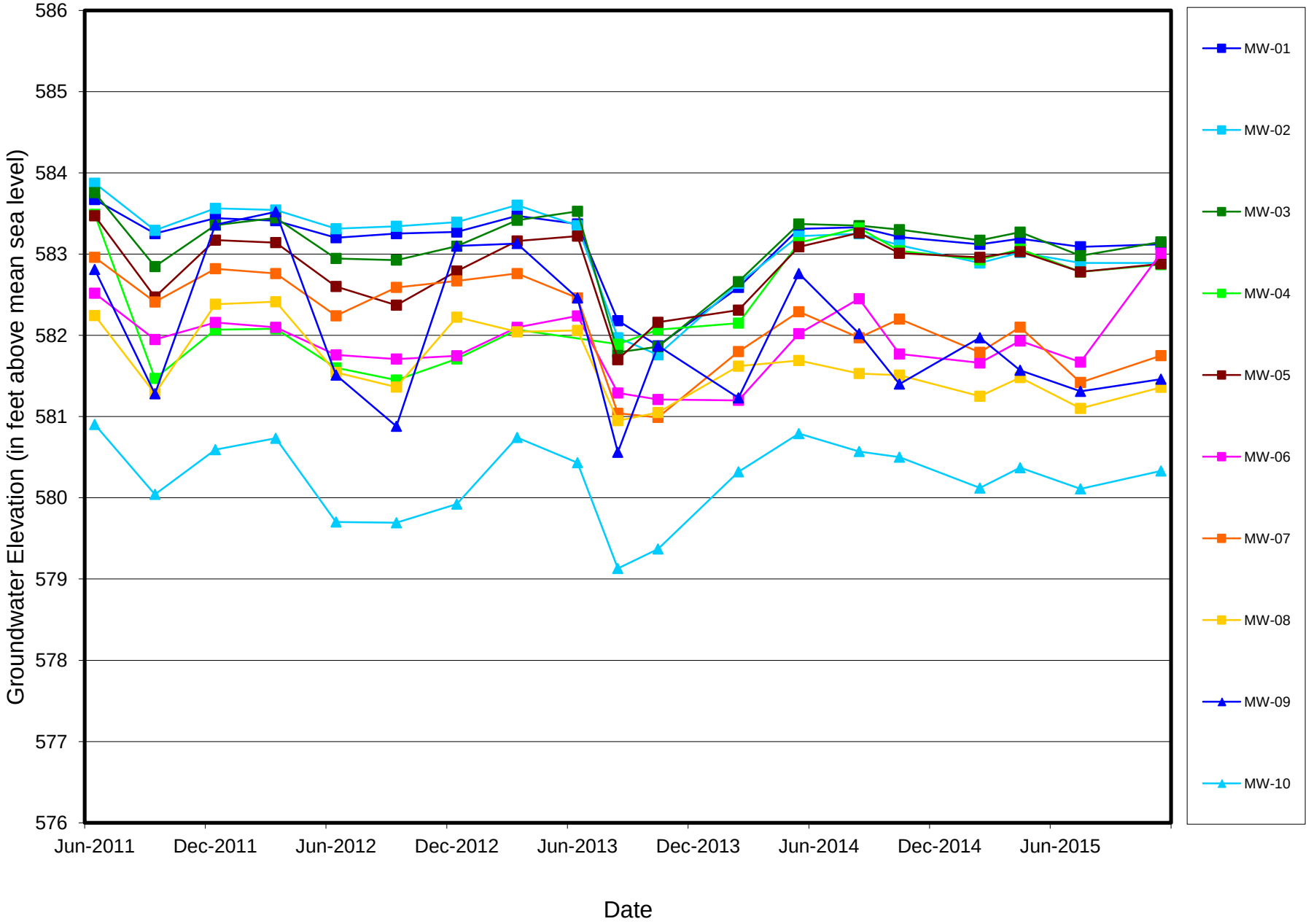
NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

ATTACHMENT 1
Hydrograph of Water Level Elevations

Midwest Generation Will County Station, Romeoville, IL

Groundwater Elevation vs Time



MWG13-15_56547

ATTACHMENT 2
Analytical Data Package

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-103774-1
Client Project/Site: Will Co. Station Ash Ponds

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Bonnie Stadelmann

Authorized for release by:
11/24/2015 4:49:02 PM

Bonnie Stadelmann, Senior Project Manager
(708)534-5200
bonnie.stadelmann@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 500-103774-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-103774-1

Comments
No additional comments.

Receipt
The samples were received on 11/10/2015 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 3.9º C, 4.3º C, 4.4º C and 5.5º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
314.0	Perchlorate (IC)	EPA	TAL SAC
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
9014	Cyanide	SW846	TAL CHI
9038	Sulfate, Turbidimetric	SW846	TAL CHI
9251	Chloride	SW846	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-103774-1	MW-01	Water	11/09/15 11:40	11/10/15 10:30
500-103774-2	MW-07	Water	11/09/15 13:58	11/10/15 10:30
500-103774-3	MW-08	Water	11/09/15 15:25	11/10/15 10:30
500-103774-4	Duplicate	Water	11/09/15 00:00	11/10/15 10:30
500-103774-5	MW-02	Water	11/10/15 08:50	11/11/15 10:30
500-103774-6	MW-03	Water	11/10/15 10:25	11/11/15 10:30
500-103774-7	MW-06	Water	11/10/15 11:56	11/11/15 10:30
500-103774-8	MW-10	Water	11/10/15 14:55	11/11/15 10:30
500-103774-9	MW-04	Water	11/11/15 12:40	11/11/15 16:00
500-103774-10	MW-05	Water	11/11/15 10:55	11/11/15 16:00
500-103774-11	MW-09	Water	11/11/15 09:30	11/11/15 16:00
500-103774-12	Trip Blank	Water	11/11/15 00:00	11/11/15 16:00

Client Sample ID: MW-01
Date Collected: 11/09/15 11:40
Date Received: 11/10/15 10:30

Lab Sample ID: 500-103774-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/20/15 22:57	1
Toluene	**0.0013**		0.00050		mg/L			11/20/15 22:57	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/20/15 22:57	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/20/15 22:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*		*11/20/15 22:57*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*11/20/15 22:57*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*		*11/20/15 22:57*	*1*
Dibromofluoromethane	*103*		*75 - 120*		*11/20/15 22:57*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 16:10	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:22	1
Arsenic	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:22	1
Barium	**0.078**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:22	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 17:22	1
Boron	**0.73**		0.050		mg/L		11/19/15 15:04	11/24/15 14:16	1
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:22	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:22	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:22	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:22	1
Iron	<0.10		0.10		mg/L		11/19/15 15:04	11/20/15 13:22	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:22	1
Manganese	**0.088**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:22	1
Nickel	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:22	1
Selenium	**0.0028**		0.0025		mg/L		11/19/15 15:04	11/24/15 14:33	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:22	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:22	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:22	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:22	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 11:59	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/15 11:20	11/13/15 15:01	1
Sulfate	**110**		25		mg/L			11/14/15 20:29	5
Chloride	**26**		2.0		mg/L			11/16/15 23:55	1
Nitrogen, Nitrate	**0.15**		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**470**		10		mg/L			11/12/15 05:05	1
Fluoride	**0.80**		0.10		mg/L			11/12/15 12:54	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/10/15 18:13	1
Nitrogen, Nitrate Nitrite	**0.15**		0.10		mg/L			11/15/15 23:33	1

Client Sample ID: MW-07
Date Collected: 11/09/15 13:58
Date Received: 11/10/15 10:30

Lab Sample ID: 500-103774-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/20/15 23:22	1
Toluene	**0.0018**		0.00050		mg/L			11/20/15 23:22	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/20/15 23:22	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/20/15 23:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 125*		*11/20/15 23:22*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/20/15 23:22*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/20/15 23:22*	*1*
Dibromofluoromethane	*104*		*75 - 120*		*11/20/15 23:22*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 16:56	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:40	1
Arsenic	**0.0027**		0.0010		mg/L		11/19/15 15:04	11/20/15 13:40	1
Barium	**0.035**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:40	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 17:42	1
Boron	**2.9**		0.50		mg/L		11/19/15 15:04	11/24/15 14:35	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:40	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:40	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:40	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:40	1
Iron	**0.19**		0.10		mg/L		11/19/15 15:04	11/20/15 13:40	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:40	1
Manganese	**0.025**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:40	1
Nickel	**0.0035**		0.0020		mg/L		11/19/15 15:04	11/20/15 13:40	1
Selenium	**0.012**		0.0025		mg/L		11/19/15 15:04	11/24/15 14:46	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:40	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:40	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:40	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:40	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:07	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	**0.034**		0.010		mg/L		11/12/15 11:20	11/13/15 15:01	1
Sulfate	**420**		100		mg/L			11/14/15 20:30	20
Chloride	**160**		10		mg/L			11/17/15 00:34	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**960**		10		mg/L			11/12/15 05:10	1
Fluoride	**0.96**		0.10		mg/L			11/12/15 13:01	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/10/15 18:15	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/15/15 23:35	1

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Client Sample ID: MW-08
Date Collected: 11/09/15 15:25
Date Received: 11/10/15 10:30

Lab Sample ID: 500-103774-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/20/15 23:47	1
Toluene	**0.0019**		0.00050		mg/L			11/20/15 23:47	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/20/15 23:47	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/20/15 23:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 125*		*11/20/15 23:47*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/20/15 23:47*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*11/20/15 23:47*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/20/15 23:47*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 17:11	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:43	1
Arsenic	**0.0040**		0.0010		mg/L		11/19/15 15:04	11/20/15 13:43	1
Barium	**0.086**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:43	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 17:46	1
Boron	**4.0**		0.50		mg/L		11/19/15 15:04	11/24/15 14:38	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:43	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:43	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:43	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:43	1
Iron	**0.11**		0.10		mg/L		11/19/15 15:04	11/20/15 13:43	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:43	1
Manganese	**0.25**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:43	1
Nickel	**0.0052**		0.0020		mg/L		11/19/15 15:04	11/20/15 13:43	1
Selenium	**0.0065**		0.0025		mg/L		11/19/15 15:04	11/24/15 14:49	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:43	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:43	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:43	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:43	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:13	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/15 11:20	11/13/15 15:02	1
Sulfate	**800**		200		mg/L			11/14/15 20:31	40
Chloride	**170**		10		mg/L			11/17/15 00:35	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**1600**		10		mg/L			11/12/15 05:12	1
Fluoride	**0.52**		0.10		mg/L			11/12/15 13:03	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/10/15 18:16	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:36	1

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Client Sample ID: Duplicate

Date Collected: 11/09/15 00:00
Date Received: 11/10/15 10:30

Lab Sample ID: 500-103774-4

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/21/15 00:12	1
Toluene	**0.0010**		0.00050		mg/L			11/21/15 00:12	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/21/15 00:12	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/21/15 00:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*		*11/21/15 00:12*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/21/15 00:12*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/21/15 00:12*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/21/15 00:12*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 17:27	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:46	1
Arsenic	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:46	1
Barium	**0.083**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:46	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 17:58	1
Boron	**0.75**		0.050		mg/L		11/19/15 15:04	11/24/15 14:50	1
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:46	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:46	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:46	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:46	1
Iron	<0.10		0.10		mg/L		11/19/15 15:04	11/20/15 13:46	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:46	1
Manganese	**0.087**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:46	1
Nickel	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:46	1
Selenium	**0.0033**		0.0025		mg/L		11/19/15 15:04	11/24/15 14:52	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:46	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:46	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:46	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:46	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:15	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/15 11:20	11/13/15 15:02	1
Sulfate	**110**		20		mg/L			11/14/15 20:32	4
Chloride	**25**		2.0		mg/L			11/16/15 23:57	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**420**		10		mg/L			11/12/15 05:15	1
Fluoride	**0.80**		0.10		mg/L			11/12/15 13:06	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/10/15 18:17	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:43	1

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Client Sample ID: MW-02

Date Collected: 11/10/15 08:50
Date Received: 11/11/15 10:30

Lab Sample ID: 500-103774-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/21/15 00:37	1
Toluene	**0.00072**		0.00050		mg/L			11/21/15 00:37	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/21/15 00:37	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/21/15 00:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 125*		*11/21/15 00:37*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/21/15 00:37*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*11/21/15 00:37*	*1*
Dibromofluoromethane	*107*		*75 - 120*		*11/21/15 00:37*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 17:42	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:48	1
Arsenic	**0.018**		0.0010		mg/L		11/19/15 15:04	11/20/15 13:48	1
Barium	**0.098**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:48	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 18:01	1
Boron	**4.4**		0.50		mg/L		11/19/15 15:04	11/24/15 14:53	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:48	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:48	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:48	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:48	1
Iron	**0.78**		0.10		mg/L		11/19/15 15:04	11/20/15 13:48	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:48	1
Manganese	**0.068**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:48	1
Nickel	**0.0031**		0.0020		mg/L		11/19/15 15:04	11/20/15 13:48	1
Selenium	<0.0025		0.0025		mg/L		11/19/15 15:04	11/24/15 15:00	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:48	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:48	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:48	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:48	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:16	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/15 11:20	11/13/15 15:03	1
Sulfate	**600**		100		mg/L			11/14/15 20:35	20
Chloride	**110**		10		mg/L			11/17/15 00:36	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**1000**		10		mg/L			11/12/15 05:17	1
Fluoride	**0.40**		0.10		mg/L			11/12/15 13:08	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/11/15 18:34	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:45	1

Client Sample ID: MW-03

Date Collected: 11/10/15 10:25
Date Received: 11/11/15 10:30

Lab Sample ID: 500-103774-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/21/15 01:02	1
Toluene	**0.0014**		0.00050		mg/L			11/21/15 01:02	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/21/15 01:02	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/21/15 01:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*		*11/21/15 01:02*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*11/21/15 01:02*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/21/15 01:02*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/21/15 01:02*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 17:57	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:51	1
Arsenic	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:51	1
Barium	**0.11**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:51	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 18:05	1
Boron	**3.0**		0.50		mg/L		11/19/15 15:04	11/24/15 14:57	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:51	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:51	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:51	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:51	1
Iron	<0.10		0.10		mg/L		11/19/15 15:04	11/20/15 13:51	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:51	1
Manganese	**0.42**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:51	1
Nickel	**0.0049**		0.0020		mg/L		11/19/15 15:04	11/20/15 13:51	1
Selenium	**0.0043**		0.0025		mg/L		11/19/15 15:04	11/24/15 15:02	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:51	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:51	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:51	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:51	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:18	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/15 11:20	11/13/15 15:03	1
Sulfate	**280**		50		mg/L			11/14/15 20:36	10
Chloride	**33**		10		mg/L			11/17/15 00:02	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**950**		10		mg/L			11/12/15 05:20	1
Fluoride	**0.39**		0.10		mg/L			11/12/15 13:11	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/11/15 18:34	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:47	1

Client Sample ID: MW-06

Date Collected: 11/10/15 11:56
Date Received: 11/11/15 10:30

Lab Sample ID: 500-103774-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00050**		0.00050		mg/L			11/21/15 01:27	1
Toluene	**0.0023**		0.00050		mg/L			11/21/15 01:27	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/21/15 01:27	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/21/15 01:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 125*		*11/21/15 01:27*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/21/15 01:27*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*11/21/15 01:27*	*1*
Dibromofluoromethane	*104*		*75 - 120*		*11/21/15 01:27*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 18:13	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:54	1
Arsenic	**0.0017**		0.0010		mg/L		11/19/15 15:04	11/20/15 13:54	1
Barium	**0.044**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:54	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 18:09	1
Boron	**3.4**		0.50		mg/L		11/19/15 15:04	11/24/15 15:01	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:54	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:54	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:54	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:54	1
Iron	<0.10		0.10		mg/L		11/19/15 15:04	11/20/15 13:54	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:54	1
Manganese	**0.037**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:54	1
Nickel	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:54	1
Selenium	**0.0048**		0.0025		mg/L		11/19/15 15:04	11/24/15 15:05	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:54	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:54	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:54	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:54	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:20	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/15 11:20	11/13/15 15:03	1
Sulfate	**360**		50		mg/L			11/14/15 20:37	10
Chloride	**110**		10		mg/L			11/17/15 00:38	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**660**		10		mg/L			11/12/15 05:22	1
Fluoride	**0.63**		0.10		mg/L			11/12/15 13:20	1
Nitrogen, Nitrite	**0.032**		0.020		mg/L			11/11/15 18:35	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:49	1

Client Sample ID: MW-10

Date Collected: 11/10/15 14:55
Date Received: 11/11/15 10:30

Lab Sample ID: 500-103774-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/21/15 01:52	1
Toluene	**0.0019**		0.00050		mg/L			11/21/15 01:52	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/21/15 01:52	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/21/15 01:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*		*11/21/15 01:52*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*11/21/15 01:52*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*11/21/15 01:52*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/21/15 01:52*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 18:28	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:56	1
Arsenic	**0.017**		0.0010		mg/L		11/19/15 15:04	11/20/15 13:56	1
Barium	**0.11**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:56	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 18:13	1
Boron	**4.4**		0.50		mg/L		11/19/15 15:04	11/24/15 15:05	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:56	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:56	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:56	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:56	1
Iron	**1.3**		0.10		mg/L		11/19/15 15:04	11/20/15 13:56	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:56	1
Manganese	**0.26**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:56	1
Nickel	**0.0030**		0.0020		mg/L		11/19/15 15:04	11/20/15 13:56	1
Selenium	<0.0025		0.0025		mg/L		11/19/15 15:04	11/24/15 15:08	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:56	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:56	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:56	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:56	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:22	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/15 11:20	11/13/15 15:04	1
Sulfate	**330**		50		mg/L			11/14/15 20:38	10
Chloride	**140**		10		mg/L			11/17/15 00:39	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**990**		10		mg/L			11/12/15 05:25	1
Fluoride	**0.77**		0.10		mg/L			11/12/15 13:23	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/11/15 18:36	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:51	1

Client Sample ID: MW-04

Date Collected: 11/11/15 12:40
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103774-9

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/21/15 02:17	1
Toluene	<0.00050		0.00050		mg/L			11/21/15 02:17	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/21/15 02:17	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/21/15 02:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*		*11/21/15 02:17*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*11/21/15 02:17*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/21/15 02:17*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/21/15 02:17*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 19:14	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:59	1
Arsenic	**0.0019**		0.0010		mg/L		11/19/15 15:04	11/20/15 13:59	1
Barium	**0.039**		0.0025		mg/L		11/19/15 15:04	11/20/15 13:59	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 18:17	1
Boron	**5.0**		0.50		mg/L		11/19/15 15:04	11/24/15 15:08	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:59	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 18:17	1
Cobalt	**0.0013**		0.0010		mg/L		11/19/15 15:04	11/20/15 18:17	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:59	1
Iron	**0.51**		0.10		mg/L		11/19/15 15:04	11/20/15 18:17	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:59	1
Manganese	**0.62**		0.0025		mg/L		11/19/15 15:04	11/20/15 18:17	1
Nickel	**0.0070**		0.0020		mg/L		11/19/15 15:04	11/20/15 18:17	1
Selenium	**0.0081**		0.0025		mg/L		11/19/15 15:04	11/24/15 16:01	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:59	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:59	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:59	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:59	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:24	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/13/15 12:35	11/13/15 17:16	1
Sulfate	**870**		250		mg/L			11/14/15 20:39	50
Chloride	**46**		2.0		mg/L			11/17/15 00:06	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**1900**		10		mg/L			11/12/15 05:27	1
Fluoride	**0.43**		0.10		mg/L			11/12/15 13:26	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/11/15 18:36	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:54	1

Client Sample ID: MW-05

Date Collected: 11/11/15 10:55
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103774-10

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/21/15 02:42	1
Toluene	**0.0015**		0.00050		mg/L			11/21/15 02:42	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/21/15 02:42	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/21/15 02:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 125*		*11/21/15 02:42*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/21/15 02:42*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*		*11/21/15 02:42*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/21/15 02:42*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 19:30	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 14:07	1
Arsenic	**0.0014**		0.0010		mg/L		11/19/15 15:04	11/20/15 14:07	1
Barium	**0.078**		0.0025		mg/L		11/19/15 15:04	11/20/15 14:07	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 18:21	1
Boron	**5.9**		0.50		mg/L		11/19/15 15:04	11/24/15 15:12	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 14:07	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 14:07	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 14:07	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 14:07	1
Iron	<0.10		0.10		mg/L		11/19/15 15:04	11/20/15 14:07	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 14:07	1
Manganese	**0.17**		0.0025		mg/L		11/19/15 15:04	11/20/15 14:07	1
Nickel	**0.0026**		0.0020		mg/L		11/19/15 15:04	11/20/15 14:07	1
Selenium	**0.035**		0.0025		mg/L		11/19/15 15:04	11/24/15 16:04	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 14:07	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 14:07	1
Vanadium	**0.016**		0.0050		mg/L		11/19/15 15:04	11/20/15 14:07	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 14:07	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:26	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/13/15 12:35	11/13/15 17:17	1
Sulfate	**780**		250		mg/L			11/14/15 20:40	50
Chloride	**110**		10		mg/L			11/17/15 00:39	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**1900**		10		mg/L			11/12/15 05:30	1
Fluoride	**0.31**		0.10		mg/L			11/12/15 13:28	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/11/15 18:36	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:55	1

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Client Sample ID: MW-09

Date Collected: 11/11/15 09:30
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103774-11

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00057**		0.00050		mg/L			11/21/15 03:07	1
Toluene	**0.0023**		0.00050		mg/L			11/21/15 03:07	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/21/15 03:07	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/21/15 03:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 125*		*11/21/15 03:07*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/21/15 03:07*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*11/21/15 03:07*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/21/15 03:07*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 19:45	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 14:10	1
Arsenic	**0.0057**		0.0010		mg/L		11/19/15 15:04	11/20/15 14:10	1
Barium	**0.030**		0.0025		mg/L		11/19/15 15:04	11/20/15 14:10	1
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 18:25	1
Boron	**2.1**		0.50		mg/L		11/19/15 15:04	11/24/15 15:16	10
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 14:10	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 14:10	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 14:10	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 14:10	1
Iron	<0.10		0.10		mg/L		11/19/15 15:04	11/20/15 14:10	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 14:10	1
Manganese	**0.0032**		0.0025		mg/L		11/19/15 15:04	11/20/15 14:10	1
Nickel	**0.0023**		0.0020		mg/L		11/19/15 15:04	11/20/15 14:10	1
Selenium	<0.0025		0.0025		mg/L		11/19/15 15:04	11/24/15 16:08	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 14:10	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 14:10	1
Vanadium	**0.0080**		0.0050		mg/L		11/19/15 15:04	11/20/15 14:10	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 14:10	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 12:28	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/13/15 12:35	11/13/15 17:17	1
Sulfate	**400**		100		mg/L			11/14/15 20:41	20
Chloride	**190**		10		mg/L			11/17/15 00:40	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/22/15 13:50	1
Total Dissolved Solids	**760**		10		mg/L			11/12/15 05:32	1
Fluoride	**0.57**		0.10		mg/L			11/12/15 13:32	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/11/15 18:37	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:56	1

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Client Sample ID: Trip Blank
Date Collected: 11/11/15 00:00
Date Received: 11/11/15 16:00

Lab Sample ID: 500-103774-12
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/20/15 22:07	1
Toluene	<0.00050		0.00050		mg/L			11/20/15 22:07	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/20/15 22:07	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/20/15 22:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 125*		*11/20/15 22:07*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/20/15 22:07*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*11/20/15 22:07*	*1*
Dibromofluoromethane	*104*		*75 - 120*		*11/20/15 22:07*	*1*

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA

Analysis Batch: 313469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Total/NA	Water	8260B	
500-103774-1 MS	MW-01	Total/NA	Water	8260B	
500-103774-1 MSD	MW-01	Total/NA	Water	8260B	
500-103774-2	MW-07	Total/NA	Water	8260B	
500-103774-3	MW-08	Total/NA	Water	8260B	
500-103774-4	Duplicate	Total/NA	Water	8260B	
500-103774-5	MW-02	Total/NA	Water	8260B	
500-103774-6	MW-03	Total/NA	Water	8260B	
500-103774-7	MW-06	Total/NA	Water	8260B	
500-103774-8	MW-10	Total/NA	Water	8260B	
500-103774-9	MW-04	Total/NA	Water	8260B	
500-103774-10	MW-05	Total/NA	Water	8260B	
500-103774-11	MW-09	Total/NA	Water	8260B	
500-103774-12	Trip Blank	Total/NA	Water	8260B	
LCS 500-313469/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-313469/6	Method Blank	Total/NA	Water	8260B	

HPLC/IC

Analysis Batch: 92977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Total/NA	Water	314.0	
500-103774-1 MS	MW-01	Total/NA	Water	314.0	
500-103774-1 MSD	MW-01	Total/NA	Water	314.0	
500-103774-2	MW-07	Total/NA	Water	314.0	
500-103774-3	MW-08	Total/NA	Water	314.0	
500-103774-4	Duplicate	Total/NA	Water	314.0	
500-103774-5	MW-02	Total/NA	Water	314.0	
500-103774-6	MW-03	Total/NA	Water	314.0	
500-103774-7	MW-06	Total/NA	Water	314.0	
500-103774-8	MW-10	Total/NA	Water	314.0	
500-103774-9	MW-04	Total/NA	Water	314.0	
500-103774-10	MW-05	Total/NA	Water	314.0	
500-103774-11	MW-09	Total/NA	Water	314.0	
LCS 320-92977/8	Lab Control Sample	Total/NA	Water	314.0	
MB 320-92977/7	Method Blank	Total/NA	Water	314.0	
MRL 320-92977/5	Lab Control Sample	Total/NA	Water	314.0	

Metals

Prep Batch: 312447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	7470A	
500-103774-1 DU	MW-01	Dissolved	Water	7470A	
500-103774-1 MS	MW-01	Dissolved	Water	7470A	
500-103774-1 MSD	MW-01	Dissolved	Water	7470A	
500-103774-2	MW-07	Dissolved	Water	7470A	
500-103774-3	MW-08	Dissolved	Water	7470A	
500-103774-4	Duplicate	Dissolved	Water	7470A	
500-103774-5	MW-02	Dissolved	Water	7470A	

Metals (Continued)

Prep Batch: 312447 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-6	MW-03	Dissolved	Water	7470A	
500-103774-7	MW-06	Dissolved	Water	7470A	
500-103774-8	MW-10	Dissolved	Water	7470A	
500-103774-9	MW-04	Dissolved	Water	7470A	
500-103774-10	MW-05	Dissolved	Water	7470A	
500-103774-11	MW-09	Dissolved	Water	7470A	
LCS 500-312447/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-312447/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 312586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	7470A	312447
500-103774-1 DU	MW-01	Dissolved	Water	7470A	312447
500-103774-1 MS	MW-01	Dissolved	Water	7470A	312447
500-103774-1 MSD	MW-01	Dissolved	Water	7470A	312447
500-103774-2	MW-07	Dissolved	Water	7470A	312447
500-103774-3	MW-08	Dissolved	Water	7470A	312447
500-103774-4	Duplicate	Dissolved	Water	7470A	312447
500-103774-5	MW-02	Dissolved	Water	7470A	312447
500-103774-6	MW-03	Dissolved	Water	7470A	312447
500-103774-7	MW-06	Dissolved	Water	7470A	312447
500-103774-8	MW-10	Dissolved	Water	7470A	312447
500-103774-9	MW-04	Dissolved	Water	7470A	312447
500-103774-10	MW-05	Dissolved	Water	7470A	312447
500-103774-11	MW-09	Dissolved	Water	7470A	312447
LCS 500-312447/13-A	Lab Control Sample	Total/NA	Water	7470A	312447
MB 500-312447/12-A	Method Blank	Total/NA	Water	7470A	312447

Prep Batch: 313291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	Soluble Metals	
500-103774-1 DU	MW-01	Dissolved	Water	Soluble Metals	
500-103774-1 MS	MW-01	Dissolved	Water	Soluble Metals	
500-103774-1 MSD	MW-01	Dissolved	Water	Soluble Metals	
500-103774-2	MW-07	Dissolved	Water	Soluble Metals	
500-103774-3	MW-08	Dissolved	Water	Soluble Metals	
500-103774-4	Duplicate	Dissolved	Water	Soluble Metals	
500-103774-5	MW-02	Dissolved	Water	Soluble Metals	
500-103774-6	MW-03	Dissolved	Water	Soluble Metals	
500-103774-7	MW-06	Dissolved	Water	Soluble Metals	
500-103774-8	MW-10	Dissolved	Water	Soluble Metals	
500-103774-9	MW-04	Dissolved	Water	Soluble Metals	
500-103774-10	MW-05	Dissolved	Water	Soluble Metals	
500-103774-11	MW-09	Dissolved	Water	Soluble Metals	
LCS 500-313291/2-A	Lab Control Sample	Soluble	Water	Soluble Metals	
MB 500-313291/1-A	Method Blank	Soluble	Water	Soluble Metals	

Analysis Batch: 313708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	6020A	313291
500-103774-1 DU	MW-01	Dissolved	Water	6020A	313291

Metals (Continued)

Analysis Batch: 313708 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1 MS	MW-01	Dissolved	Water	6020A	313291
500-103774-1 MSD	MW-01	Dissolved	Water	6020A	313291
500-103774-2	MW-07	Dissolved	Water	6020A	313291
500-103774-3	MW-08	Dissolved	Water	6020A	313291
500-103774-4	Duplicate	Dissolved	Water	6020A	313291
500-103774-5	MW-02	Dissolved	Water	6020A	313291
500-103774-6	MW-03	Dissolved	Water	6020A	313291
500-103774-7	MW-06	Dissolved	Water	6020A	313291
500-103774-8	MW-10	Dissolved	Water	6020A	313291
500-103774-9	MW-04	Dissolved	Water	6020A	313291
500-103774-10	MW-05	Dissolved	Water	6020A	313291
500-103774-11	MW-09	Dissolved	Water	6020A	313291
LCS 500-313291/2-A	Lab Control Sample	Soluble	Water	6020A	313291
MB 500-313291/1-A	Method Blank	Soluble	Water	6020A	313291

Analysis Batch: 313816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	6020A	313291
500-103774-1 DU	MW-01	Dissolved	Water	6020A	313291
500-103774-1 MS	MW-01	Dissolved	Water	6020A	313291
500-103774-1 MSD	MW-01	Dissolved	Water	6020A	313291
500-103774-2	MW-07	Dissolved	Water	6020A	313291
500-103774-3	MW-08	Dissolved	Water	6020A	313291
500-103774-4	Duplicate	Dissolved	Water	6020A	313291
500-103774-5	MW-02	Dissolved	Water	6020A	313291
500-103774-6	MW-03	Dissolved	Water	6020A	313291
500-103774-7	MW-06	Dissolved	Water	6020A	313291
500-103774-8	MW-10	Dissolved	Water	6020A	313291
500-103774-9	MW-04	Dissolved	Water	6020A	313291
500-103774-10	MW-05	Dissolved	Water	6020A	313291
500-103774-11	MW-09	Dissolved	Water	6020A	313291
LCS 500-313291/2-A	Lab Control Sample	Soluble	Water	6020A	313291
MB 500-313291/1-A	Method Blank	Soluble	Water	6020A	313291

Analysis Batch: 314020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	6020A	313291
500-103774-1 DU	MW-01	Dissolved	Water	6020A	313291
500-103774-1 MS	MW-01	Dissolved	Water	6020A	313291
500-103774-1 MSD	MW-01	Dissolved	Water	6020A	313291
500-103774-2	MW-07	Dissolved	Water	6020A	313291
500-103774-3	MW-08	Dissolved	Water	6020A	313291
500-103774-4	Duplicate	Dissolved	Water	6020A	313291
500-103774-5	MW-02	Dissolved	Water	6020A	313291
500-103774-6	MW-03	Dissolved	Water	6020A	313291
500-103774-7	MW-06	Dissolved	Water	6020A	313291
500-103774-8	MW-10	Dissolved	Water	6020A	313291
LCS 500-313291/2-A	Lab Control Sample	Soluble	Water	6020A	313291
MB 500-313291/1-A	Method Blank	Soluble	Water	6020A	313291

Metals (Continued)

Analysis Batch: 314031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-9	MW-04	Dissolved	Water	6020A	313291

Analysis Batch: 314036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	6020A	313291
500-103774-1 DU	MW-01	Dissolved	Water	6020A	313291
500-103774-1 MS	MW-01	Dissolved	Water	6020A	313291
500-103774-1 MSD	MW-01	Dissolved	Water	6020A	313291
500-103774-2	MW-07	Dissolved	Water	6020A	313291
500-103774-3	MW-08	Dissolved	Water	6020A	313291
500-103774-4	Duplicate	Dissolved	Water	6020A	313291
500-103774-5	MW-02	Dissolved	Water	6020A	313291
500-103774-6	MW-03	Dissolved	Water	6020A	313291
500-103774-7	MW-06	Dissolved	Water	6020A	313291
500-103774-8	MW-10	Dissolved	Water	6020A	313291
500-103774-9	MW-04	Dissolved	Water	6020A	313291
500-103774-9	MW-04	Dissolved	Water	6020A	313291
500-103774-10	MW-05	Dissolved	Water	6020A	313291
500-103774-10	MW-05	Dissolved	Water	6020A	313291
500-103774-11	MW-09	Dissolved	Water	6020A	313291
500-103774-11	MW-09	Dissolved	Water	6020A	313291
LCS 500-313291/2-A	Lab Control Sample	Soluble	Water	6020A	313291
MB 500-313291/1-A	Method Blank	Soluble	Water	6020A	313291

General Chemistry

Analysis Batch: 312287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	SM 2540C	
500-103774-1 DU	MW-01	Dissolved	Water	SM 2540C	
500-103774-2	MW-07	Dissolved	Water	SM 2540C	
500-103774-3	MW-08	Dissolved	Water	SM 2540C	
500-103774-4	Duplicate	Dissolved	Water	SM 2540C	
500-103774-5	MW-02	Dissolved	Water	SM 2540C	
500-103774-6	MW-03	Dissolved	Water	SM 2540C	
500-103774-7	MW-06	Dissolved	Water	SM 2540C	
500-103774-8	MW-10	Dissolved	Water	SM 2540C	
500-103774-9	MW-04	Dissolved	Water	SM 2540C	
500-103774-10	MW-05	Dissolved	Water	SM 2540C	
500-103774-11	MW-09	Dissolved	Water	SM 2540C	
LCS 500-312287/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-312287/1	Method Blank	Total/NA	Water	SM 2540C	

Prep Batch: 312352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	9010B	
500-103774-2	MW-07	Dissolved	Water	9010B	
500-103774-3	MW-08	Dissolved	Water	9010B	
500-103774-4	Duplicate	Dissolved	Water	9010B	
500-103774-5	MW-02	Dissolved	Water	9010B	

General Chemistry (Continued)

Prep Batch: 312352 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-6	MW-03	Dissolved	Water	9010B	
500-103774-7	MW-06	Dissolved	Water	9010B	
500-103774-8	MW-10	Dissolved	Water	9010B	
LCS 500-312352/11-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-312352/10-A	Method Blank	Total/NA	Water	9010B	

Analysis Batch: 312398

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-5	MW-02	Dissolved	Water	SM 4500 NO2 B	
500-103774-6	MW-03	Dissolved	Water	SM 4500 NO2 B	
500-103774-7	MW-06	Dissolved	Water	SM 4500 NO2 B	
500-103774-8	MW-10	Dissolved	Water	SM 4500 NO2 B	
500-103774-9	MW-04	Dissolved	Water	SM 4500 NO2 B	
500-103774-10	MW-05	Dissolved	Water	SM 4500 NO2 B	
500-103774-11	MW-09	Dissolved	Water	SM 4500 NO2 B	
LCS 500-312398/10	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-312398/9	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 312400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	SM 4500 NO2 B	
500-103774-1 MS	MW-01	Dissolved	Water	SM 4500 NO2 B	
500-103774-1 MSD	MW-01	Dissolved	Water	SM 4500 NO2 B	
500-103774-2	MW-07	Dissolved	Water	SM 4500 NO2 B	
500-103774-3	MW-08	Dissolved	Water	SM 4500 NO2 B	
500-103774-4	Duplicate	Dissolved	Water	SM 4500 NO2 B	
LCS 500-312400/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-312400/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 312414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	SM 4500 F C	
500-103774-1 MS	MW-01	Dissolved	Water	SM 4500 F C	
500-103774-1 MSD	MW-01	Dissolved	Water	SM 4500 F C	
500-103774-2	MW-07	Dissolved	Water	SM 4500 F C	
500-103774-3	MW-08	Dissolved	Water	SM 4500 F C	
500-103774-4	Duplicate	Dissolved	Water	SM 4500 F C	
500-103774-5	MW-02	Dissolved	Water	SM 4500 F C	
500-103774-6	MW-03	Dissolved	Water	SM 4500 F C	
500-103774-7	MW-06	Dissolved	Water	SM 4500 F C	
500-103774-8	MW-10	Dissolved	Water	SM 4500 F C	
500-103774-9	MW-04	Dissolved	Water	SM 4500 F C	
500-103774-10	MW-05	Dissolved	Water	SM 4500 F C	
500-103774-11	MW-09	Dissolved	Water	SM 4500 F C	
LCS 500-312414/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-312414/3	Method Blank	Total/NA	Water	SM 4500 F C	

Prep Batch: 312564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-9	MW-04	Dissolved	Water	9010B	
500-103774-10	MW-05	Dissolved	Water	9010B	

General Chemistry (Continued)

Prep Batch: 312564 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-11	MW-09	Dissolved	Water	9010B	
LCS 500-312564/16-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-312564/15-A	Method Blank	Total/NA	Water	9010B	

Analysis Batch: 312682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	9014	312352
500-103774-2	MW-07	Dissolved	Water	9014	312352
500-103774-3	MW-08	Dissolved	Water	9014	312352
500-103774-4	Duplicate	Dissolved	Water	9014	312352
500-103774-5	MW-02	Dissolved	Water	9014	312352
500-103774-6	MW-03	Dissolved	Water	9014	312352
500-103774-7	MW-06	Dissolved	Water	9014	312352
500-103774-8	MW-10	Dissolved	Water	9014	312352
LCS 500-312352/11-A	Lab Control Sample	Total/NA	Water	9014	312352
MB 500-312352/10-A	Method Blank	Total/NA	Water	9014	312352

Analysis Batch: 312683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-9	MW-04	Dissolved	Water	9014	312564
500-103774-10	MW-05	Dissolved	Water	9014	312564
500-103774-11	MW-09	Dissolved	Water	9014	312564
LCS 500-312564/16-A	Lab Control Sample	Total/NA	Water	9014	312564
MB 500-312564/15-A	Method Blank	Total/NA	Water	9014	312564

Analysis Batch: 312807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	9038	
500-103774-2	MW-07	Dissolved	Water	9038	
500-103774-3	MW-08	Dissolved	Water	9038	
500-103774-4	Duplicate	Dissolved	Water	9038	
500-103774-5	MW-02	Dissolved	Water	9038	
500-103774-6	MW-03	Dissolved	Water	9038	
500-103774-7	MW-06	Dissolved	Water	9038	
500-103774-8	MW-10	Dissolved	Water	9038	
500-103774-9	MW-04	Dissolved	Water	9038	
500-103774-10	MW-05	Dissolved	Water	9038	
500-103774-11	MW-09	Dissolved	Water	9038	
LCS 500-312807/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-312807/3	Method Blank	Total/NA	Water	9038	

Analysis Batch: 312871

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	SM 4500 NO3 F	
500-103774-2	MW-07	Dissolved	Water	SM 4500 NO3 F	
LCS 500-312871/5	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-312871/4	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 312927

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	9251	

General Chemistry (Continued)

Analysis Batch: 312927 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-2	MW-07	Dissolved	Water	9251	
500-103774-3	MW-08	Dissolved	Water	9251	
500-103774-4	Duplicate	Dissolved	Water	9251	
500-103774-5	MW-02	Dissolved	Water	9251	
500-103774-6	MW-03	Dissolved	Water	9251	
500-103774-6 MS	MW-03	Dissolved	Water	9251	
500-103774-6 MSD	MW-03	Dissolved	Water	9251	
500-103774-7	MW-06	Dissolved	Water	9251	
500-103774-8	MW-10	Dissolved	Water	9251	
500-103774-9	MW-04	Dissolved	Water	9251	
500-103774-10	MW-05	Dissolved	Water	9251	
500-103774-11	MW-09	Dissolved	Water	9251	
LCS 500-312927/5	Lab Control Sample	Total/NA	Water	9251	
MB 500-312927/4	Method Blank	Total/NA	Water	9251	

Analysis Batch: 313524

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-3	MW-08	Dissolved	Water	SM 4500 NO3 F	
500-103774-3 MS	MW-08	Dissolved	Water	SM 4500 NO3 F	
500-103774-3 MSD	MW-08	Dissolved	Water	SM 4500 NO3 F	
500-103774-4	Duplicate	Dissolved	Water	SM 4500 NO3 F	
500-103774-5	MW-02	Dissolved	Water	SM 4500 NO3 F	
500-103774-6	MW-03	Dissolved	Water	SM 4500 NO3 F	
500-103774-7	MW-06	Dissolved	Water	SM 4500 NO3 F	
500-103774-8	MW-10	Dissolved	Water	SM 4500 NO3 F	
500-103774-9	MW-04	Dissolved	Water	SM 4500 NO3 F	
500-103774-10	MW-05	Dissolved	Water	SM 4500 NO3 F	
500-103774-11	MW-09	Dissolved	Water	SM 4500 NO3 F	
LCS 500-313524/13	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-313524/12	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 313639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103774-1	MW-01	Dissolved	Water	Nitrate by calc	
500-103774-2	MW-07	Dissolved	Water	Nitrate by calc	
500-103774-3	MW-08	Dissolved	Water	Nitrate by calc	
500-103774-4	Duplicate	Dissolved	Water	Nitrate by calc	
500-103774-5	MW-02	Dissolved	Water	Nitrate by calc	
500-103774-6	MW-03	Dissolved	Water	Nitrate by calc	
500-103774-7	MW-06	Dissolved	Water	Nitrate by calc	
500-103774-8	MW-10	Dissolved	Water	Nitrate by calc	
500-103774-9	MW-04	Dissolved	Water	Nitrate by calc	
500-103774-10	MW-05	Dissolved	Water	Nitrate by calc	
500-103774-11	MW-09	Dissolved	Water	Nitrate by calc	

Surrogate Summary

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	12DCE (75-125)	TOL (75-120)	BFB (75-120)	DBFM (75-120)
500-103774-1	MW-01	101	94	97	103
500-103774-1 MS	MW-01	103	97	96	104
500-103774-1 MSD	MW-01	104	96	92	104
500-103774-2	MW-07	106	93	94	104
500-103774-3	MW-08	104	93	95	105
500-103774-4	Duplicate	101	93	94	105
500-103774-5	MW-02	104	92	98	107
500-103774-6	MW-03	102	95	94	105
500-103774-7	MW-06	103	92	99	104
500-103774-8	MW-10	102	95	95	105
500-103774-9	MW-04	101	95	94	105
500-103774-10	MW-05	103	93	97	105
500-103774-11	MW-09	103	92	98	105
500-103774-12	Trip Blank	103	93	98	104
LCS 500-313469/4	Lab Control Sample	101	97	93	106
MB 500-313469/6	Method Blank	100	92	97	103

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-313469/6
Matrix: Water
Analysis Batch: 313469

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/20/15 21:42	1
Toluene	<0.00050		0.00050		mg/L			11/20/15 21:42	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/20/15 21:42	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/20/15 21:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*		*11/20/15 21:42*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/20/15 21:42*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*		*11/20/15 21:42*	*1*
Dibromofluoromethane	*103*		*75 - 120*		*11/20/15 21:42*	*1*

Lab Sample ID: LCS 500-313469/4
Matrix: Water
Analysis Batch: 313469

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0466		mg/L		93	70 - 120
Toluene	0.0500	0.0451		mg/L		90	70 - 120
Ethylbenzene	0.0500	0.0459		mg/L		92	70 - 125
Xylenes, Total	0.100	0.0925		mg/L		92	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*
Toluene-d8 (Surr)	*97*		*75 - 120*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*
Dibromofluoromethane	*106*		*75 - 120*

Lab Sample ID: 500-103774-1 MS
Matrix: Water
Analysis Batch: 313469

Client Sample ID: MW-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00050		0.0500	0.0508		mg/L		101	70 - 120
Toluene	0.0013		0.0500	0.0496		mg/L		97	70 - 120
Ethylbenzene	<0.00050		0.0500	0.0508		mg/L		102	70 - 125
Xylenes, Total	<0.0010		0.100	0.102		mg/L		102	70 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 125*
Toluene-d8 (Surr)	*97*		*75 - 120*
4-Bromofluorobenzene (Surr)	*96*		*75 - 120*
Dibromofluoromethane	*104*		*75 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-103774-1 MSD — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 313469

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00050		0.0500	0.0502		mg/L		100	70 - 120	1	20
Toluene	0.0013		0.0500	0.0487		mg/L		95	70 - 120	2	20
Ethylbenzene	<0.00050		0.0500	0.0499		mg/L		100	70 - 125	2	20
Xylenes, Total	<0.0010		0.100	0.0995		mg/L		100	70 - 120	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 125*
Toluene-d8 (Surr)	*96*		*75 - 120*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*
Dibromofluoromethane	*104*		*75 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-92977/7 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 92977

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/18/15 13:20	1

Lab Sample ID: LCS 320-92977/8 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 92977

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	0.0500	0.0484		mg/L		97	85 - 115

Lab Sample ID: MRL 320-92977/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 92977

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	<4.0		ug/L		93	75 - 125

Lab Sample ID: 500-103774-1 MS — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 92977

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	<0.0040		0.0500	0.0411		mg/L		82	80 - 120

Lab Sample ID: 500-103774-1 MSD — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 92977

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	<0.0040		0.0500	0.0409		mg/L		82	80 - 120	0	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: 500-103774-1 MS — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 313708 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.490		mg/L		98	75 - 125
Arsenic	<0.0010		0.100	0.112		mg/L		112	75 - 125
Barium	0.078		0.500	0.559		mg/L		96	75 - 125
Cadmium	<0.00050		0.0500	0.0518		mg/L		104	75 - 125
Chromium	<0.0050		0.200	0.189		mg/L		95	75 - 125
Cobalt	<0.0010		0.500	0.482		mg/L		96	75 - 125
Copper	<0.0020		0.250	0.241		mg/L		96	75 - 125
Iron	<0.10		1.00	0.981		mg/L		98	75 - 125
Lead	<0.00050		0.100	0.103		mg/L		103	75 - 125
Manganese	0.088		0.500	0.580		mg/L		98	75 - 125
Nickel	<0.0020		0.500	0.483		mg/L		96	75 - 125
Silver	<0.00050		0.0500	0.0430		mg/L		86	75 - 125
Thallium	<0.0020		0.100	0.106		mg/L		106	75 - 125
Vanadium	<0.0050		0.500	0.485		mg/L		97	75 - 125
Zinc	<0.020		0.500	0.544		mg/L		109	75 - 125

Lab Sample ID: 500-103774-1 MS — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 313816 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	<0.0010		0.0500	0.0498		mg/L		100	75 - 125

Lab Sample ID: 500-103774-1 MS — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 314036 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.73		1.00	1.70		mg/L		97	75 - 125

Lab Sample ID: 500-103774-1 MS — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 314020 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	0.0028		0.100	0.121		mg/L		118	75 - 125

Lab Sample ID: 500-103774-1 MSD — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 313708 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.509		mg/L		102	75 - 125	4	20
Arsenic	<0.0010		0.100	0.117		mg/L		117	75 - 125	4	20
Barium	0.078		0.500	0.573		mg/L		99	75 - 125	3	20
Cadmium	<0.00050		0.0500	0.0548		mg/L		110	75 - 125	6	20
Chromium	<0.0050		0.200	0.200		mg/L		100	75 - 125	5	20
Cobalt	<0.0010		0.500	0.511		mg/L		102	75 - 125	6	20
Copper	<0.0020		0.250	0.251		mg/L		100	75 - 125	4	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-103774-1 MSD — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 313708 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	<0.10		1.00	1.02		mg/L		102	75 - 125	4	20
Lead	<0.00050		0.100	0.107		mg/L		107	75 - 125	4	20
Manganese	0.088		0.500	0.602		mg/L		103	75 - 125	4	20
Nickel	<0.0020		0.500	0.513		mg/L		102	75 - 125	6	20
Silver	<0.00050		0.0500	0.0450		mg/L		90	75 - 125	4	20
Thallium	<0.0020		0.100	0.110		mg/L		110	75 - 125	3	20
Vanadium	<0.0050		0.500	0.512		mg/L		102	75 - 125	5	20
Zinc	<0.020		0.500	0.563		mg/L		113	75 - 125	3	20

Lab Sample ID: 500-103774-1 MSD — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 313816 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	<0.0010		0.0500	0.0535		mg/L		107	75 - 125	7	20

Lab Sample ID: 500-103774-1 MSD — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 314036 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.73		1.00	1.74		mg/L		100	75 - 125	2	20

Lab Sample ID: 500-103774-1 MSD — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 314020 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium	0.0028		0.100	0.122		mg/L		119	75 - 125	1	20

Lab Sample ID: 500-103774-1 DU — **Client Sample ID: MW-01**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 313708 — **Prep Batch: 313291**

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Antimony	<0.0030			<0.0030		mg/L				NC	20
Arsenic	<0.0010			<0.0010		mg/L				NC	20
Barium	0.078			0.0778		mg/L				0.4	20
Cadmium	<0.00050			<0.00050		mg/L				NC	20
Chromium	<0.0050			<0.0050		mg/L				NC	20
Cobalt	<0.0010			<0.0010		mg/L				NC	20
Copper	<0.0020			<0.0020		mg/L				NC	20
Iron	<0.10			<0.10		mg/L				NC	20
Lead	<0.00050			<0.00050		mg/L				NC	20
Manganese	0.088			0.0884		mg/L				0.2	20
Nickel	<0.0020			<0.0020		mg/L				NC	20
Silver	<0.00050			<0.00050		mg/L				NC	20
Thallium	<0.0020			<0.0020		mg/L				NC	20
Vanadium	<0.0050			<0.0050		mg/L				NC	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-103774-1 DU
Matrix: Water
Analysis Batch: 313708

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 313291

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Zinc	<0.020			<0.020		mg/L				NC	20

Lab Sample ID: 500-103774-1 DU
Matrix: Water
Analysis Batch: 313816

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 313291

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Beryllium	<0.0010			<0.0010		mg/L				NC	20

Lab Sample ID: 500-103774-1 DU
Matrix: Water
Analysis Batch: 314036

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 313291

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Boron	0.73			0.747		mg/L				2	20

Lab Sample ID: 500-103774-1 DU
Matrix: Water
Analysis Batch: 314020

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 313291

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Selenium	0.0028			0.00266		mg/L				3	20

Lab Sample ID: MB 500-313291/1-A
Matrix: Water
Analysis Batch: 313708

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 313291

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/19/15 15:04	11/20/15 13:16	1
Arsenic	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:16	1
Barium	<0.0025		0.0025		mg/L		11/19/15 15:04	11/20/15 13:16	1
Cadmium	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:16	1
Chromium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:16	1
Cobalt	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 13:16	1
Copper	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:16	1
Iron	<0.10		0.10		mg/L		11/19/15 15:04	11/20/15 13:16	1
Lead	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:16	1
Manganese	<0.0025		0.0025		mg/L		11/19/15 15:04	11/20/15 13:16	1
Nickel	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:16	1
Silver	<0.00050		0.00050		mg/L		11/19/15 15:04	11/20/15 13:16	1
Thallium	<0.0020		0.0020		mg/L		11/19/15 15:04	11/20/15 13:16	1
Vanadium	<0.0050		0.0050		mg/L		11/19/15 15:04	11/20/15 13:16	1
Zinc	<0.020		0.020		mg/L		11/19/15 15:04	11/20/15 13:16	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 500-313291/1-A
Matrix: Water
Analysis Batch: 313816

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 313291

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		11/19/15 15:04	11/20/15 17:14	1

Lab Sample ID: MB 500-313291/1-A
Matrix: Water
Analysis Batch: 314036

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 313291

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		11/19/15 15:04	11/24/15 14:09	1

Lab Sample ID: MB 500-313291/1-A
Matrix: Water
Analysis Batch: 314020

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 313291

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	<0.0025		0.0025		mg/L		11/19/15 15:04	11/24/15 14:28	1

Lab Sample ID: LCS 500-313291/2-A
Matrix: Water
Analysis Batch: 313708

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 313291

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.473		mg/L		95	80 - 120
Arsenic	0.100	0.0974		mg/L		97	80 - 120
Barium	0.500	0.474		mg/L		95	80 - 120
Cadmium	0.0500	0.0518		mg/L		104	80 - 120
Chromium	0.200	0.201		mg/L		100	80 - 120
Cobalt	0.500	0.521		mg/L		104	80 - 120
Copper	0.250	0.243		mg/L		97	80 - 120
Iron	1.00	1.03		mg/L		103	80 - 120
Lead	0.100	0.104		mg/L		104	80 - 120
Manganese	0.500	0.514		mg/L		103	80 - 120
Nickel	0.500	0.531		mg/L		106	80 - 120
Silver	0.0500	0.0531		mg/L		106	80 - 120
Thallium	0.100	0.107		mg/L		107	80 - 120
Vanadium	0.500	0.506		mg/L		101	80 - 120
Zinc	0.500	0.503		mg/L		101	80 - 120

Lab Sample ID: LCS 500-313291/2-A
Matrix: Water
Analysis Batch: 313816

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 313291

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.0500	0.0507		mg/L		101	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-313291/2-A
Matrix: Water
Analysis Batch: 314036

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 313291

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	80 - 120

Lab Sample ID: LCS 500-313291/2-A
Matrix: Water
Analysis Batch: 314020

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 313291

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	0.100	0.0957		mg/L		96	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-312447/12-A
Matrix: Water
Analysis Batch: 312586

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312447

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/12/15 16:45	11/13/15 11:55	1

Lab Sample ID: LCS 500-312447/13-A
Matrix: Water
Analysis Batch: 312586

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312447

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00180		mg/L		90	80 - 120

Lab Sample ID: 500-103774-1 MS
Matrix: Water
Analysis Batch: 312586

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 312447

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00020		0.00100	0.000845		mg/L		85	75 - 125

Lab Sample ID: 500-103774-1 MSD
Matrix: Water
Analysis Batch: 312586

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 312447

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.00020		0.00100	0.000804		mg/L		80	75 - 125	5	20

Lab Sample ID: 500-103774-1 DU
Matrix: Water
Analysis Batch: 312586

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 312447

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.00020		<0.00020		mg/L		NC	20

Method: 9014 - Cyanide

Lab Sample ID: MB 500-312352/10-A
Matrix: Water
Analysis Batch: 312682

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312352

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/12/15 11:20	11/13/15 14:58	1

Lab Sample ID: LCS 500-312352/11-A
Matrix: Water
Analysis Batch: 312682

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312352

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.107		mg/L		107	80 - 120

Lab Sample ID: MB 500-312564/15-A
Matrix: Water
Analysis Batch: 312683

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 312564

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/13/15 12:35	11/13/15 17:15	1

Lab Sample ID: LCS 500-312564/16-A
Matrix: Water
Analysis Batch: 312683

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 312564

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.110		mg/L		110	80 - 120

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 500-312807/3
Matrix: Water
Analysis Batch: 312807

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/14/15 20:23	1

Lab Sample ID: LCS 500-312807/4
Matrix: Water
Analysis Batch: 312807

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	18.4		mg/L		92	80 - 120

Method: 9251 - Chloride

Lab Sample ID: MB 500-312927/4
Matrix: Water
Analysis Batch: 312927

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/16/15 23:52	1

Method: 9251 - Chloride (Continued)

Lab Sample ID: LCS 500-312927/5
Matrix: Water
Analysis Batch: 312927

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	52.3		mg/L		105	80 - 120

Lab Sample ID: 500-103774-6 MS
Matrix: Water
Analysis Batch: 312927

Client Sample ID: MW-03
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	33		50.0	84.0		mg/L		102	75 - 125

Lab Sample ID: 500-103774-6 MSD
Matrix: Water
Analysis Batch: 312927

Client Sample ID: MW-03
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	33		50.0	87.0		mg/L		108	75 - 125	3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-312287/1
Matrix: Water
Analysis Batch: 312287

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/12/15 05:00	1

Lab Sample ID: LCS 500-312287/2
Matrix: Water
Analysis Batch: 312287

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	282		mg/L		113	80 - 120

Lab Sample ID: 500-103774-1 DU
Matrix: Water
Analysis Batch: 312287

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	470		466		mg/L		0	5

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-312414/3
Matrix: Water
Analysis Batch: 312414

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			11/12/15 12:49	1

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: LCS 500-312414/4
Matrix: Water
Analysis Batch: 312414

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.6		mg/L		106	80 - 120

Lab Sample ID: 500-103774-1 MS
Matrix: Water
Analysis Batch: 312414

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.80		5.00	6.09		mg/L		106	75 - 125

Lab Sample ID: 500-103774-1 MSD
Matrix: Water
Analysis Batch: 312414

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.80		5.00	6.09		mg/L		106	75 - 125	0	20

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-312398/9
Matrix: Water
Analysis Batch: 312398

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/11/15 18:33	1

Lab Sample ID: LCS 500-312398/10
Matrix: Water
Analysis Batch: 312398

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.107		mg/L		107	80 - 120

Lab Sample ID: MB 500-312400/3
Matrix: Water
Analysis Batch: 312400

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/10/15 18:11	1

Lab Sample ID: LCS 500-312400/4
Matrix: Water
Analysis Batch: 312400

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.106		mg/L		106	80 - 120

Method: SM 4500 NO2 B - Nitrogen, Nitrite (Continued)

Lab Sample ID: 500-103774-1 MS
Matrix: Water
Analysis Batch: 312400

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	<0.020		0.100	0.117		mg/L		103	75 - 125

Lab Sample ID: 500-103774-1 MSD
Matrix: Water
Analysis Batch: 312400

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	<0.020		0.100	0.120		mg/L		105	75 - 125	2	20

Method: SM 4500 NO3 F - Nitrate

Lab Sample ID: MB 500-312871/4
Matrix: Water
Analysis Batch: 312871

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/15/15 22:08	1

Lab Sample ID: LCS 500-312871/5
Matrix: Water
Analysis Batch: 312871

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	0.982		mg/L		98	80 - 120

Lab Sample ID: MB 500-313524/12
Matrix: Water
Analysis Batch: 313524

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/19/15 23:32	1

Lab Sample ID: LCS 500-313524/13
Matrix: Water
Analysis Batch: 313524

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	1.08		mg/L		108	80 - 120

Lab Sample ID: 500-103774-3 MS
Matrix: Water
Analysis Batch: 313524

Client Sample ID: MW-08
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	<0.10		1.00	0.979		mg/L		92	75 - 125

Method: SM 4500 NO3 F - Nitrogen, Nitrate (Continued)

Lab Sample ID: 500-103774-3 MSD
Matrix: Water
Analysis Batch: 313524

Client Sample ID: MW-08
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrate Nitrite	<0.10		1.00	1.10		mg/L		104	75 - 125	11	20

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:
Contact:	Rich Gnat	Contact:
Company:	KPRG & Associates Inc.	Company:
Address:	14665 W. Lisbon Rd. Suite 2B	Address:
	Brookfield, WI	
Phone:	262-781-0475	Phone:
Fax:		Fax:
Email:	richardg@kprginc.com	PO #:

Lab Lot # 500-103774

Package Sealed	Samples Sealed
(Yes) No	(Yes) No
Received on Ice	**Samples Intact**
(Yes) No	(Yes) No N/A

Temperature °C of Cooler 4.4

Within Hold Time	Preserv. Indicated
(Yes) No	Yes No (N/A)
pH Check OK	**Res CL_2 Check OK**
Yes No	Yes No N/A

Sample Labels and COC Agree
(Yes) No COC not present

Sampler Name:	Client Project #	Refrg #
Ian John Howieson	12313.3	# / Cont.
Project Name:	**TestAmerica Project Number:**	Volume
Will Co. Station Ash Ponds	50005079	Preserv.
Project Location:	**Date Required**	
Romeoville, IL	Hard Copy: ____/____/____	
Lab PM: Bonnie Stadelmann	Fax: ____/____/____	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# OF Containers	NO2	Additional Analyses / Remarks
1		MW-01	11-9-15	11:40	W	1	X	
2		MW-07	11-9-15	13:58	W	1	X	
3		MW-08	11-9-15	15:25	W	1	X	
4		DUPLICATE	11-9-15	—	W	1	X	

500-103774 COC

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	11-9-15	17:30	FEDEX			
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
					TA-CHI	11/10/15	10:30

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 11/10/15
Courier:
Hand Delivered ☐
Bill of Lading: FedEx
PAGE ____of____

STL-8208 (0600)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Rich Gnat	Contact:	
Company:	KPRG & Associates Inc.	Company:	
Address:	14665 W. Llisbon Rd. Suite 2B	Address:	
	Brookfield, WI		
Phone:	262-781-0475	Phone:	
Fax:		Fax:	
Email:	richardg@kprginc.com	PO #:	

500-103774 COC

Lab Lot # 500-103774

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No N/A

Temperature °C of Cooler: 5.5

Sampler Name:	Client Project #	Refrg #	Within Hold Time	Preserv. Indicated
Ian John Howieson	12313.3	# / Cont.	Yes No	Yes No N/A
Project Name:	**TestAmerica Project Number:**	Volume	pH Check OK	Res CL_2 Check OK
Will Co. Station Ash Ponds	50005079	Preserv.	Yes No	Yes No N/A
Project Location:	Date Required		Sample Labels and COC Agree	
Romeoville, IL	Hard Copy: ____/____/____		Yes No	COC not present
Lab PM: Bonnie Stadelmann	Fax: ____/____/____			

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# OF Containers	NO2	Additional Analyses / Remarks
500-103774-1		MW-02	11-10-15	08:50	W	1	X	
-2		MW-03	11-10-15	10:25	W	1	X	
-3		MW-06	11-10-15	11:56	W	1	X	
-4		MW-10	11-10-15	14:55	W	1	X	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	11-10-15	18:00	FEDEX			
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
					TA	11/11/15	1030

Matrix Key
WW = Wastewater, SE = Sediment
W = Water, SO = Solid
S = Soil, DL = Drum Liquid
SL = Sludge, DS = Drum Solid
MS = Miscellaneous, L = Leachate
OL = Oil, W = Wipe
A = Air, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ____/____/____
Courier:
Hand Delivered ☐
Bill of Lading:

PAGE ____of____

STL-8208 (0600)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200

Report To:		Bill To:	
Contact:	Rich Gnat	Contact:	
Company:	KPRG & Associates Inc.	Company:	
Address:	14665 W. Llisbon Rd. Suite 2B	Address:	
	Brookfield, WI		
Phone:	262-781-0475	Phone:	
Fax:		Fax:	

500-103774 COC

Lab Lot # 500- 103774

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No N/A

Temperature °C of Cooler (3.9)(4.3)

Within Hold Time	Preserv. Indicated
Yes No	Yes No N/A
pH Check OK	**Res CL_2 Check OK**
Yes No	Yes No N/A

Sample Labels and COC Agree: Yes No COC not present

Sampler Name: John Howieson
Client Project #: 12713.3
Refrg #
/ Cont
Volume
Preserv.
Project Name: Will Co. Station Ash Ponds
TestAmerica Project Number: 50005079
Project Location: Romeoville, IL
Date Required
Hard Copy: ___/___/___
Fax: ___/___/___
Lab PM: Bonnie Stadelmann

Laboratory ID	MS-MSD	Client Sample ID	Sampling Time	Date	Matrix	# OF Containers	Metals dissolved	Cl, TDS, SO4, Fl, dissolved	NO2, dissolved	NO3+NO2, dissolved	Cyanide, dissolved	BTEX	Perchlorate				Additional Analyses / Remarks
1		MW-01	11-9-15	11:40	W	8	X	X	—	X	X	X	X				
5		MW-02	11-10-15	08:50	W	8	X	X	—	X	X	X	X				
6		MW-03	11-10-15	10:25	W	8	X	X	—	X	X	x	X				
9		MW-04	11-11-15		W	9	X	X	X	X	X	X	X				
10		MW-05	11-11-15		W	9	X	X	X	X	X	X	X				
7		MW-06	11-10-15	11:56	W	8	X	X	—	X	X	X	X				
2		MW-07	11-9-15	13:58	W	8	X	X	—	X	X	X	X				
3		MW-08	11-9-15	15:25	W	8	X	X	—	X	X	x	X				
11		MW-09	11-11-15		W	9	X	X	X	X	X	X	X				
8		MW-10	11-10-15	14:55	W	8	X	X	—	X	X	X	X				
~~—~~		~~MW-11~~			~~W~~		~~X~~	~~X~~		~~X~~	~~X~~	~~X~~	~~X~~				
4		Duplicates	11-9-15	N/A	W		X	X		X	X	X	X				
12		Trip Blank	N/A	N/A	W	2											

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH [signature]	KPRG	11-11-15	16:00	[signature]	TA	11/11/15	1600
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key
WW = Wastewater, SE = Sediment
W = Water, SO = Solid
S = Soil, DL = Drum Liquid
SL = Sludge, DS = Drum Solid
MS = Miscellaneous, L = Leachate
OL = Oil, W = Wipe
A = Air, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 11/11/15
Courier:
Hand Delivered ✓
Bill of Lading:

PAGE 1 of 2

STL-8208 (0600) MWG13-15_56589

11/24/2015



ORIGIN ID:DPAA (630) 325-1300
KPRG AND ASSOCIATES

414 PLAZA DR STE 106

WESTMONT, IL 605593509
UNITED STATES US

SHIP DATE: 09NOV15
ACTWGT: 18.80 LB
CAD: /OFFC1621
DIMS: 17x12x16 IN

BILL SENDER

TO **B. STADELMANN**
TEST AMERICA CHICAGO
2417 BOND ST

UNIVERSITY PARK IL 60484
(708) 534-5200 REF:
INV:
PO: DEPT:

FedEx Express

TRK# 0200 **8047 9394 4133**

TUE - 10 NOV 3:00P
STANDARD OVERNIGHT

79 JOTA

60484
IL-US **ORD**

500-103774 Waybill



ORIGIN ID:DPAA (630) 325-1300
IAN JOHN HOWIESON
KPRG & ASSOCIATES INC
414 PLAZA DR STE 106

WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 10NOV15
ACTWGT: 11.00 LB
CAD: 6995614/SSFO1621
DIMS: 12x9x12 IN

BILL THIRD PARTY

TO B STADELMANN
TEST AMERICA CHICAGO
2417 BOND ST

UNIVERSITY PARK IL 60484
(708) 534-6200

REF:
INV:
PO:
DEPT:

FedEx Express

TRK# 0201 7816 9028 0239

WED - 11 NOV 3:00P
STANDARD OVERNIGHT

79 JOTA

60484
IL-US ORD

500-103774 Waybill

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler	Lab PM: Stadelmann, Bonnie M	Carrier Tracking No(s):	COC No: 500-67336.1
Client Contact: Shipping/Receiving	Phone	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 500-103774-1

Address	Due Date Requested:	Analysis Requested
880 Riverside Parkway, ,	11/20/2015	
City: West Sacramento	TAT Requested (days)	
State, Zip: CA, 95605		
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #	
Email:	WO #	
Project Name: Will Co. Station Ash Ponds	Project #: 50005079	
Site: Ian John Howieson	SSOW#	

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	X	X	
MW-01 (500-103774-1)	11/9/15	11 40 Central		Water			X		
MW-07 (500-103774-2)	11/9/15	13:58 Central		Water			X		
MW-08 (500-103774-3)	11/9/15	15:25 Central		Water			X		
Duplicate (500-103774-4)	11/9/15	Central		Water			X		
MW-02 (500-103774-5)	11/10/15	08:50 Central		Water			X		
MW-03 (500-103774-6)	11/10/15	10.25 Central		Water			X		
MW-06 (500-103774-7)	11/10/15	11:56 Central		Water			X		
MW-10 (500-103774-8)	11/10/15	14:55 Central		Water			X		
MW-04 (500-103774-9)	11/11/15	12.40 Central		Water			X		
MW-05 (500-103774-10)	11/11/15	10 55 Central		Water			X		
MW-09 (500-103774-11)	11/11/15	09.30 Central		Water			X		

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Special Instructions/QC Requirements.

Empty Kit Relinquished by	Date:	Time:	Method of Shipment:

	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	11/11/15 1700	TAL	Joyce Pagayo	11/12/15 955	TAWS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time:	Company	Received by	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 1.9

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103774-1

Login Number: 103774
List Number: 1
Creator: Sanchez, Ariel M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.4
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103774-1

Login Number: 103774
List Number: 2
Creator: James, Jeff A

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.5
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103774-1

Login Number: 103774
List Number: 3
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	(3.9)(4.3)c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	No sample date and/or time on COC for 9-11, logged in per container labels.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103774-1

Login Number: 103774
List Number: 4
Creator: Paguyo, Joyce A

List Source: TestAmerica Sacramento
List Creation: 11/12/15 02:03 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Headspace in 314.0
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Will Co. Station Ash Ponds

TestAmerica Job ID: 500-103774-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

Laboratory: TestAmerica Sacramento

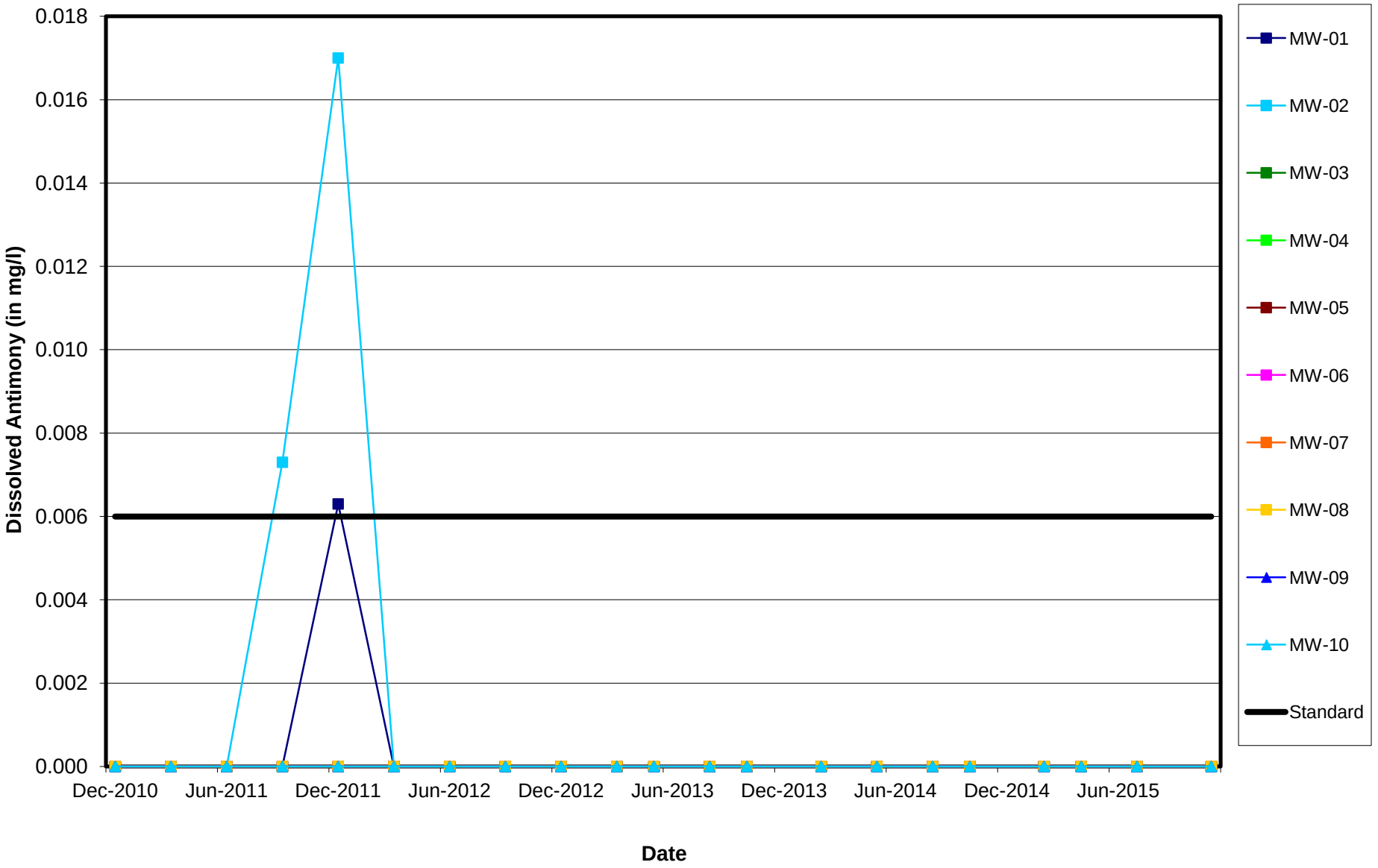
All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-16
Alaska (UST)	State Program	10	UST-055	12-18-15
Arizona	State Program	9	AZ0708	08-11-16
Arkansas DEQ	State Program	6	88-0691	06-17-16
California	State Program	9	2897	01-31-16
Colorado	State Program	8	N/A	08-31-16
Connecticut	State Program	1	PH-0691	06-30-17
Florida	NELAP	4	E87570	06-30-16
Hawaii	State Program	9	N/A	01-29-16
Illinois	NELAP	5	200060	03-17-16
Kansas	NELAP	7	E-10375	01-31-16
Louisiana	NELAP	6	30612	06-30-16
Michigan	State Program	5	9947	01-31-16
Nevada	State Program	9	CA44	07-31-16
New Jersey	NELAP	2	CA005	06-30-16
New York	NELAP	2	11666	04-01-16
Oregon	NELAP	10	CA200005	01-29-16
Pennsylvania	NELAP	3	9947	03-31-16
Texas	NELAP	6	T104704399-15-9	05-31-16
US Fish & Wildlife	Federal		LE148388-0	02-28-16
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-16
Utah	NELAP	8	QUAN1	02-28-16
Virginia	NELAP Secondary AB	3	460278	03-14-16
Washington	State Program	10	C581	05-04-16
West Virginia (DW)	State Program	3	9930C	12-31-15
Wyoming	State Program	8	8TMS-Q	01-29-16

ATTACHMENT 3
Time Versus Concentration Curves

Midwest Generation Will County Station, Romeoville, IL

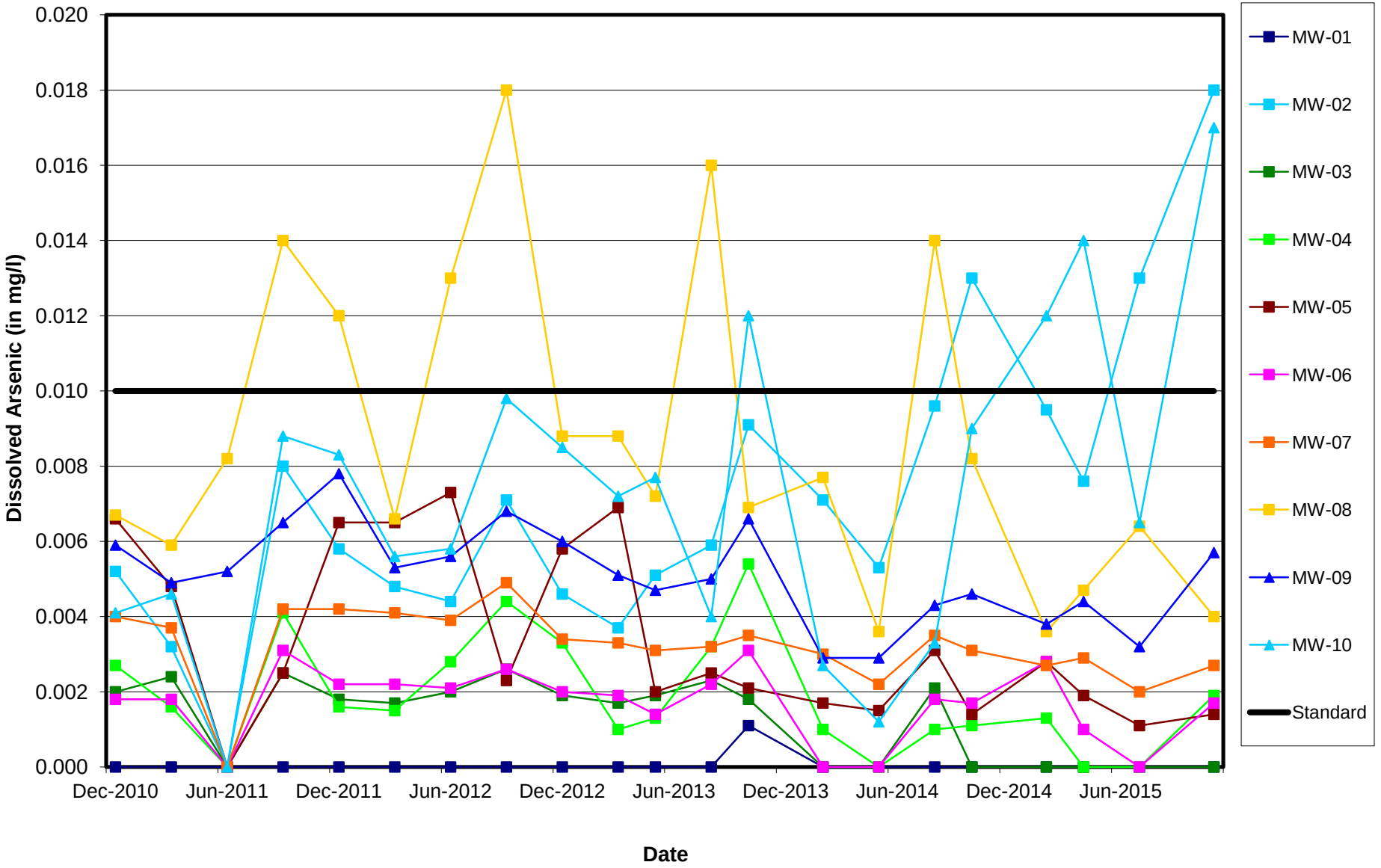
Dissolved Antimony vs. Time



MWG13-15_56599

Midwest Generation Will County Station, Romeoville, IL

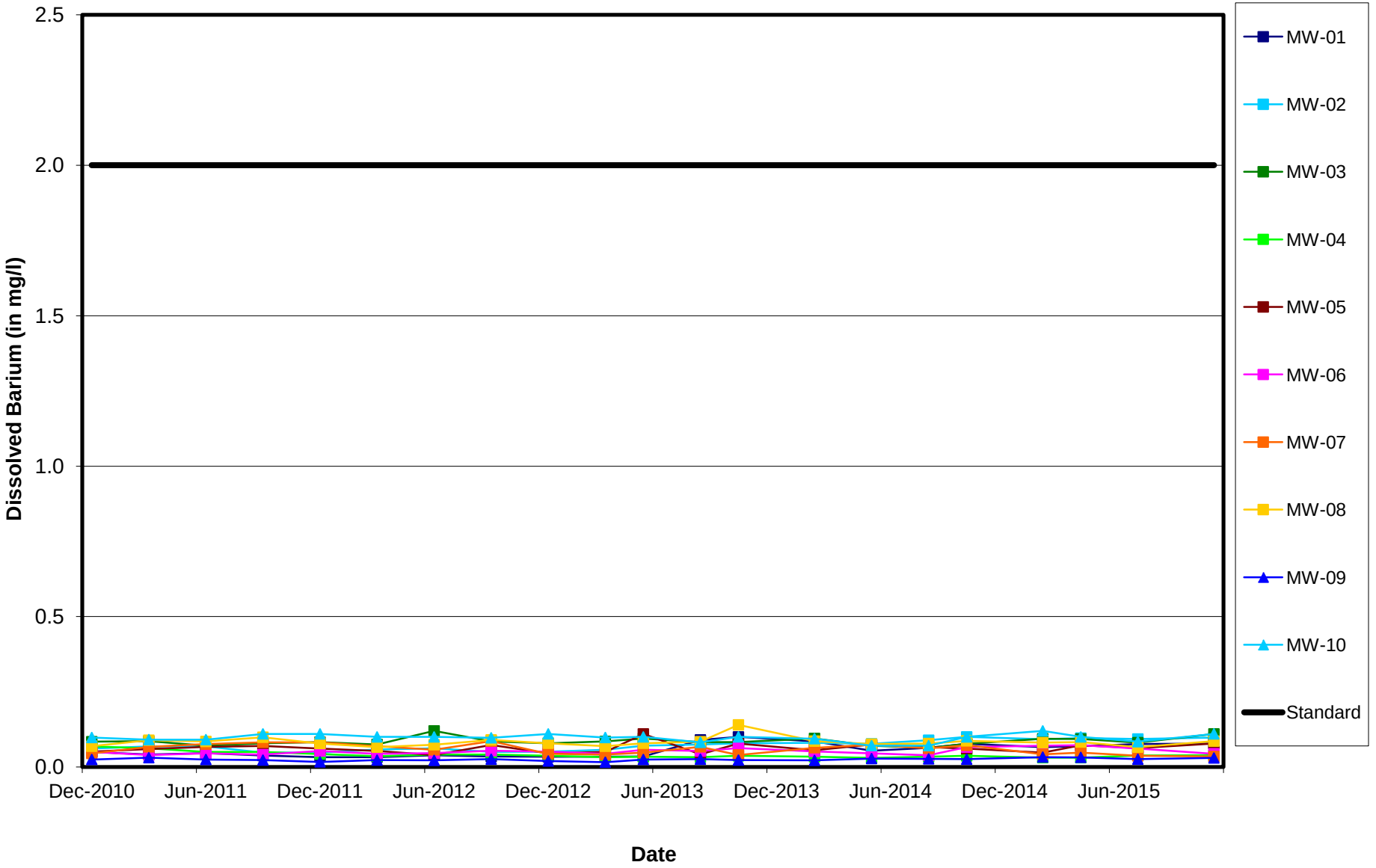
Dissolved Arsenic vs. Time



MWG13-15_56600

Midwest Generation Will County Station, Romeoville, IL

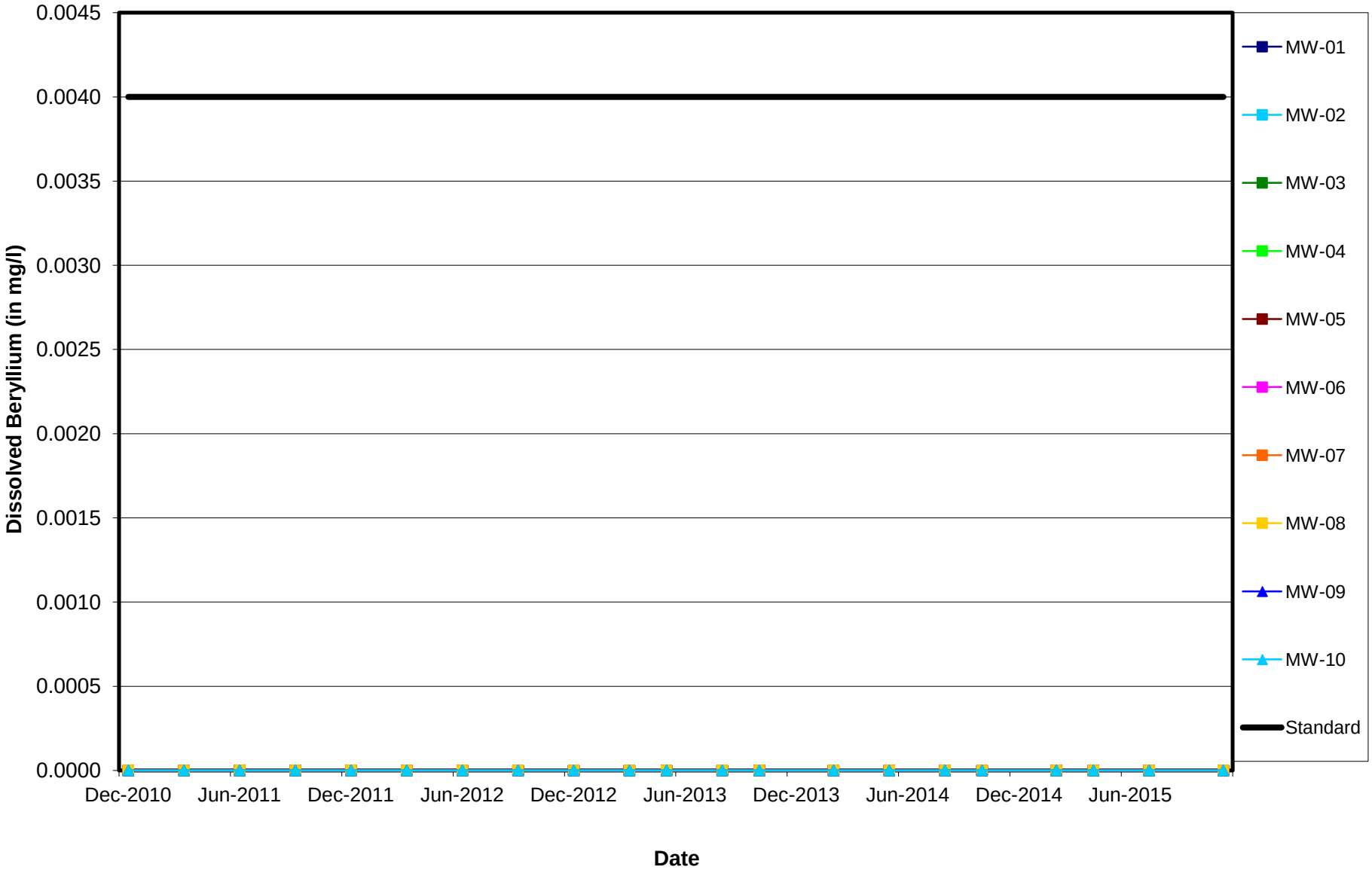
Dissolved Barium vs. Time



MWG13-15_56601

Midwest Generation Will County Station, Romeoville, IL

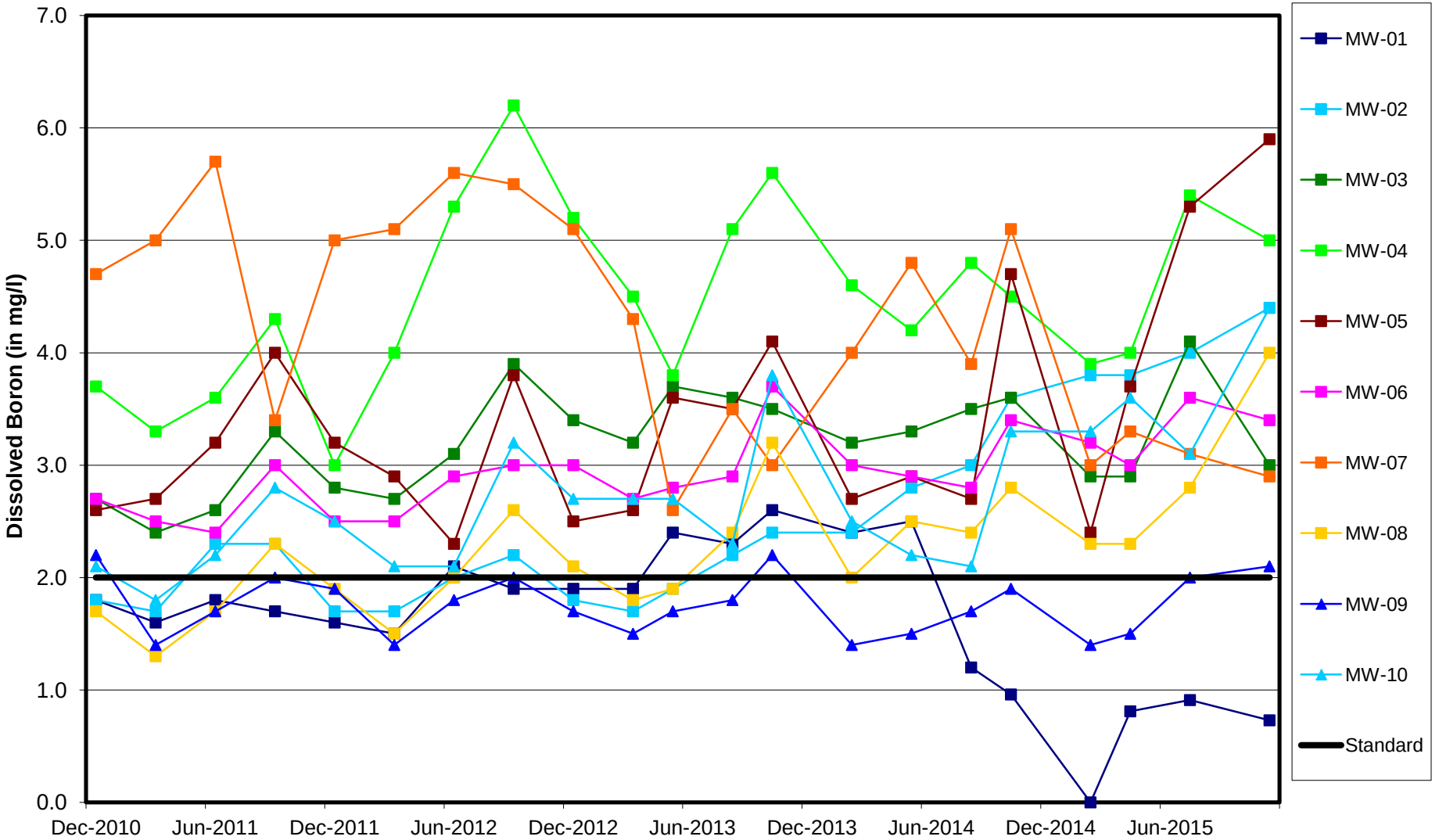
Dissolved Beryllium vs. Time



MWG13-15_56602

Midwest Generation Will County Station, Romeoville, IL

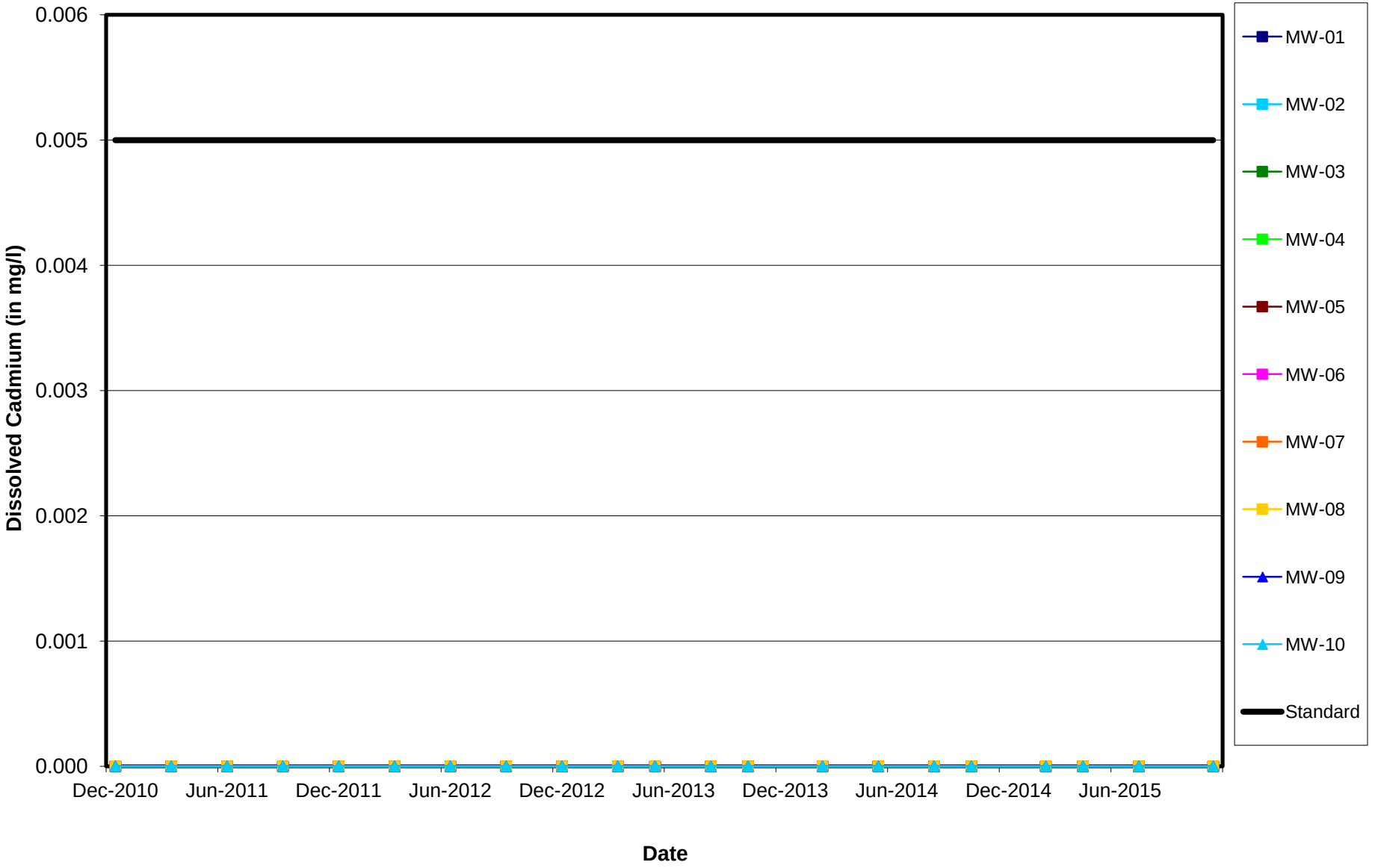
Dissolved Boron vs. Time



MWG13-15_56603

Midwest Generation Will County Station, Romeoville, IL

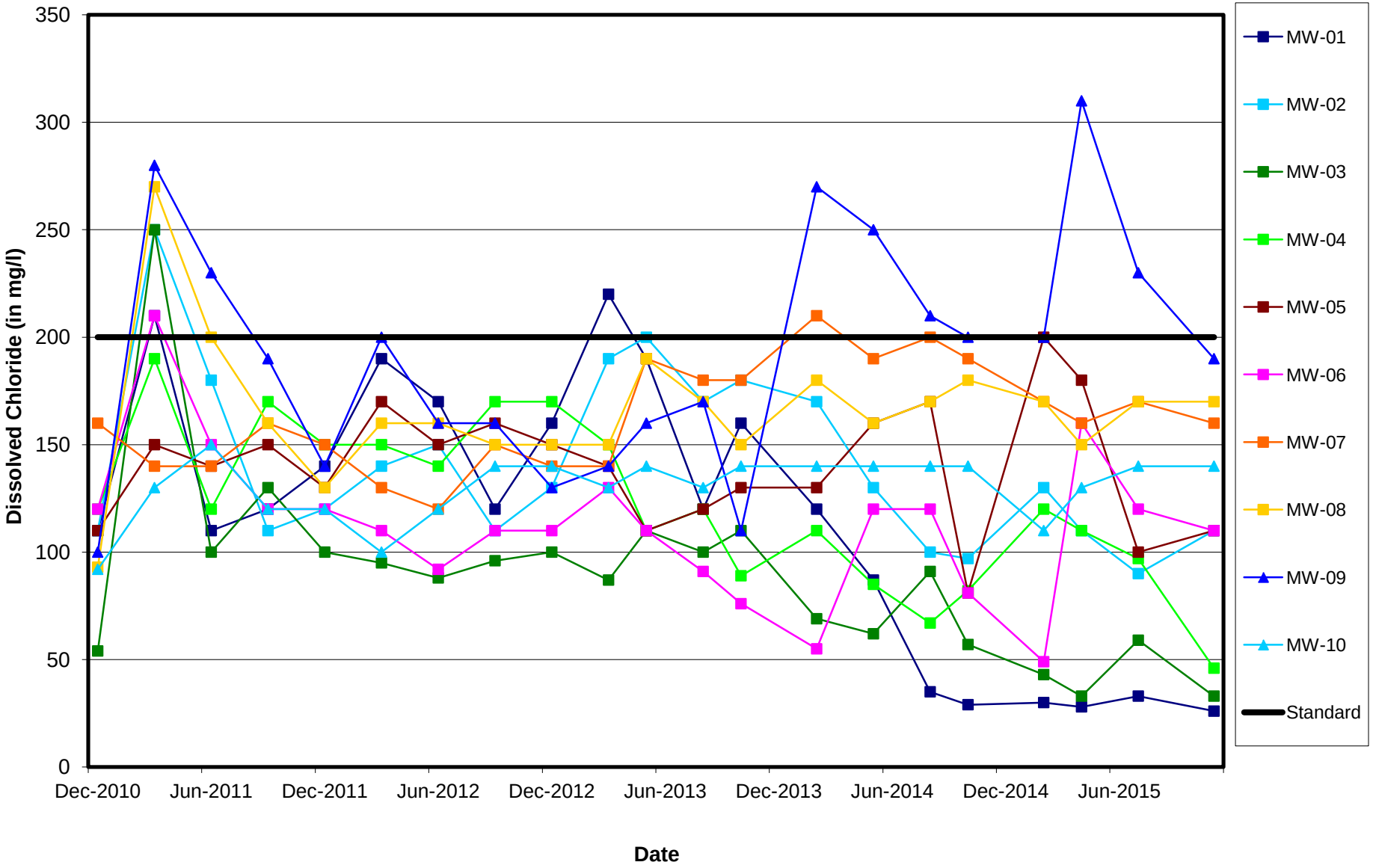
Dissolved Cadmium vs. Time



MWG13-15_56604

Midwest Generation Will County Station, Romeoville, IL

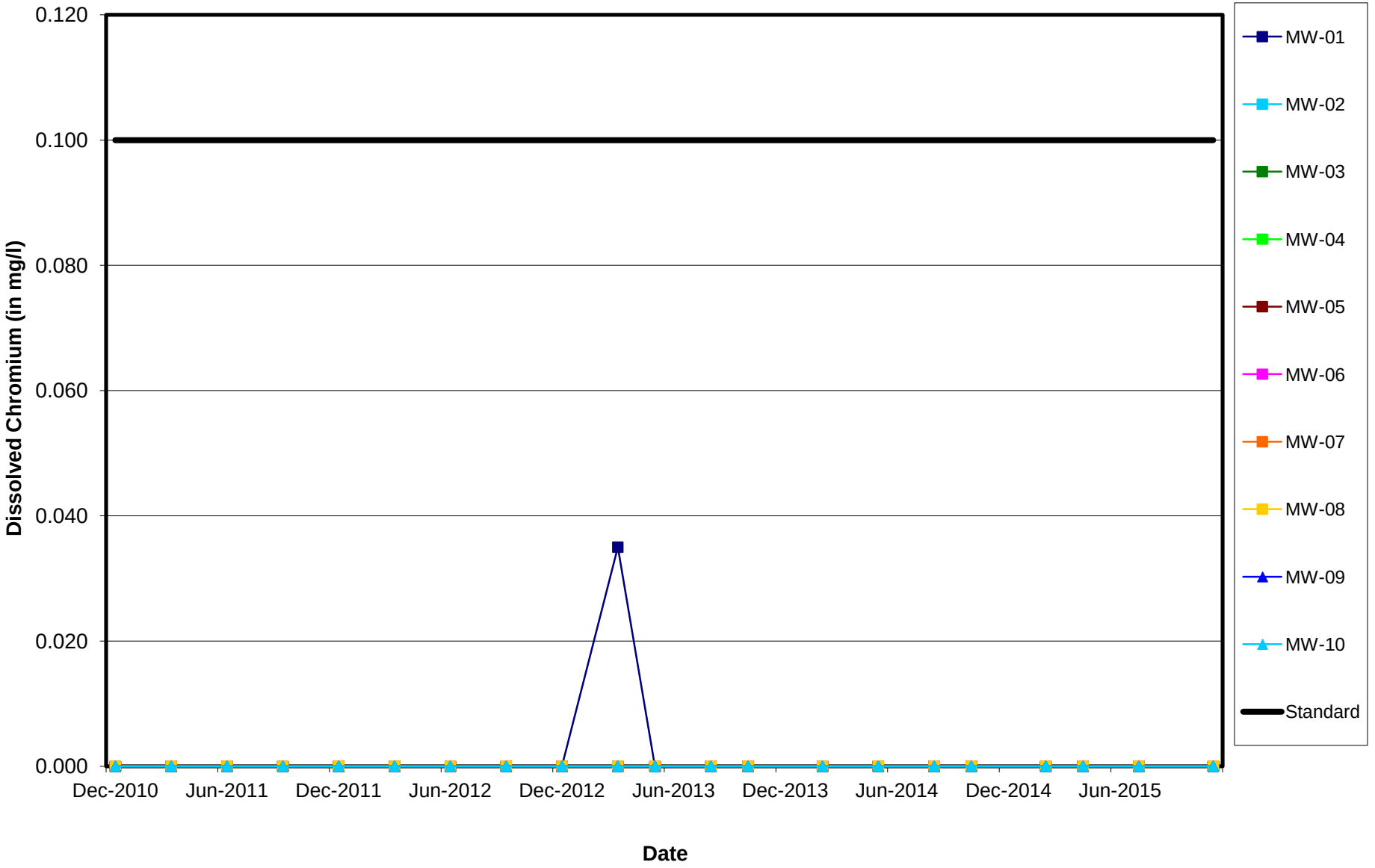
Dissolved Chloride vs. Time



MWG13-15_56605

Midwest Generation Will County Station, Romeoville, IL

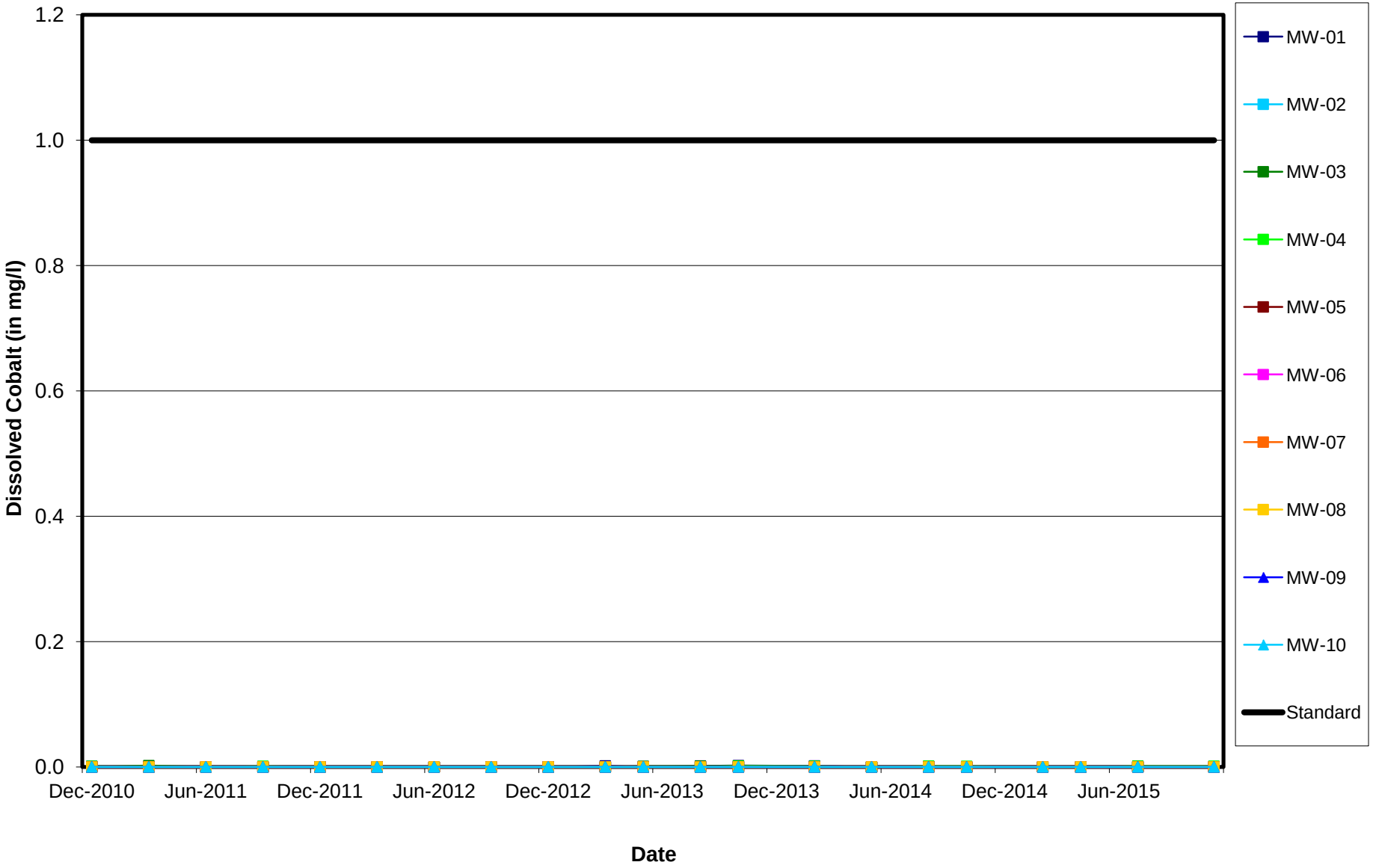
Dissolved Chromium vs. Time



MWG13-15_56606

Midwest Generation Will County Station, Romeoville, IL

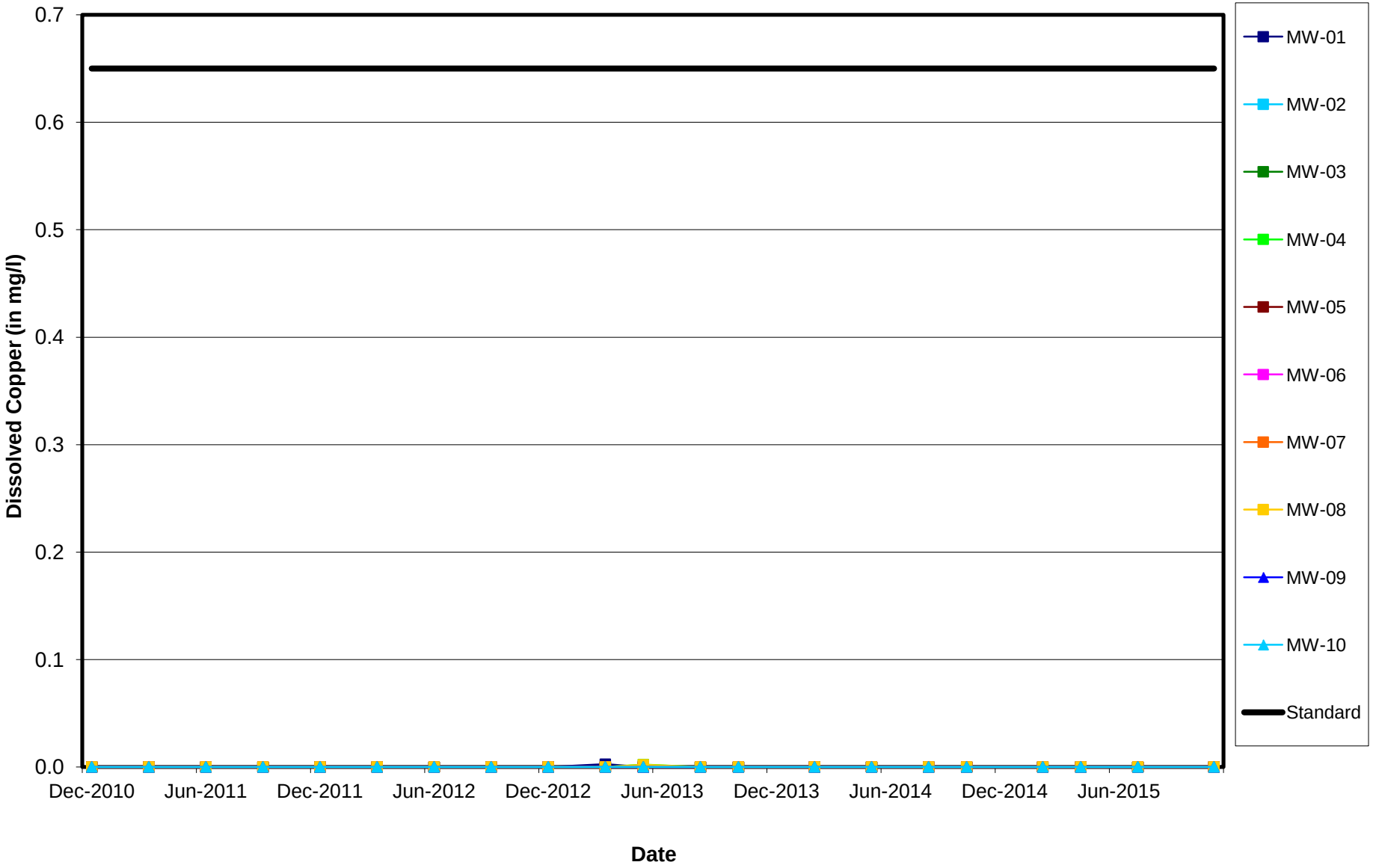
Dissolved Cobalt vs. Time



MWG13-15_56607

Midwest Generation Will County Station, Romeoville, IL

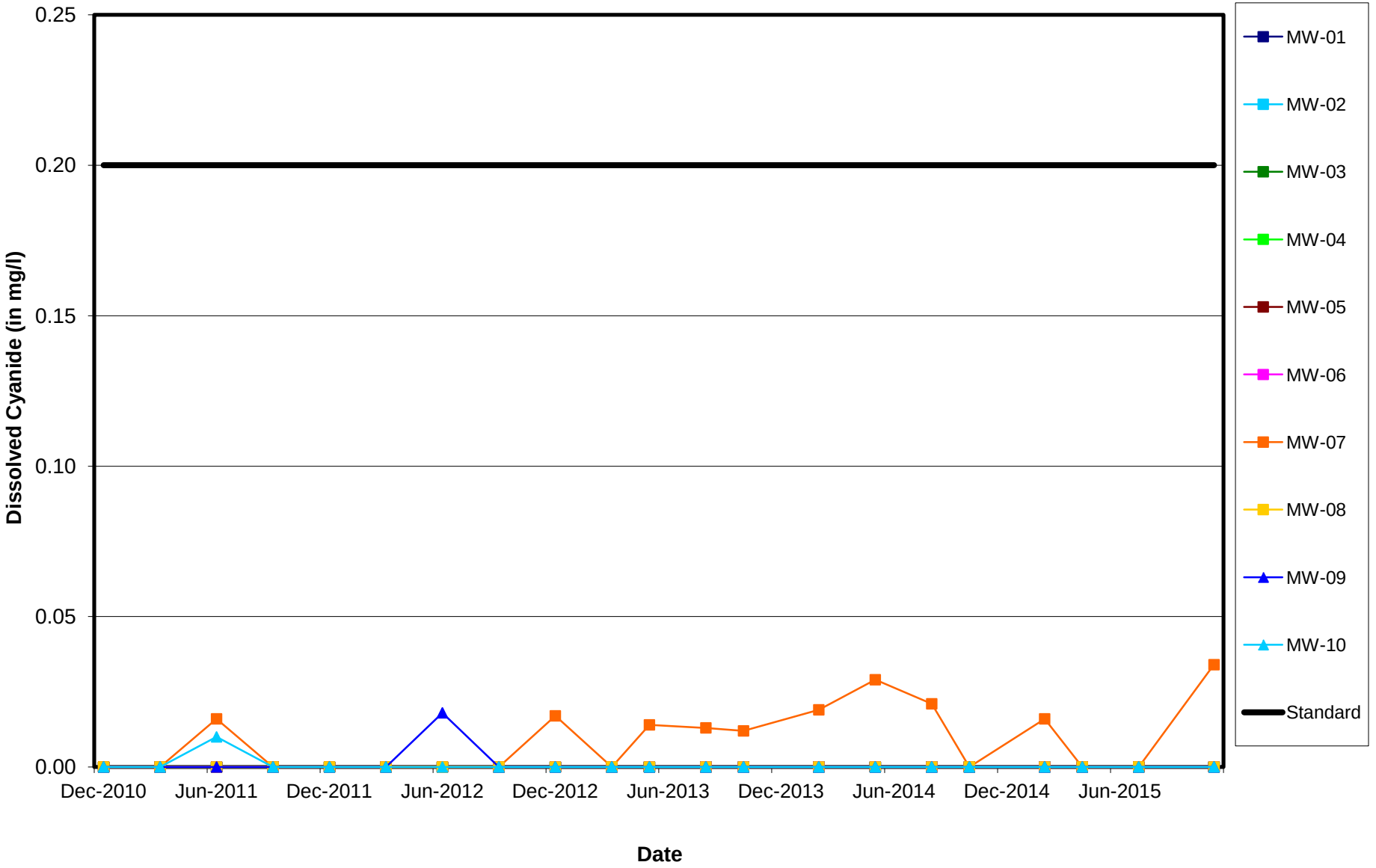
Dissolved Copper vs. Time



MWG13-15_56608

Midwest Generation Will County Station, Romeoville, IL

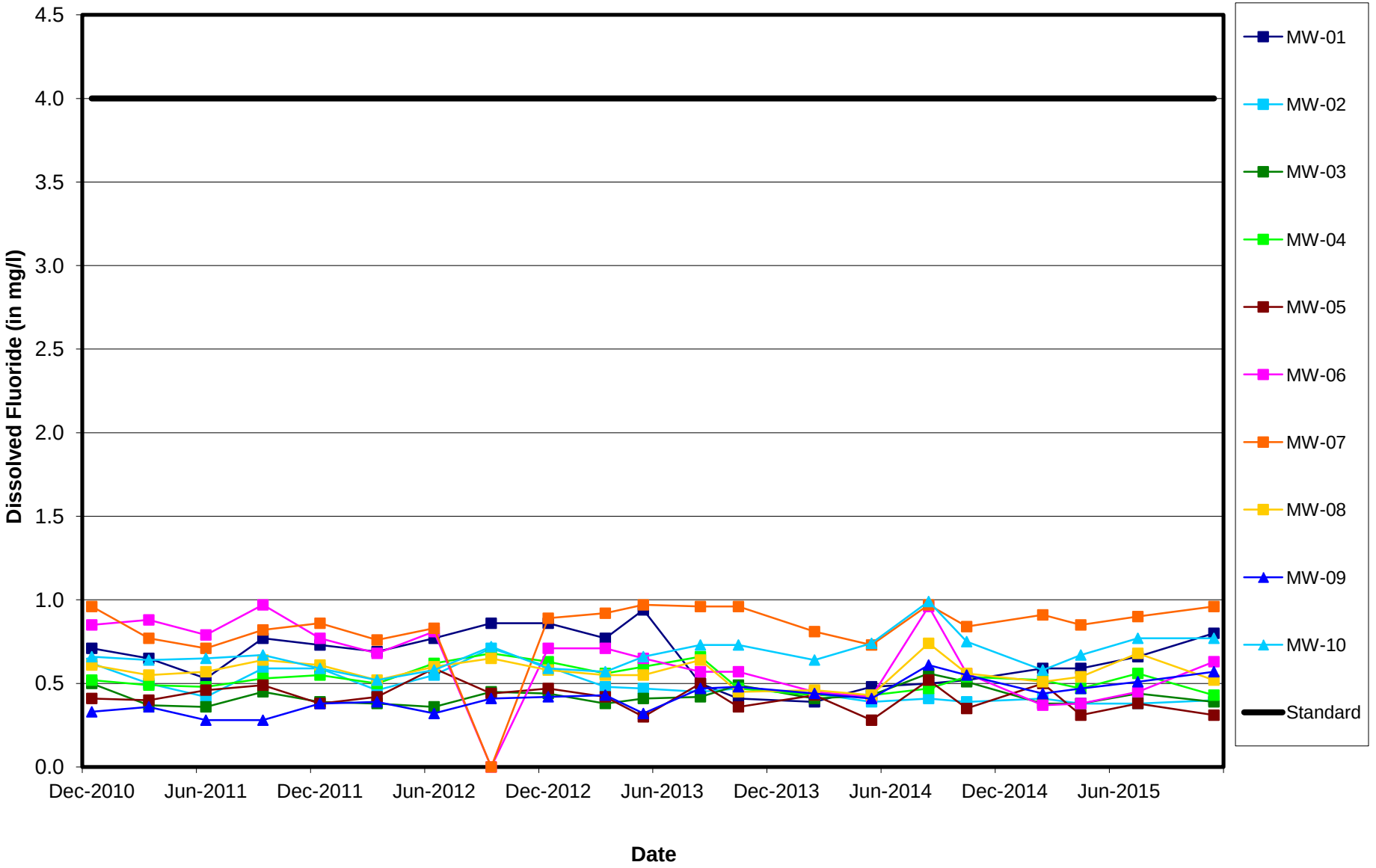
Dissolved Cyanide vs. Time



MWG13-15_56609

Midwest Generation Will County Station, Romeoville, IL

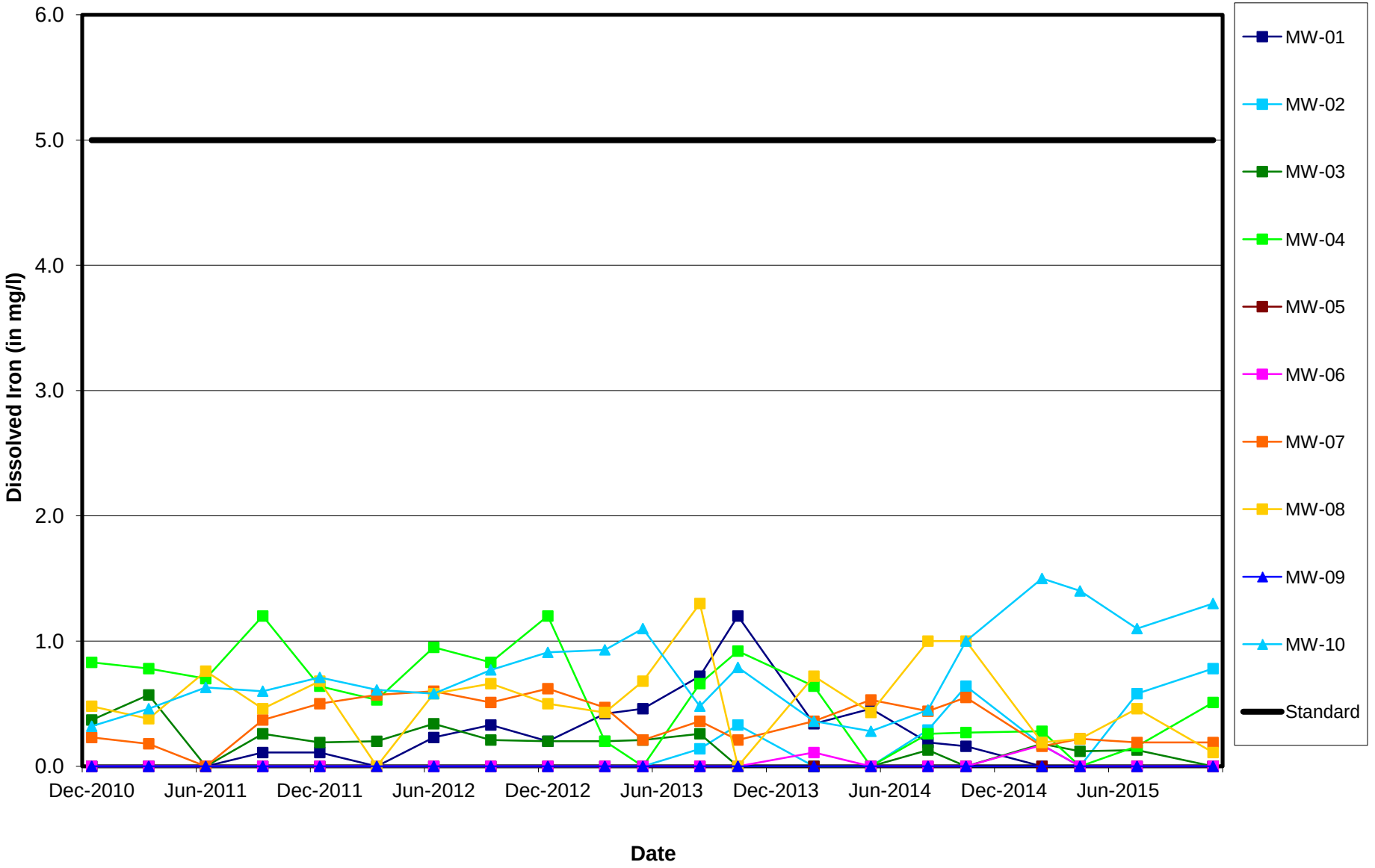
Dissolved Fluoride vs. Time



MWG13-15_56610

Midwest Generation Will County Station, Romeoville, IL

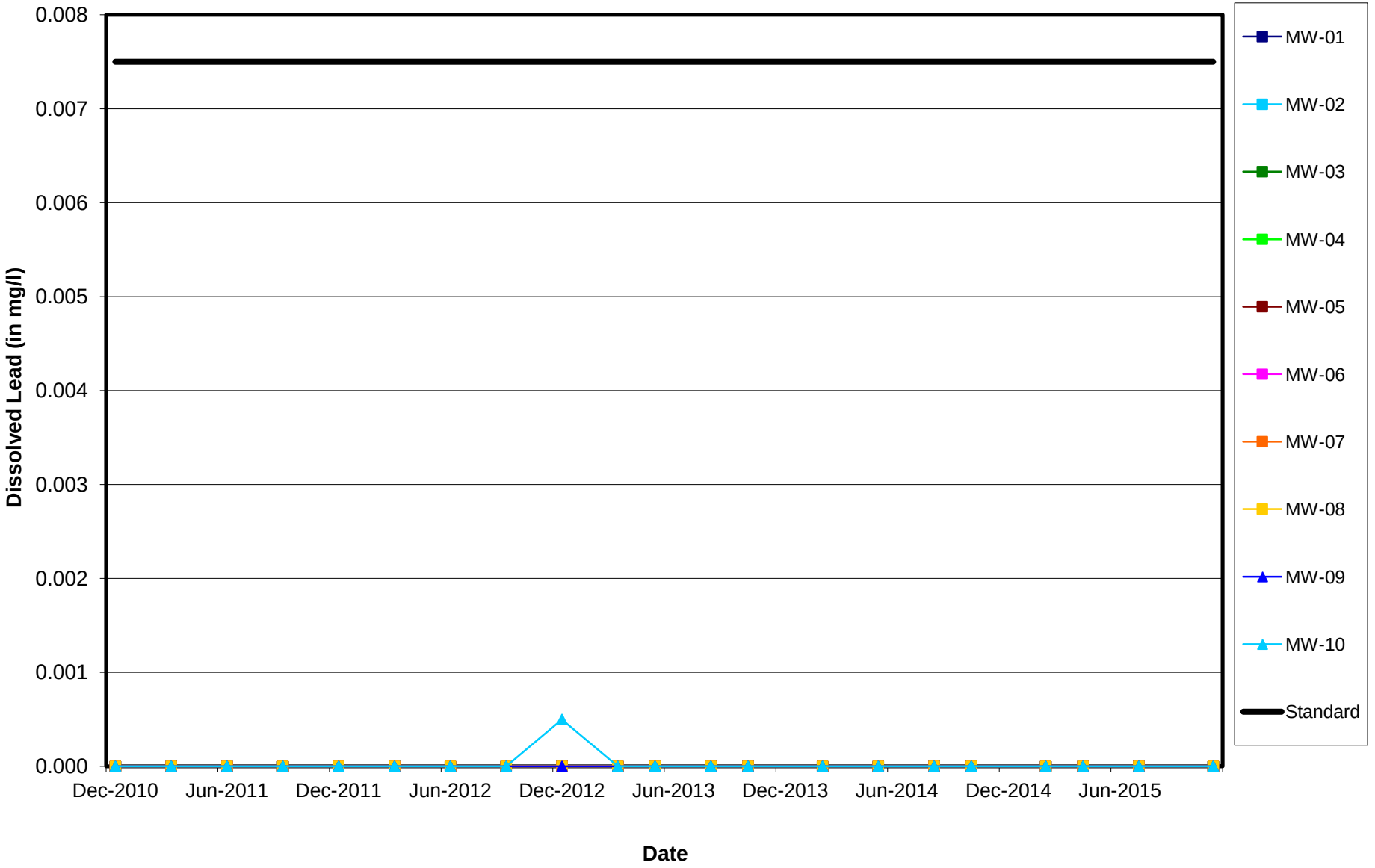
Dissolved Iron vs. Time



MWG13-15_56611

Midwest Generation Will County Station, Romeoville, IL

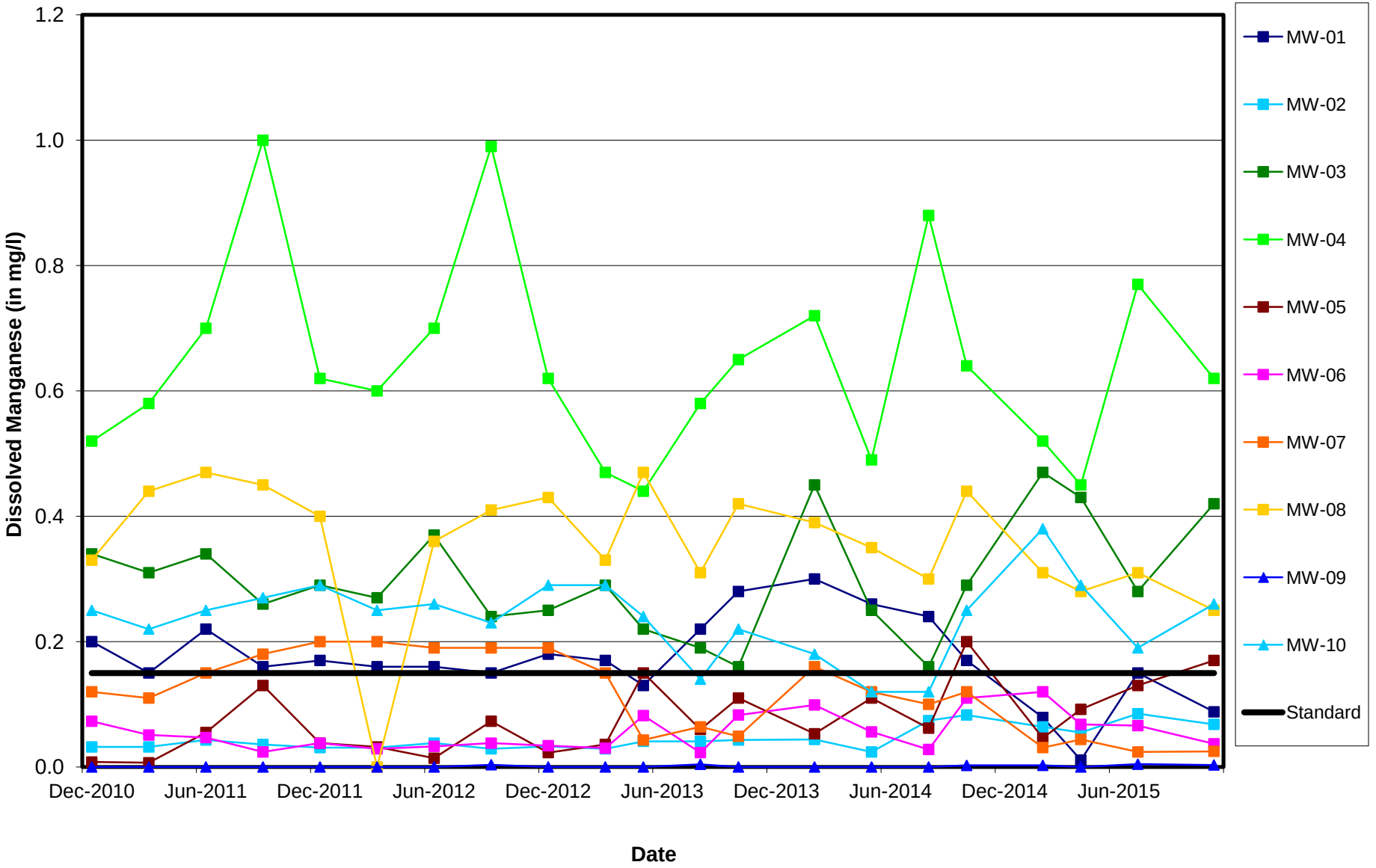
Dissolved Lead vs. Time



MWG13-15_56612

Midwest Generation Will County Station, Romeoville, IL

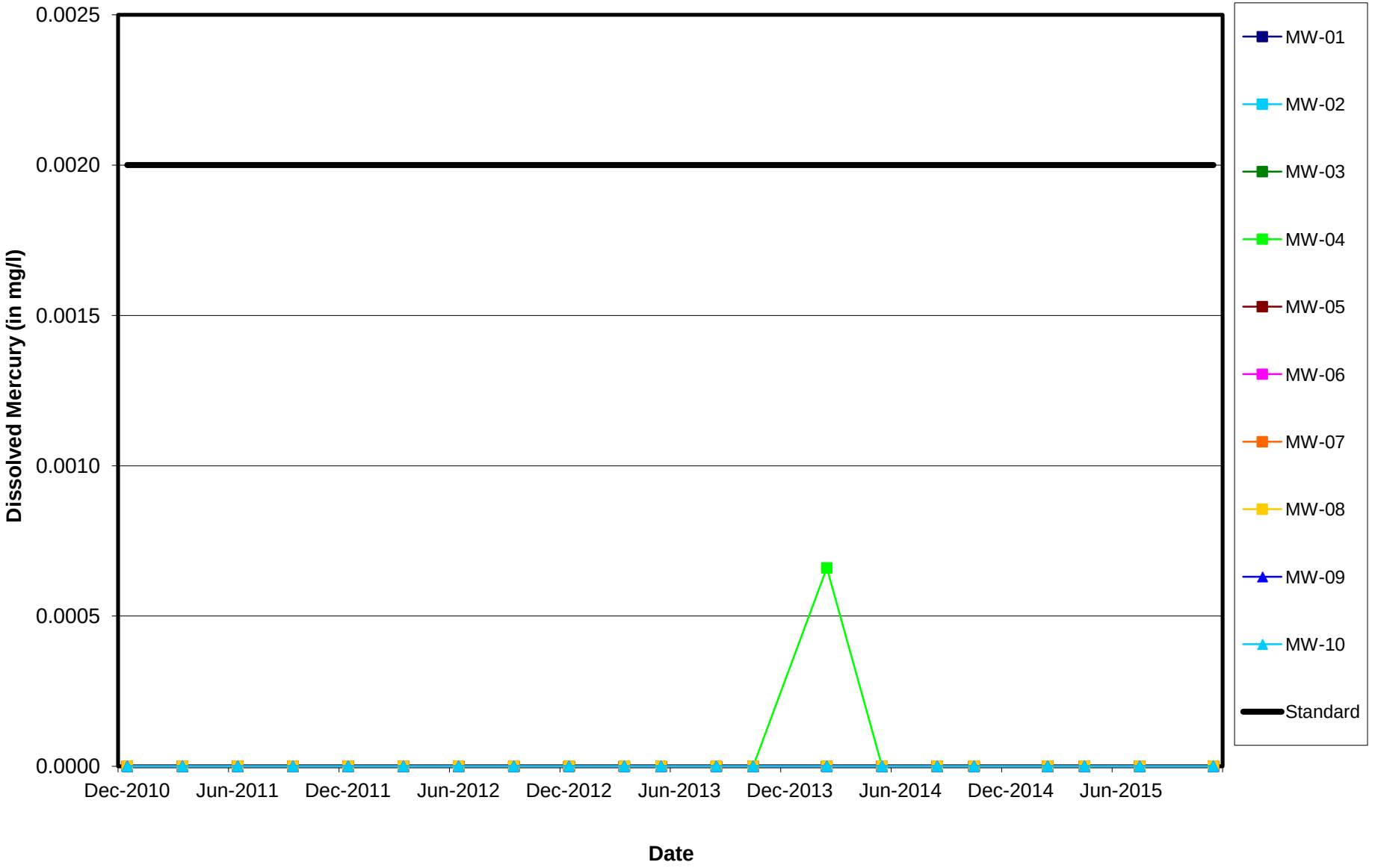
Dissolved Manganese vs. Time



MWG13-15_56613

Midwest Generation Will County Station, Romeoville, IL

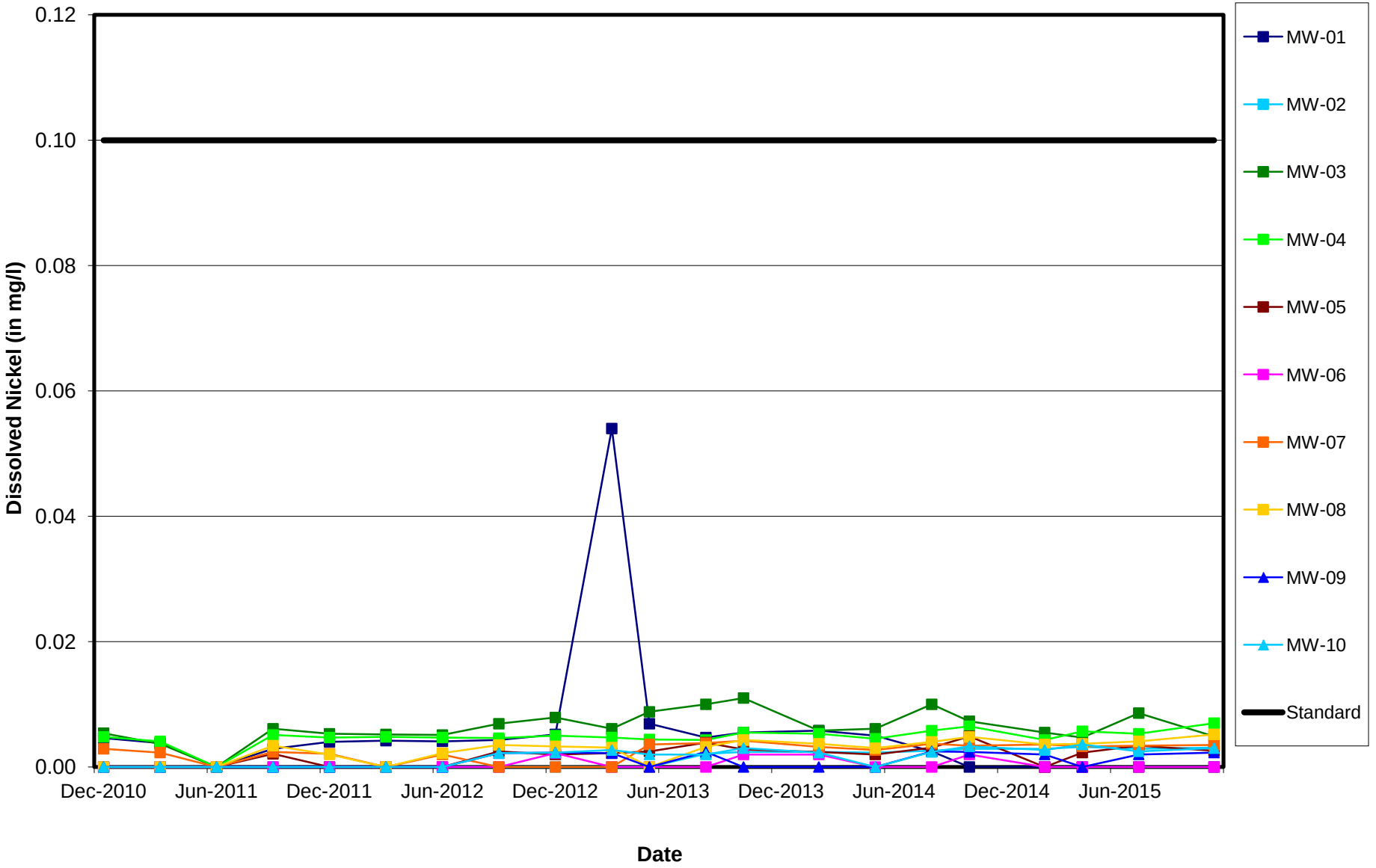
Dissolved Mercury vs. Time



MWG13-15_56614

Midwest Generation Will County Station, Romeoville, IL

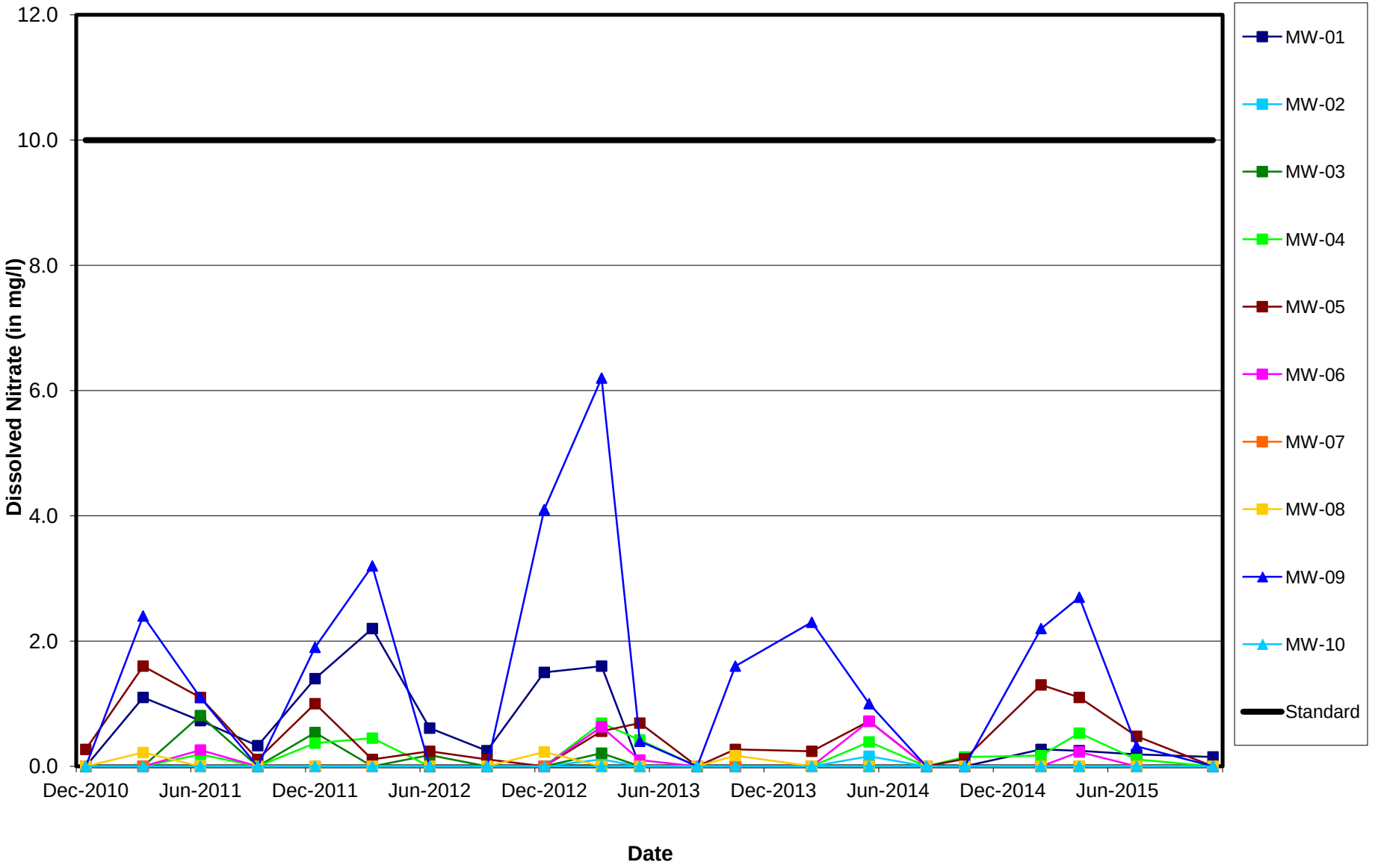
Dissolved Nickel vs. Time



MWG13-15_56615

Midwest Generation Will County Station, Romeoville, IL

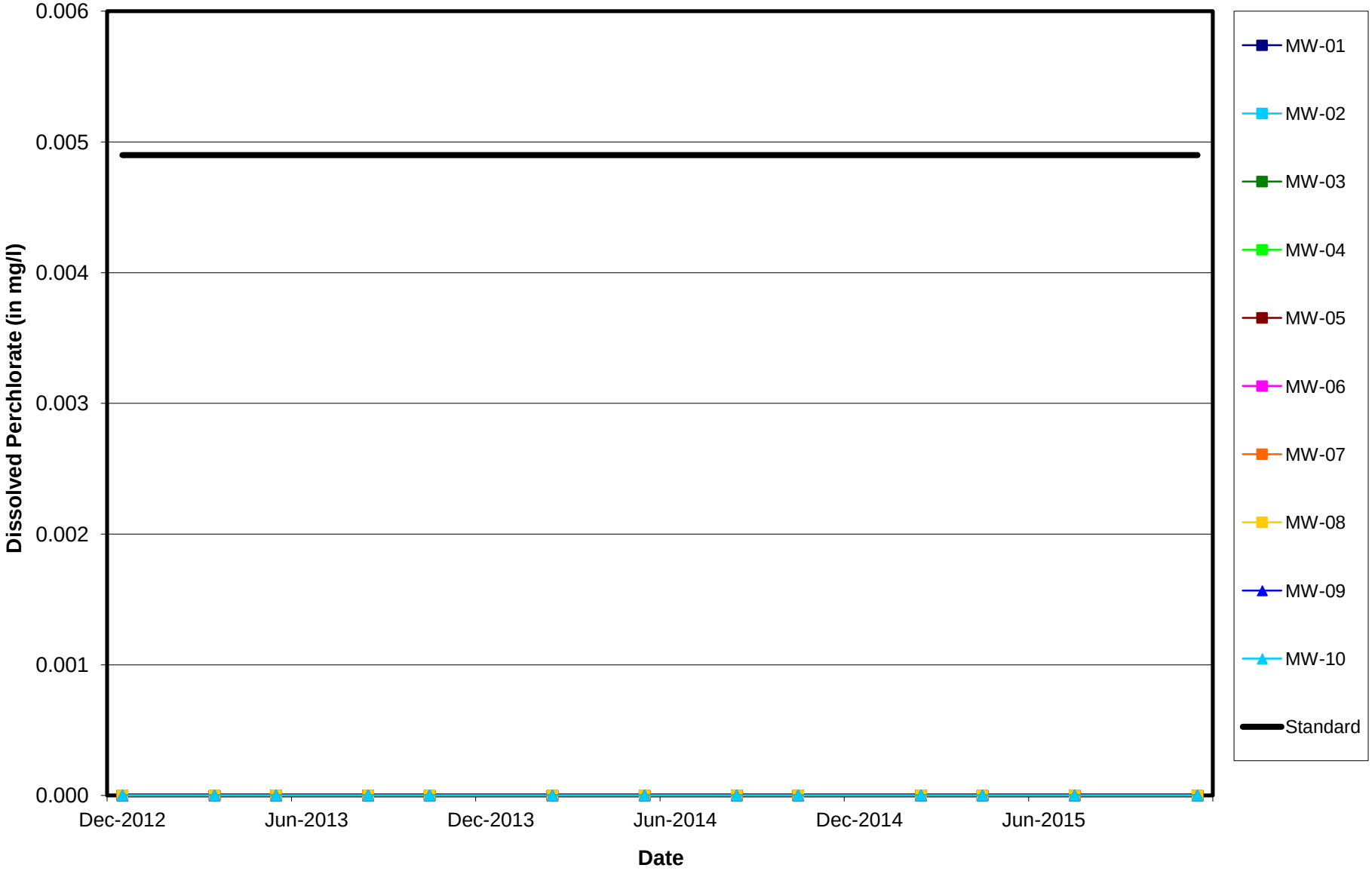
Dissolved Nitrate vs. Time



MWG13-15_56616

Midwest Generation Will County Station, Romeoville, IL

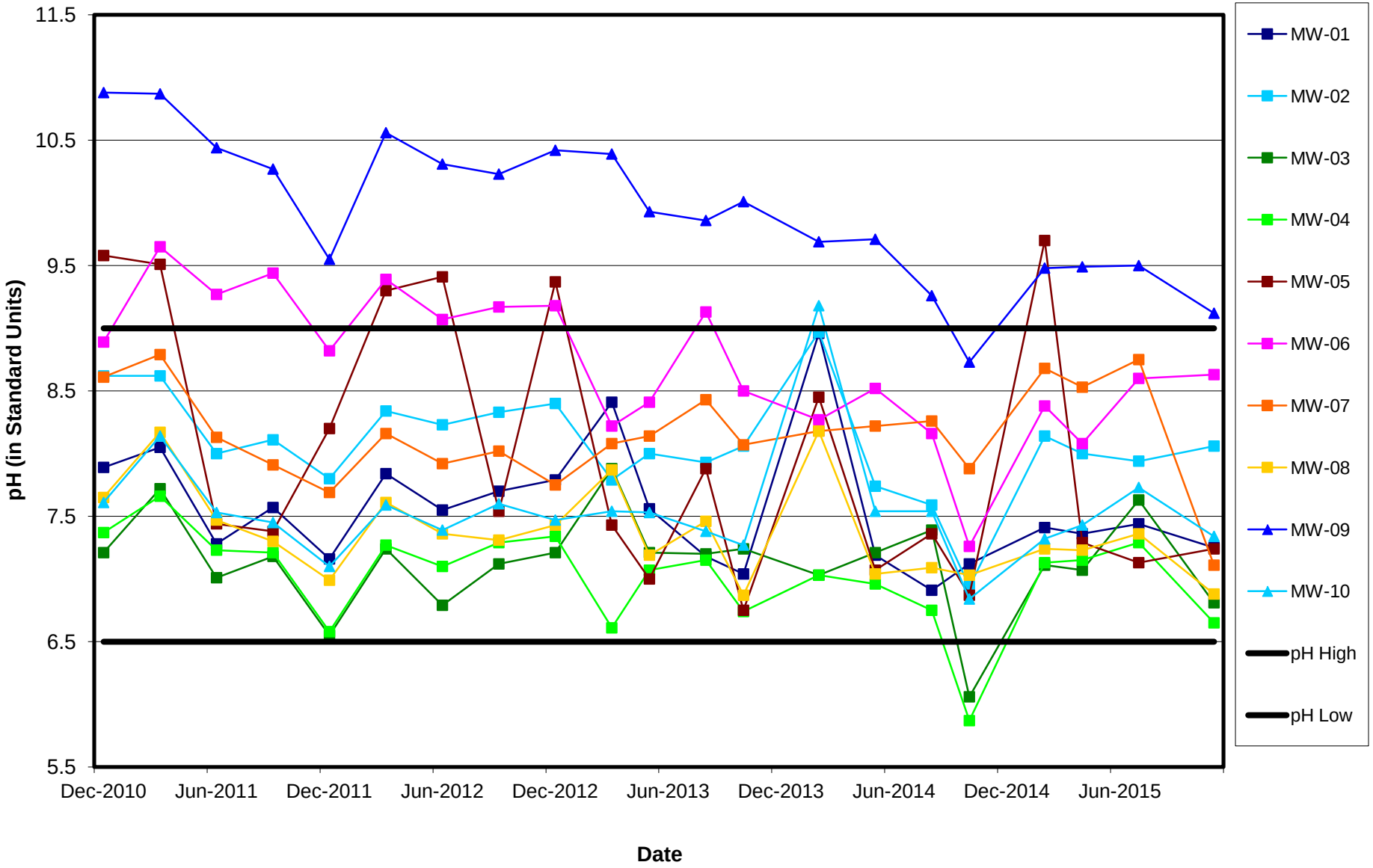
Dissolved Perchlorate vs. Time



MWG13-15_56617

Midwest Generation Will County Station, Romeoville, IL

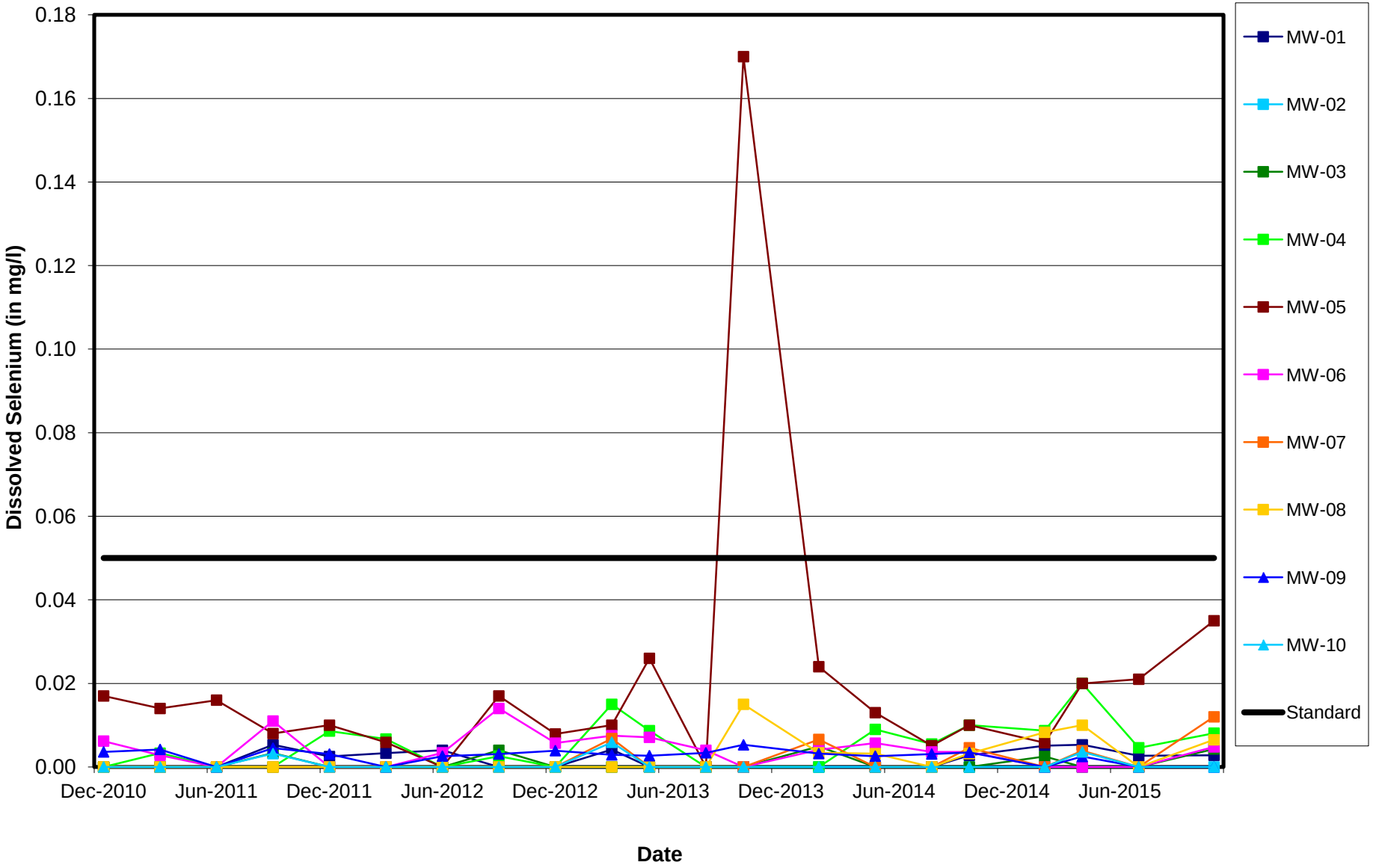
pH vs. Time



MWG13-15_56618

Midwest Generation Will County Station, Romeoville, IL

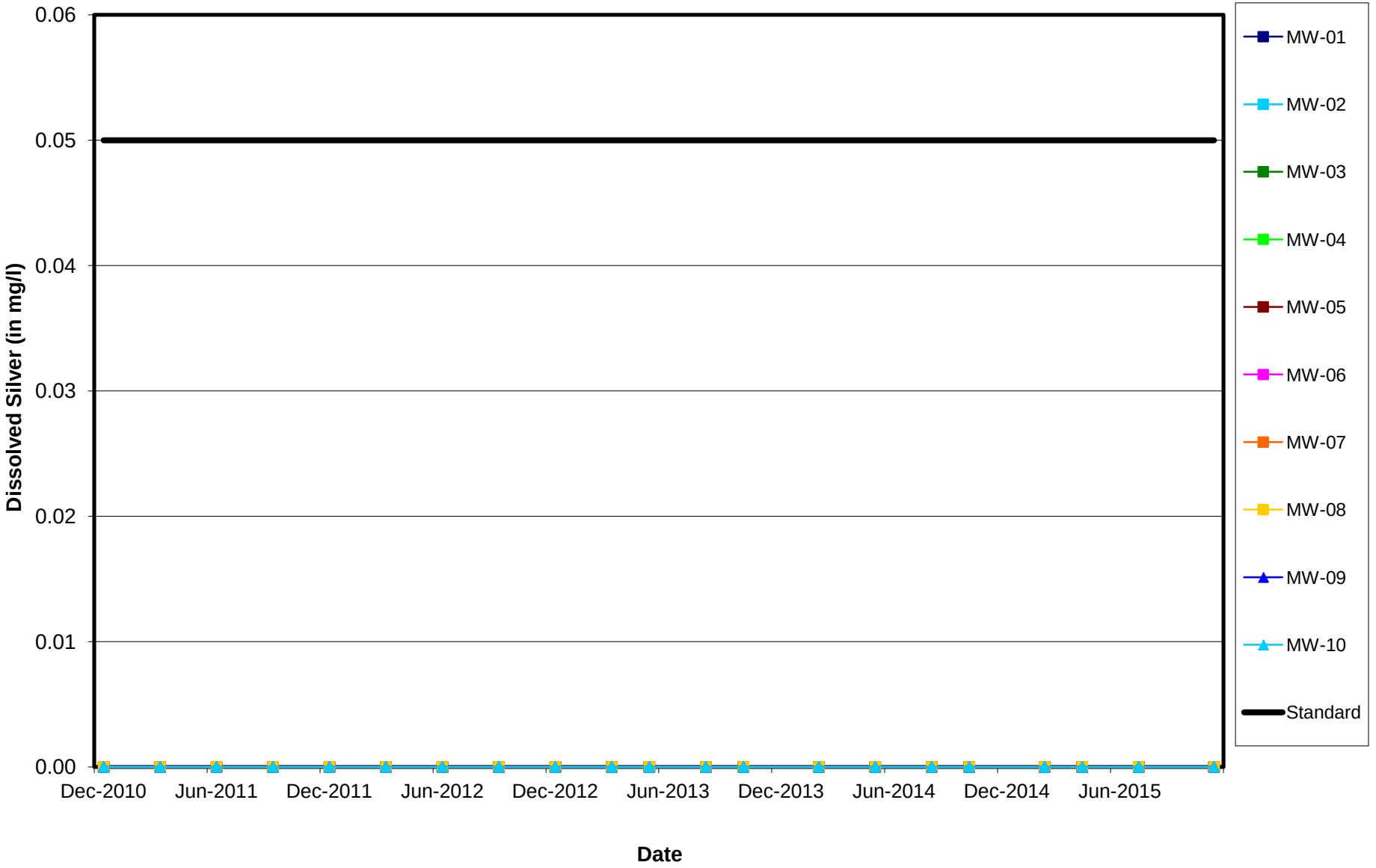
Dissolved Selenium vs. Time



MWG13-15_56619

Midwest Generation Will County Station, Romeoville, IL

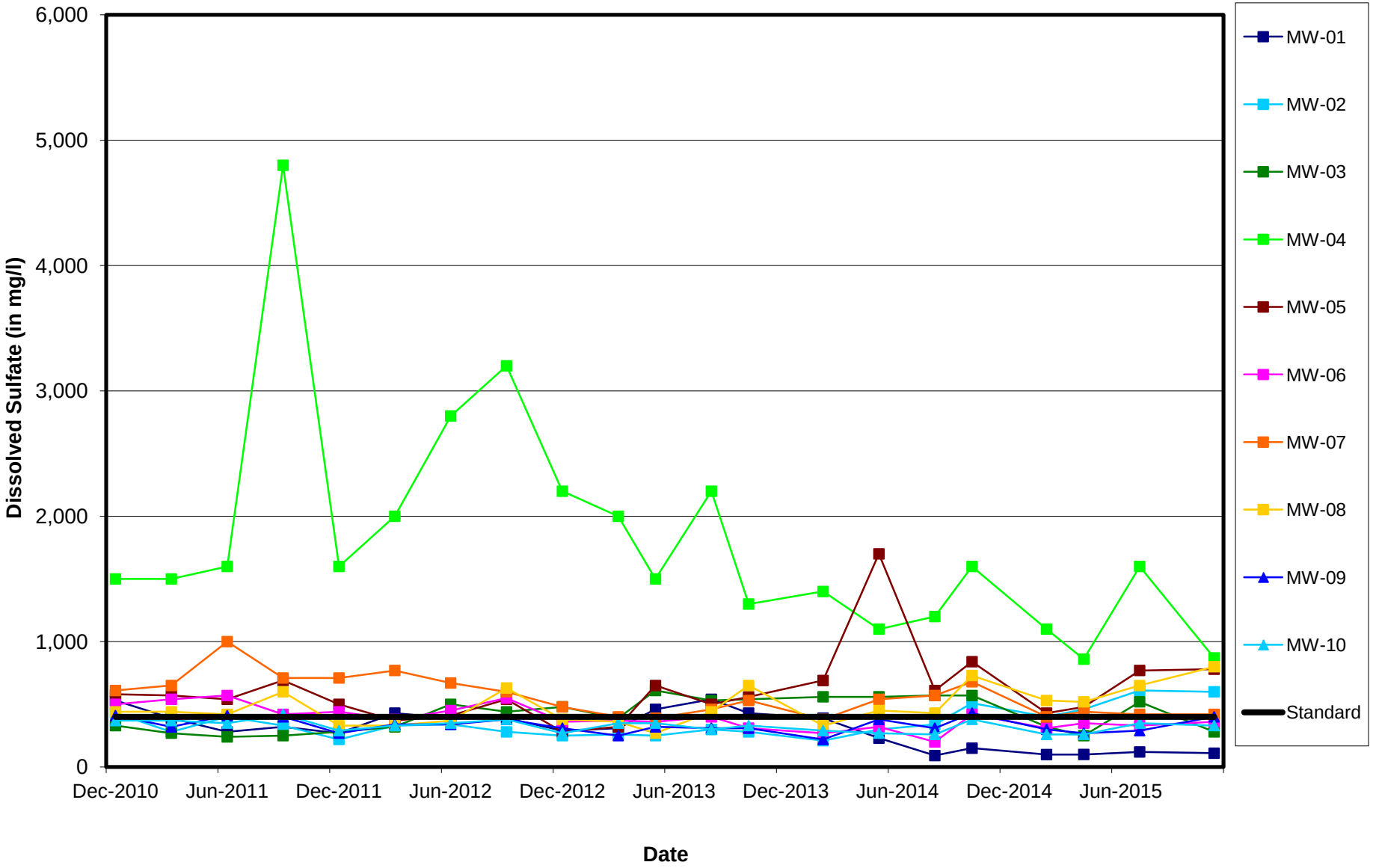
Dissolved Silver vs. Time



MWG13-15_56620

Midwest Generation Will County Station, Romeoville, IL

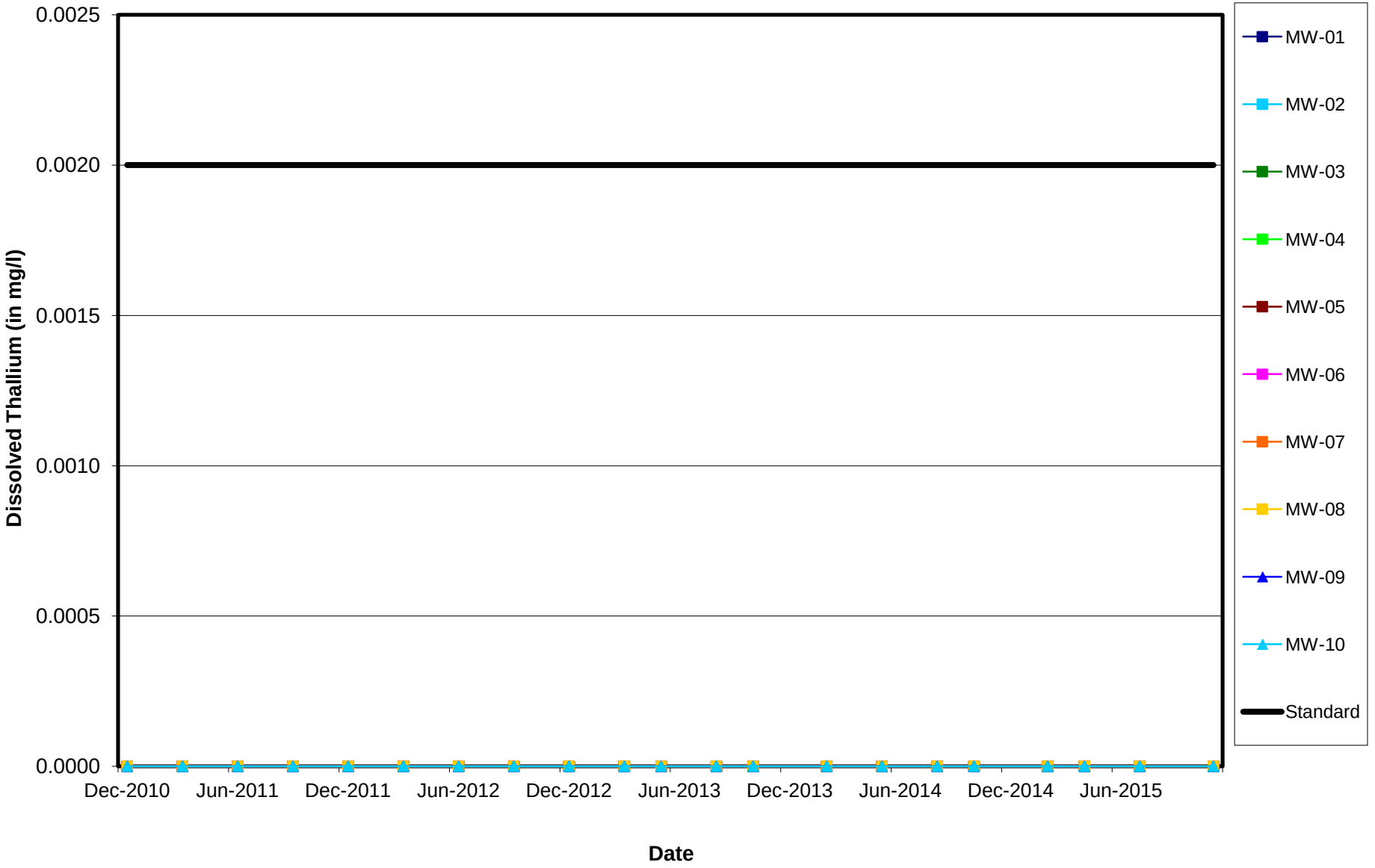
Dissolved Sulfate vs. Time



MWG13-15_56621

Midwest Generation Will County Station, Romeoville, IL

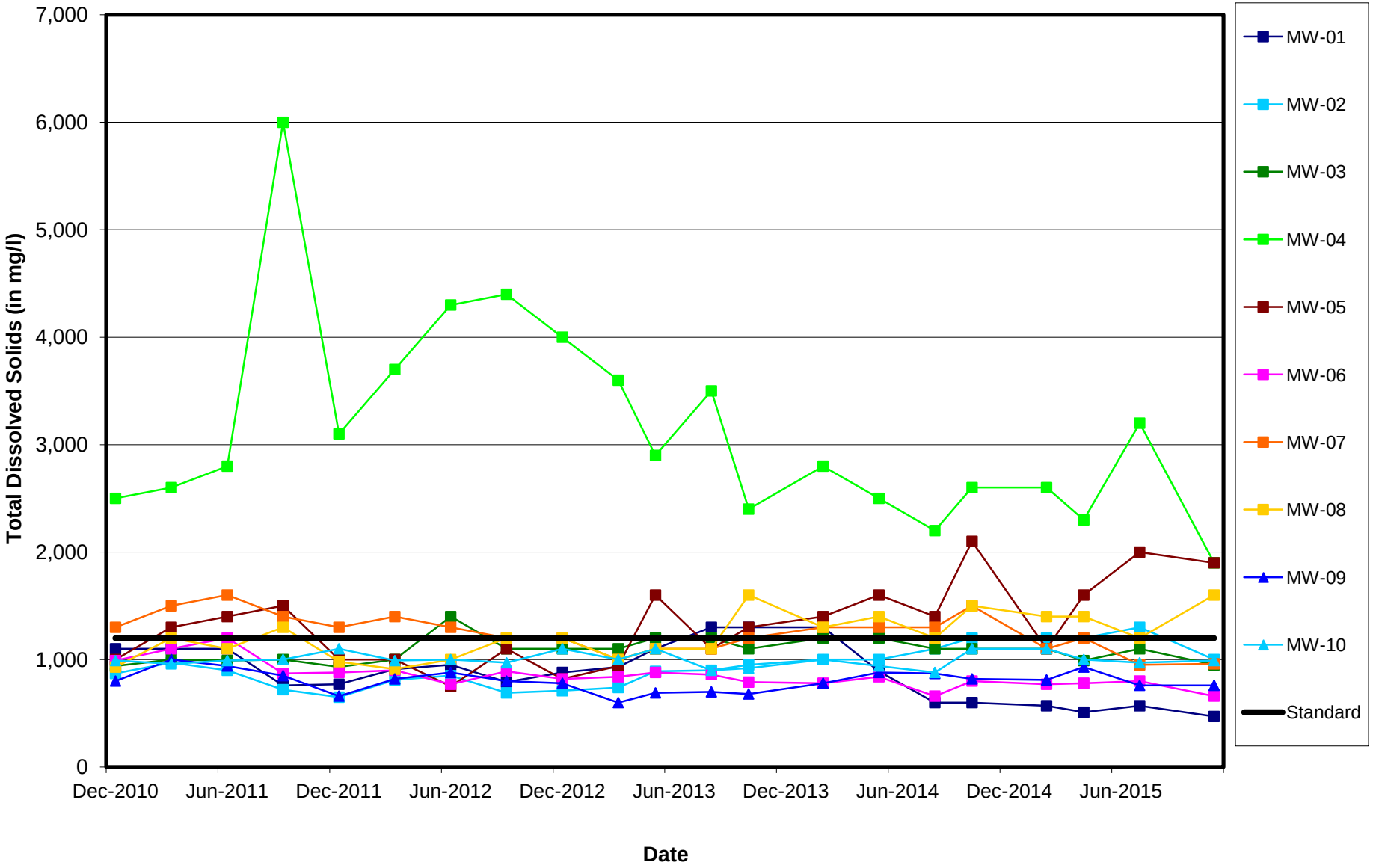
Dissolved Thallium vs. Time



MWG13-15_56622

Midwest Generation Will County Station, Romeoville, IL

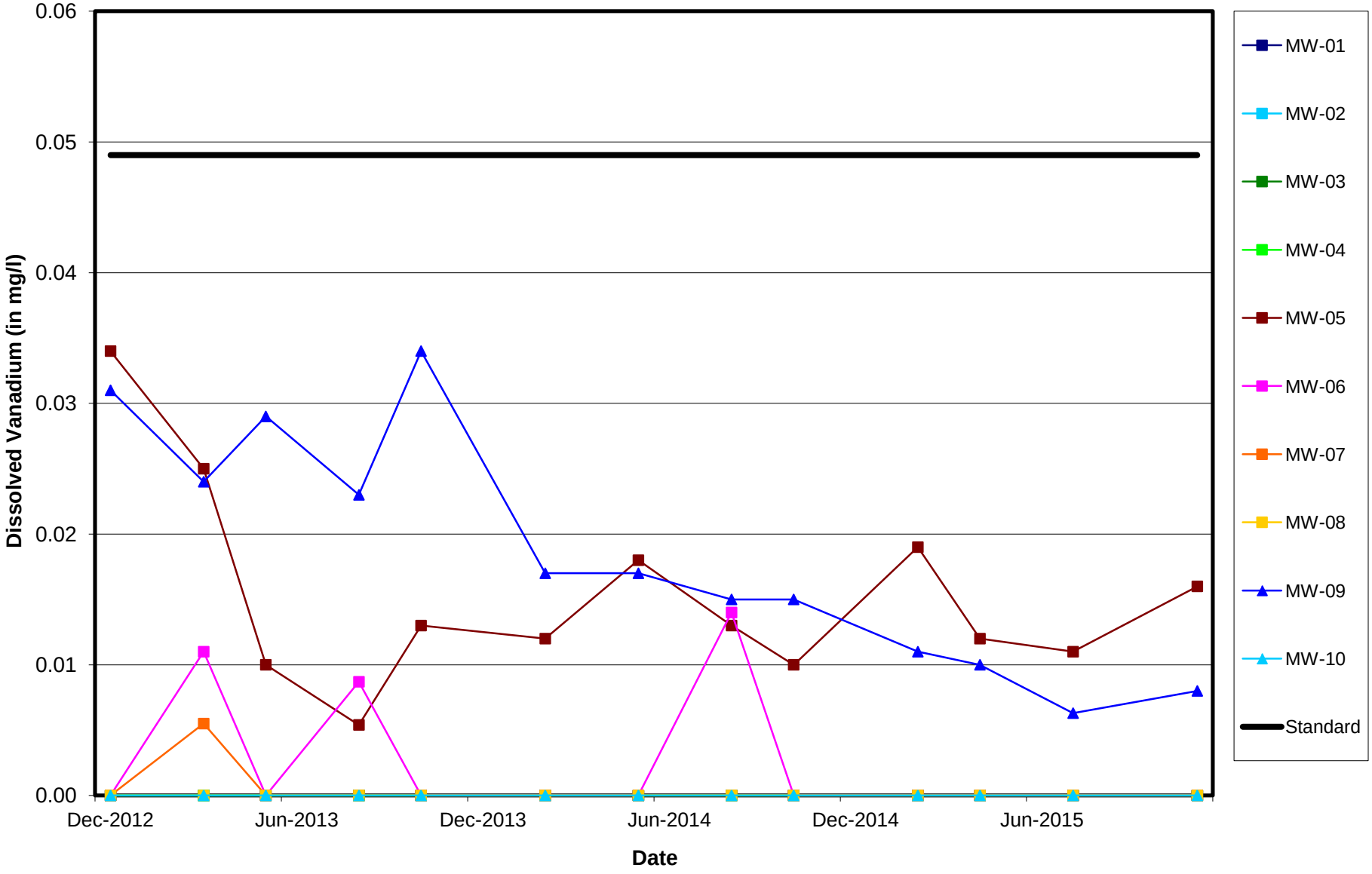
Total Dissolved Solids vs. Time



MWG13-15_56623

Midwest Generation Will County Station, Romeoville, IL

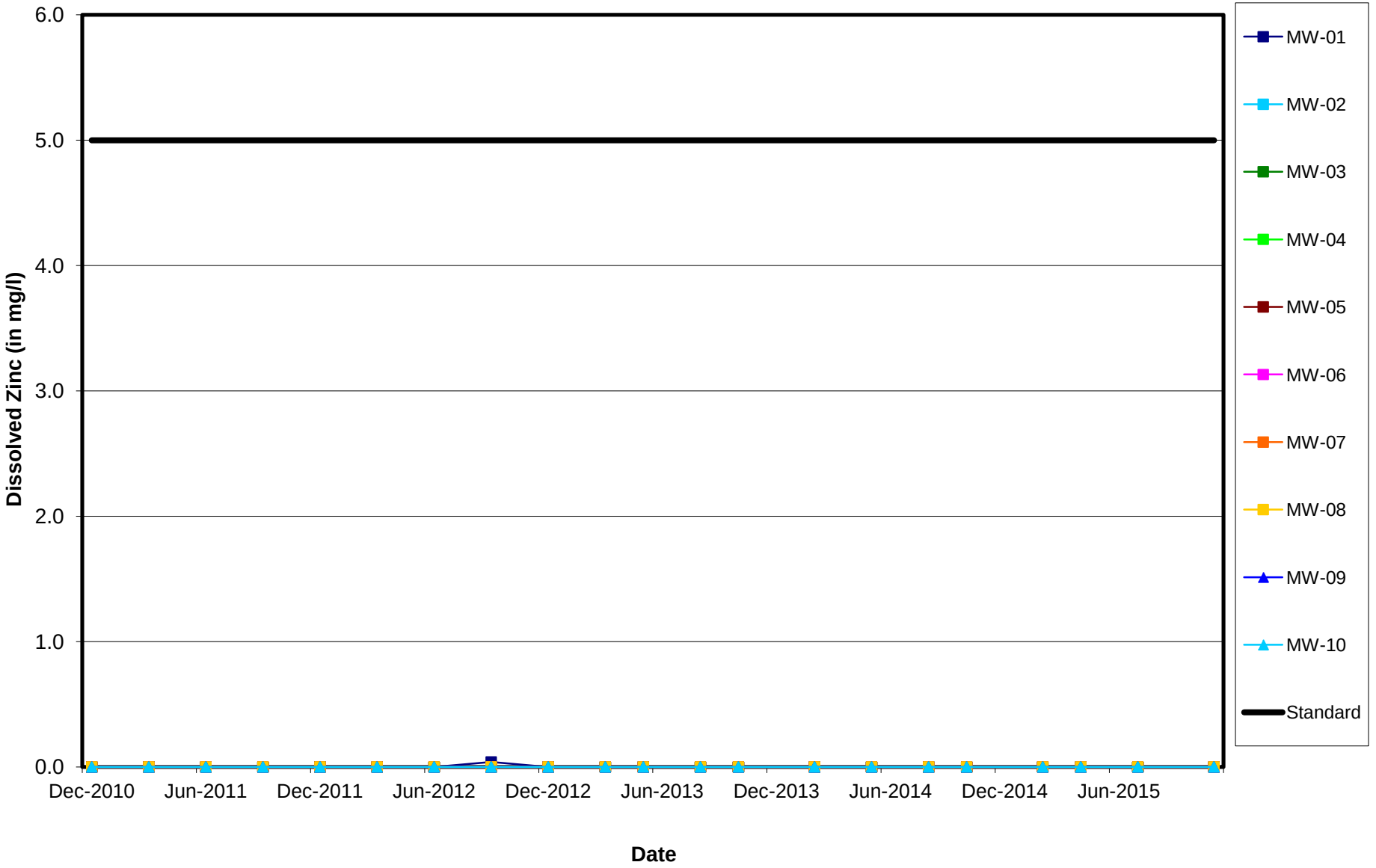
Dissolved Vanadium vs. Time



MWG13-15_56624

Midwest Generation Will County Station, Romeoville, IL

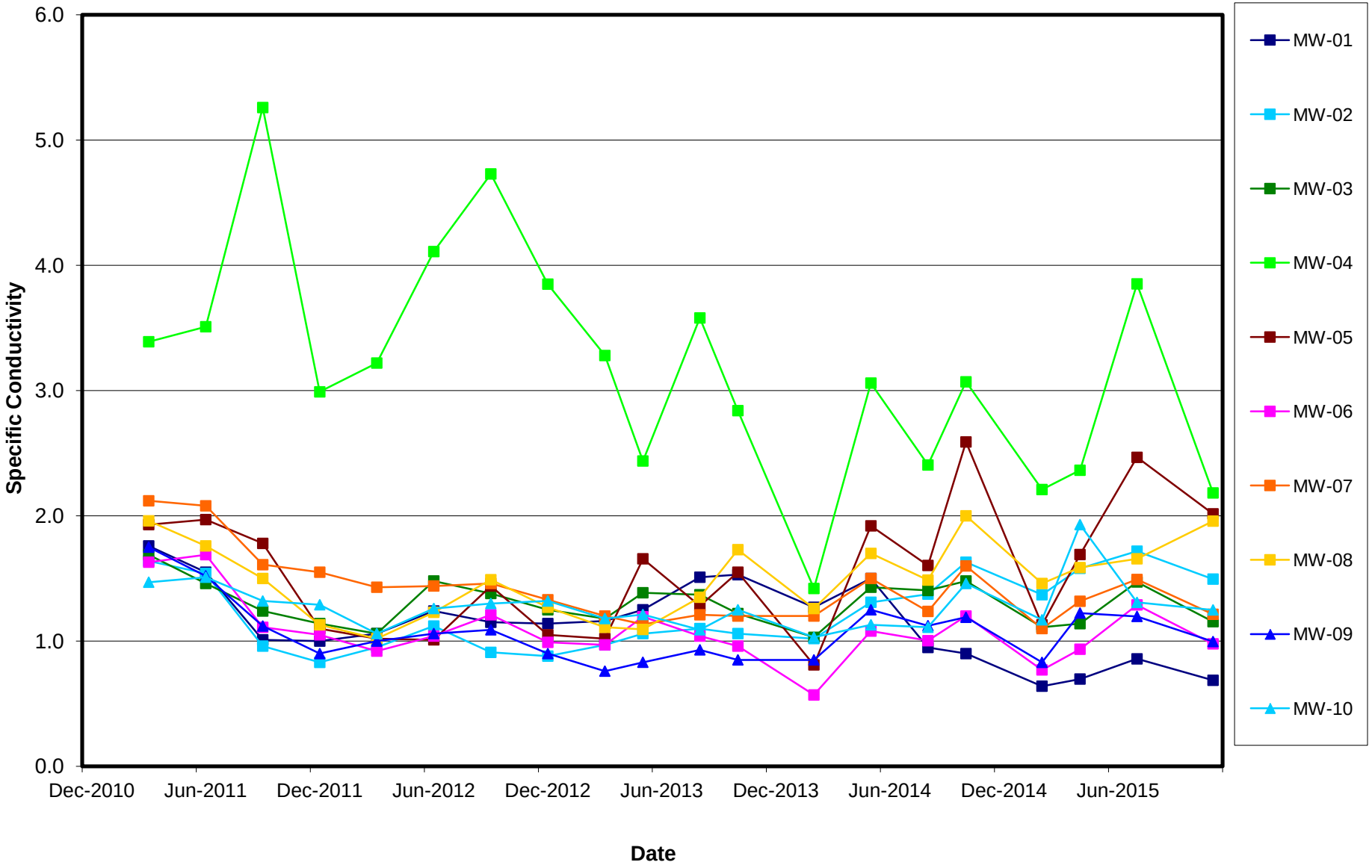
Dissolved Zinc vs. Time



MWG13-15_56625

Midwest Generation Will County Station, Romeoville, IL

Specific Conductivity vs. Time



MWG13-15_56626

Exhibit B14

Richmond, Maria

From: Maddox, Rebecca
Sent: Wednesday, September 01, 2010 4:52 PM
To: Yvonne Dedrickson
Cc: mrace@mwgen.com; THiebert@mostardiplattenv.com
Subject: Re: ICR - Will County pond information

Categories: Folder: Rebecca Maddox ARCHIVED\~SENT

Yvonne:

Information I have on the ponds based on drawings and write-ups:

Water Capacities:
Standby Pond - 1.9 million gallons
1N and 1S - 3.88 million gallons
2S and 3S - 3.55 million gallons (3S may have changed after the liner install but our thought was we did not lose any capacity)
My conversion into cubic feet is not what you have in your spreadsheet

Dredging
Only 2S and 3S have been dredged. 1N and 1S have NEVER been dredged. Standby pond and spent slurry ponds never dredged.

This capacities are based on the circa 1979 operations manual/engineering descriptions by Harza - the engineering company that designed the system

Standby Pond
The standby pond has not been dredged outside of removing rock on the outer portion of the pond. This is not what you have in your spreadsheet I would not consider that dredging. It was a cleanup initiated since the rocks were oil stained.

I did find a drawing that showed the standby pond to be lined with poz-o-pac. 12" (30.48 cm).
Standby pond bottom elev = 586.0
Max water level = 593.0
Solids placed in pond - the only solids that are in this standby pond are the small fines that did not fall out in the clarifier. I would have no idea on the amt. IT would be very small as far as the current state.

3S
The liner numbering guidance states from inner (#1) to outer. I would think the outer liner is the one closest to the surface - which would be the HDPE. That should be #2. The inner liner is the one closest to the inside of the pond - the remaining 12" of poz-o-pac. I think you have this reversed. I believe you provided me guidance on how the numbering scheme for 3S but can you revisit this again.

Dredging for 3S and 2S
There is no information readily available on when the dredging of 2S or 3S occurred (or concurrently when 2S or 3S was in service.) I've reviewed our operations log going back to 2005 and cannot find anything helpful. 2009 we dredged both ponds in anticipation of the liner project. As a conservative estimate, I am going with 3 weeks of dredging (i.e. 15 days) for each. Corporate fuels provided me with a spreadsheet for the amount of bottom ash they received in the yr. However, it is not broken out by pond. So I am equally splitting it up between 2S and 3S for 2009.

For the 5-yr look back, I am estimating that 20 days of dredging occurred each yr for both 2S and 3S and then dividing the total amount of bottom ash from the corp fuels spreadsheet equally between the 2. There really isn't any better way to estimate.

Estimate that each pond was dredged 1 time/yr for 20 days of dredging.

I do not have any permeability information on poz-o-pac so I will agree with what you have.

Exhibit B15

Electronic Filing - Received, Clerk's Office : 02/19/2014

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217)782-2829
PAT QUINN, GOVERNOR **LISA BONNETT**, DIRECTOR

September 26, 2013

John Kennedy, Vice President
Midwest Generation, LLC.
235 Remington Blvd, Suite A
Bolingbrook, Illinois 60440

Re: Midwest Generation, LLC. – Will County Power Station Ash Pond Groundwater Management Zone Application Modification

Dear Mr. Kennedy:

This letter is in response to the transmittal letter dated September 4, 2013, which was sent by Richard Gnat, P.G. of KPRG and Associates, Inc. on behalf of Midwest Generation. The document contained requested onsite potable well information, and modifications to the Proposed ELUC Boundary Map, which is part of the Will County Power Station Ash Pond Groundwater Management Zone Application (GMZ). The Illinois Environmental Protection Agency has reviewed information and approves the modifications to the GMZ.

Thank you for your attention to these matters. If you have any questions concerning this letter, please contact me or Carl Kamp at 217-785-4787.

Sincerely,

William E. Buscher, P.G.
Manager, Hydrogeology and Compliance Unit
Division of Public Water Supplies
Bureau of Water

CC: Richard Gnat
Maria Race
Rick Cobb
Darin LeCrone
Carl Kamp
Records

CC Addresses:

Richard Gnat, P.G.
KPRG & Associates, Inc.
14665 W. Lisbon Road, Suite 2B
Brookfield, Wisconsin 53005

Maria Race, Environmental Program Director
Midwest Generation EME, LLC
235 Remington Blvd., suite A
Bolingbrook, IL. 60440

Exhibit C1



MWG13-15_56342

W:\c-p&p\projects\midwest generation\groundwater sampling\joliet #29 gmz.dwg(site map)

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

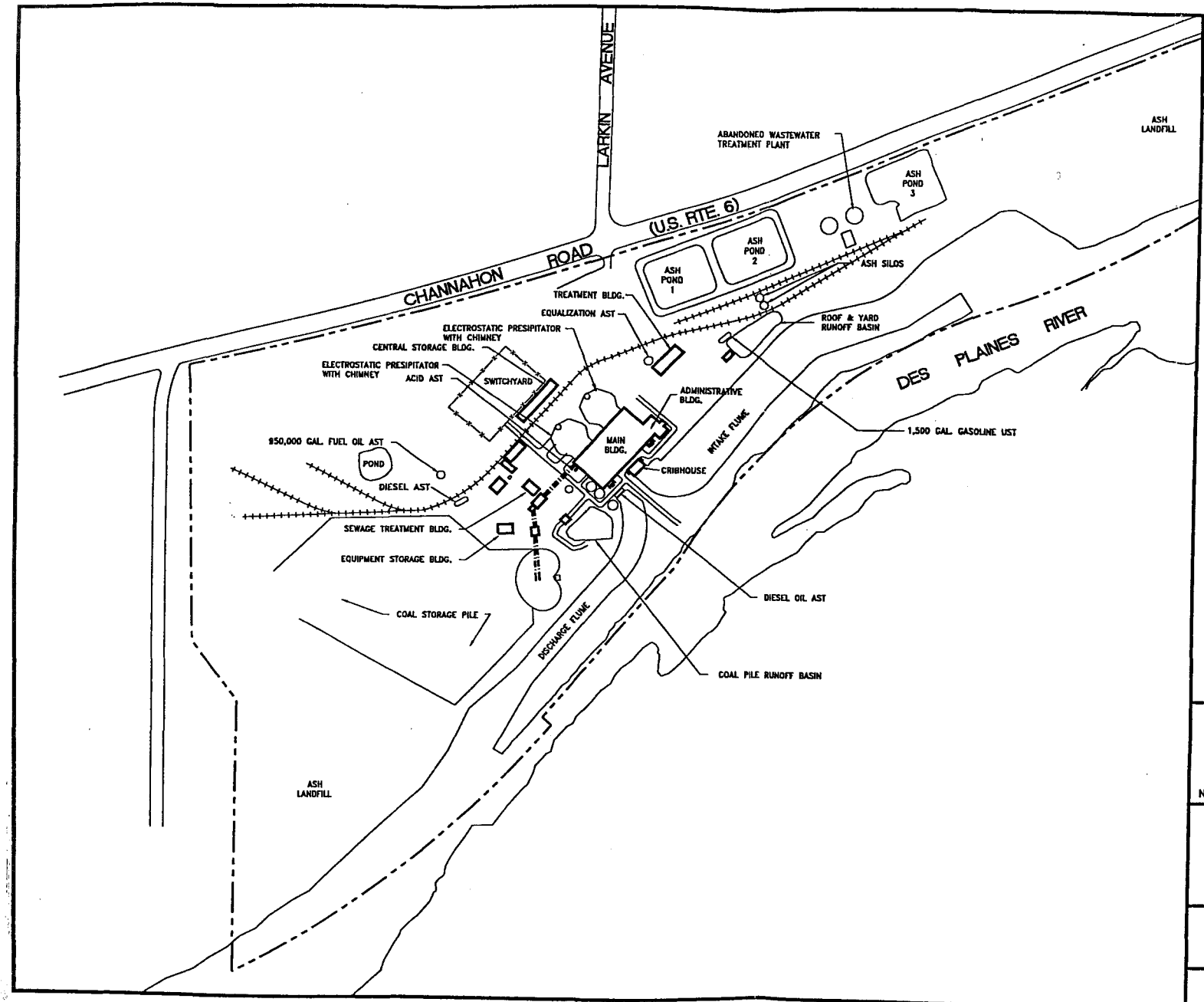
414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

SITE MAP

JOLIET #29 GENERATING STATION
JOLIET, ILLINOIS

Scale: 1" = 250' | Date: January 23, 2015

KPRG Project No. 12313.0 | FIGURE 1



LEGEND:

- PROPERTY BOUNDARY
- RAILROAD LINE
- FENCE
- CONVEYOR LINE

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: JOLIET29SP1

JOLIET GENERATING STATION #29
1800 CHANNAHON ROAD
JOLIET, ILLINOIS

COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-410

SITE PLAN

N

NOT TO SCALE

FIGURE 2

ENSR

MWG13-15_23339

Exhibit C2

K P R G

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

SUMMARY REPORT

July 25, 2005

Redacted

Ms. Maria L. Race
Midwest Generation EME, LLC
One Financial Place
440 South LaSalle Street, Suite 3500
Chicago, Illinois 60605

VIA U.S. MAIL

KPRG Project No. 11205

Re: CCB Determination Support, Joliet, Illinois

Dear Ms. Race:

KPRG and Associates, Inc. (KPRG) is pleased to provide this summary letter report to Midwest Generation, EME, LLC (Midwest Generation) for the coal combustion by-product sampling performed at the Joliet Stations #29 This letter report provides a brief summary of the project history and previous work performed, a statement of the project objective, documents the additional work performed by KPRG, and summarizes the new analytical data along with statistical analysis and interpretation of the data. Each item is discussed separately below.

PROJECT HISTORY AND PREVIOUS WORK

Midwest Generation Joliet Stations #29 include areas where ash and slag resulting from the combustion of coal were formerly placed on the ground surface. The ash placement area at Station #29 is approximately 13.2 acres in size. Midwest Generation is interested in classifying the material as coal combustion by-product (CCB) as opposed to a coal combustion waste (CCW) to facilitate the potential beneficial reuse of the material in the construction of a wind break along the existing coal storage piles. In 2004, Midwest Generation contracted Andrews Environmental Engineering, Inc.(AEE) to perform an initial site assessment of the two areas to determine whether the CCB classification is feasible based on a preliminary composite sampling of the areas. A total of 20 borings within the Station #29 area. Approximate locations of the initial borings are provided on Figures 1 . AEE determined that the deposited materials were generally homogenous consisting of interlayered fly ash and bottom ash/slag from the coal combustion process. Some minor

MWG13-15_19486

amounts of debris (i.e., wood, concrete, wire, etc.) were noted at the surface at some locations

A total of 20 samples were collected from 20 borings across the 13.2 acre area at Station #29. These 20 samples were also composited into one representative sample and analyzed for NLET metals. In addition, each composite sample was analyzed for Code R disposal parameters. The borings were also field screened for total organic vapors using a photoionization detector (PID). The sample from each area showing the highest PID measurement was analyzed for Toxicity Characteristic Leaching Procedure (TCLP) metals, semi-volatile organic compounds (SVOCs), volatile organic compounds (VOCs), ignitability, reactive cyanide and reactive sulfide.

The borings indicated that the depth of ash ranged from 2.5 to 18 feet in thickness within the two areas. A comparison of the analytical results indicated none of the leachable metals analyzed using the NLET exceeded the guidelines for CCB classification set forth in 415 ILCS 5/3.94 (Public Act 89-93). The disposal parameter analyses indicated that the material would be classified as non-hazardous for off-site disposal purposes. The SVOC analyses detected a full suite of polynuclear aromatic hydrocarbons as would be expected considering the source of the ash (i.e., coal combustion). The only VOCs detected were tetrachloroethene (72 ug/kg) from the Station #29 sample. These concentrations are below the Illinois Environmental Protection Agency (IEPA) Tiered Approach to Corrective Action Objectives (TACO) Tier 1 direct contact/ingestion criteria (either industrial/commercial or residential). The tetrachloroethene detections, however, are slightly above the Soil Component of the Groundwater Ingestion Exposure Route (SCGIER) for a Class I groundwater but below the SCGIER for a Class II groundwater. Based on discussions with Midwest Generation personnel, the tetrachloroethene detections are somewhat suspect since it was noted by Midwest Generation technical personnel in the field that the contractor allowed the use of degreasing compounds on some of the downhole equipment and the fact that Midwest Generation has not historically used chlorinated hydrocarbon solvents/degreasers at their facilities.

PROJECT OBJECTIVE

The project objective was to develop an expanded data set to further evaluate the potential for classifying this material as CCB for beneficial reuse relative to the regulatory criteria set forth in 415 ILSC 5/3.135 (formerly 415 ILSC 5/3.94) a-5(B) which states that: "CCB shall not exceed Class I Groundwater Standards for metals when tested utilizing test method ASTM D3987-85. The sample or samples tested shall be representative of the CCB being considered for use."

MWG13-15_19487

In addition, a VOC grab sample was to be collected from the area of highest PID readings noted during the previous site work to evaluate the potential presence of the above noted low level VOCs. Any other area with elevated PID readings during this additional work was also to be sampled for VOCs.

DOCUMENTATION OF FIELD ACTIVITIES

On June 13, 2005 KPRG marked all proposed drilling locations relative to the benchmark established during previous site assessment work. The locations were approved for drilling by Midwest Generation. A total of 15 locations (GP-1 through GP-15) were established over the 13.2 acre study area at Station #29 . Approximate geoprobe drilling locations are shown on Figures 1 & . It is noted that during the drilling of geoprobe borings at Station #29, locations GP-12, GP-14 and GP-15 were noted to primarily consist of coal/coal residue as opposed to ash/slag. Therefore, to facilitate obtaining more representative ash/slag samples, these locations were moved from the original sites to locations GP-12A, GP-14A and GP-15A as shown on Figure 1.

On June 14, 2005, KPRG mobilized technical personnel and a geoprobe contractor to the site. Geoprobe borings were advanced at each marked location through the ash/slag deposits to the top of bedrock (dolomite). Continuous sample cores were obtained and visually logged and screened in the field for total organic vapors using a PID. It is noted that no PID readings were measured in any of the borings. Copies of all boring logs and PID field screening measurements are provided in Attachment 1.

One composite sample was collected from each boring from the entire vertical profile. The sample was collected by taking the entire top half of each soil core and placing it into a plastic bag for mixing. Once thoroughly mixed/composited, an appropriate sample aliquot was placed into a laboratory prepared container for analysis of NLET metals and stored on ice for delivery to the laboratory.

One grab sample was also collected for VOC analysis from geoprobe location GP-9 which was in the vicinity of the highest PID readings noted during the previous site assessment (during the time which Midwest Generation noted that the drillers were using a degreaser on their downhole equipment). No other VOC samples were collected since, as noted above, KPRG did not observe any measured PID readings during drilling activities.

Once drilling was completed at a particular location, the boring was backfilled with any remaining sample core along with granular bentonite to the ground surface.

The samples were delivered to Severn Trent Laboratories (STL) in University Park, Illinois under a properly completed chain-of-custody for chemical analysis.

MWG13-15_19488

DATA PRESENTATION AND STATISTICAL ANALYSIS

A total of 17 composite samples were analyzed for NLET metals and one sample was analyzed for VOCs. The results for each are discussed separately below.

NLET Metals Analyses

The NLET metals analyses are summarized in Table 1 along with the Class I groundwater standards for comparison. The "non-detects" reported on the lab sheets in Attachment 2 are recorded as "less than the method detection limit" in Table 1. A review of the data set indicates that two of the metals (copper and lead) from location GP-14A were detected at concentrations at least two times higher than the Class I drinking water standard for each of these metals. Due to these detections and the probability of these points acting as outliers in subsequent statistical evaluations, a conservative decision was made by Midwest Generation to eliminate this sample from the subsequent statistical analysis with the understanding that the materials from the vicinity of this boring as noted on Figure 1 will not be included in any potential beneficial reuse as CCB.

Statistical analysis was subsequently performed on the remaining population of 16 samples. A review of the data indicates that there were no detections of arsenic, beryllium, cadmium, cobalt, iron, mercury and nickel in the leachate from any of the samples analyzed. The method detection limits (MDLs) for these compounds were all substantially below the Class I groundwater standards. Therefore, for these compounds, it can be confidently said that there are no exceedances associated with the tested materials. Relative to the remaining compounds, the data set was first evaluated for normality by the calculation of the arithmetic mean, standard deviation and the coefficient of variance (CV). For the purposes of this evaluation, all "non-detect" values were assigned a value of one-half the MDL. The formulas used for the statistical calculations are provided in Attachment 3 and the initial results are tabulated in Table 2. In general, if CV is less than or equal to 1, then the data set is considered "normal" and as a rule of thumb if the CV is between 1 and 1.2, then the arithmetic mean and standard deviation is still an adequate estimator for the data set (Gilbert, 1987; Koch and Link, 1980). Any values of CV above 1.2 indicate that the data set is not normal and an alternate statistical evaluation must be considered to estimate the mean and standard deviation.

A review of the initial statistical evaluations in Table 2 indicates that the data set for all metals except copper and zinc are normal or close to normal distribution and that the arithmetic mean is a good estimator of the true mean of the concentration of these compounds in the leachate. Copper and zinc are addressed in further detail below after completion of the calculation discussions for the other normally distributed parameters.

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Subsequent calculation of the standard error and the 95% Upper Confidence Limit (UCL; assuming a one-tailed distribution since we are only concerned about a regulatory exceedance) was performed for each parameter (see Attachment 3 for formula used). The 95% UCL provides the 95% probability that the true mean of the data set is less than the calculated value. The results are included in Table 2. A review of the table indicates that none of the calculated means and 95% UCLs are above the Class I groundwater standards for those compounds.

The next step in the statistical evaluation process was to determine whether the sample size was sufficient to support the above statistics. This was accomplished by calculating a Lambda (λ) value which is a function of the regulatory threshold concentration (in this case the Class I groundwater standard for each parameter), the mean and the standard deviation (see equation in Attachment 3). The λ value is then entered into the statistical table included in Attachment 3 to estimate the sample size that would be required to assure a valid statistical representation. To obtain the appropriate sample size from the table of λ values, the single-sided value with the α and β errors set at 0.05 was used. The α error is the probability of rejecting a true hypothesis (in this case this probability was set at 5%); the hypothesis being that the true mean is less than the regulatory threshold. The β error is the probability of accepting a false hypothesis. The number of samples obtained from the λ table required for a valid data set for each of the parameters being evaluated is included in Table 2. A review of the results indicate that the existing data set of 16 values is sufficient to adequately characterize the materials sampled.

Copper and Zinc

As noted above, the initial statistical evaluations for copper and zinc indicate that the noted concentrations do not fit a normal distribution. The data for these compounds were then evaluated to determine whether they may be log-normally distributed. To facilitate this analysis, the natural logarithm of each value is taken and the lognormal mean and standard deviation (also referred to as the geometric mean and standard deviation) are calculated using the equations provided in Attachment 3. The CV is then calculated from these two values and if it is below 1 then the distribution is believed to be lognormal (i.e., the underlying distribution of the logarithms is normal) and the geometric mean and standard deviation can be used as estimators of the true mean and standard deviation. These calculated values are summarized in Table 3. A review of the table indicates that the zinc data set is log-normally distributed and, therefore, the geometric mean and standard deviation can be used to calculate the standard error, 95% UCL and λ values using the same methods as discussed above. These values are included in Table 3. A review of these values indicates that the estimated mean and 95% UCL for the zinc data set is below the Class I groundwater standard and that the sample size is sufficient to support the statistical analysis.

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The calculated CV for copper, however, was indicative that the underlying distribution of the logarithms of the concentrations was not normal and, therefore, the data set can not be considered lognormal. This situation in environmental data sets is generally indicative of an outlier value, either high or low, which is skewing the overall data set. A review of the copper data set indicates that the outlier is associated with the 0.43 mg/l concentration from sample location GP-12A. This value would act to skew the data set in a manner that the calculated mean would be greater than the true mean of the data set. Considering that the calculated arithmetic mean and the calculated geometric mean of this data set were both below the regulatory threshold, it can be confidently assumed that the true mean of the data set is also below the regulatory threshold. Regardless of this observation, KPRG performed an additional statistical analysis on the copper data set to address the outlier issue. Three simple but robust methods to address outliers in censored data sets (i.e., data sets with numerous non-detect values) are the median, trimmed mean and Winsorized mean (Gilbert, 1987). Calculation of the median for the copper data set was deemed inappropriate because the asymmetric distribution would skew the median to the left and potentially underestimate the true mean of the data set. The trimmed mean calculation would include omitting the outlier completely (but also omitting the lowest value in the data set), however, completely eliminating a data point could be viewed negatively by a regulatory reviewer. Therefore, calculation of a Winsorized mean was selected as the method for addressing the outlier. The subject copper data set was Winsorized by replacing the suspect outlier concentration of 0.43 mg/l with the next lowest value in the data set which is 0.048 mg/l. In addition, one of the non-detect values was replaced by the next lowest detected concentration in the data set which is 0.015 mg/l. The Winsorized data set was then used to calculate a Winsorized mean and standard deviation in accordance with the equations provided in Attachment 3. These values were then used in the previously discussed statistical evaluations. The results of the evaluations determined that the Winsorized data set is lognormal with an estimated mean of ~~0.053~~ 0.0133 mg/l, a standard deviation of ~~0.051~~ 0.0134 mg/l, a coefficient of variance of ~~0.975~~ 0.0003 and a 95% UCL of ~~0.075~~ 0.0206 mg/l. The calculated λ value is ~~1.618~~ 2,324 indicating that the existing data set of 16 values is sufficient to adequately characterize the materials sampled.

Volatile Organic Compound Data

As noted above, there were no PID detections measured in any of the soil cores. KPRG did collect one grab sample from geoprobe location GP-9 which was located in the vicinity of the highest PID measurements recorded during the site assessment work performed by AEE (while the drillers were using a degreasing compound on down-hole equipment). The grab sample was collected from a moist black slag interval at a depth of 16 to 17 feet below ground surface (bgs). The analytical results are provided in Attachment 2. A review of the data indicates that only a trace of acetone was detected at a concentration of 9.4 ug/kg. No other VOCs were detected in the sample. Acetone is a common laboratory introduced

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contaminant (U.S. EPA Data Validation Guidelines) and the result was flagged by the laboratory that the batch quality control sample exceeded the method control limits for acetone. Based on these observations and the fact that Midwest Generation does not, and has not used acetone, the noted trace detection is believed to be a laboratory artifact and not representative to actual site conditions.

CONCLUSIONS

Based on the data and statistical analysis discussed above, the following conclusions are provided:

- The ash deposits are consistent and homogenous consisting of interlayered fly ash and bottom ash/slag from the coal combustion process.
- The NLET metals data from sample location GP-14A displayed elevated levels of lead and copper at concentrations at least two times higher than the Class I groundwater standard. The ash from this portion of the site should not be considered for potential beneficial reuse (see Figure 2).
- The NLET metals data from the remaining 16 sample locations indicate with a high degree of statistical certainty that the criteria established in 415 ILSC 5/3.135 (formerly 415 ILSC 5/3.94) a-5(B) are met and that the material may be considered CCB relative to this criterion.
- The data set is sufficiently large to support the statistical evaluations based on the variance and specific regulatory threshold relationships.
- There is no indication that the materials are impacted with VOCs and the previously detected VOCs may in fact be associated with the contractor's use of a degreaser during drilling and sampling operations.

KPRG appreciates the opportunity for providing our technical services to Midwest generation on this project. If there are any questions, please contact me at 262-781-0475.

Sincerely,
KPRG and Associates, Inc.

Richard R. Gnat, P.G.
Principal

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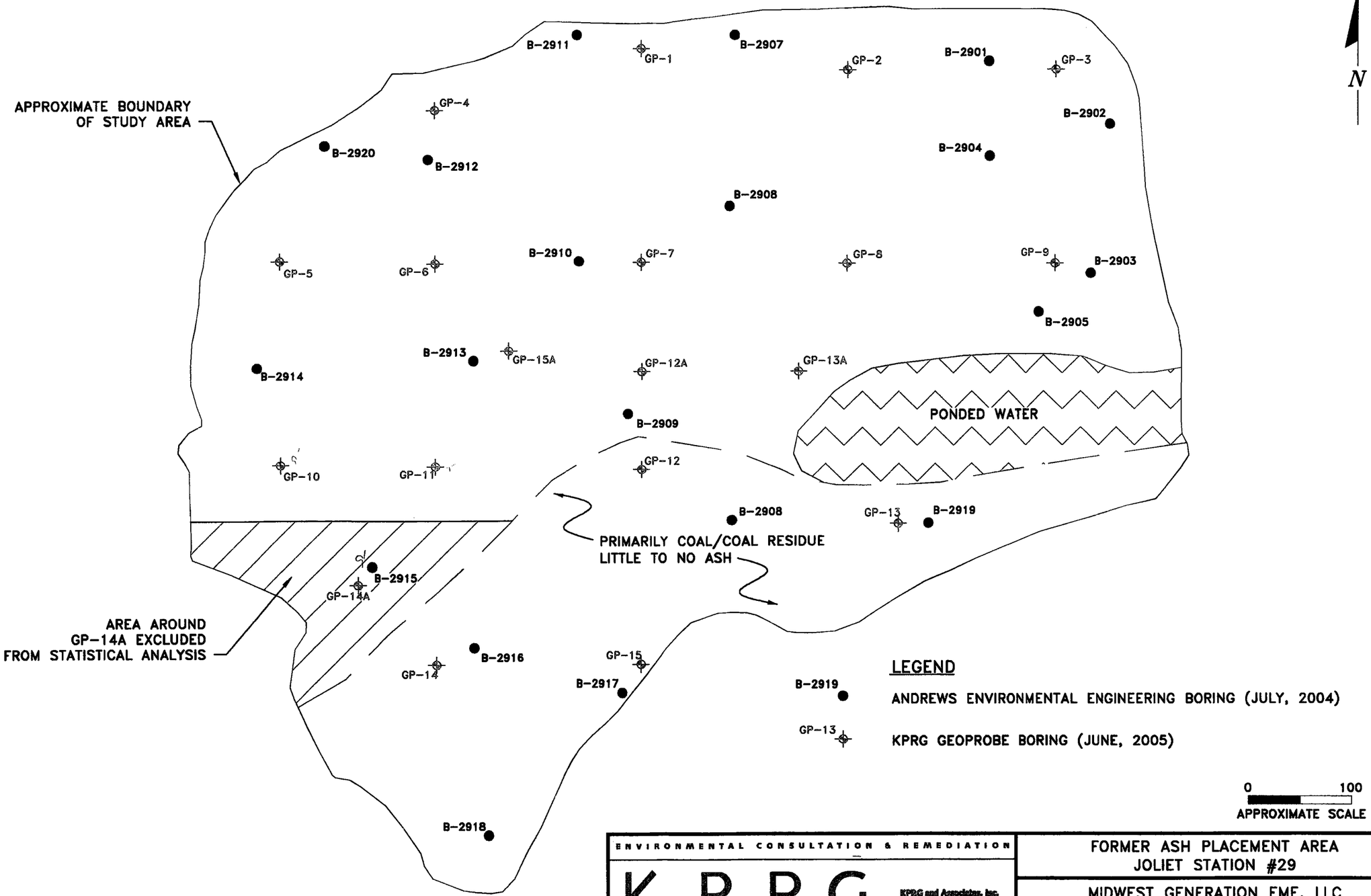
FIGURES



ENVIRONMENTAL CONSULTATION & REMEDIATION

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FORMER ASH PLACEMENT AREA
JOLIET STATION #29

MIDWEST GENERATION EME, LLC
JOLIET, ILLINOIS

Scale: 1"=100' | Date: July 13, 2005

KPRG Project No. 11205 | FIGURE 1

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TABLES

Table 1. Sampling Analytical Results for Neutral Leachable Metals - Midwest Generation, Joliet Station, IL

All values in mg/l.

Boring Name	GW Standard	GP-1	GP-2	GP-3	GP-4	GP-5	GP-6	GP-7	GP-8	GP-9
Sample Date	Class I	6/8/2005	6/8/2005	6/8/2005	6/8/2005	6/8/2005	6/8/2005	6/8/2005	6/8/2005	6/8/2005
Arsenic	0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Barium	2.00	0.11 B	0.088 B	0.13 B	0.042 B	0.091 B	0.11 B	0.16 B	0.15 B	0.14 B
Beryllium	0.0040	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Boron	2.00	0.37	1.1	0.66	0.47	0.33	0.73	0.87	1.2	2.2
Cadmium	0.005	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Chromium	0.10	< 0.01	0.012 B	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.011 B	0.010 B
Cobalt	1.00	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Copper	0.65	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.048 B	0.015 B	< 0.01	< 0.01
Iron	5.00	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Lead	0.0075	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Manganese	0.15	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Mercury	0.002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Molybdenum	NS	0.017 B	0.022 B	0.013 B	< 0.01	< 0.01	0.011 B	0.026 B	0.012 B	0.068 B
Nickel	0.10	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Potassium	NS	0.96 B	1.3 B	1.2 B	0.52 B	< 5	1.8 B	3.6 B	2.4 B	3.3 B
Selenium	0.05	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	0.0027	0.0039	0.0046
Sodium	NS	3.9 B	6.1	4.4 B	6.4	3.1 B	14	38	24	43
Zinc	5.00	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02

Boring Name	GW Standard	GP-10	GP-11	GP-12	GP-13	GP-14	GP-15
Sample Date	Class I	6/8/2005	6/8/2005	6/8/2005	6/8/2005	6/8/2005	6/8/2005
Arsenic	0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Barium	2.00	0.11 B	0.067 B	0.12 B	0.26 B	0.15 B	0.17 B
Beryllium	0.0040	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
Boron	2.00	0.77	1.3	0.86	0.43	1.9	1.2
Cadmium	0.005	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Chromium	0.10	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Cobalt	1.00	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
Copper	0.65	0.021 B	< 0.01	0.43	< 0.01	**1.6**	< 0.01
Iron	5.00	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Lead	0.0075	< 0.005	< 0.005	**0.016**	< 0.005	**0.043**	< 0.005
Manganese	0.15	< 0.01	0.036 B	< 0.01	< 0.01	< 0.01	< 0.01
Mercury	0.002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Molybdenum	NS	< 0.01	0.015 B	0.016 B	< 0.01	0.026 B	< 0.01
Nickel	0.10	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Potassium	NS	1.3 B	3.8 B	1.6 B	1.2 B	2.4 B	1.8 B
Selenium	0.05	< 0.002	< 0.002	< 0.002	0.0027	< 0.002	< 0.002
Sodium	NS	5.6	9.2	36	9.1	9.2	7.2
Zinc	5.00	< 0.02	< 0.02	0.088 B	< 0.02	0.21	< 0.02

All "non-detect" values reported as "less than method detection limit".
NS - No Standard
B- Value is between reporting limit and method detection limit.
Bold - Exceeds Class I Groundwater standard.

ATTACHMENT 1
Boring Logs

KPRG
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LOG OF BORING GP-1

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed : 06/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : K. Vallot / D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0	ML		Bottom Ash, brown, fine powder. Dry.	1	0.0	
1	GW		Bottom Ash, brown, sand and gravel mix. Slightly Moist.	2	0.0	75
3	GC		Slag, black, clayey with some gravel. Slightly Moist.	3	0.0	
5	GW		Bottom Ash, brown, sand and gravel mix. Slightly Moist.	4	0.0	90
6	ML		Bottom Ash, gray, powder. Dry.			
7	SC		Slag, black, clayey and sandy. Moist.	5	1.0	
8	WLS		Weathered Limestone	6	0.0	
10						
11						
12				7	0.0	50
13						
14						
15			End of Boring at 15 feet.			
16						

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LOG OF BORING GP-2

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed	: 06/08/05
Drilling Method	: Direct-Push
Drilling Company	: CABENO Env. Field Services
Operator	: K. Vallot / D. Joyce
Logged By	: P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0–1	ML		Bottom Ash, gray/brown, fine powder. Dry.	1	0.0	
1–2	SM		Bottom Ash, brown, sandy. Slightly Moist.	2	0.0	50
2–3	SM		Bottom Ash, brown, silty sand. Moist.	3	0.0	
3–4	SM					
4–5	ML		Bottom Ash, gray/brown, powder. Dry.	4	0.0	60
5–6	ML		- sandy			
6–7						
7–8	GW		Bottom Ash, brown, sand and gravel, trace cobbles. Slightly Moist.	5	0.0	
8–9	CL		Slag, black, clayey. Moist.	6	0.0	
9–10	ML		Fly Ash, white, some gray/black, powder, little sand. Dry.			
10–11	WLS		Weathered Limestone	7	0.0	60
11–12						
12–13						
13–14						
14–15						
15–16			End of Boring at 15 feet.			

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LOG OF BORING GP-3

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed : 06/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : K. Vallot / D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0–1	ML		Bottom Ash, gray/brown, fine powder. Dry.	1	0.0	
1–2						
2–3	GC		Bottom Ash, brown/black, clay, sand and gravel mixture. Slightly Moist.	2	0.0	40
3–4				3	0.0	
4–5						
5–6						
6–7				4	0.0	70
7–8						
8–9	WLS		Weathered Limestone	5	0.0	
9–10						
10			End of Boring at 10 feet.			
11						
12						
13						
14						
15						
16						

MWG13-15_19501

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LOG OF BORING GP-4

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed : 06/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : K. Vallot / D. Joyce
Logged By : P. Allenstein

Depth In Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0–1	CO		Coal, black. Dry.	1	0.0	
2–3	SC		Bottom Ash, black, clay, trace sand and gravel. Slightly Moist.	2	0.0	80
4–5	WLS		Weathered Limestone	3	0.0	

End of Boring at 5 feet.

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LOG OF BORING GP-5

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed	: 06/08/05
Drilling Method	: Direct-Push
Drilling Company	: CABENO Env. Field Services
Operator	: K. Vallot / D. Joyce
Logged By	: P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0–1	SC		Bottom Ash, brown, silt and sand. Dry.	1	0.0	
1–4	CO		Coal, black. Dry. - clayey	2	0.0	80
4–5	WLS		Weathered Limestone	3	0.0	

End of Boring at 5 feet.

MWG13-15_19503

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LOG OF BORING GP-6

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed : 06/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : K. Vallot / D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0–2	ML		Bottom Ash, gray/brown, sand, silt and powder. Dry.	1	0.0	
2–7	CO		Coal, black. Dry.	2	0.0	50
				3	0.0	
7–10	WLS		Weathered Limestone	4	0.0	70
10			End of Boring at 10 feet.			

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LOG OF BORING GP-7

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed : 06/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : K. Vallot / D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0–1	GW		Bottom Ash, brown, trace black, gravel and sand. Dry.	1	0.0	
2–5	WLS		Weathered Limestone	2	0.0	60
5			End of Boring at 5 feet.			

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KPRG and Associates, Inc.

LOG OF BORING GP-8

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed : 06/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : K. Vallot / D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0–1	ML		Bottom Ash, gray/black, powder. Dry.	1	0.0	
1–10	GW		Bottom Ash, brown, sand and gravel mix. Slightly Moist. - fill - some black	2	0.0	60
				3	0.0	
				4	0.0	60
				5	0.0	
10–13	ML		Bottom Ash, gray/black, powder, some sand. Dry. - some brown sand and gravel	6	0.0	
13–15	WLS		Weathered Limestone	7	0.0	100
15			End of Boring at 15 feet.			

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KPRG and Associates, Inc.

LOG OF BORING GP-9

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed : 06/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : K. Vallot / D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0–1	ML		Bottom Ash, brown, fine powder. Dry.			
1–2	GW		Slag, black, sandy, trace coal. Dry.	1	0.0	
2–4	GW		Bottom Ash, brown/gray, silt and sand. Slightly Moist.	2	0.0	50
4–5	GW		- very moist silt seam	3	0.0	
5–6	GW			4	0.0	
6–11	GC		Bottom Ash, dark brown/black, clay and gravel. Dry.	5	0.0	60
	GC			6	0.0	
	GC			7	0.0	60
11–15	SC		Slag, black, clayey and silty, fill. Very Moist.	8	0.0	
13–15	SC		- green/gray, silty			
15–17	GW		Bottom Ash, brown, sand and gravel. Slightly Moist.	9	0.0	
17–18	GW		Slag, black, clay and silt. Wet.	10	0.0	100
18–20	WLS		Weathered Limestone	11	0.0	
20–21			End of Boring at 20 feet.			

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LOG OF BORING GP-10

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed	: 06/08/05
Drilling Method	: Direct-Push
Drilling Company	: CABENO Env. Field Services
Operator	: K. Vallot / D. Joyce
Logged By	: P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0–1	ML		Bottom Ash, brown, sand and silt, trace gravel. Dry.	1	0.0	
2–3	CL		Bottom Ash, black, clayey, some coal. Slightly Moist.	2	0.0	60
4–5	SC		Bottom Ash, brown and gray, clayey with silt and sand, fill. Dry to Moist.	3	0.0	
6–8	SC		- black	4	0.0	60
9	WLS		Weathered Limestone	5	0.0	
10			End of Boring at 10 feet.			
11–15						

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LOG OF BORING GP-11

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed : 06/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : K. Vallot / D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0–4	SM		Bottom Ash, brown/gray, silt and sand. Slightly Moist.	1	0.0	
				2	0.0	60
4–12	CO		Coal, black, dry.	3	0.0	
				4	0.0	100
				5	0.0	
				6	0.0	
12–14	SC		Bottom Ash, gray, silty. Wet.	7	0.0	80
14–17	GW		Bottom Ash, gray, dark gray, black, sand and gravel, fill. Slightly Moist.	8	0.0	
				9	0.0	60
17–20	WLS		Weathered Limestone	10	0.0	
20–21			End of Boring at 20 feet.			

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LOG OF BORING GP-12

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed : 06/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : K. Vallot / D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0	ML		Bottom Ash, brown / gray, silty. Dry.			
1				1	0.0	
2	CO		COAL, black, sandy silt, trace gravel (slag). Dry.			
3				2	0.0	100
4						
5						
6				3	0.0	60
7			End of Boring at 7 feet. Refusal.			
8						
9						
10						
11						
12						
13						
14						
15						

MWG13-15_19510

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LOG OF BORING GP-12A

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed	: 06/08/05
Drilling Method	: Direct-Push
Drilling Company	: CABENO Env. Field Services
Operator	: K. Vallot / D. Joyce
Logged By	: P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0–1	SM		Bottom Ash, gray/brown, powder and sand. Dry.	1	0.0	
1–2	SM		- black, clayey	1	0.0	
2–3	SM		- black, clayey	1	0.0	
3–4	WLS		Weathered Limestone	2	0.0	80
4			End of Boring at 4 feet.			
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

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LOG OF BORING GP-13

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed : 06/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : K. Vallot / D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0						
1	CO		COAL, black, sand size. Dry.	1	0.0	
2				2	0.0	100
3			End of Boring at 3 feet. Refusal.			
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

MWG13-15_19512

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LOG OF BORING GP-13A

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed : 06/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : K. Vallot / D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0–2	SM		Bottom Ash, gray, powder and sand. Dry.	1	0.0	
3–4	WLS		Weathered Limestone	2	0.0	75

End of Boring at 4 feet.

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LOG OF BORING GP-14

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed : 06/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : K. Vallot / D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0						
1	CO		COAL, black, sand size. Dry.	1	0.0	
2				2	0.0	100
3			End of Boring at 3 feet. Refusal.			
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

MWG13-15_19514

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LOG OF BORING GP-14A

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed : 06/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : K. Vallot / D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0–1	ML		Bottom Ash, brown, sand and silt, trace gravel. Dry.	1	0.0	
2–3	CL		Bottom Ash, black, clayey, some coal. Slightly Moist.	2	0.0	60
4–5	SC		Bottom Ash, brown and gray, clayey with silt and sand, fill. Dry to Moist.	3	0.0	
6–8	SC		- black	4	0.0	60
9	WLS		Weathered Limestone	5	0.0	
10			End of Boring at 10 feet.			
11–15						

MWG13-15_19515

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LOG OF BORING GP-15

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed : 06/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : K. Vallot / D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0–2	CO		COAL, black, sand size. Dry.	1	0.0	
2–3	WLS		Weathered Limestone.	2	0.0	100

End of Boring at 3 feet. Refusal.

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

MWG13-15_19516

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KPRG and Associates, Inc.

LOG OF BORING GP-15A

(Page 1 of 1)

Midwest Generation - Joliet Station #29
1800 Channahon Road
Joliet, IL

Project No. 11205

Date Completed	: 06/08/05
Drilling Method	: Direct-Push
Drilling Company	: CABENO Env. Field Services
Operator	: K. Vallot / D. Joyce
Logged By	: P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	SAMPLES	PID (ppm)	% Recovery
0–2	SM		Bottom Ash, brown, silt and sand. Slightly Moist.	1	0.0	
2–4	SM		Bottom Ash, brown, silt and sand. Slightly Moist.	2	0.0	75
4–6	SM		Bottom Ash, gray/brown/black, sand and silt, some slag. Slightly Moist.	3	0.0	50
6			End of Boring at 6 feet. Refusal on rock.			

MWG13-15_19517

ATTACHMENT 2
Analytical Data Package

SEVERN TRENT STL

STL Chicago
2417 Bond Street
University Park, IL 60466

Tel: 708 534 5200 Fax: 708 534 5211
www.stl-inc.com

SEVERN TRENT LABORATORIES ANALYTICAL REPORT

JOB NUMBER: 237342

Prepared For:

KPRG & Associates, Inc.
14665 West Lisbon Road
Suite 2B
Brookfield, WI 53005

Project: Midwest Generation - Ash Sampling

Attention: Richard Gnat

Date: 06/22/2005

Linda S Mackley
Signature

6-22-05
Date

Name: Linda S. Mackley

Title: Project Manager

E-Mail: lmackley@stl-inc.com

STL Chicago
2417 Bond Street
University Park, IL 60466

PHONE: (708) 534-5200
FAX..: (708) 534-5211

This Report Contains (56) Pages

Severn Trent Laboratories - Chicago
METALS CASE NARRATIVE

Client: KPRG & Associates, Inc. Date Recd: 06/09/05
Project: Joliet Station
STL Job#: 237342

1. This narrative covers the Metals analysis of samples in the above Job# 237342.

   Method Refs: USEPA SW-846

2. All analyses were performed within the required holding times.

3. All Initial and Continuing Calibration Verification (ICV/CCV's) were within control limits.

4. All Initial and Continuing Calibration Blanks (ICB/CCB's) were within control limits.

5. All Preparation/Method Blanks were below Reporting Limits except for the Neutral Leach Extraction Blank #3 in Prep Batch 152037 for Fe (0.10 mg/L). Please note: The Fe concentration in all of the samples was less than the reporting limit, therefore reanalysis was not required.

6. All ICP Interference Check Samples (ICSA and ICSAB) were within control limits.

7. Laboratory Control Sample (LCS) recoveries were within the 80-120% control limits.

8. Matrix QC analysis was performed on Sample 1.

   All Serial dilution analysis were within control limits except for B.

   All Matrix spike recoveries were within the 75-125% control limits. Please note: Control limits are not applicable when the sample concentration exceeds the spike added concentration by a factor of 4 or more).

   All Duplicate results were within the 20% RPD control limits for sample concentrations greater than 5X the Reporting limit or +\- the Reporting limit for sample concentration less than 5X the Reporting Limit.

Jodi L. Gromala
Metals Section Manager

6-22-05
Date

Severn Trent Laboratories Chicago
GC/MS Case Narrative

KPRG & Associates, Inc.
Joliet Station
Job Number: 237342
VOA DATA:

1. All sample analyses were performed within the required hold time from the date of collection.

2. Methylene Chloride and Acetone were detected above the reporting limit in Method Blank 152019. Associated samples have been flagged. The remaining compounds in the Method Blanks were below reporting limits.

3. The LCS/LCD (Laboratory Control Samples) had the five-controlled spike recoveries within the in-house generated QC limits.

4. Matrix Spike/Matrix Spike Duplicate analyses were not performed on this sample set.

5. All volatile samples had surrogate recoveries within the in-house generated QC limits.

6. The soil sample was prepared using the low-level Method 5035. The water sample was prepared using Method 5030 (10mL purge). All of the samples were analyzed following SW846 Method 8260B and 8000B. All calibration criteria were met per method or SOP (for minimum R values for certain compounds). The low point in the initial calibration verifies the base reporting limits. The target compounds were quantitated using the initial calibration.

7. Sample 17 had one low internal standard area. The sample was reanalyzed with similar results. The original analysis has been reported. All other volatile samples had internal standard areas and retention times within the SOP acceptance limits as compared to the corresponding calibration verification standard.

8. The soil sample was analyzed using the low level soil method. The soil results and reporting limits were adjusted to account for the sample weight, the analytical procedure, and reported on a dry weight basis. The water sample was analyzed using a 10mL purge volume.

Jennifer S. O'Gorman
Jennifer S. O'Gorman
GC/MS Dept.

6-22-05
Date

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SAMPLE INFORMATION
Date: 06/22/2005

Job Number.: 237342
Customer...: KPRG & Associates, Inc.
Attn.....: Richard Gnat

Project Number.....: 20005508
Customer Project ID....: JOLIET STATION
Project Description....: Midwest Generation - Ash Sampling

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
237342-1	GP-1	Soil	06/08/2005	12:00	06/09/2005	13:45
237342-2	GP-2	Soil	06/08/2005	12:00	06/09/2005	13:45
237342-3	GP-3	Soil	06/08/2005	12:00	06/09/2005	13:45
237342-4	GP-4	Soil	06/08/2005	12:00	06/09/2005	13:45
237342-5	GP-5	Soil	06/08/2005	12:00	06/09/2005	13:45
237342-6	GP-6	Soil	06/08/2005	12:00	06/09/2005	13:45
237342-7	GP-7	Soil	06/08/2005	12:00	06/09/2005	13:45
237342-8	GP-8	Soil	06/08/2005	12:00	06/09/2005	13:45
237342-9	GP-9	Soil	06/08/2005	12:00	06/09/2005	13:45
237342-10	GP-10	Soil	06/08/2005	12:00	06/09/2005	13:45
237342-11	GP-11	Soil	06/08/2005	12:00	06/09/2005	13:45
237342-12	GP-12 A	Soil	06/08/2005	12:00	06/09/2005	13:45
237342-13	GP-13 A	Soil	06/08/2005	12:00	06/09/2005	13:45
237342-14	GP-14 A	Soil	06/08/2005	12:00	06/09/2005	13:45
237342-15	GP-15 A	Soil	06/08/2005	12:00	06/09/2005	13:45
237342-16	TRIP BLANK	Water	06/08/2005	12:00	06/09/2005	13:45

MWG13-15_19522

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LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Customer Sample ID: GP-1
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 237342-1
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7740	Leachable, Selenium (GFAA)											
	Selenium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	152449		06/20/05 1248	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	152447		06/17/05 1403	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2315	tds
	Barium, Neutral Leach	0.11	B		0.010	1.0	1	mg/L	152329		06/18/05 2315	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	152329		06/18/05 2315	tds
	Boron, Neutral Leach	0.37			0.050	0.10	1	mg/L	152329		06/18/05 2315	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	152329		06/18/05 2315	tds
	Chromium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2315	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	152329		06/18/05 2315	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2315	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	152329		06/18/05 2315	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	152329		06/18/05 2315	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2315	tds
	Zinc, Neutral Leach	ND	U		0.020	0.10	1	mg/L	152329		06/18/05 2315	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2315	tds
	Potassium, Neutral Leach	0.96	B		0.50	5.0	1	mg/L	152329		06/18/05 2315	tds
	Sodium, Neutral Leach	3.9	B		1.0	5.0	1	mg/L	152329		06/18/05 2315	tds
	Molybdenum, Neutral Leach	0.017	B		0.010	0.10	1	mg/L	152329		06/18/05 2315	tds

* In Description = Dry Wgt.

MWG13-15_19523

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LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Customer Sample ID: GP-2
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 237342-2
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7740	Leachable, Selenium (GFAA)											
	Selenium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	152449		06/20/05 1549	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	152447		06/17/05 1409	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2340	tds
	Barium, Neutral Leach	0.088	B		0.010	1.0	1	mg/L	152329		06/18/05 2340	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	152329		06/18/05 2340	tds
	Boron, Neutral Leach	1.1			0.050	0.10	1	mg/L	152329		06/18/05 2340	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	152329		06/18/05 2340	tds
	Chromium, Neutral Leach	0.012	B		0.010	0.050	1	mg/L	152329		06/18/05 2340	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	152329		06/18/05 2340	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2340	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	152329		06/18/05 2340	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	152329		06/18/05 2340	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2340	tds
	Zinc, Neutral Leach	ND	U		0.020	0.10	1	mg/L	152329		06/18/05 2340	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2340	tds
	Potassium, Neutral Leach	1.3	B		0.50	5.0	1	mg/L	152329		06/18/05 2340	tds
	Sodium, Neutral Leach	6.1			1.0	5.0	1	mg/L	152329		06/18/05 2340	tds
	Molybdenum, Neutral Leach	0.022	B		0.010	0.10	1	mg/L	152329		06/18/05 2340	tds

* In Description = Dry Wgt.

MWG13-15_19524

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LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Customer Sample ID: GP-3
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 237342-3
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7740	Leachable, Selenium (GFAA)											
	Selenium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	152449		06/20/05 1359	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	152447		06/17/05 1416	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2347	tds
	Barium, Neutral Leach	0.13	B		0.010	1.0	1	mg/L	152329		06/18/05 2347	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	152329		06/18/05 2347	tds
	Boron, Neutral Leach	0.66			0.050	0.10	1	mg/L	152329		06/18/05 2347	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	152329		06/18/05 2347	tds
	Chromium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2347	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	152329		06/18/05 2347	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2347	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	152329		06/18/05 2347	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	152329		06/18/05 2347	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2347	tds
	Zinc, Neutral Leach	ND	U		0.020	0.10	1	mg/L	152329		06/18/05 2347	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2347	tds
	Potassium, Neutral Leach	1.2	B		0.50	5.0	1	mg/L	152329		06/18/05 2347	tds
	Sodium, Neutral Leach	4.4	B		1.0	5.0	1	mg/L	152329		06/18/05 2347	tds
	Molybdenum, Neutral Leach	0.013	B		0.010	0.10	1	mg/L	152329		06/18/05 2347	tds

* In Description = Dry Wgt.

MWG13-15_19525

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LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Customer Sample ID: GP-4
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 237342-4
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7740	Leachable, Selenium (GFAA)											
	Selenium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	152449		06/20/05 1623	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	152447		06/17/05 1418	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2353	tds
	Barium, Neutral Leach	0.042	B		0.010	1.0	1	mg/L	152329		06/18/05 2353	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	152329		06/18/05 2353	tds
	Boron, Neutral Leach	0.47			0.050	0.10	1	mg/L	152329		06/18/05 2353	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	152329		06/18/05 2353	tds
	Chromium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2353	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	152329		06/18/05 2353	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2353	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	152329		06/18/05 2353	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	152329		06/18/05 2353	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2353	tds
	Zinc, Neutral Leach	ND	U		0.020	0.10	1	mg/L	152329		06/18/05 2353	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2353	tds
	Potassium, Neutral Leach	0.52	B		0.50	5.0	1	mg/L	152329		06/18/05 2353	tds
	Sodium, Neutral Leach	6.4			1.0	5.0	1	mg/L	152329		06/18/05 2353	tds
	Molybdenum, Neutral Leach	ND	U		0.010	0.10	1	mg/L	152329		06/18/05 2353	tds

* In Description = Dry Wgt.

MWG13-15_19526

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LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Customer Sample ID: GP-5
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 237342-5
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7740	Leachable, Selenium (GFAA)											
	Selenium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	152449		06/20/05 1429	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	152447		06/17/05 1420	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2359	tds
	Barium, Neutral Leach	0.091	B		0.010	1.0	1	mg/L	152329		06/18/05 2359	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	152329		06/18/05 2359	tds
	Boron, Neutral Leach	0.33			0.050	0.10	1	mg/L	152329		06/18/05 2359	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	152329		06/18/05 2359	tds
	Chromium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2359	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	152329		06/18/05 2359	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2359	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	152329		06/18/05 2359	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	152329		06/18/05 2359	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2359	tds
	Zinc, Neutral Leach	ND	U		0.020	0.10	1	mg/L	152329		06/18/05 2359	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/18/05 2359	tds
	Potassium, Neutral Leach	ND	U		0.50	5.0	1	mg/L	152329		06/18/05 2359	tds
	Sodium, Neutral Leach	3.1	B		1.0	5.0	1	mg/L	152329		06/18/05 2359	tds
	Molybdenum, Neutral Leach	ND	U		0.010	0.10	1	mg/L	152329		06/18/05 2359	tds

Ag
Th
Antimony

* In Description = Dry Wgt.

MWG13-15_19527

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LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Customer Sample ID: GP-6
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 237342-6
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7740	Leachable, Selenium (GFAA)											
	Selenium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	152449		06/20/05 1442	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	152447		06/17/05 1422	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0031	tds
	Barium, Neutral Leach	0.11	B		0.010	1.0	1	mg/L	152329		06/19/05 0031	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	152329		06/19/05 0031	tds
	Boron, Neutral Leach	0.73			0.050	0.10	1	mg/L	152329		06/19/05 0031	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	152329		06/19/05 0031	tds
	Chromium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0031	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	152329		06/19/05 0031	tds
	Copper, Neutral Leach	0.048	B		0.010	0.050	1	mg/L	152329		06/19/05 0031	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	152329		06/19/05 0031	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	152329		06/19/05 0031	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0031	tds
	Zinc, Neutral Leach	ND	U		0.020	0.10	1	mg/L	152329		06/19/05 0031	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0031	tds
	Potassium, Neutral Leach	1.8	B		0.50	5.0	1	mg/L	152329		06/19/05 0031	tds
	Sodium, Neutral Leach	14			1.0	5.0	1	mg/L	152329		06/19/05 0031	tds
	Molybdenum, Neutral Leach	0.011	B		0.010	0.10	1	mg/L	152329		06/19/05 0031	tds

* In Description = Dry Wgt.

MWG13-15_19528

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LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Customer Sample ID: GP-7
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 237342-7
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7740	Leachable, Selenium (GFAA)											
	Selenium, Neutral Leach	0.0027			0.0020	0.0020	1	mg/L	152449		06/20/05 1635	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	152447		06/17/05 1425	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0038	tds
	Barium, Neutral Leach	0.16	B		0.010	1.0	1	mg/L	152329		06/19/05 0038	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	152329		06/19/05 0038	tds
	Boron, Neutral Leach	0.87			0.050	0.10	1	mg/L	152329		06/19/05 0038	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	152329		06/19/05 0038	tds
	Chromium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0038	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	152329		06/19/05 0038	tds
	Copper, Neutral Leach	0.015	B		0.010	0.050	1	mg/L	152329		06/19/05 0038	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	152329		06/19/05 0038	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	152329		06/19/05 0038	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0038	tds
	Zinc, Neutral Leach	ND	U		0.020	0.10	1	mg/L	152329		06/19/05 0038	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0038	tds
	Potassium, Neutral Leach	3.6	B		0.50	5.0	1	mg/L	152329		06/19/05 0038	tds
	Sodium, Neutral Leach	38			1.0	5.0	1	mg/L	152329		06/19/05 0038	tds
	Molybdenum, Neutral Leach	0.026	B		0.010	0.10	1	mg/L	152329		06/19/05 0038	tds

* In Description = Dry Wgt.

MWG13-15_19529

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LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Customer Sample ID: GP-8
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 237342-8
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7740	Leachable, Selenium (GFAA)											
	Selenium, Neutral Leach	0.0039			0.0020	0.0020	1	mg/L	152449		06/20/05 1647	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	152447		06/17/05 1427	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0044	tds
	Barium, Neutral Leach	0.15	B		0.010	1.0	1	mg/L	152329		06/19/05 0044	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	152329		06/19/05 0044	tds
	Boron, Neutral Leach	1.2			0.050	0.10	1	mg/L	152329		06/19/05 0044	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	152329		06/19/05 0044	tds
	Chromium, Neutral Leach	0.011	B		0.010	0.050	1	mg/L	152329		06/19/05 0044	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	152329		06/19/05 0044	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0044	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	152329		06/19/05 0044	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	152329		06/19/05 0044	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0044	tds
	Zinc, Neutral Leach	ND	U		0.020	0.10	1	mg/L	152329		06/19/05 0044	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0044	tds
	Potassium, Neutral Leach	2.4	B		0.50	5.0	1	mg/L	152329		06/19/05 0044	tds
	Sodium, Neutral Leach	24			1.0	5.0	1	mg/L	152329		06/19/05 0044	tds
	Molybdenum, Neutral Leach	0.012	B		0.010	0.10	1	mg/L	152329		06/19/05 0044	tds

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Customer Sample ID: GP-9
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 237342-9
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7740	Leachable, Selenium (GFAA)											
	Selenium, Neutral Leach	0.0046			0.0020	0.0020	1	mg/L	152528		06/21/05 1149	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	152447		06/17/05 1429	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0050	tds
	Barium, Neutral Leach	0.14	B		0.010	1.0	1	mg/L	152329		06/19/05 0050	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	152329		06/19/05 0050	tds
	Boron, Neutral Leach	2.2			0.050	0.10	1	mg/L	152329		06/19/05 0050	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	152329		06/19/05 0050	tds
	Chromium, Neutral Leach	0.010	B		0.010	0.050	1	mg/L	152329		06/19/05 0050	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	152329		06/19/05 0050	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0050	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	152329		06/19/05 0050	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	152329		06/19/05 0050	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0050	tds
	Zinc, Neutral Leach	ND	U		0.020	0.10	1	mg/L	152329		06/19/05 0050	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0050	tds
	Potassium, Neutral Leach	3.3	B		0.50	5.0	1	mg/L	152329		06/19/05 0050	tds
	Sodium, Neutral Leach	43			1.0	5.0	1	mg/L	152329		06/19/05 0050	tds
	Molybdenum, Neutral Leach	0.068	B		0.010	0.10	1	mg/L	152329		06/19/05 0050	tds

* In Description = Dry Wgt.

MWG13-15_19531

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LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc.

PROJECT: JOLIET STATION

ATTN: Richard Gnat

Customer Sample ID: GP-10
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 237342-10
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7740	Leachable, Selenium (GFAA)											
	Selenium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	152449		06/20/05 1723	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	152447		06/17/05 1431	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0056	tds
	Barium, Neutral Leach	0.11	B		0.010	1.0	1	mg/L	152329		06/19/05 0056	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	152329		06/19/05 0056	tds
	Boron, Neutral Leach	0.77			0.050	0.10	1	mg/L	152329		06/19/05 0056	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	152329		06/19/05 0056	tds
	Chromium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0056	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	152329		06/19/05 0056	tds
	Copper, Neutral Leach	0.021	B		0.010	0.050	1	mg/L	152329		06/19/05 0056	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	152329		06/19/05 0056	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	152329		06/19/05 0056	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0056	tds
	Zinc, Neutral Leach	ND	U		0.020	0.10	1	mg/L	152329		06/19/05 0056	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0056	tds
	Potassium, Neutral Leach	1.3	B		0.50	5.0	1	mg/L	152329		06/19/05 0056	tds
	Sodium, Neutral Leach	5.6			1.0	5.0	1	mg/L	152329		06/19/05 0056	tds
	Molybdenum, Neutral Leach	ND	U		0.010	0.10	1	mg/L	152329		06/19/05 0056	tds

* In Description = Dry Wgt.

MWG13-15_19532

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LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc.

PROJECT: JOLIET STATION

ATTN: Richard Gnat

Customer Sample ID: GP-11
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 237342-11
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7740	Leachable, Selenium (GFAA)											
	Selenium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	152449		06/20/05 1735	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	152447		06/17/05 1433	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0103	tds
	Barium, Neutral Leach	0.067	B		0.010	1.0	1	mg/L	152329		06/19/05 0103	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	152329		06/19/05 0103	tds
	Boron, Neutral Leach	1.3			0.050	0.10	1	mg/L	152329		06/19/05 0103	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	152329		06/19/05 0103	tds
	Chromium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0103	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	152329		06/19/05 0103	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0103	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	152329		06/19/05 0103	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	152329		06/19/05 0103	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0103	tds
	Zinc, Neutral Leach	ND	U		0.020	0.10	1	mg/L	152329		06/19/05 0103	tds
	Manganese, Neutral Leach	0.036	B		0.010	0.050	1	mg/L	152329		06/19/05 0103	tds
	Potassium, Neutral Leach	3.8	B		0.50	5.0	1	mg/L	152329		06/19/05 0103	tds
	Sodium, Neutral Leach	9.2			1.0	5.0	1	mg/L	152329		06/19/05 0103	tds
	Molybdenum, Neutral Leach	0.015	B		0.010	0.10	1	mg/L	152329		06/19/05 0103	tds

* In Description = Dry Wgt.

MWG13-15_19533

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc.

PROJECT: JOLIET STATION

ATTN: Richard Gnat

Customer Sample ID: GP-12A
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 237342-12
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7740	Leachable, Selenium (GFAA)											
	Selenium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	152449		06/20/05 1747	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	152447		06/17/05 1435	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0109	tds
	Barium, Neutral Leach	0.12	B		0.010	1.0	1	mg/L	152329		06/19/05 0109	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	152329		06/19/05 0109	tds
	Boron, Neutral Leach	0.86			0.050	0.10	1	mg/L	152329		06/19/05 0109	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	152329		06/19/05 0109	tds
	Chromium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0109	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	152329		06/19/05 0109	tds
	Copper, Neutral Leach	0.43			0.010	0.050	1	mg/L	152329		06/19/05 0109	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	152329		06/19/05 0109	tds
	Lead, Neutral Leach	0.016			0.0050	0.0075	1	mg/L	152329		06/19/05 0109	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0109	tds
	Zinc, Neutral Leach	0.088	B		0.020	0.10	1	mg/L	152329		06/19/05 0109	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0109	tds
	Potassium, Neutral Leach	1.6	B		0.50	5.0	1	mg/L	152329		06/19/05 0109	tds
	Sodium, Neutral Leach	36			1.0	5.0	1	mg/L	152329		06/19/05 0109	tds
	Molybdenum, Neutral Leach	0.016	B		0.010	0.10	1	mg/L	152329		06/19/05 0109	tds

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Customer Sample ID: GP-13A
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 237342-13
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7740	Leachable, Selenium (GFAA)											
	Selenium, Neutral Leach	0.0027			0.0020	0.0020	1	mg/L	152449		06/20/05 1759	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	152447		06/17/05 1442	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0115	tds
	Barium, Neutral Leach	0.26	B		0.010	1.0	1	mg/L	152329		06/19/05 0115	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	152329		06/19/05 0115	tds
	Boron, Neutral Leach	0.43			0.050	0.10	1	mg/L	152329		06/19/05 0115	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	152329		06/19/05 0115	tds
	Chromium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0115	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	152329		06/19/05 0115	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0115	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	152329		06/19/05 0115	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	152329		06/19/05 0115	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0115	tds
	Zinc, Neutral Leach	ND	U		0.020	0.10	1	mg/L	152329		06/19/05 0115	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0115	tds
	Potassium, Neutral Leach	1.2	B		0.50	5.0	1	mg/L	152329		06/19/05 0115	tds
	Sodium, Neutral Leach	9.1			1.0	5.0	1	mg/L	152329		06/19/05 0115	tds
	Molybdenum, Neutral Leach	ND	U		0.010	0.10	1	mg/L	152329		06/19/05 0115	tds

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Customer Sample ID: GP-14A
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Soil

Laboratory Sample ID: 237342-14
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7740	Leachable, Selenium (GFAA)											
	Selenium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	152528		06/21/05 1316	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	152447		06/17/05 1444	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0121	tds
	Barium, Neutral Leach	0.15	B		0.010	1.0	1	mg/L	152329		06/19/05 0121	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	152329		06/19/05 0121	tds
	Boron, Neutral Leach	1.9			0.050	0.10	1	mg/L	152329		06/19/05 0121	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	152329		06/19/05 0121	tds
	Chromium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0121	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	152329		06/19/05 0121	tds
	Copper, Neutral Leach	1.6			0.010	0.050	1	mg/L	152329		06/19/05 0121	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	152329		06/19/05 0121	tds
	Lead, Neutral Leach	0.043			0.0050	0.0075	1	mg/L	152329		06/19/05 0121	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0121	tds
	Zinc, Neutral Leach	0.21			0.020	0.10	1	mg/L	152329		06/19/05 0121	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	152329		06/19/05 0121	tds
	Potassium, Neutral Leach	2.4	B		0.50	5.0	1	mg/L	152329		06/19/05 0121	tds
	Sodium, Neutral Leach	9.2			1.0	5.0	1	mg/L	152329		06/19/05 0121	tds
	Molybdenum, Neutral Leach	0.026	B		0.010	0.10	1	mg/L	152329		06/19/05 0121	tds

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Customer Sample ID: TRIP BLANK
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 237342-16
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8260B	Volatile Organics											
	Dichlorodifluoromethane	ND	U		0.12	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Chloromethane	ND	U		0.20	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Vinyl chloride	ND	U		0.16	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Bromomethane	ND	U		0.59	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Chloroethane	ND	U		0.32	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Trichlorofluoromethane	ND	U		0.14	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,1-Dichloroethene	ND	U		0.25	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Carbon disulfide	ND	U		0.15	5.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Acetone	ND	U		1.4	5.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Methylene chloride	ND	U	*	0.24	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	trans-1,2-Dichloroethene	ND	U		0.29	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Methyl-tert-butyl-ether (MTBE)	ND	U		0.21	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,1-Dichloroethane	ND	U		0.15	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	2,2-Dichloropropane	ND	U		0.17	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	cis-1,2-Dichloroethene	ND	U		0.20	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	2-Butanone (MEK)	ND	U		1.0	5.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Bromochloromethane	ND	U		0.27	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Chloroform	ND	U		0.14	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,1,1-Trichloroethane	ND	U		0.17	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,1-Dichloropropene	ND	U		0.38	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Carbon tetrachloride	ND	U		0.34	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Benzene	ND	U		0.23	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,2-Dichloroethane	ND	U		0.25	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Trichloroethene	ND	U		0.13	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,2-Dichloropropane	ND	U		0.19	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Dibromomethane	ND	U		0.21	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Bromodichloromethane	ND	U		0.22	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	cis-1,3-Dichloropropene	ND	U		0.15	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Customer Sample ID: TRIP BLANK
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 237342-16
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	4-Methyl-2-pentanone (MIBK)	ND	U		0.92	5.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Toluene	ND	U		0.18	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	trans-1,3-Dichloropropene	ND	U		0.16	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,1,2-Trichloroethane	ND	U		0.24	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Tetrachloroethene	ND	U		0.18	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,3-Dichloropropane	ND	U		0.22	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	2-Hexanone	ND	U		0.99	5.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Dibromochloromethane	ND	U		0.22	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,2-Dibromoethane (EDB)	ND	U		0.33	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Chlorobenzene	ND	U		0.15	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,1,1,2-Tetrachloroethane	ND	U		0.33	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Ethylbenzene	ND	U		0.21	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	m&p-Xylenes	ND	U		0.36	2.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	o-Xylene	ND	U		0.19	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Styrene	ND	U		0.18	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Bromoform	ND	U		0.32	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Isopropylbenzene	ND	U		0.20	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Bromobenzene	ND	U		0.22	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,1,2,2-Tetrachloroethane	ND	U		0.34	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,2,3-Trichloropropane	ND	U		0.35	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	n-Propylbenzene	ND	U		0.16	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	2-Chlorotoluene	ND	U		0.16	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,3,5-Trimethylbenzene	ND	U		0.18	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	4-Chlorotoluene	ND	U		0.18	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	tert-Butylbenzene	ND	U		0.16	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,2,4-Trimethylbenzene	ND	U		0.26	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	sec-Butylbenzene	ND	U		0.19	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,3-Dichlorobenzene	ND	U		0.21	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	p-Isopropyltoluene	ND	U		0.29	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 237342

Date:06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Customer Sample ID: TRIP BLANK
Date Sampled.....: 06/08/2005
Time Sampled.....: 12:00
Sample Matrix.....: Water

Laboratory Sample ID: 237342-16
Date Received.....: 06/09/2005
Time Received.....: 13:45

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	1,4-Dichlorobenzene	ND	U		0.25	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	n-Butylbenzene	ND	U		0.35	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,2-Dichlorobenzene	ND	U		0.29	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,2-Dibromo-3-chloropropane	ND	U		0.41	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,2,4-Trichlorobenzene	ND	U		0.36	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Hexachlorobutadiene	ND	U		0.36	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	Naphthalene	ND	U		0.37	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn
	1,2,3-Trichlorobenzene	ND	U		0.43	1.0	1.00000	ug/L	152017		06/15/05 1931	jdn

* In Description = Dry Wgt.

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LABORATORY CHRONICLE

Job Number: 237342 Date: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Lab ID: 237342-1 Client ID: GP-1 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	152037	151926	06/16/2005	1020	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	152038	151926	06/16/2005	1025	
7470A	Leachable, Mercury (CVAA)	1	152447	152445-151926	06/17/2005	1403	
6010B	Leachable, Metals Analysis (ICAP)	1	152329	152037-151926	06/18/2005	2315	
7740	Leachable, Selenium (GFAA)	1	152449	152038-151926	06/20/2005	1248	
D3987	Neutral Leachate Extraction	1	151926		06/15/2005	1300	
7470	SW846 Dig. Leachates (Hg)	1	152445		06/17/2005	0930	

Lab ID: 237342-2 Client ID: GP-2 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	152037	151926	06/16/2005	1020	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	152038	151926	06/16/2005	1025	
7470A	Leachable, Mercury (CVAA)	1	152447	152445-151926	06/17/2005	1409	
6010B	Leachable, Metals Analysis (ICAP)	1	152329	152037-151926	06/18/2005	2340	
7740	Leachable, Selenium (GFAA)	1	152449	152038-151926	06/20/2005	1549	
D3987	Neutral Leachate Extraction	1	151926		06/15/2005	1300	
7470	SW846 Dig. Leachates (Hg)	1	152445		06/17/2005	0930	

Lab ID: 237342-3 Client ID: GP-3 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	152037	151926	06/16/2005	1020	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	152038	151926	06/16/2005	1025	
7470A	Leachable, Mercury (CVAA)	1	152447	152445-151926	06/17/2005	1416	
6010B	Leachable, Metals Analysis (ICAP)	1	152329	152037-151926	06/18/2005	2347	
7740	Leachable, Selenium (GFAA)	1	152449	152038-151926	06/20/2005	1359	
D3987	Neutral Leachate Extraction	1	151926		06/15/2005	1300	
7470	SW846 Dig. Leachates (Hg)	1	152445		06/17/2005	0930	

Lab ID: 237342-4 Client ID: GP-4 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	152037	151926	06/16/2005	1020	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	152038	151926	06/16/2005	1025	
7470A	Leachable, Mercury (CVAA)	1	152447	152445-151926	06/17/2005	1418	
6010B	Leachable, Metals Analysis (ICAP)	1	152329	152037-151926	06/18/2005	2353	
7740	Leachable, Selenium (GFAA)	1	152449	152038-151926	06/20/2005	1623	
D3987	Neutral Leachate Extraction	1	151926		06/15/2005	1300	
7470	SW846 Dig. Leachates (Hg)	1	152445		06/17/2005	0930	

Lab ID: 237342-5 Client ID: GP-5 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	152037	151926	06/16/2005	1020	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	152038	151926	06/16/2005	1025	
7470A	Leachable, Mercury (CVAA)	1	152447	152445-151926	06/17/2005	1420	
6010B	Leachable, Metals Analysis (ICAP)	1	152329	152037-151926	06/18/2005	2359	
7740	Leachable, Selenium (GFAA)	1	152449	152038-151926	06/20/2005	1429	
D3987	Neutral Leachate Extraction	1	151926		06/15/2005	1300	
7470	SW846 Dig. Leachates (Hg)	1	152445		06/17/2005	0930	

Lab ID: 237342-6 Client ID: GP-6 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	152037	151926	06/16/2005	1020	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	152038	151926	06/16/2005	1025	
7470A	Leachable, Mercury (CVAA)	1	152447	152445-151926	06/17/2005	1422	
6010B	Leachable, Metals Analysis (ICAP)	1	152329	152037-151926	06/19/2005	0031	
7740	Leachable, Selenium (GFAA)	1	152449	152038-151926	06/20/2005	1442	

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LABORATORY CHRONICLE

Job Number: 237342 Date: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Lab ID: 237342-6 Client ID: GP-6 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
D3987	Neutral Leachate Extraction	1	151926		06/15/2005 1300	
7470	SW846 Dig. Leachates (Hg)	1	152445		06/17/2005 0930	

Lab ID: 237342-7 Client ID: GP-7 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	152037	151926	06/16/2005 1020	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	152038	151926	06/16/2005 1025	
7470A	Leachable, Mercury (CVAA)	1	152447	152445-151926	06/17/2005 1425	
6010B	Leachable, Metals Analysis (ICAP)	1	152329	152037-151926	06/19/2005 0038	
7740	Leachable, Selenium (GFAA)	1	152449	152038-151926	06/20/2005 1635	
D3987	Neutral Leachate Extraction	1	151926		06/15/2005 1300	
7470	SW846 Dig. Leachates (Hg)	1	152445		06/17/2005 0930	

Lab ID: 237342-8 Client ID: GP-8 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	152037	151926	06/16/2005 1020	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	152038	151926	06/16/2005 1025	
7470A	Leachable, Mercury (CVAA)	1	152447	152445-151926	06/17/2005 1427	
6010B	Leachable, Metals Analysis (ICAP)	1	152329	152037-151926	06/19/2005 0044	
7740	Leachable, Selenium (GFAA)	1	152449	152038-151926	06/20/2005 1647	
D3987	Neutral Leachate Extraction	1	151926		06/15/2005 1300	
7470	SW846 Dig. Leachates (Hg)	1	152445		06/17/2005 0930	

Lab ID: 237342-9 Client ID: GP-9 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	152037	151926	06/16/2005 1020	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	152038	151926	06/16/2005 1025	
7470A	Leachable, Mercury (CVAA)	1	152447	152445-151926	06/17/2005 1429	
6010B	Leachable, Metals Analysis (ICAP)	1	152329	152037-151926	06/19/2005 0050	
7740	Leachable, Selenium (GFAA)	1	152528	152038-151926	06/21/2005 1149	
D3987	Neutral Leachate Extraction	1	151926		06/15/2005 1300	
7470	SW846 Dig. Leachates (Hg)	1	152445		06/17/2005 0930	

Lab ID: 237342-10 Client ID: GP-10 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	152037	151926	06/16/2005 1020	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	152038	151926	06/16/2005 1025	
7470A	Leachable, Mercury (CVAA)	1	152447	152445-151926	06/17/2005 1431	
6010B	Leachable, Metals Analysis (ICAP)	1	152329	152037-151926	06/19/2005 0056	
7740	Leachable, Selenium (GFAA)	1	152449	152038-151926	06/20/2005 1723	
D3987	Neutral Leachate Extraction	1	151926		06/15/2005 1300	
7470	SW846 Dig. Leachates (Hg)	1	152445		06/17/2005 0930	

Lab ID: 237342-11 Client ID: GP-11 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	152037	151926	06/16/2005 1020	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	152038	151926	06/16/2005 1025	
7470A	Leachable, Mercury (CVAA)	1	152447	152445-151926	06/17/2005 1433	
6010B	Leachable, Metals Analysis (ICAP)	1	152329	152037-151926	06/19/2005 0103	
7740	Leachable, Selenium (GFAA)	1	152449	152038-151926	06/20/2005 1735	
D3987	Neutral Leachate Extraction	1	151926		06/15/2005 1300	
7470	SW846 Dig. Leachates (Hg)	1	152445		06/17/2005 0930	

Lab ID: 237342-12 Client ID: GP-12 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	152037	151926	06/16/2005 1020	

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LABORATORY CHRONICLE

Job Number: 237342 Date: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Lab ID: 237342-12 Client ID: GP-12 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	152038	151926	06/16/2005 1025	
7470A	Leachable, Mercury (CVAA)	1	152447	152445-151926	06/17/2005 1435	
6010B	Leachable, Metals Analysis (ICAP)	1	152329	152037-151926	06/19/2005 0109	
7740	Leachable, Selenium (GFAA)	1	152449	152038-151926	06/20/2005 1747	
D3987	Neutral Leachate Extraction	1	151926		06/15/2005 1300	
7470	SW846 Dig. Leachates (Hg)	1	152445		06/17/2005 0930	

Lab ID: 237342-13 Client ID: GP-13 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	152037	151926	06/16/2005 1020	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	152038	151926	06/16/2005 1025	
7470A	Leachable, Mercury (CVAA)	1	152447	152445-151926	06/17/2005 1442	
6010B	Leachable, Metals Analysis (ICAP)	1	152329	152037-151926	06/19/2005 0115	
7740	Leachable, Selenium (GFAA)	1	152449	152038-151926	06/20/2005 1759	
D3987	Neutral Leachate Extraction	1	151926		06/15/2005 1300	
7470	SW846 Dig. Leachates (Hg)	1	152445		06/17/2005 0930	

Lab ID: 237342-14 Client ID: GP-14 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	152037	151926	06/16/2005 1020	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	152038	151926	06/16/2005 1025	
7470A	Leachable, Mercury (CVAA)	1	152447	152445-151926	06/17/2005 1444	
6010B	Leachable, Metals Analysis (ICAP)	1	152329	152037-151926	06/19/2005 0121	
7740	Leachable, Selenium (GFAA)	1	152528	152038-151926	06/21/2005 1316	
D3987	Neutral Leachate Extraction	1	151926		06/15/2005 1300	
7470	SW846 Dig. Leachates (Hg)	1	152445		06/17/2005 0930	

Lab ID: 237342-15 Client ID: GP-15 Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	152037	151926	06/16/2005 1020	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	152038	151926	06/16/2005 1025	
7470A	Leachable, Mercury (CVAA)	1	152447	152445-151926	06/17/2005 1447	
6010B	Leachable, Metals Analysis (ICAP)	1	152329	152037-151926	06/19/2005 0127	
7740	Leachable, Selenium (GFAA)	1	152449	152038-151926	06/20/2005 1836	
D3987	Neutral Leachate Extraction	1	151926		06/15/2005 1300	
7470	SW846 Dig. Leachates (Hg)	1	152445		06/17/2005 0930	

Lab ID: 237342-16 Client ID: TRIP BLANK Date Recvd: 06/09/2005 Sample Date: 06/08/2005

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
5030B	5030 10 mL Purge Prep	1	152016		06/15/2005 1931	
8260B	Volatile Organics	1	152017	152016	06/15/2005 1931	1.00000

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SURROGATE RECOVERIES REPORT

Job Number.: 237342 Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

Method.....: Volatile Organics Test Matrix...: Solid Prep Batch..: 150942
Method Code...: 8260B Batch(s).....: 152028

Lab ID	DT	Sample ID	Date	12DCED	BRFLBE	DBRFLM	TOLD8
237213--21		EB1	06/15/2005	98	88	94	89

Test	Test Description	Limits
12DCED	1,2-Dichloroethane-d4 (surr)	55 - 145
BRFLBE	4-Bromofluorobenzene (surr)	68 - 132
DBRFLM	Dibromofluoromethane (surr)	63 - 146
TOLD8	Toluene-d8 (surr)	66 - 140

Method.....: Volatile Organics Test Matrix...: Solid Prep Batch..: 151375
Method Code...: 8260B Batch(s).....: 152028

Lab ID	DT	Sample ID	Date	12DCED	BRFLBE	DBRFLM	TOLD8
237297--21		EB3	06/15/2005	106	101	108	102

Test	Test Description	Limits
12DCED	1,2-Dichloroethane-d4 (surr)	55 - 145
BRFLBE	4-Bromofluorobenzene (surr)	68 - 132
DBRFLM	Dibromofluoromethane (surr)	63 - 146
TOLD8	Toluene-d8 (surr)	66 - 140

Method.....: Volatile Organics Test Matrix...: Water Prep Batch..: 152016
Method Code...: 8260B Batch(s).....: 152017

Lab ID	DT	Sample ID	Date	12DCED	BRFLBE	DBRFLM	TOLD8
LCS			06/15/2005	96	98	91	95
MB			06/15/2005	104	93	91	93
237342- 16		TRIP BLANK	06/15/2005	101	93	92	94

Test	Test Description	Limits
12DCED	1,2-Dichloroethane-d4 (surr)	62 - 127
BRFLBE	4-Bromofluorobenzene (surr)	67 - 132
DBRFLM	Dibromofluoromethane (surr)	77 - 119
TOLD8	Toluene-d8 (surr)	81 - 126

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SURROGATE RECOVERIES REPORT

Job Number.: 237342 Report Date.: 06/22/2005

CUSTOMER: 483648 PROJECT: JOLIET STATION ATTN: Richard Gnat

Method.....: Volatile Organics Test Matrix...: Solid Prep Batch..: 152019
Method Code...: 8260B Batch(s).....: 152028

Lab ID	DT	Sample ID	Date	12DCED	BRFLBE	DBRFLM	TOLD8
CD			06/15/2005	96	101	96	101
CS			06/15/2005	92	108	86	110
MB			06/15/2005	105	101	106	102

Test	Test Description	Limits
12DCED	1,2-Dichloroethane-d4 (surr)	55 - 145
BRFLBE	4-Bromofluorobenzene (surr)	68 - 132
BRFLM	Dibromofluoromethane (surr)	63 - 146
OLD8	Toluene-d8 (surr)	66 - 140

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QUALITY CONTROL RESULTS

Job Number.: 237342

Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	V05F15DSA	152016-002		06/15/2005	1906

Test Method.....: 8260B
Method Description.: Volatile Organics

Equipment Code....: GCL16
Batch.....: 152017

Analyst...: jdn

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Dichlorodifluoromethane	ug/L	18.251		25.000	0.120 U	73	%	24-171	
Chloromethane	ug/L	18.334		25.000	0.200 U	73	%	31-182	
Vinyl chloride	ug/L	21.761		25.000	0.160 U	87	%	52-134	
Bromomethane	ug/L	35.415		25.000	0.590 U	142	%	31-188	
Chloroethane	ug/L	27.100		25.000	0.320 U	108	%	58-148	
Trichlorofluoromethane	ug/L	28.138		25.000	0.140 U	113	%	54-142	
1,1-Dichloroethene	ug/L	26.781		25.000	0.250 U	107	%	51-136	
Carbon disulfide	ug/L	20.616		25.000	0.150 U	82	%	21-111	
Acetone	ug/L	28.152		25.000	1.400 U	113	%	14-177	
Methylene chloride	ug/L	31.982		25.000	0.240 U	128	%	64-127	*
trans-1,2-Dichloroethene	ug/L	22.555		25.000	0.290 U	90	%	62-138	
Methyl-tert-butyl-ether (MTBE)	ug/L	25.440		25.000	0.210 U	102	%	55-142	
1,1-Dichloroethane	ug/L	21.788		25.000	0.150 U	87	%	70-124	
2,2-Dichloropropane	ug/L	29.071		25.000	0.170 U	116	%	68-127	
cis-1,2-Dichloroethene	ug/L	21.029		25.000	0.200 U	84	%	76-125	
2-Butanone (MEK)	ug/L	17.296		25.000	1.000 U	69	%	29-139	
Bromochloromethane	ug/L	23.254		25.000	0.270 U	93	%	57-116	
Chloroform	ug/L	23.096		25.000	0.140 U	92	%	75-122	
1,1,1-Trichloroethane	ug/L	28.205		25.000	0.170 U	113	%	70-127	
1,1-Dichloropropene	ug/L	22.232		25.000	0.380 U	89	%	70-125	
Carbon tetrachloride	ug/L	28.254		25.000	0.340 U	113	%	64-132	
Benzene	ug/L	21.374		25.000	0.230 U	85	%	75-122	
1,2-Dichloroethane	ug/L	23.437		25.000	0.250 U	94	%	67-120	
Trichloroethene	ug/L	22.597		25.000	0.130 U	90	%	75-124	
1,2-Dichloropropane	ug/L	20.211		25.000	0.190 U	81	%	76-116	
Dibromomethane	ug/L	21.673		25.000	0.210 U	87	%	68-116	
Bromodichloromethane	ug/L	27.812		25.000	0.220 U	111	%	75-125	
cis-1,3-Dichloropropene	ug/L	23.982		26.000	0.150 U	92	%	72-115	
4-Methyl-2-pentanone (MIBK)	ug/L	18.639		25.000	0.920 U	75	%	39-137	
Toluene	ug/L	21.674		25.000	0.180 U	87	%	77-120	
trans-1,3-Dichloropropene	ug/L	27.054		24.000	0.160 U	113	%	68-119	
1,1,2-Trichloroethane	ug/L	20.105		25.000	0.240 U	80	%	63-127	
Tetrachloroethene	ug/L	23.195		25.000	0.180 U	93	%	70-125	
1,3-Dichloropropane	ug/L	21.472		25.000	0.220 U	86	%	72-118	
2-Hexanone	ug/L	20.179		25.000	0.990 U	81	%	36-144	
Dibromochloromethane	ug/L	25.295		25.000	0.220 U	101	%	73-116	
1,2-Dibromoethane (EDB)	ug/L	21.863		25.000	0.330 U	87	%	62-123	
Chlorobenzene	ug/L	21.627		25.000	0.150 U	87	%	76-116	
1,1,1,2-Tetrachloroethane	ug/L	25.552		25.000	0.330 U	102	%	77-120	
Ethylbenzene	ug/L	22.116		25.000	0.210 U	88	%	75-125	
m&p-Xylenes	ug/L	46.234		50.000	0.360 U	92	%	75-123	
o-Xylene	ug/L	23.281		25.000	0.190 U	93	%	76-121	
Styrene	ug/L	22.941		25.000	0.180 U	92	%	77-128	
Bromoform	ug/L	25.483		25.000	0.320 U	102	%	65-115	
Isopropylbenzene	ug/L	20.701		25.000	0.200 U	83	%	64-119	
Bromobenzene	ug/L	21.725		25.000	0.220 U	87	%	76-118	
1,1,2,2-Tetrachloroethane	ug/L	20.132		25.000	0.340 U	81	%	61-122	
1,2,3-Trichloropropane	ug/L	21.577		25.000	0.350 U	86	%	62-124	
n-Propylbenzene	ug/L	22.410		25.000	0.160 U	90	%	69-132	
2-Chlorotoluene	ug/L	22.122		25.000	0.160 U	88	%	70-127	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 237342 Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	V05F15DSA	152016-002		06/15/2005	1906

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
1,3,5-Trimethylbenzene	ug/L	23.180		25.000	0.180 U	93	%	70-132	
4-Chlorotoluene	ug/L	19.793		25.000	0.180 U	79	%	70-126	
tert-Butylbenzene	ug/L	22.588		25.000	0.160 U	90	%	70-133	
1,2,4-Trimethylbenzene	ug/L	21.944		25.000	0.260 U	88	%	71-131	
sec-Butylbenzene	ug/L	22.121		25.000	0.190 U	88	%	70-134	
1,3-Dichlorobenzene	ug/L	21.437		25.000	0.210 U	86	%	71-120	
p-Isopropyltoluene	ug/L	22.461		25.000	0.290 U	90	%	66-130	
1,4-Dichlorobenzene	ug/L	21.174		25.000	0.250 U	85	%	70-118	
n-Butylbenzene	ug/L	22.847		25.000	0.350 U	91	%	64-142	
1,2-Dichlorobenzene	ug/L	21.418		25.000	0.290 U	86	%	72-118	
1,2-Dibromo-3-chloropropane	ug/L	23.330		25.000	0.410 U	93	%	57-119	
1,2,4-Trichlorobenzene	ug/L	22.784		25.000	0.360 U	91	%	60-132	
Hexachlorobutadiene	ug/L	26.402		25.000	0.360 U	106	%	63-145	
Naphthalene	ug/L	19.987		25.000	0.370 U	80	%	57-128	
1,2,3-Trichlorobenzene	ug/L	25.224		25.000	0.430 U	101	%	66-124	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_19546

QUALITY CONTROL RESULTS

Job Number.: 237342 — Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. — PROJECT: JOLIET STATION — ATTN: Richard Gnat

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank		152016-001		06/15/2005	1842

Test Method.....: 8260B — Equipment Code....: GCL16 — Analyst...: jdn
Method Description.: Volatile Organics — Batch.....: 152017

Parameter/Test Description	Units	QC Result		QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Dichlorodifluoromethane	ug/L	0.120	U							
Chloromethane	ug/L	0.200	U							
Vinyl chloride	ug/L	0.160	U							
Bromomethane	ug/L	0.590	U							
Chloroethane	ug/L	0.320	U							
Trichlorofluoromethane	ug/L	0.140	U							
1,1-Dichloroethene	ug/L	0.250	U							
Carbon disulfide	ug/L	0.150	U							
Acetone	ug/L	1.400	U							
Methylene chloride	ug/L	0.240	U							
trans-1,2-Dichloroethene	ug/L	0.290	U							
Methyl-tert-butyl-ether (MTBE)	ug/L	0.210	U							
1,1-Dichloroethane	ug/L	0.150	U							
2,2-Dichloropropane	ug/L	0.170	U							
cis-1,2-Dichloroethene	ug/L	0.200	U							
2-Butanone (MEK)	ug/L	1.000	U							
Bromochloromethane	ug/L	0.270	U							
Chloroform	ug/L	0.140	U							
1,1,1-Trichloroethane	ug/L	0.170	U							
1,1-Dichloropropene	ug/L	0.380	U							
Carbon tetrachloride	ug/L	0.340	U							
Benzene	ug/L	0.230	U							
1,2-Dichloroethane	ug/L	0.250	U							
Trichloroethene	ug/L	0.130	U							
1,2-Dichloropropane	ug/L	0.190	U							
Dibromomethane	ug/L	0.210	U							
Bromodichloromethane	ug/L	0.220	U							
cis-1,3-Dichloropropene	ug/L	0.150	U							
4-Methyl-2-pentanone (MIBK)	ug/L	0.920	U							
Toluene	ug/L	0.180	U							
trans-1,3-Dichloropropene	ug/L	0.160	U							
1,1,2-Trichloroethane	ug/L	0.240	U							
Tetrachloroethene	ug/L	0.180	U							
1,3-Dichloropropane	ug/L	0.220	U							
2-Hexanone	ug/L	0.990	U							
Dibromochloromethane	ug/L	0.220	U							
1,2-Dibromoethane (EDB)	ug/L	0.330	U							
Chlorobenzene	ug/L	0.150	U							
1,1,1,2-Tetrachloroethane	ug/L	0.330	U							
Ethylbenzene	ug/L	0.210	U							
m&p-Xylenes	ug/L	0.360	U							
o-Xylene	ug/L	0.190	U							
Styrene	ug/L	0.180	U							
Bromoform	ug/L	0.320	U							
Isopropylbenzene	ug/L	0.200	U							
Bromobenzene	ug/L	0.220	U							
1,1,2,2-Tetrachloroethane	ug/L	0.340	U							
1,2,3-Trichloropropane	ug/L	0.350	U							
n-Propylbenzene	ug/L	0.160	U							
2-Chlorotoluene	ug/L	0.160	U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_19547

QUALITY CONTROL RESULTS

Job Number.: 237342 — Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. — PROJECT: JOLIET STATION — ATTN: Richard Gnat

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank		152016-001		06/15/2005	1842

Parameter/Test Description	Units	QC Result		QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
1,3,5-Trimethylbenzene	ug/L	0.180	U							
4-Chlorotoluene	ug/L	0.180	U							
tert-Butylbenzene	ug/L	0.160	U							
1,2,4-Trimethylbenzene	ug/L	0.260	U							
sec-Butylbenzene	ug/L	0.190	U							
1,3-Dichlorobenzene	ug/L	0.210	U							
p-Isopropyltoluene	ug/L	0.290	U							
1,4-Dichlorobenzene	ug/L	0.250	U							
n-Butylbenzene	ug/L	0.350	U							
1,2-Dichlorobenzene	ug/L	0.290	U							
1,2-Dibromo-3-chloropropane	ug/L	0.410	U							
1,2,4-Trichlorobenzene	ug/L	0.360	U							
Hexachlorobutadiene	ug/L	0.360	U							
Naphthalene	ug/L	0.370	U							
1,2,3-Trichlorobenzene	ug/L	0.430	U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 237342 Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB1	Extraction Blank 1	7213	150942-009		06/15/2005	1729

Test Method.....: 8260B Equipment Code....: GCL9 Analyst...: jdn
Method Description.: Volatile Organics Batch.....: 152028

Parameter/Test Description	Units	QC Result		QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Dichlorodifluoromethane, Solid	ug/Kg	0.860	U							
Chloromethane, Solid	ug/Kg	0.720	U							
Vinyl chloride, Solid	ug/Kg	0.700	U							
Bromomethane, Solid	ug/Kg	2.700	U							
Chloroethane, Solid	ug/Kg	3.100	U							
Trichlorofluoromethane, Solid	ug/Kg	0.950	U							
1,1-Dichloroethene, Solid	ug/Kg	1.300	U							
Carbon disulfide, Solid	ug/Kg	0.690	U							
Acetone, Solid	ug/Kg	3.200	U							
Methylene chloride, Solid	ug/Kg	1.600	U							
trans-1,2-Dichloroethene, Solid	ug/Kg	0.770	U							
Methyl-tert-butyl-ether (MTBE), Solid	ug/Kg	0.550	U							
1,1-Dichloroethane, Solid	ug/Kg	0.590	U							
2,2-Dichloropropane, Solid	ug/Kg	1.400	U							
cis-1,2-Dichloroethene, Solid	ug/Kg	0.560	U							
2-Butanone (MEK), Solid	ug/Kg	2.200	U							
Bromochloromethane, Solid	ug/Kg	0.750	U							
Chloroform, Solid	ug/Kg	0.680	U							
1,1,1-Trichloroethane, Solid	ug/Kg	0.720	U							
1,1-Dichloropropene, Solid	ug/Kg	0.720	U							
Carbon tetrachloride, Solid	ug/Kg	0.730	U							
Benzene, Solid	ug/Kg	0.690	U							
1,2-Dichloroethane, Solid	ug/Kg	0.550	U							
Trichloroethene, Solid	ug/Kg	0.660	U							
1,2-Dichloropropane, Solid	ug/Kg	0.550	U							
Dibromomethane, Solid	ug/Kg	0.800	U							
Bromodichloromethane, Solid	ug/Kg	0.570	U							
cis-1,3-Dichloropropene, Solid	ug/Kg	0.580	U							
4-Methyl-2-pentanone (MIBK), Solid	ug/Kg	0.620	U							
Toluene, Solid	ug/Kg	1.700	U							
trans-1,3-Dichloropropene, Solid	ug/Kg	0.600	U							
1,1,2-Trichloroethane, Solid	ug/Kg	0.820	U							
Tetrachloroethene, Solid	ug/Kg	0.900	U							
1,3-Dichloropropane, Solid	ug/Kg	0.610	U							
2-Hexanone, Solid	ug/Kg	1.200	U							
Dibromochloromethane, Solid	ug/Kg	0.650	U							
1,2-Dibromoethane (EDB), Solid	ug/Kg	0.640	U							
Chlorobenzene, Solid	ug/Kg	0.560	U							
1,1,1,2-Tetrachloroethane, Solid	ug/Kg	0.600	U							
Ethylbenzene, Solid	ug/Kg	0.640	U							
m&p-Xylenes, Solid	ug/Kg	1.200	U							
o-Xylene, Solid	ug/Kg	0.620	U							
Styrene, Solid	ug/Kg	0.620	U							
Bromoform, Solid	ug/Kg	0.740	U							
Isopropylbenzene, Solid	ug/Kg	0.680	U							
Bromobenzene, Solid	ug/Kg	0.450	U							
1,1,2,2-Tetrachloroethane, Solid	ug/Kg	0.620	U							
1,2,3-Trichloropropane, Solid	ug/Kg	1.200	U							
n-Propylbenzene, Solid	ug/Kg	0.740	U							
2-Chlorotoluene, Solid	ug/Kg	0.660	U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_19549

QUALITY CONTROL RESULTS

Job Number.: 237342

Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB1	Extraction Blank 1	7213	150942-009		06/15/2005	1729

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
1,3,5-Trimethylbenzene, Solid	ug/Kg	0.810 U							
4-Chlorotoluene, Solid	ug/Kg	0.690 U							
tert-Butylbenzene, Solid	ug/Kg	0.780 U							
1,2,4-Trimethylbenzene, Solid	ug/Kg	0.850 U							
sec-Butylbenzene, Solid	ug/Kg	0.840 U							
1,3-Dichlorobenzene, Solid	ug/Kg	0.720 U							
p-Isopropyltoluene, Solid	ug/Kg	0.820 U							
1,4-Dichlorobenzene, Solid	ug/Kg	0.700 U							
n-Butylbenzene, Solid	ug/Kg	1.100 U							
1,2-Dichlorobenzene, Solid	ug/Kg	0.720 U							
1,2-Dibromo-3-chloropropane, Solid	ug/Kg	1.500 U							
1,2,4-Trichlorobenzene, Solid	ug/Kg	1.200 U							
Hexachlorobutadiene, Solid	ug/Kg	2.600 U							
Naphthalene, Solid	ug/Kg	1.000 U							
1,2,3-Trichlorobenzene, Solid	ug/Kg	1.100 U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_19550

QUALITY CONTROL RESULTS

Job Number.: 237342

Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB3	DI Blank	7297	151375-009		06/15/2005	1757

Test Method.....: 8260B
Method Description.: Volatile Organics

Equipment Code....: GCL9
Batch.....: 152028

Analyst...: jdn

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Dichlorodifluoromethane, Solid	ug/Kg	0.860	U						
Chloromethane, Solid	ug/Kg	0.720	U						
Vinyl chloride, Solid	ug/Kg	0.700	U						
Bromomethane, Solid	ug/Kg	2.700	U						
Chloroethane, Solid	ug/Kg	3.100	U						
Trichlorofluoromethane, Solid	ug/Kg	0.950	U						
1,1-Dichloroethene, Solid	ug/Kg	1.300	U						
Carbon disulfide, Solid	ug/Kg	0.690	U						
Acetone, Solid	ug/Kg	3.200	U						
Methylene chloride, Solid	ug/Kg	1.600	U						
trans-1,2-Dichloroethene, Solid	ug/Kg	0.770	U						
Methyl-tert-butyl-ether (MTBE), Solid	ug/Kg	0.550	U						
1,1-Dichloroethane, Solid	ug/Kg	0.590	U						
2,2-Dichloropropane, Solid	ug/Kg	1.400	U						
cis-1,2-Dichloroethene, Solid	ug/Kg	0.560	U						
2-Butanone (MEK), Solid	ug/Kg	2.200	U						
Bromochloromethane, Solid	ug/Kg	0.750	U						
Chloroform, Solid	ug/Kg	0.680	U						
1,1,1-Trichloroethane, Solid	ug/Kg	0.720	U						
1,1-Dichloropropene, Solid	ug/Kg	0.720	U						
Carbon tetrachloride, Solid	ug/Kg	0.730	U						
Benzene, Solid	ug/Kg	0.690	U						
1,2-Dichloroethane, Solid	ug/Kg	0.550	U						
Trichloroethene, Solid	ug/Kg	0.660	U						
1,2-Dichloropropane, Solid	ug/Kg	0.550	U						
Dibromomethane, Solid	ug/Kg	0.800	U						
Bromodichloromethane, Solid	ug/Kg	0.570	U						
cis-1,3-Dichloropropene, Solid	ug/Kg	0.580	U						
4-Methyl-2-pentanone (MIBK), Solid	ug/Kg	0.620	U						
Toluene, Solid	ug/Kg	1.700	U						
trans-1,3-Dichloropropene, Solid	ug/Kg	0.600	U						
1,1,2-Trichloroethane, Solid	ug/Kg	0.820	U						
Tetrachloroethene, Solid	ug/Kg	0.900	U						
1,3-Dichloropropane, Solid	ug/Kg	0.610	U						
2-Hexanone, Solid	ug/Kg	1.200	U						
Dibromochloromethane, Solid	ug/Kg	0.650	U						
1,2-Dibromoethane (EDB), Solid	ug/Kg	0.640	U						
Chlorobenzene, Solid	ug/Kg	0.560	U						
1,1,1,2-Tetrachloroethane, Solid	ug/Kg	0.600	U						
Ethylbenzene, Solid	ug/Kg	0.640	U						
m&p-Xylenes, Solid	ug/Kg	1.200	U						
o-Xylene, Solid	ug/Kg	0.620	U						
Styrene, Solid	ug/Kg	0.620	U						
Bromoform, Solid	ug/Kg	0.740	U						
Isopropylbenzene, Solid	ug/Kg	0.680	U						
Bromobenzene, Solid	ug/Kg	0.450	U						
1,1,2,2-Tetrachloroethane, Solid	ug/Kg	0.620	U						
1,2,3-Trichloropropane, Solid	ug/Kg	1.200	U						
n-Propylbenzene, Solid	ug/Kg	0.740	U						
2-Chlorotoluene, Solid	ug/Kg	0.660	U						

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_19551

QUALITY CONTROL RESULTS

Job Number.: 237342 Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
FB3	DI Blank	7297	151375-009		06/15/2005	1757

Parameter/Test Description	Units	QC Result		QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
1,3,5-Trimethylbenzene, Solid	ug/Kg	0.810	U							
4-Chlorotoluene, Solid	ug/Kg	0.690	U							
tert-Butylbenzene, Solid	ug/Kg	0.780	U							
1,2,4-Trimethylbenzene, Solid	ug/Kg	0.850	U							
sec-Butylbenzene, Solid	ug/Kg	0.840	U							
1,3-Dichlorobenzene, Solid	ug/Kg	0.720	U							
p-Isopropyltoluene, Solid	ug/Kg	0.820	U							
1,4-Dichlorobenzene, Solid	ug/Kg	0.700	U							
n-Butylbenzene, Solid	ug/Kg	1.100	U							
1,2-Dichlorobenzene, Solid	ug/Kg	0.720	U							
1,2-Dibromo-3-chloropropane, Solid	ug/Kg	1.500	U							
1,2,4-Trichlorobenzene, Solid	ug/Kg	1.200	U							
Hexachlorobutadiene, Solid	ug/Kg	2.600	U							
Naphthalene, Solid	ug/Kg	1.000	U							
1,2,3-Trichlorobenzene, Solid	ug/Kg	1.100	U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 237342 Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date Time
LCD	Laboratory Control Sample Duplicate	V05F15DSB	152019-012		06/15/2005 2206

Test Method.....: 8260B Equipment Code....: GCL9 Analyst...: jdn
Method Description.: Volatile Organics Batch.....: 152028

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Dichlorodifluoromethane, Solid	ug/Kg	34.532	40.276	50.000	0.860 U	69	%	39-159	
						15	R	20	
Chloromethane, Solid	ug/Kg	40.905	48.332	50.000	0.720 U	82	%	42-180	
						17	R	20	
Vinyl chloride, Solid	ug/Kg	35.546	40.869	50.000	0.700 U	71	%	49-144	
						14	R	20	
Bromomethane, Solid	ug/Kg	40.817	52.399	50.000	2.700 U	82	%	39-165	
						25	R	20	*
Chloroethane, Solid	ug/Kg	38.298	44.620	50.000	3.100 U	77	%	56-145	
						15	R	20	
Trichlorofluoromethane, Solid	ug/Kg	45.654	44.333	50.000	0.950 U	91	%	57-136	
						3	R	20	
1,1-Dichloroethene, Solid	ug/Kg	34.564	32.479	50.000	1.300 U	69	%	47-141	
						6	R	20	
Carbon disulfide, Solid	ug/Kg	32.259	35.670	50.000	0.690 U	65	%	22-118	
						10	R	20	
Acetone, Solid	ug/Kg	24.528	36.958	50.000	6.669	49	%	50-176	*
						40	R	20	*
Methylene chloride, Solid	ug/Kg	41.083	45.673	50.000	6.335	82	%	67-133	
						11	R	20	
trans-1,2-Dichloroethene, Solid	ug/Kg	37.932	36.394	50.000	0.770 U	76	%	62-138	
						4	R	20	
Methyl-tert-butyl-ether (MTBE), Solid	ug/Kg	50.322	49.655	50.000	0.550 U	101	%	69-155	
						1	R	20	
1,1-Dichloroethane, Solid	ug/Kg	36.272	34.241	50.000	0.590 U	73	%	65-134	
						6	R	20	
2,2-Dichloropropane, Solid	ug/Kg	40.060	41.348	50.000	1.400 U	80	%	70-134	
						3	R	20	
cis-1,2-Dichloroethene, Solid	ug/Kg	37.388	35.738	50.000	0.560 U	75	%	74-130	
						5	R	20	
2-Butanone (MEK), Solid	ug/Kg	28.731	37.499	50.000	2.200 U	57	%	41-166	
						26	R	30	
Bromochloromethane, Solid	ug/Kg	42.391	43.888	50.000	0.750 U	85	%	61-122	
						3	R	20	
Chloroform, Solid	ug/Kg	39.681	38.377	50.000	0.680 U	79	%	73-135	
						3	R	20	
1,1,1-Trichloroethane, Solid	ug/Kg	43.201	43.895	50.000	0.720 U	86	%	71-137	
						2	R	20	
1,1-Dichloropropene, Solid	ug/Kg	42.151	43.883	50.000	0.720 U	84	%	68-134	
						4	R	20	
Carbon tetrachloride, Solid	ug/Kg	44.091	46.551	50.000	0.730 U	88	%	67-130	
						5	R	20	
Benzene, Solid	ug/Kg	43.277	45.498	50.000	0.690 U	87	%	72-125	
						5	R	20	
1,2-Dichloroethane, Solid	ug/Kg	39.705	39.449	50.000	0.550 U	79	%	72-134	
						1	R	20	
Trichloroethene, Solid	ug/Kg	44.268	46.217	50.000	0.660 U	89	%	74-124	
						4	R	20	
1,2-Dichloropropane, Solid	ug/Kg	44.087	45.856	50.000	0.550 U	88	%	76-124	
						4	R	20	

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_19553

QUALITY CONTROL RESULTS

Job Number.: 237342 Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCD	Laboratory Control Sample Duplicate	V05F15DSB	152019-012		06/15/2005	2206

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Dibromomethane, Solid	ug/Kg	39.436	40.046	50.000	0.800 U	79.2	% R	75-122 20	
Bromodichloromethane, Solid	ug/Kg	44.716	46.538	50.000	0.570 U	89.4	% R	82-131 20	
cis-1,3-Dichloropropene, Solid	ug/Kg	41.157	43.991	52.000	0.580 U	79.7	% R	78-118 20	
4-Methyl-2-pentanone (MIBK), Solid	ug/Kg	31.973	45.245	50.000	0.620 U	64.34	% R	57-144 20	*
Toluene, Solid	ug/Kg	40.668	45.357	50.000	1.700 U	81.11	% R	73-121 20	
trans-1,3-Dichloropropene, Solid	ug/Kg	36.167	40.160	48.000	0.600 U	75.10	% R	77-127 20	*
1,1,2-Trichloroethane, Solid	ug/Kg	40.782	43.752	50.000	0.820 U	82.7	% R	79-133 20	
Tetrachloroethene, Solid	ug/Kg	43.804	45.406	50.000	0.900 U	88.4	% R	69-123 20	
1,3-Dichloropropane, Solid	ug/Kg	43.283	44.532	50.000	0.610 U	87.3	% R	81-123 20	
2-Hexanone, Solid	ug/Kg	34.616	41.765	50.000	1.200 U	69.19	% R	57-148 20	
Dibromochloromethane, Solid	ug/Kg	43.091	43.642	50.000	0.650 U	86.1	% R	78-125 20	
1,2-Dibromoethane (EDB), Solid	ug/Kg	40.706	45.476	50.000	0.640 U	81.11	% R	77-123 20	
Chlorobenzene, Solid	ug/Kg	40.874	43.422	50.000	0.560 U	82.6	% R	77-115 20	
1,1,1,2-Tetrachloroethane, Solid	ug/Kg	43.308	43.688	50.000	0.600 U	87.1	% R	78-126 20	
Ethylbenzene, Solid	ug/Kg	41.639	45.371	50.000	0.640 U	83.9	% R	73-121 20	
m&p-Xylenes, Solid	ug/Kg	80.066	89.630	100.000	1.200 U	80.11	% R	73-122 20	
o-Xylene, Solid	ug/Kg	39.534	44.142	50.000	0.620 U	79.11	% R	75-120 20	
Styrene, Solid	ug/Kg	39.958	43.882	50.000	0.620 U	80.9	% R	76-124 20	
Bromoform, Solid	ug/Kg	40.502	42.688	50.000	0.740 U	81.5	% R	72-132 20	
Isopropylbenzene, Solid	ug/Kg	37.403	39.830	50.000	0.680 U	75.6	% R	59-114 20	
Bromobenzene, Solid	ug/Kg	41.234	42.921	50.000	0.450 U	82.4	% R	75-118 20	
1,1,2,2-Tetrachloroethane, Solid	ug/Kg	40.220	42.816	50.000	0.620 U	80.6	% R	73-125 20	
1,2,3-Trichloropropane, Solid	ug/Kg	39.532	41.534	50.000	1.200 U	79.5	% R	75-126 20	
n-Propylbenzene, Solid	ug/Kg	39.050	42.328	50.000	0.740 U	78.8	% R	66-126 20	
2-Chlorotoluene, Solid	ug/Kg	39.491	43.053	50.000	0.660 U	79.9	% R	68-126 20	
1,3,5-Trimethylbenzene, Solid	ug/Kg	39.872	42.850	50.000	0.810 U	80.7	% R	68-125 20	
4-Chlorotoluene, Solid	ug/Kg	37.998	40.917	50.000	0.690 U	76.7	% R	70-123 20	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_19554

QUALITY CONTROL RESULTS

Job Number.: 237342 Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCD	Laboratory Control Sample Duplicate	V05F15DSB	152019-012		06/15/2005	2206

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
tert-Butylbenzene, Solid	ug/Kg	40.529	43.007	50.000	0.780 U	81 6	% R	67-124 20	
1,2,4-Trimethylbenzene, Solid	ug/Kg	39.669	42.571	50.000	0.850 U	79 7	% R	70-126 20	
sec-Butylbenzene, Solid	ug/Kg	39.713	42.573	50.000	0.840 U	79 7	% R	65-129 20	
1,3-Dichlorobenzene, Solid	ug/Kg	38.164	41.368	50.000	0.720 U	76 8	% R	71-120 20	
p-Isopropyltoluene, Solid	ug/Kg	37.898	41.517	50.000	0.820 U	76 9	% R	65-121 20	
1,4-Dichlorobenzene, Solid	ug/Kg	36.649	40.451	50.000	0.700 U	73 10	% R	72-120 20	
n-Butylbenzene, Solid	ug/Kg	36.196	41.318	50.000	1.100 U	72 13	% R	64-133 20	
1,2-Dichlorobenzene, Solid	ug/Kg	38.315	40.834	50.000	0.720 U	77 6	% R	75-117 20	
1,2-Dibromo-3-chloropropane, Solid	ug/Kg	36.550	39.268	50.000	1.500 U	73 7	% R	61-133 20	
1,2,4-Trichlorobenzene, Solid	ug/Kg	33.749	37.746	50.000	1.200 U	67 11	% R	61-132 20	
Hexachlorobutadiene, Solid	ug/Kg	40.055	43.110	50.000	2.600 U	80 7	% R	50-154 20	
Naphthalene, Solid	ug/Kg	19.498	16.655	50.000	1.000 U	39 16	% R	54-133 20	*
1,2,3-Trichlorobenzene, Solid	ug/Kg	34.347	36.299	50.000	1.100 U	69 6	% R	65-127 20	

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 237342 Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	V05F15DSB	152019-012		06/15/2005	1416

Test Method.....: 8260B Equipment Code....: GCL9 Analyst...: jdn
Method Description.: Volatile Organics Batch.....: 152028

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
ichlorodifluoromethane, Solid	ug/Kg	40.276		50.000	0.860 U	81	%	39-159	
hloromethane, Solid	ug/Kg	48.332		50.000	0.720 U	97	%	42-180	
Vinyl chloride, Solid	ug/Kg	40.869		50.000	0.700 U	82	%	49-144	
Bromomethane, Solid	ug/Kg	52.399		50.000	2.700 U	105	%	39-165	
hloroethane, Solid	ug/Kg	44.620		50.000	3.100 U	89	%	56-145	
richlorofluoromethane, Solid	ug/Kg	44.333		50.000	0.950 U	89	%	57-136	
,1-Dichloroethene, Solid	ug/Kg	32.479		50.000	1.300 U	65	%	47-141	
Carbon disulfide, Solid	ug/Kg	35.670		50.000	0.690 U	71	%	22-118	
Acetone, Solid	ug/Kg	36.958		50.000	6.669	74	%	50-176	
lethylene chloride, Solid	ug/Kg	45.673		50.000	6.335	91	%	67-133	
rans-1,2-Dichloroethene, Solid	ug/Kg	36.394		50.000	0.770 U	73	%	62-138	
Methyl-tert-butyl-ether (MTBE), Solid	ug/Kg	49.655		50.000	0.550 U	99	%	69-155	
1,1-Dichloroethane, Solid	ug/Kg	34.241		50.000	0.590 U	68	%	65-134	
2,2-Dichloropropane, Solid	ug/Kg	41.348		50.000	1.400 U	83	%	70-134	
is-1,2-Dichloroethene, Solid	ug/Kg	35.738		50.000	0.560 U	71	%	74-130	*
2-Butanone (MEK), Solid	ug/Kg	37.499		50.000	2.200 U	75	%	41-166	
Bromochloromethane, Solid	ug/Kg	43.888		50.000	0.750 U	88	%	61-122	
Chloroform, Solid	ug/Kg	38.377		50.000	0.680 U	77	%	73-135	
,1,1-Trichloroethane, Solid	ug/Kg	43.895		50.000	0.720 U	88	%	71-137	
,1-Dichloropropene, Solid	ug/Kg	43.883		50.000	0.720 U	88	%	68-134	
Carbon tetrachloride, Solid	ug/Kg	46.551		50.000	0.730 U	93	%	67-130	
Benzene, Solid	ug/Kg	45.498		50.000	0.690 U	91	%	72-125	
1,2-Dichloroethane, Solid	ug/Kg	39.449		50.000	0.550 U	79	%	72-134	
richloroethene, Solid	ug/Kg	46.217		50.000	0.660 U	92	%	74-124	
,2-Dichloropropane, Solid	ug/Kg	45.856		50.000	0.550 U	92	%	76-124	
Dibromomethane, Solid	ug/Kg	40.046		50.000	0.800 U	80	%	75-122	
Bromodichloromethane, Solid	ug/Kg	46.538		50.000	0.570 U	93	%	82-131	
cis-1,3-Dichloropropene, Solid	ug/Kg	43.991		52.000	0.580 U	85	%	78-118	
4-Methyl-2-pentanone (MIBK), Solid	ug/Kg	45.245		50.000	0.620 U	90	%	57-144	
Toluene, Solid	ug/Kg	45.357		50.000	1.700 U	91	%	73-121	
trans-1,3-Dichloropropene, Solid	ug/Kg	40.160		48.000	0.600 U	84	%	77-127	
1,1,2-Trichloroethane, Solid	ug/Kg	43.752		50.000	0.820 U	88	%	79-133	
Tetrachloroethene, Solid	ug/Kg	45.406		50.000	0.900 U	91	%	69-123	
1,3-Dichloropropane, Solid	ug/Kg	44.532		50.000	0.610 U	89	%	81-123	
2-Hexanone, Solid	ug/Kg	41.765		50.000	1.200 U	84	%	57-148	
Dibromochloromethane, Solid	ug/Kg	43.642		50.000	0.650 U	87	%	78-125	
1,2-Dibromoethane (EDB), Solid	ug/Kg	45.476		50.000	0.640 U	91	%	77-123	
Chlorobenzene, Solid	ug/Kg	43.422		50.000	0.560 U	87	%	77-115	
1,1,1,2-Tetrachloroethane, Solid	ug/Kg	43.688		50.000	0.600 U	87	%	78-126	
Ethylbenzene, Solid	ug/Kg	45.371		50.000	0.640 U	91	%	73-121	
m&p-Xylenes, Solid	ug/Kg	89.630		100.000	1.200 U	90	%	73-122	
o-Xylene, Solid	ug/Kg	44.142		50.000	0.620 U	88	%	75-120	
Styrene, Solid	ug/Kg	43.882		50.000	0.620 U	88	%	76-124	
Bromoform, Solid	ug/Kg	42.688		50.000	0.740 U	85	%	72-132	
Isopropylbenzene, Solid	ug/Kg	39.830		50.000	0.680 U	80	%	59-114	
Bromobenzene, Solid	ug/Kg	42.921		50.000	0.450 U	86	%	75-118	
1,1,2,2-Tetrachloroethane, Solid	ug/Kg	42.816		50.000	0.620 U	86	%	73-125	
1,2,3-Trichloropropane, Solid	ug/Kg	41.534		50.000	1.200 U	83	%	75-126	
n-Propylbenzene, Solid	ug/Kg	42.328		50.000	0.740 U	85	%	66-126	
2-Chlorotoluene, Solid	ug/Kg	43.053		50.000	0.660 U	86	%	68-126	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_19556

QUALITY CONTROL RESULTS

Job Number.: 237342

Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	V05F15DSB	152019-012		06/15/2005	1416

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
1,3,5-Trimethylbenzene, Solid	ug/Kg	42.850		50.000	0.810 U	86	%	68-125	
4-Chlorotoluene, Solid	ug/Kg	40.917		50.000	0.690 U	82	%	70-123	
tert-Butylbenzene, Solid	ug/Kg	43.007		50.000	0.780 U	86	%	67-124	
1,2,4-Trimethylbenzene, Solid	ug/Kg	42.571		50.000	0.850 U	85	%	70-126	
sec-Butylbenzene, Solid	ug/Kg	42.573		50.000	0.840 U	85	%	65-129	
1,3-Dichlorobenzene, Solid	ug/Kg	41.368		50.000	0.720 U	83	%	71-120	
p-Isopropyltoluene, Solid	ug/Kg	41.517		50.000	0.820 U	83	%	65-121	
1,4-Dichlorobenzene, Solid	ug/Kg	40.451		50.000	0.700 U	81	%	72-120	
n-Butylbenzene, Solid	ug/Kg	41.318		50.000	1.100 U	83	%	64-133	
1,2-Dichlorobenzene, Solid	ug/Kg	40.834		50.000	0.720 U	82	%	75-117	
1,2-Dibromo-3-chloropropane, Solid	ug/Kg	39.268		50.000	1.500 U	79	%	61-133	
1,2,4-Trichlorobenzene, Solid	ug/Kg	37.746		50.000	1.200 U	75	%	61-132	
Hexachlorobutadiene, Solid	ug/Kg	43.110		50.000	2.600 U	86	%	50-154	
Naphthalene, Solid	ug/Kg	16.655		50.000	1.000 U	33	%	54-133	*
1,2,3-Trichlorobenzene, Solid	ug/Kg	36.299		50.000	1.100 U	73	%	65-127	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 237342 Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank		152019-011		06/15/2005	1348

Test Method.....: 8260B Equipment Code....: GCL9 Analyst...: jdn
Method Description.: Volatile Organics Batch.....: 152028

Parameter/Test Description	Units	QC Result		QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Dichlorodifluoromethane, Solid	ug/Kg	0.860	U							
Chloromethane, Solid	ug/Kg	0.720	U							
Vinyl chloride, Solid	ug/Kg	0.700	U							
Bromomethane, Solid	ug/Kg	2.700	U							
Chloroethane, Solid	ug/Kg	3.100	U							
Trichlorofluoromethane, Solid	ug/Kg	0.950	U							
1,1-Dichloroethene, Solid	ug/Kg	1.300	U							
Carbon disulfide, Solid	ug/Kg	0.690	U							
Acetone, Solid	ug/Kg	6.669								B
Methylene chloride, Solid	ug/Kg	6.335								B
trans-1,2-Dichloroethene, Solid	ug/Kg	0.770	U							
Methyl-tert-butyl-ether (MTBE), Solid	ug/Kg	0.550	U							
1,1-Dichloroethane, Solid	ug/Kg	0.590	U							
2,2-Dichloropropane, Solid	ug/Kg	1.400	U							
cis-1,2-Dichloroethene, Solid	ug/Kg	0.560	U							
2-Butanone (MEK), Solid	ug/Kg	2.200	U							
Bromochloromethane, Solid	ug/Kg	0.750	U							
Chloroform, Solid	ug/Kg	0.680	U							
1,1,1-Trichloroethane, Solid	ug/Kg	0.720	U							
1,1-Dichloropropene, Solid	ug/Kg	0.720	U							
Carbon tetrachloride, Solid	ug/Kg	0.730	U							
Benzene, Solid	ug/Kg	0.690	U							
1,2-Dichloroethane, Solid	ug/Kg	0.550	U							
Trichloroethene, Solid	ug/Kg	0.660	U							
1,2-Dichloropropane, Solid	ug/Kg	0.550	U							
Dibromomethane, Solid	ug/Kg	0.800	U							
Bromodichloromethane, Solid	ug/Kg	0.570	U							
cis-1,3-Dichloropropene, Solid	ug/Kg	0.580	U							
4-Methyl-2-pentanone (MIBK), Solid	ug/Kg	0.620	U							
Toluene, Solid	ug/Kg	1.700	U							
trans-1,3-Dichloropropene, Solid	ug/Kg	0.600	U							
1,1,2-Trichloroethane, Solid	ug/Kg	0.820	U							
Tetrachloroethene, Solid	ug/Kg	0.900	U							
1,3-Dichloropropane, Solid	ug/Kg	0.610	U							
2-Hexanone, Solid	ug/Kg	1.200	U							
Dibromochloromethane, Solid	ug/Kg	0.650	U							
1,2-Dibromoethane (EDB), Solid	ug/Kg	0.640	U							
Chlorobenzene, Solid	ug/Kg	0.560	U							
1,1,1,2-Tetrachloroethane, Solid	ug/Kg	0.600	U							
Ethylbenzene, Solid	ug/Kg	0.640	U							
m&p-Xylenes, Solid	ug/Kg	1.200	U							
o-Xylene, Solid	ug/Kg	0.620	U							
Styrene, Solid	ug/Kg	0.620	U							
Bromoform, Solid	ug/Kg	0.740	U							
Isopropylbenzene, Solid	ug/Kg	0.680	U							
Bromobenzene, Solid	ug/Kg	0.450	U							
1,1,2,2-Tetrachloroethane, Solid	ug/Kg	0.620	U							
1,2,3-Trichloropropane, Solid	ug/Kg	1.200	U							
n-Propylbenzene, Solid	ug/Kg	0.740	U							
2-Chlorotoluene, Solid	ug/Kg	0.660	U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_19558

QUALITY CONTROL RESULTS

Job Number.: 237342 Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank		152019-011		06/15/2005	1348

Parameter/Test Description	Units	QC Result		QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
1,3,5-Trimethylbenzene, Solid	ug/Kg	0.810	U							
4-Chlorotoluene, Solid	ug/Kg	0.690	U							
tert-Butylbenzene, Solid	ug/Kg	0.780	U							
1,2,4-Trimethylbenzene, Solid	ug/Kg	0.850	U							
sec-Butylbenzene, Solid	ug/Kg	0.840	U							
1,3-Dichlorobenzene, Solid	ug/Kg	0.720	U							
p-Isopropyltoluene, Solid	ug/Kg	0.820	U							
1,4-Dichlorobenzene, Solid	ug/Kg	0.700	U							
n-Butylbenzene, Solid	ug/Kg	1.100	U							
1,2-Dichlorobenzene, Solid	ug/Kg	0.720	U							
1,2-Dibromo-3-chloropropane, Solid	ug/Kg	1.500	U							
1,2,4-Trichlorobenzene, Solid	ug/Kg	1.200	U							
Hexachlorobutadiene, Solid	ug/Kg	2.600	U							
Naphthalene, Solid	ug/Kg	1.000	U							
1,2,3-Trichlorobenzene, Solid	ug/Kg	1.100	U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_19559

QUALITY CONTROL RESULTS

Job Number.: 237342 Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN: Richard Gnat

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB3	DI Blank	152037	152037-001		06/18/2005	2303

Test Method.....: 6010B Equipment Code....: ICP4 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 152329

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, Neutral Leach	mg/L	0.01000 U							
Barium, Neutral Leach	mg/L	0.01000 U							
Beryllium, Neutral Leach	mg/L	0.00400 U							
Boron, Neutral Leach	mg/L	0.05000 U							
Cadmium, Neutral Leach	mg/L	0.00200 U							
Chromium, Neutral Leach	mg/L	0.01000 U							
Cobalt, Neutral Leach	mg/L	0.00500 U							
Copper, Neutral Leach	mg/L	0.01000 U							
Iron, Neutral Leach	mg/L	0.10272							H
Lead, Neutral Leach	mg/L	0.00500 U							
Manganese, Neutral Leach	mg/L	0.01000 U							
Molybdenum, Neutral Leach	mg/L	0.01000 U							
Nickel, Neutral Leach	mg/L	0.01000 U							
Potassium, Neutral Leach	mg/L	0.50000 U							
Sodium, Neutral Leach	mg/L	1.00000 U							
Zinc, Neutral Leach	mg/L	0.02000 U							

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 237342

Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	M05ESPK003	152037-002		06/18/2005	2309

Test Method.....: 6010B
Method Description.: Leachable, Metals Analysis (ICAP)

Equipment Code....: ICP4
Batch.....: 152329

Analyst...: tds

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, Neutral Leach	mg/L	0.08901 B		0.10000	0.01000 U	89	%	80-120	
Barium, Neutral Leach	mg/L	1.95817		2.00000	0.01000 U	98	%	80-120	
Beryllium, Neutral Leach	mg/L	0.04536 B		0.05000	0.00400 U	91	%	80-120	
Boron, Neutral Leach	mg/L	0.87917		1.00000	0.05000 U	88	%	80-120	
Cadmium, Neutral Leach	mg/L	0.04515 B		0.05000	0.00200 U	90	%	80-120	
Chromium, Neutral Leach	mg/L	0.18538		0.20000	0.01000 U	93	%	80-120	
Cobalt, Neutral Leach	mg/L	0.45995		0.50000	0.00500 U	92	%	80-120	
Copper, Neutral Leach	mg/L	0.24274		0.25000	0.01000 U	97	%	80-120	
Iron, Neutral Leach	mg/L	1.10606		1.00000	0.10272	111	%	80-120	
Lead, Neutral Leach	mg/L	0.09721		0.10000	0.00500 U	97	%	80-120	
Manganese, Neutral Leach	mg/L	0.46748		0.50000	0.01000 U	93	%	80-120	
Molybdenum, Neutral Leach	mg/L	0.96734		1.00000	0.01000 U	97	%	80-120	
Nickel, Neutral Leach	mg/L	0.45692		0.50000	0.01000 U	91	%	80-120	
Potassium, Neutral Leach	mg/L	8.80767		10.00000	0.50000 U	88	%	80-120	
Sodium, Neutral Leach	mg/L	8.48867		10.00000	1.00000 U	85	%	80-120	
Zinc, Neutral Leach	mg/L	0.44061		0.50000	0.02000 U	88	%	80-120	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_19561

QUALITY CONTROL RESULTS

Job Number.: 237342

Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MD	Method Duplicate		237342-1		06/18/2005	2328

Test Method.....: 6010B
Method Description.: Leachable, Metals Analysis (ICAP)

Equipment Code....: ICP4
Batch.....: 152329

Analyst...: tds

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, Neutral Leach	mg/L	0.01000 U			0.01000 U	0	A	0.10000	
Barium, Neutral Leach	mg/L	0.11057 B			0.11129 B	0.00072	A	1.00000	
Beryllium, Neutral Leach	mg/L	0.00400 U			0.00400 U	0	A	0.05000	
Boron, Neutral Leach	mg/L	0.37621			0.37141	0.00480	A	0.10000	
Cadmium, Neutral Leach	mg/L	0.00200 U			0.00200 U	0.00002	A	0.05000	
Chromium, Neutral Leach	mg/L	0.01000 U			0.01000 U	0.00013	A	0.05000	
Cobalt, Neutral Leach	mg/L	0.00500 U			0.00500 U	0.00026	A	0.05000	
Copper, Neutral Leach	mg/L	0.01000 U			0.01000 U	0.00122	A	0.05000	
Iron, Neutral Leach	mg/L	0.05000 U			0.05000 U	0	A	0.10000	
Lead, Neutral Leach	mg/L	0.00500 U			0.00500 U	0.00016	A	0.05000	
Manganese, Neutral Leach	mg/L	0.01000 U			0.01000 U	0.00056	A	0.05000	
Molybdenum, Neutral Leach	mg/L	0.01000 U			0.01670 B	0.00804	A	0.10000	
Nickel, Neutral Leach	mg/L	0.01000 U			0.01000 U	0	A	0.05000	
Potassium, Neutral Leach	mg/L	0.94037 B			0.95565 B	0.01528	A	5.00000	
Sodium, Neutral Leach	mg/L	3.95083 B			3.91041 B	0.04042	A	5.00000	
Zinc, Neutral Leach	mg/L	0.02000 U			0.02000 U	0.00243	A	0.10000	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 237342

Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MS	Matrix Spike	M05ESPK003	237342-1		06/18/2005	2334

Test Method.....: 6010B
Method Description.: Leachable, Metals Analysis (ICAP)

Equipment Code....: ICP4
Batch.....: 152329

Analyst...: tds

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, Neutral Leach	mg/L	0.09331	B	0.10000	0.01000	U 93	%	50-150	
Barium, Neutral Leach	mg/L	2.09474		2.00000	0.11129	B 105	%	50-150	
Beryllium, Neutral Leach	mg/L	0.04616	B	0.05000	0.00400	U 92	%	50-150	
Boron, Neutral Leach	mg/L	1.28937		1.00000	0.37141	92	%	50-150	
Cadmium, Neutral Leach	mg/L	0.04545	B	0.05000	0.00200	U 91	%	50-150	
Chromium, Neutral Leach	mg/L	0.18799		0.20000	0.01000	U 94	%	50-150	
Cobalt, Neutral Leach	mg/L	0.46458		0.50000	0.00500	U 93	%	50-150	
Copper, Neutral Leach	mg/L	0.25033		0.25000	0.01000	U 100	%	50-150	
Iron, Neutral Leach	mg/L	0.96267		1.00000	0.05000	U 96	%	50-150	
Lead, Neutral Leach	mg/L	0.09690		0.10000	0.00500	U 97	%	50-150	
Manganese, Neutral Leach	mg/L	0.47569		0.50000	0.01000	U 95	%	50-150	
Molybdenum, Neutral Leach	mg/L	0.99637		1.00000	0.01670	B 100	%	50-150	
Nickel, Neutral Leach	mg/L	0.46068		0.50000	0.01000	U 92	%	50-150	
Potassium, Neutral Leach	mg/L	10.33469		10.00000	0.95565	B 103	%	50-150	
Sodium, Neutral Leach	mg/L	12.70474		10.00000	3.91041	B 127	%	50-150	
Zinc, Neutral Leach	mg/L	0.44767		0.50000	0.02000	U 90	%	50-150	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 237342

Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. PROJECT: JOLIET STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
SD	Serial Dilution		237342-1		06/18/2005	2322

Test Method.....: 6010B
Method Description.: Leachable, Metals Analysis (ICAP)

Equipment Code....: ICP4
Batch.....: 152329

Analyst...: tds

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, Neutral Leach	mg/L	0.01000 U			0.01000 U				
Barium, Neutral Leach	mg/L	0.02409 B			0.11129 B				
Beryllium, Neutral Leach	mg/L	0.00400 U			0.00400 U				
Boron, Neutral Leach	mg/L	0.08204 B			0.37141	10.4	D	10.0	E
Cadmium, Neutral Leach	mg/L	0.00200 U			0.00200 U				
Chromium, Neutral Leach	mg/L	0.01000 U			0.01000 U				
Cobalt, Neutral Leach	mg/L	0.00500 U			0.00500 U				
Copper, Neutral Leach	mg/L	0.01000 U			0.01000 U				
Iron, Neutral Leach	mg/L	0.05000 U			0.05000 U				
Lead, Neutral Leach	mg/L	0.00500 U			0.00500 U				
Manganese, Neutral Leach	mg/L	0.01000 U			0.01000 U				
Molybdenum, Neutral Leach	mg/L	0.01000 U			0.01670 B				
Nickel, Neutral Leach	mg/L	0.01000 U			0.01000 U				
Potassium, Neutral Leach	mg/L	0.50000 U			0.95565 B				
Sodium, Neutral Leach	mg/L	1.00000 U			3.91041 B				
Zinc, Neutral Leach	mg/L	0.02000 U			0.02000 U				

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_19564

QUALITY CONTROL RESULTS

Job Number.: 237342 — Report Date.: 06/22/2005

CUSTOMER: KPRG & Associates, Inc. — PROJECT: JOLIET STATION — ATTN: Richard Gnat

Test Method.....: Method — Batch.....: 151520 — Analyst...: daj
Method Description.: % Solids Determination — Equipment Code....: — Test Code.: %SOLID
Parameter.....: % Solids

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
DB	151520-001		%	0.1000 U								06/10/2005	0915

Test Method.....: 7740 — Batch.....: 152449 — Analyst...: daj
Method Description.: Leachable, Selenium (GFAA) — Equipment Code....: AA3 — Test Code.: SE
Parameter.....: Selenium

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
EB3	152038-001	152038	mg/L	0.00200 U								06/20/2005	1224
MD	237342-1		mg/L	0.00200 U			0.00200 U	0.00020		A	0.00200	06/20/2005	1300
MS	237342-1	MO4LSPK002	mg/L	0.00651		0.01000	0.00200 U	65		%	50-150	06/20/2005	1336
LCS	152038-002	MO4LSPK002	mg/L	0.00853		0.01000	0.00200 U	85		%	80-120	06/20/2005	1525
EB3	152257-001	152257	mg/L	0.00200 U								06/20/2005	1848
LCS	152257-002	MO5FINT001	mg/L	0.00946		0.01000	0.00200 U	95		%	80-120	06/20/2005	1905
MB	152119-001	152119	ug/L	2.00 U								06/20/2005	2036
LCS	152119-002	MO4LSPK002	ug/L	7.95		10.00	2.00 U	80		%	80-120	06/20/2005	2048
MB	151869-001	151869	ug/L	2.00 U								06/20/2005	2206
LCS	151869-002	MO4LSPK002	ug/L	5.42		5.00	2.00 U	108		%	80-120	06/20/2005	2218

Test Method.....: 7470A — Batch.....: 152447 — Analyst...: gok
Method Description.: Leachable, Mercury (CVAA) — Equipment Code....: HG4 — Test Code.: HG
Parameter.....: Mercury

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
MB	152445-007		ug/L	0.20 U								06/17/2005	1356
LCS	152445-008	MO4LSTK010	ug/L	2.01		2.00	0.20 U	101		%	80-120	06/17/2005	1358
EB3	152445-009	807	mg/L	0.00020 U								06/17/2005	1400
MD	237342-1		mg/L	0.00020 U			0.00020 U	0		A	0.00020	06/17/2005	1405
MS	237342-1	MO4KSTK001	mg/L	0.01832		0.02000	0.00020 U	92		%	50-150	06/17/2005	1407
EB3	152445-027	810	mg/L	0.00034								06/17/2005	1449

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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REPORT COMMENTS

1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.
2) Soil, sediment and sludge sample results are reported on a "dry weight" basis except when analyzed for landfill disposal or incineration parameters. All other solid matrix samples are reported on an "as received" basis unless noted differently.
3) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.
4) The test results for the noted analytical method(s) meet the requirements of NELAC. Lab Cert. ID# 100201
5) According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.

Glossary of flags, qualifiers and abbreviations (any number of which may appear in the report)

Inorganic Qualifiers (Q-Column)

U	Analyte was not detected at or above the stated limit.
<	Not detected at or above the reporting limit.
J	Result is less than the RL, but greater than or equal to the method detection limit.
B	Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
S	Result was determined by the Method of Standard Additions.
F	AFCEE: Result is less than the RL, but greater than or equal to the method detection limit.

Inorganic Flags (Flag Column)

^	ICV,CCV,ICB,CCB,ISA,ISB,CRI,CRA,MRL: Instrument related QC exceed the upper or lower control limits.
*	LCS, LCD, MD: Batch QC exceeds the upper or lower control limits.
+	MSA correlation coefficient is less than 0.995.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
E	SD: Serial dilution exceeds the control limits.
H	MB, EB1, EB2, EB3: Batch QC is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
N	MS, MSD: Spike recovery exceeds the upper or lower control limits.
W	AS(GFAA) Post-digestion spike was outside 85-115% control limits.

Organic Qualifiers (Q - Column)

U	Analyte was not detected at or above the stated limit.
ND	Compound not detected.
J	Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
Q	Result was qualitatively confirmed, but not quantified.
C	Pesticide identification was confirmed by GC/MS.
Y	The chromatographic response resembles a typical fuel pattern.
Z	The chromatographic response does not resemble a typical fuel pattern.
E	Result exceeded calibration range, secondary dilution required.
F	AFCEE:Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)

Organic Flags (Flags Column)

B	MB: Batch QC is greater than reporting limit.
*	LCS, LCD, ELC, ELD, CV, MS, MSD, Surrogate: Batch QC exceeds the upper or lower control limits.
^	EB1, EB2, EB3, MLE: Batch QC is greater than reporting Limit
A	Concentration exceeds the instrument calibration range
a	Concentration is below the method Reporting Limit (RL)
B	Compound was found in the blank and sample.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
H	Alternate peak selection upon analytical review
I	Indicates the presence of an interfence, recovery is not calculated.
M	Manually integrated compound.
P	The lower of the two values is reported when the % difference between the results of two GC columns is

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greater than 25%.

Abbreviations

AS	Post Digestion Spike (GFAA Samples - See Note 1 below)
Batch	Designation given to identify a specific extraction, digestion, preparation set, or analysis set
CAP	Capillary Column CCB Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Confirmation analysis of original
C1	Confirmation analysis of A1 or D1
C2	Confirmation analysis of A2 or D2
C3	Confirmation analysis of A3 or D3
CRA	Low Level Standard Check - GFAA; Mercury
CRI	Low Level Standard Check - ICP
CV	Calilbration Verification Standard
Dil Fac	Dilution Factor - Secondary dilution analysis
D1	Dilution 1
D2	Dilution 2
D3	Dilution 3
DLFac	Detection Limit Factor
DSH	Distilled Standard - High Level
DSL	Distilled Standard - Low Level
DSM	Distilled Standard - Medium Level
EB1	Extraction Blank 1
EB2	Extraction Blank 2
EB3	DI Blank
ELC	Method Extracted LCS
ELD	Method Extracted LCD
ICAL	Initial calibration
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
ISA	Interference Check Sample A - ICAP
ISB	Interference Check Sample B - ICAP
Job No.	The first six digits of the sample ID which refers to a specific client, project and sample group
	Lab ID An 8 number unique laboratory identification
LCD	Laboratory Control Standard Duplicate
LCS	Laboratory Control Standard with reagent grade water or a matrix free from the analyte of interest
MB	Method Blank or (PB) Preparation Blank
MD	Method Duplicate
MDL	Method Detection Limit
MLE	Medium Level Extraction Blank
MRL	Method Reporting Limit Standard
MSA	Method of Standard Additions
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not Detected
PREPF	Preparation factor used by the Laboratory's Information Management System (LIMS)
PDS	Post Digestion Spike (ICAP)
RA	Re-analysis of original
A1	Re-analysis of D1
A2	Re-analysis of D2
A3	Re-analysis of D3
RD	Re-extraction of dilution
RE	Re-extraction of original
RC	Re-extraction Confirmation
RL	Reporting Limit
RPD	Relative Percent Difference of duplicate (unrounded) analyses
RRF	Relative Response Factor
RT	Retention Time

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RTW	Retention Time Window Sample ID A 9 digit number unique for each sample, the first six digits are referred as the job number
SCB	Seeded Control Blank
SD	Serial Dilution (Calculated when sample concentration exceeds 50 times the MDL)
UCB	Unseeded Control Blank
SSV	Second Source Verification Standard
SLCS	Solid Laboratory Control Standard(LCS)
PHC	pH Calibration Check LCSP pH Laboratory Control Sample
LCDP	pH Laboratory Control Sample Duplicate
MDPH	pH Sample Duplicate
MDFP	Flashpoint Sample Duplicate
LCFP	Flashpoint LCS
G1	Gelex Check Standard Range 0-1
G2	Gelex Check Standard Range 1-10
G3	Gelex Check Standard Range 10-100
G4	Gelex Check Standard Range 100-1000

Note 1: The Post Spike Designation on Batch QC for GFAA is designated with an "S" added to the current abbreviation used. EX. LCS S=LCS Post Spike (GFAA); MSS=MS Post Spike (GFAA)
Note 2: The MD calculates an absolute difference (A) when the sample concentration is less than 5 times the reporting limit. The control limit is represented as +/- the RL.

MWG13-15_19568

SEVERN TRENT **STL**

STL Chicago
2417 Bond Street
University Park, IL 60466
Phone: 708-534-5200
Fax: 708-534-5211

Report To:
Contact: RICH GNAT
Company: KPRG AND ASSOCIATES
Address: 14665 W. LISBON RD, STE 2B
Phone: 262-781-0475
Fax: -0478
E-Mail: RICHARDG@KPRGINC.COM

Bill To:
Contact: ~~SAME~~ MIDWEST GEN.
Company:
Address:
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal Use Only ___ of ___

Lab Lot# 237342

Package Sealed: Yes (No)	Samples Sealed: Yes (No)
Received on Ice: (Yes) No	Samples Intact: (Yes) No
Temperature °C of Cooler: 4.0	
Within Hold Time: (Yes) No	Preserv. Indicated: (Yes) No NA
pH Check OK: Yes No (NA)	Res Cl_2 Check OK: Yes No (NA)
Sample Labels and COC Agree: (Yes) No	COC not present

Sampler Name: PATRICK ALLENSTEIN
Signature:
Project Name: MIDWEST GEN.
Project Number: 11205
Project Location: JOLIET, IL
Date Required Hard Copy: ___/___/___ Fax: ___/___/___
Lab PM: LINDA M.

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	NLET Metals	VOC	Additional Analyses / Remarks
1		GP-1	6/8/05		S	C	X		
2		GP-2							
3		GP-3							
4		GP-4							
5		GP-5							
6		GP-6							
7		GP-7							
8		GP-8							
9		GP-9							
10		GP-10							
11		GP-11							
12		GP-12 A							

RELINQUISHED BY	COMPANY KPRG	DATE 06/08/05	TIME
RELINQUISHED BY	COMPANY	DATE	TIME
RECEIVED BY	COMPANY STL	DATE 6/9/05	TIME 9:45
RECEIVED BY	COMPANY STL	DATE 6-9-05	TIME 1345

Matrix Key
WW = Wastewater, W = Water, S = Soil, SL = Sludge, MS = Miscellaneous, OL = Oil, SE = Sediment, SO = Solid, DS = Drum Solid, DL = Drum Liquid, L = Leachate, WI = Wipe

Container Key.
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

Preservative Key
1. HCl, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS

Date Received 6/9/05
Courier: STL Hand Delivered ☒
Bill of Lading

MWG13-15_19569

SEVERN TRENT **STL**

STL Chicago
2417 Bond Street
University Park, IL 60466
Phone: 708-534-5200
Fax: 708-534-5211

Report To:
Contact: SEE PAGE 1
Company: KPRG AND ASSOCIATES
Address:
Phone:
Fax:
E-Mail:

Bill To:
Contact:
Company:
Address:
Phone:
Fax:
PO#: Quote:

Shaded Areas For Internal Use Only

Lab Lot# 237342

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No

Temperature °C of Cooler

Within Hold Time	Preserv. Indicated
Yes No	Yes No NA
pH Check OK	**Res Cl_2 Check OK**
Yes No NA	Yes No NA

Sample Labels and COC Agree
Yes No COC not present

Sampler Name: PATRICK ALLENSTEIN
Signature: [signature]
Project Name: MIDWEST GEN
Project Number: 11205
Project Location: JOLIET, IL
Date Required
Hard Copy: __/__/__
Fax: __/__/__
Lab PM: LINDA M.

Refrg #																
# / Cont.	1															
Volume																
Preserv																

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	NLET METALS	VOC								Additional Analyses / Remarks
13		GP-13 A	6/8/05		S	C	X									
14		GP-14 A														
15		GP-15 A														
~~16~~ 16R		GP-16														
~~17~~		GP-17														
16 ~~18~~		TRIP BLANK	—		W			X								
17 ~~19~~		GP-9 (16-17)	6/8/05		S	G		X								

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
[signature]	KPRG	06/08/05		[signature]	STL	6/9/05	9:45
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
				[signature]	STL	6-9-05	1345

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe

Container Key.
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

Preservative Key
1. HCl, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS

Date Received 6 / 9 / 05
Courier: STL **Hand Delivered** ☒
Bill of Lading

MWG13-15_19570

Note Number	: 83518	JOB
Date	: 6/10/2005	
Author	: lsm	
Subject	: RE: SDR	

Project Code....:		
Location Code...:	57222	
Job/Sales Order.:	237342	JOLIET STATION
Customer.....:	KRIKAUPYLE	KPRG & Associates, Inc.
Contact Location:	BROOKFI WI	Brookfield, WI
Contact.....:	GNAT R	Richard Gnat
Invoice.....:		
Batch.....:		
Note For.....:		

> DID NOT RECEIVE SAMPLES GP-16,GP-17 .

Per Rich Gnat and Patrick Allenstein, these two samples were not collected at this time.

Please include this SDR with the final report.

ATTACHMENT 3
Statistical Formulas and Tables

STATISTICAL EQUATIONS USED

1) Mean (μ) = 1/n ($\sum\mu_i$), where n is the number of samples

2) Variance (s^2) = 1/(n-1) ($\sum(\mu_i - \mu)^2$

3) Standard Deviation (s) = $\sqrt{}$Variance

4) Coefficient of Variance (CV) = s/μ

5) Standard Error (s_μ) = s/$\sqrt{n}$

6) 95% Upper Confidence Limit (UCL_{95}) = μ + ($t_{0.95(n-1)}$)(s_μ), where $t_{0.95(n-1)}$ is obtained from the one-tailed Student's *t* Distribution table

7) λ = (RT - μ)/s, where RT is the regulatory threshold concentration

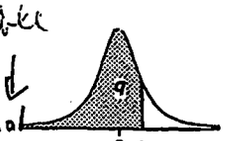
8) Mean of the Lognormal Distribution (μ_{Ln}) = exp[y_i+(s^2_y/2)], where y_i is the mean of the natural logs of μ_i and s^2_y is the variance of the natural logs of μ_i

9) Standard Deviation of the Lognormal Distribution (s_{Ln}) = $\sqrt{\{(\mu_{Ln})^2[\exp(s^2_y)-1]\}}$

10) Winsorized Standard Deviation (s_w) = [s(n-1)/(v-1)], where s is the standard deviation of the Winsorized data set and v is the number of data not adjusted during Winzorization.

3·1 the Student t distribution

one-tailed table



2-tail	.8	.6	.5	.4	.3	.2	.15	.1	.05	.02	.01
α	.4	.3	.25	.2	.15	.1	.075	.05	.025	.01	.005

ν \ q	0.600	0.700	0.750	0.800	0.850	0.900	0.925	0.950	0.975	0.990	0.995	0.999	.9995
1	0.325	0.727	1.000	1.376	1.963	3.078	4.165	6.314	12.71	31.82	63.66	318.3	636.6
2	0.289	0.617	0.816	1.061	1.386	1.886	2.282	2.920	4.303	6.965	9.925	22.33	31.60
3	0.277	0.584	0.765	0.978	1.250	1.638	1.924	2.353	3.182	4.541	5.841	10.21	12.92
4	0.271	0.569	0.741	0.941	1.190	1.533	1.778	2.132	2.776	3.747	4.604	7.173	8.610
5	0.267	0.559	0.727	0.920	1.156	1.476	1.699	2.015	2.571	3.365	4.032	5.893	6.869
6	0.265	0.553	0.718	0.906	1.134	1.440	1.650	1.943	2.447	3.143	3.707	5.208	5.959
7	0.263	0.549	0.711	0.896	1.119	1.415	1.617	1.895	2.365	2.998	3.499	4.785	5.408
8	0.262	0.546	0.706	0.889	1.108	1.397	1.592	1.860	2.306	2.896	3.355	4.501	5.041
9	0.261	0.543	0.703	0.883	1.100	1.383	1.574	1.833	2.262	2.821	3.250	4.297	4.781
10	0.260	0.542	0.700	0.879	1.093	1.372	1.559	1.812	2.228	2.764	3.169	4.144	4.587
11	0.260	0.540	0.697	0.876	1.088	1.363	1.548	1.796	2.201	2.718	3.106	4.025	4.437
12	0.259	0.539	0.695	0.873	1.083	1.356	1.538	1.782	2.179	2.681	3.055	3.930	4.318
13	0.259	0.538	0.694	0.870	1.079	1.350	1.530	1.771	2.160	2.650	3.012	3.852	4.221
14	0.258	0.537	0.692	0.868	1.076	1.345	1.523	1.761	2.145	2.624	2.977	3.787	4.140
15	0.258	0.536	0.691	0.866	1.074	1.341	1.517	1.753	2.131	2.602	2.947	3.733	4.073
16	0.258	0.535	0.690	0.865	1.071	1.337	1.512	1.746	2.120	2.583	2.921	3.686	4.015
17	0.257	0.534	0.689	0.863	1.069	1.333	1.508	1.740	2.110	2.567	2.898	3.646	3.965
18	0.257	0.534	0.688	0.862	1.067	1.330	1.504	1.734	2.101	2.552	2.878	3.610	3.922
19	0.257	0.533	0.688	0.861	1.066	1.328	1.500	1.729	2.093	2.539	2.861	3.579	3.883
20	0.257	0.533	0.687	0.860	1.064	1.325	1.497	1.725	2.086	2.528	2.845	3.552	3.850
21	0.257	0.532	0.686	0.859	1.063	1.323	1.494	1.721	2.080	2.518	2.831	3.527	3.819
22	0.256	0.532	0.686	0.858	1.061	1.321	1.492	1.717	2.074	2.508	2.819	3.505	3.792
23	0.256	0.532	0.685	0.858	1.060	1.319	1.489	1.714	2.069	2.500	2.807	3.485	3.768
24	0.256	0.531	0.685	0.857	1.059	1.318	1.487	1.711	2.064	2.492	2.797	3.467	3.745
25	0.256	0.531	0.684	0.856	1.058	1.316	1.485	1.708	2.060	2.485	2.787	3.450	3.725
26	0.256	0.531	0.684	0.856	1.058	1.315	1.483	1.706	2.056	2.479	2.779	3.435	3.707
27	0.256	0.531	0.684	0.855	1.057	1.314	1.482	1.703	2.052	2.473	2.771	3.421	3.690
28	0.256	0.530	0.683	0.855	1.056	1.313	1.480	1.701	2.048	2.467	2.763	3.408	3.674
29	0.256	0.530	0.683	0.854	1.055	1.311	1.479	1.699	2.045	2.462	2.756	3.396	3.659
30	0.256	0.530	0.683	0.854	1.055	1.310	1.477	1.697	2.042	2.457	2.750	3.385	3.646
31	0.256	0.530	0.682	0.853	1.054	1.309	1.476	1.696	2.040	2.453	2.744	3.375	3.633
32	0.255	0.530	0.682	0.853	1.054	1.309	1.475	1.694	2.037	2.449	2.738	3.365	3.622
33	0.255	0.530	0.682	0.853	1.053	1.308	1.474	1.692	2.035	2.445	2.733	3.356	3.611
34	0.255	0.529	0.682	0.852	1.052	1.307	1.473	1.691	2.032	2.441	2.728	3.348	3.601
35	0.255	0.529	0.682	0.852	1.052	1.306	1.472	1.690	2.030	2.438	2.724	3.340	3.591
36	0.255	0.529	0.681	0.852	1.052	1.306	1.471	1.688	2.028	2.434	2.719	3.333	3.582
37	0.255	0.529	0.681	0.851	1.051	1.305	1.470	1.687	2.026	2.431	2.715	3.326	3.574
38	0.255	0.529	0.681	0.851	1.051	1.304	1.469	1.686	2.024	2.429	2.712	3.319	3.566
39	0.255	0.529	0.681	0.851	1.050	1.304	1.468	1.685	2.023	2.426	2.708	3.313	3.558
40	0.255	0.529	0.681	0.851	1.050	1.303	1.468	1.684	2.021	2.423	2.704	3.307	3.551
45	0.255	0.528	0.680	0.850	1.049	1.301	1.465	1.679	2.014	2.412	2.690	3.281	3.520
50	0.255	0.528	0.679	0.849	1.047	1.299	1.462	1.676	2.009	2.403	2.678	3.261	3.496
60	0.254	0.527	0.679	0.848	1.045	1.296	1.458	1.671	2.000	2.390	2.660	3.232	3.460
70	0.254	0.527	0.678	0.847	1.044	1.294	1.456	1.667	1.994	2.381	2.648	3.211	3.435
80	0.254	0.526	0.678	0.846	1.043	1.292	1.453	1.664	1.990	2.374	2.639	3.195	3.416
90	0.254	0.526	0.677	0.846	1.042	1.291	1.452	1.662	1.987	2.368	2.632	3.183	3.402
100	0.254	0.526	0.677	0.845	1.042	1.290	1.451	1.660	1.984	2.364	2.626	3.174	3.390
120	0.254	0.526	0.677	0.845	1.041	1.289	1.449	1.658	1.980	2.358	2.617	3.160	3.373
150	0.254	0.526	0.676	0.844	1.040	1.287	1.447	1.655	1.976	2.351	2.609	3.145	3.357
$Z=\infty$	0.253	0.524	0.674	0.842	1.036	1.282	1.440	1.645	1.960	2.326	2.576	3.090	3.291

degrees of freedom

MWG13-15_19574

TABLE 4-3

NUMBER OF OBSERVATIONS FOR t TEST OF MEAN

Single-Sided Test / Double-Sided Test	Level of t Test																				
	α=0.005 / α=0.01					α=0.01 / α=0.02					α=0.025 / α=0.05					α=0.05 / α=0.1					
β=	0.01	0.05	0.1	0.2	0.5	0.01	0.05	0.1	0.2	0.5	0.01	0.05	0.1	0.2	0.5	0.01	0.05	0.1	0.2	0.5	
0.05																					0.05
0.10																					0.10
0.15																				122	0.15
0.20										139					99					70	0.20
0.25					110					90				128	64			139	101	45	0.25
0.30				134	78				115	63			119	90	45		122	97	71	32	0.30
0.35			125	99	58			109	85	47		109	88	67	34		90	72	52	24	0.35
0.40		115	97	77	45		101	85	66	37	117	84	68	51	26	101	70	55	40	19	0.40
0.45		92	77	62	37	110	81	68	53	30	93	67	54	41	21	80	55	44	33	15	0.45
0.50	100	75	63	51	30	90	66	55	43	25	76	54	44	34	18	65	45	36	27	13	0.50
0.55	83	63	53	42	26	75	55	46	36	21	63	45	37	28	15	54	38	30	22	11	0.55
0.60	71	53	45	36	22	63	47	39	31	18	53	38	32	24	13	46	32	26	19	9	0.60
0.65	61	46	39	31	20	55	41	34	27	16	46	33	27	21	12	39	28	22	17	8	0.65
0.70	53	40	34	28	17	47	35	30	24	14	40	29	24	19	10	34	24	19	15	8	0.70
0.75	47	36	30	25	16	42	31	27	21	13	35	26	21	16	9	30	21	17	13	7	0.75
0.80	41	32	27	22	14	37	28	24	19	12	31	22	19	15	9	27	19	15	12	6	0.80
0.85	37	29	24	20	13	33	25	21	17	11	28	21	17	13	8	24	17	14	11	6	0.85
0.90	34	26	22	18	12	29	23	19	16	10	25	19	16	12	7	21	15	13	10	5	0.90
0.95	31	24	20	17	11	27	21	18	14	9	23	17	14	11	7	19	14	11	9	5	0.95
1.00	28	22	19	16	10	25	19	16	13	9	21	16	13	10	6	18	13	11	8	5	1.00
1.1	24	19	16	14	9	21	16	14	12	8	18	13	11	9	6	15	11	9	7		1.1
1.2	21	16	14	12	8	18	14	12	10	7	15	12	10	8	5	13	10	8	6		1.2
1.3	18	15	13	11	8	16	13	11	9	6	14	10	9	7		11	8	7	6		1.3
1.4	16	13	12	10	7	14	11	10	9	6	12	9	8	7		10	8	7	5		1.4
1.5	15	12	11	9	7	13	10	9	8	6	11	8	7	6		9	7	6			1.5
1.6	13	11	10	8	6	12	10	9	7	5	10	8	7	6		8	6	6			1.6
1.7	12	10	9	8	6	11	9	8	7		9	7	6	5		8	6	5			1.7
1.8	12	10	9	8	6	10	8	7	7		8	7	6			7	6				1.8
1.9	11	9	8	7	6	10	8	7	6		8	6	6			7	5				1.9
2.0	10	8	8	7	5	9	7	7	6		7	6	5			6					2.0
2.1	10	8	7	7		8	7	6	6		7	6				6					2.1
2.2	9	8	7	6		8	7	6	5		7	6				6					2.2
2.3	9	7	7	6		8	6	6			6	5				5					2.3
2.4	8	7	7	6		7	6	6			6										2.4
2.5	8	7	6	6		7	6	6			6										2.5
3.0	7	6	6	5		6	5	5			5										3.0
3.5	6	5	5			5															3.5
4.0	6																				4.0

λ Value

MWG13-15_19575

Exhibit C3

COMMONWEALTH EDISON COMPANY

PHASE II ENVIRONMENTAL SITE ASSESSMENT

Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

ENSR
Consulting * Engineering * Remediation

December 1998
File Number 1801-023-410

MWG13-15_23301

PHASE II ENVIRONMENTAL SITE ASSESSMENT

Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

December 7, 1998

Prepared for:

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EXECUTIVE SUMMARY

This report presents the results of the Phase II Environmental Site Assessment (Phase II ESA) conducted by ENSR Corporation (ENSR) in October 1998 at the Commonwealth Edison Company (ComEd) Joliet #29 Generating Station, located at 1800 Channahon Road in Joliet, Illinois. Phase II ESA activities consisted of advancement of soil borings, installation of monitoring wells, and collection of surface and subsurface soil, sediment, and groundwater samples. The purpose of the Phase II ESA was to investigate the potential presence of contamination in the areas of environmental concern identified in the Phase I Environmental Site Assessment (Phase I ESA).

Based on the results of the Phase I ESA, 15 potential areas of concern were identified for further investigation. These areas of concern are identified in **Section 2.0**. Each of these areas of concern were investigated during the Phase II ESA activities. Seventeen soil borings were advanced and 5 monitoring wells were installed. Soil samples were collected from the borings and groundwater samples were collected from the monitoring wells. In addition, 23 surface soil samples and 6 sediment samples were collected at the facility.

These samples were submitted for analysis of benzene, toluene, ethyl benzene, and total xylenes (BTEX) using EPA Method 8260; polynuclear aromatic hydrocarbons (PNAs) using EPA Method 8310; polychlorinated biphenyls (PCBs) using EPA Method 8081; Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) using EPA Method series 6000 and 7000; and pH using EPA Method 9045.

In addition, the surface soil samples and sediment samples were also submitted for analysis of total petroleum hydrocarbons (TPH) using EPA Method 8015. Water quality field parameters, consisting of pH, specific conductivity, and temperature, were also recorded from the groundwater samples collected.

PNA constituents were detected above the Illinois Environmental Protection Agency (IEPA) cleanup objectives primarily in the surface soil samples collected at the facility. These surface soil samples were collected directly from a "stained" location in the identified potential areas of concern. Therefore, it was determined that the impact from these PNA constituents is relatively localized. However, benzo(a)pyrene and benzo(b)fluoranthene were detected in soil samples collected from borings at approximately 2 feet below grade.

Toluene, ethyl benzene, and total xylenes were detected above the IEPA cleanup objectives of in only one surface soil sample (S-2). This sample was collected from the storage area located to the east of the Roof and Yard Runoff Basin. In addition, sample S-2 had an elevated detection limit for benzene, and consequently, there is a possibility that the concentration is actually above the cleanup objective.

Arsenic was detected above the IEPA cleanup objective of 3 mg/kg in samples collected throughout the facility. However, the concentrations of arsenic are within the range of arsenic

detected by the EPA during a state wide soil survey in 1992. In addition, lead was detected above the IEPA cleanup objective in the surface soil sample collected from the chimney/precipitator area, as well as the groundwater sample collected from the storage area located to the east of the Roof and Yard Runoff Basin.

PCBs were detected above the IEPA cleanup objective of 1.0 milligram per kilogram (mg/kg) in one surface soil sample collected adjacent to stained transformers on the east side of the southern portion of the main building.

It should be noted that TPH was detected throughout the site. Although a cleanup objective has not been established by the IEPA, TPH was detected at elevated concentrations (greater than 1,000 mg/kg) and would indicate impact by petroleum hydrocarbon compounds.

Based on the relatively low volatility of the constituents of concern detected above the IEPA cleanup objectives, the soil inhalation exposure pathway is not a likely contaminant exposure pathway in the areas other than the storage area located to the east of the Roof and Yard Runoff Basin. Construction activities in this area of concern would increase the possibility of exposure. Therefore, this pathway would need to allow for protection/prevention for the construction worker scenario.

In addition, based on the depths of the wells the City of Joliet uses to provide potable water to its residents, it is unlikely that the impacted groundwater beneath the facility would have any impact on these wells. Therefore, the groundwater ingestion is not a potential contaminant exposure pathway.

The soil ingestion pathway is a potential exposure pathway during construction activities. Therefore, this pathway would need to allow for protection/prevention for the construction worker scenario. In addition, based on surface soil sampling results, the storage area located to the east of the Roof and Yard Runoff Basin has been impacted by volatile constituents of concern (benzene, toluene, ethyl benzene, and total xylenes). This area has a greater potential risk for human exposure than the remainder of the facility.

Based on the current land use (industrial) and site conditions (analytical results and near surface bedrock), it is judged that the potential for human exposure to the constituents of concern from this facility is low. It should be noted that there is no requirement under Illinois environmental law to further investigate or remediate this property.

1.0 INTRODUCTION

1.1 General

ENSR Corporation (ENSR) was retained by Commonwealth Edison Company (ComEd) to conduct Phase II Environmental Site Assessment (Phase II ESA) activities on a "limited" portion of the 300 acre Joliet #29 Generating Station, located at 1800 Channahon Road in Joliet, Illinois (**Figure 1, Site Location Map**).

The scope of the Phase II ESA activities were based on the preliminary results of the Phase I Environmental Site Assessment (Phase I ESA), with concurrence between ENSR and ComEd. Phase II ESA activities were conducted from October 7 to October 27, 1998, and included advancement of soil borings, installation of monitoring wells, and collection of surface and subsurface soil, sediment, and groundwater samples. **Figure 2** illustrates the layout of the facility.

1.2 Objectives and Scope

The purpose of the Phase II ESA was to investigate the potential presence of contamination in the areas of environmental concern identified in the Phase I ESA. The Phase II ESA adequately assessed the surface and/or subsurface conditions in the locations where sampling was conducted. The Phase II ESA is a tool for developing a conceptual site model to identify the presence and nature of potential contamination, describe potential contaminant migration pathways, and define potential exposure pathways in sampled areas. Based upon this and the information gathered during the Phase II ESA, and using the Illinois Environmental Protection Agency (IEPA) Tiered Approach to Cleanup Objectives (TACO) as guidance, it can be determined whether remediation is warranted in the locations sampled. The Phase II ESA alone is not an exhaustive investigation which can be used to determine the extent of contamination, nor the cost of any suggested remediation.

The objective of the Phase II ESA was to develop a conceptual site model to identify the presence and nature of potential contamination, describe potential contaminant migration pathways, and define potential exposure pathways. To meet this objective, ENSR implemented a "phased" assessment designed to provide increasing levels of information based upon obtained data. Recognizing that existing information for the facility and potential contamination was limited, the principal tasks completed during the Phase II ESA included the following:

- Soil boring advancement and soil sample collection;
- Monitoring well installation and groundwater sample collection;
- Collection of surface soil and sediment samples;
- Laboratory analysis of samples; and,
- Evaluation of analytical results and comparison to the IEPA Tier 1 Industrial/Commercial Soil Cleanup Objectives and IEPA Tier 1 Groundwater Cleanup Objectives.

The investigation consisted of the advancement of 17 soil borings and the installation of 5 monitoring wells at the potential areas of concern identified during the Phase I ESA. Soil samples were collected from the borings and groundwater samples were collected from the monitoring wells. These samples were submitted for analysis of benzene, toluene, ethyl benzene, and total xylenes (BTEX) using EPA Method 8260, polynuclear aromatic hydrocarbons (PNAs) using EPA Method 8310, polychlorinated biphenyls (PCBs) using EPA Method 8081, Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) using EPA Method series 6000 and 7000, and pH by EPA Method 9045. Water quality field parameters, consisting of pH, specific conductivity, and temperature, were also recorded from the groundwater samples collected.

In addition, 23 surface soil samples were collected from the identified potential areas of concern and 6 sediment samples were collected from selected ash/coal settling ponds or drainage ditches located at the facility. These samples were submitted for analysis of the previously referenced constituents as well as total petroleum hydrocarbons (TPH) using EPA Method 8015.

1.3 *Report Organization*

Section 1 introduces the principal subjects covered in this report, describes the purpose and scope of the Phase II ESA, and presents limitations of the Phase II ESA. **Section 2** provides information regarding the identified potential areas of concern and the methodologies used during the investigation. **Section 3** presents the results of the Phase II ESA. **Section 4** presents the data assessment of the Phase II ESA. **Tables** summarizing the analytical results and **Figures** illustrating the facility location and layout, as well as sampling locations, have been included under the appropriate headings.

Appendix A contains laboratory analytical reports. **Appendix B** contains boring logs and monitoring well construction diagrams. **Appendix C** contains monitoring well gauging and survey data.

1.4 Limitations

This report, including all attachments thereto, describes the results of ENSR's Phase II ESA conducted at the Joliet #29 Generating Station, which took place between October 7 and October 27, 1998. Many of the facts and conditions pertaining to this Phase II ESA are subject to change over time; accordingly, the evaluations and conclusions must be viewed within this context.

ENSR has performed this Phase II ESA in a professional manner using that degree of skill and care exercised for similar projects under similar conditions by reputable and competent environmental consultants. ENSR shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time this Phase II ESA was performed.

This report and all field data, notes, and laboratory test data (hereinafter collectively "Information") were prepared by ENSR solely for the benefit of ENSR's Client, ComEd. ENSR's Client may release this Information to third parties, who may use and rely upon the Information at their own discretion. However, any use of or reliance upon this Information by a party other than parties identified shall be solely at the risk of such third party and without legal recourse against ENSR, or its subsidiaries and affiliates, or their respective employees, officers or directors, regardless of whether the action in which recovery of damages is sought is based upon contract, tort (including the sole, concurrent or other negligence and strict liability of ENSR), statute or otherwise. This Information shall not be used or relied upon by a party which does not agree to be bound by the above statement.

2.0 INVESTIGATION METHODS

Prior to initiation of field investigations, a site reconnaissance was performed during the Phase I ESA to define the study area. Field investigation activities were subsequently conducted to obtain site specific information and data pertaining to site geology and hydrogeology, groundwater quality, soil properties, and potential contaminant source(s).

The sampling locations were recommended based on the preliminary Phase I ESA findings. A sampling location summary listing is presented in **Table 1**. A summary of the identified potential areas of concern is presented below.

1. **Roof and Yard Runoff Basin.** One pond, which collects surface water runoff, is located on the eastern portion of the facility. One sediment sample (X-1) was collected.

2. **Gasoline Underground Storage Tank.** One 1,500 gallon underground storage tank (UST) is located at the northwest corner of the Roof and Yard Runoff Basin. This UST is used for the storage of gasoline. One soil boring (B-1) was advanced.

3. **Materials Storage Areas.** There are three materials storage areas located at the facility. One storage area is located to the east of the Roof and Yard Runoff Basin. The concern at this storage area was used equipment and parts. One surface soil sample (S-2) was collected and one monitoring well (MW-1) was installed. The second storage area is located to the west of the Roof and Yard Runoff Basin. The primary concern at this storage area was drum storage. One surface soil sample (S-5) was collected. The third storage area is located to the west of the chimneys and precipitators. The primary concern at this storage area was drum storage. One surface soil sample (S-19) was collected.

4. **Ash Disposal Silos.** Two ash disposal silos are located to the north of the Roof and Yard Runoff Basin. These silos are used to store ash prior to having it transported off-site. One surface soil sample (S-1) was collected.

5. **Former Wastewater Treatment Plant.** A former Wastewater Treatment Plant is located on the eastern portion of the facility. Two surface soil samples (S-3 and S-23) were collected.

6. **Ash Settling Ponds.** Three ash settling ponds are located on the northwestern portion of the facility. Two of these ponds are located to the west of the former Wastewater Treatment Plant. One sediment sample (X-2) was collected from the eastern pond and one sediment sample (X-3) was collected from the western pond. In addition, one soil boring (B-3) was advanced and one monitoring well (MW-2) was installed between these two ponds. The third pond is located to the east of the former Wastewater Treatment Plan. One sediment sample (X-4) was collected.

7. **Transformers.** Transformers with oil staining were observed throughout the facility. Soil samples were collected in 6 locations with the most significant staining. The first location contains the transformers on the east side of the former Wastewater Treatment Plant. One soil boring (B-4) was advanced and one surface soil sample (S-4) was collected. The second location contains the transformers on the east side of the southern portion of the main building. One surface soil sample (S-6) was collected. The third location contains the transformers on the south side of the eastern portion of the main building. One soil boring (B-6) was advanced and one surface soil sample (S-7) was collected. The fourth location contains the transformers on the south side of the western portion of the main building. One surface soil sample (S-8) was collected. The fifth location contains the transformers on the west side of the main building. One soil boring (B-20) was advanced and two surface soil samples (S-20 and S-21) were collected. The sixth location contains the transformers adjacent to the Ash Disposal Silos. One surface soil sample (S-22) was collected.

8. **Chimneys/Precipitators.** Two chimney units are located to the north of the main building. Surface staining from the precipitator equipment was observed. Two soil borings (B-9 and B-10) were advanced and five surface soil samples (S-10 through S-14) were collected.

9. **Switch Yard.** The Switch Yard is located to the north of the main building. One soil boring (B-11) was advanced to the south of the Switch Yard.

10. **Coal Handling Area.** Coal is received at the facility via overhead conveyors from the Joliet #9 facility located south of the DesPlaines River. The coal is stored at the coal pile at the west end of the facility. Two soil borings were advanced and two monitoring wells were installed adjacent to the coal pile. Soil boring B-17 was advanced and monitoring well MW-3 was installed at the eastern end of the southern side of the coal pile. Soil boring B-18 was advanced and monitoring well MW-4 was installed at the western end of the southern side of the coal pile. Two coal pile runoff ponds are located adjacent to the coal pile. One coal pile runoff pond is located to the southeast of the coal pile and the other coal pile runoff pond is located to the northeast of the coal pile. Sediment sample X-6 was collected at the southeastern pond and sediment sample X-5 was collected at the northeastern pond. In addition, one surface soil sample (S-15) was collected adjacent to the northeastern pond.

11. **Coal Handling Area Buildings.** These buildings are associated with the transporting of coal and are located to the east of the coal pile. These buildings are located at the southeast end of the coal pile. One soil boring (B-16) was advanced to the south of the southern Drive Tower, and one soil boring (B-15) was advanced to the south of the Breaker House. One surface soil sample (S-17) was collected to the south of the Conveyor House.

12. **Coal Handling Tractor Building.** This building houses and maintains the coal handling tractors, and are used for the storage of various oils and lubricants. This building is located to the west of the Breaker House. One soil boring (B-14) was advanced.

13. **Diesel Aboveground Storage Tanks.** There are three diesel aboveground storage tanks (ASTs) located at the facility. One AST is located adjacent to the east side of the coal pile. This AST is 950,000 gallons in capacity, however, is no longer in use. One soil boring (B-12) was advanced. The second diesel AST is located in the coal handling area and south of the abandoned 950,000 gallon AST. One soil boring (B-13) was advanced and one monitoring well (MW-5) was installed by the western dispenser station and one surface sample (S-16) was collected adjacent to the AST. The third diesel AST is located to the south of the main building. One surface soil sample (S-9) was collected.

14. **Oil/Water Separator.** One oil/water separator is located to the west of the Crib House, which is located to the south of the main building. One soil boring (B-8) was advanced.

15. **Natural Gas Regulator House/Piping.** Natural gas is used at the facility as a supplemental fuel source for the boilers. The natural gas regulator house and natural gas pipes (which are located aboveground) are located to the west of the main building. One soil boring (B-19) was advanced at the natural gas regulator house and one surface soil sample (S-18) was collected adjacent to the piping.

It should be noted that due to heavy concentrations of buried utility lines or other underground obstructions, three planned soil borings (B-2, B-5, and B-7) were not advanced. Surface soil samples were not collected at these locations due to the areas being covered with concrete/asphalt.

2.1 Sampling Methods

All soil (surface and subsurface), sediment, and groundwater samples collected were submitted for analysis of BTEX and PNA constituents using EPA Methods 8260 and 8310, respectively, PCBs using EPA Method 8081, RCRA metals using EPA Method series 6000 and 7000, and pH by EPA Method 9045. In addition, surface soil and sediment samples were submitted for TPH using EPA Method 8015. A sample summary listing is presented in **Table 1**.

The sample glassware used to contain the samples retained for laboratory analysis were provided pre-cleaned from National Environmental Laboratories, Inc. (NET) of Bartlett, Illinois. Each sample was labeled with the project number, project location, client, sample number, sample depth, date, time, and requested analysis. The soil samples were stored on ice in the field in a cooler and shipped via courier under chain-of-custody to NET. Standard chain-of-custody procedures were maintained from the time of sample collection until delivery to the analytical laboratory.

2.1.1 Sediment Sampling

Six sediment samples (X-1 through X-6) were collected at the facility. The sediment sample locations are illustrated on **Figure 3**. Sediment samples were collected using a stainless steel hand shovel. All sampling equipment was decontaminated between each sediment sample location using the procedure outlined in **Section 2.3**.

2.1.2 Surface Soil Sampling

Twenty-three surface soil samples (S-1 through S-23) were collected at the facility. The surface soil sample locations are illustrated on **Figure 4**. Surface soil samples were collected using a stainless steel hand shovel. All sampling equipment was decontaminated between each sediment sample location using the procedure outlined in **Section 2.3**.

2.1.3 Soil Borings and Subsurface Soil Sampling

Seventeen soil borings (B-1, B-3, B-4, B-6, and B-8 through B-20) were advanced at the facility. It should be noted that due to heavy concentrations of buried utility lines or other underground obstructions, three planned soil borings (B-2, B-5, and B-7) were not advanced. The soil borings locations are illustrated on **Figure 5**. The soil borings were advanced by Fox Drilling, Inc. (Fox) of Itasca, Illinois, utilizing Geoprobe direct-push drilling techniques. The soil borings were advanced to a maximum depth of 4 feet below grade. All soil borings were backfilled with soil cuttings, and completed at surface grade with the appropriate material (i.e., concrete, asphalt). All sampling equipment was decontaminated between each soil boring location using the procedure outlined in **Section 2.3**.

Soil samples were collected by advancing by a hydraulically-driven stainless steel pre-probe. Soil samples were collected using a 2.0-inch diameter acetate lined soil sampler. Soil samples were continuously collected from the surface to the bottom of the soil borings. The soil samples were visually inspected and field classified using the general guidelines of the Unified Soil Classification System (USCS) and the American Society for Testing and Materials (ASTM) Test Method ASTM D2488 for soil classification.

Each soil sample was field screened for the presence of VOCs using a photoionization detector (PID) and standard headspace screening methods. The PID readings indicate relative levels of VOCs in the vapor headspace, but do not represent actual concentrations which may exist in the soil. The PID has a detection range of 1.0 part per million volume (ppmv) to 2,500 ppmv. The soil sample which exhibited the highest PID reading, or if no PID readings were detected, from directly above the field-interpreted groundwater level, was retained from each boring for laboratory analysis.

2.1.4 Monitoring Wells and Groundwater Sampling

Five monitoring wells (MW-1 through MW-5) were installed at the facility. The monitoring well locations are illustrated on **Figure 5**. The monitoring wells were installed by Fox utilizing hollow-stem augers and rotary drilling techniques. When bedrock was encountered, the monitoring wells were completed using rotary wash rock coring techniques. The monitoring wells were installed to a maximum depth of 37 feet below grade. Fluids generated during monitoring well installation and groundwater sampling were discharged to the ground surface in proximity to each sampling location. All sampling equipment was decontaminated between each soil boring location using the procedure outlined in **Section 2.3**.

The monitoring wells were installed through the working space within hollow stem augers. The monitoring wells were constructed of 2-inch diameter Schedule 40 PVC 0.010-inch slotted continuous wrap well screen and solid riser. A filter pack consisting of clean silica sand was placed surrounding the well screen to filter out fine soil particles from the formation adjacent to the screen. The filter pack extends from the bottom of the soil boring to approximately 1-foot above the top of the well screen. A bentonite pellet seal was placed on top of the sand pack and hydrated with distilled water to prevent surface water infiltration. The annular space above the bentonite seal was filled with a neat bentonite and cement grout to approximately 6-inches below grade. The monitoring wells were completed at grade and an 8-inch diameter steel protective road box was placed over each monitoring well and set in concrete at grade. The monitoring wells were capped with expandable well caps and equipped with locks to prevent unauthorized access. A monitoring well construction diagram is included in **Appendix A**.

After the installation of the monitoring wells, approximately three to five well volumes of groundwater was removed from each monitoring well, or until the groundwater was relatively free from sediment, using a peristaltic pump. One groundwater sample was collected from each monitoring well and submitted for laboratory analysis. It should be noted that due to the lack of sufficient water within the monitoring wells, groundwater samples could not be collected from MW-4. In addition, water quality field parameters consisting of pH, specific conductivity, and temperature were measured and recorded during sample collection.

2.2 Monitoring Well Gauging and Survey

Each monitoring well was gauged using an electronic interface probe in order to determine the presence or absence of liquid-phase hydrocarbons (LPHCs) and depth to groundwater. In addition, each monitoring well's top of casing and ground surface location was surveyed relative to an arbitrary benchmark assigned an elevation of 100 feet.

2.3 Equipment Decontamination

The drill rig and associated tooling, and sampling equipment were decontaminated prior to mobilization and before leaving the site. To minimize the potential for cross-contamination, drilling and sampling equipment were decontaminated between each use. Decontamination of drilling equipment consisted of steam cleaning. Sampling equipment, including split spoons and stainless steel sampling equipment, were decontaminated before each use by washing with a solution of Alconox (phosphate based detergent) and potable water, and rinsing with distilled water. Decontamination fluids generated during equipment decontamination were discharged to the ground surface in proximity to each sampling location.

3.0 INVESTIGATION FINDINGS

The findings of the subsurface investigation, soil and groundwater sampling, monitoring well gauging, survey, and chemical analysis, are presented below. Analytical results are summarized in **Table 2** through **Table 5**. The analytical reports and chain-of-custody forms are included in **Appendix B**.

Analytical results were compared against the cleanup objectives as presented in 35 Illinois Administrative Code (IAC) Section 742.Appendix B: Table B-Tier 1 Soil Remediation Objectives for Commercial/Industrial Properties, and 35 IAC Section 742.Appendix B: Table E-Tier 1 Groundwater Remediation Objectives for the Direct Ingestion of Groundwater Portion of the Groundwater Ingestion Route.

Soil analytical results for the RCRA metals are shown as totals. Therefore, the soil component of the groundwater ingestion exposure route has not been considered. In addition, the groundwater beneath the site is classified as Class I, therefore the Class I baseline was used.

3.1 Sediment

BTEX. The analytical results indicated that BTEX constituents were not detected above the laboratory method detection limits.

TPH. The analytical results indicated that TPH as oil was detected at concentrations ranging from 112 milligrams per kilogram (mg/kg) in sample X-4 to 193,000 mg/kg in sample X-1. However, cleanup objectives for TPH have not been established by the IEPA. TPH as gasoline or diesel was not detected above the laboratory method detection limits.

PNAs. The analytical results indicated that PNA constituents were detected in the sediment samples collected. However, these concentrations were not above the IEPA cleanup objectives. It should be noted that samples X-1, X-5, and X-6 had elevated detection limits due to matrix interference for benzo(a)anthracene, benzo(a)pyrene, and dibenzo(a,h)anthracene. These elevated detection limits are above the cleanup objectives, and consequently, there is a possibility that the concentrations are actually above the cleanup objectives.

PCBs. The analytical results indicated that PCBs were not detected above the laboratory method detection limits.

Metals. The analytical results indicated that arsenic was detected at concentrations above the IEPA cleanup objective of 3 mg/kg. Arsenic was detected at concentrations ranging from 3.5 mg/kg in sample X-6 to 12 mg/kg in sample X-3. In addition, sample X-1 had an elevated detection limit due to matrix interference. This elevated detection limit is above the cleanup objective, and consequently, there is a possibility that the concentration is actually above the cleanup objective of 3 mg/kg. However, the concentrations of arsenic are within the range of arsenic (0.35 mg/kg to 24 mg/kg) detected by the EPA during a state wide soil survey in 1992.

pH. pH values ranged from 7.66 in sample X-1 to 10.47 in sample X-3.

Analytical results are summarized in **Table 2**, and sampling locations are illustrated on **Figure 3**. The analytical report and chain-of-custody forms are included in **Appendix B**.

3.2 Surface Soil

BTEX. The analytical results indicated that toluene, ethyl benzene, and total xylenes were detected in sample S-2 at concentrations above the IEPA cleanup objectives. It should be noted that sample S-2 had an elevated detection limit due to matrix interference. This elevated detection limit is above the cleanup objective for benzene, and consequently, there is a possibility that the concentration is actually above the cleanup objective of 0.03 mg/kg.

TPH. The analytical results indicated that TPH as gasoline was detected at a concentration of 136,000 mg/kg in sample S-2, and TPH as diesel was detected at concentrations ranging from 1,170 mg/kg in sample S-9 to 40,500 mg/kg in sample S-16. TPH as oil was detected at concentrations ranging from 489 mg/kg in sample S-5 to 135,000 mg/kg in sample S-14. However, cleanup objectives for TPH have not been established by the IEPA.

PNAs. The analytical results indicated that benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, ideno(1,2,3-c,d)pyrene, and naphthalene were detected in samples S-2 and S-5 through S-8 at concentrations above the IEPA cleanup objectives. It should be noted that samples S-2 and S-8 through S-22 had elevated detection limits due to matrix interference. These elevated detection limits are above the cleanup objectives for benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene, and consequently, there is a possibility that the concentrations are actually above the cleanup objectives. Refer to **Table 3** for PNA results.

PCBs. The analytical results indicated that PCBs were detected at a concentration of 1.3 mg/kg in sample S-6, which is above the IEPA cleanup objective of 1.0 mg/kg.

Metals. The analytical results indicated that arsenic and lead were detected at concentrations above the IEPA cleanup objectives of 3 mg/kg and 400 mg/kg, respectively. Arsenic was detected at concentrations ranging from 3.3 mg/kg in sample S-5 and S-21 to 8.9 mg/kg in sample S-10. However, the concentrations of arsenic are within the range of arsenic (0.35 mg/kg to 24 mg/kg) detected by the EPA during a state wide soil survey in 1992. Lead was detected at a concentration of 721 mg/kg in sample S-10.

pH. pH values ranged from 6.71 in sample S-12 to 10.09 in sample S-17.

Analytical results are summarized in **Table 3**, and sampling locations are illustrated on **Figure 4**. The analytical report and chain-of-custody forms are included in **Appendix B**.

3.3 Subsurface Soil

Bedrock was encountered at approximately 1 foot to 4 feet below grade. Fill material, consisting of clay, sand, and gravel, was the primary material encountered above the bedrock. Soil boring logs are included in **Appendix A**.

The PID readings obtained from the soil samples collected ranged from 1.5 ppmv in B-3 (0 to 4 feet below grade) and B-17 (0 to 2 feet below grade) to 120 ppmv in B-13 (0 to 4 feet below grade). The PID field screening results are recorded on the boring logs in **Appendix A**.

BTEX. The analytical results indicated that BTEX constituents were detected in the subsurface soil samples collected. However, these concentrations were not above the IEPA cleanup objectives.

PNAs. The analytical results indicated that benzo(a)pyrene and benzo(b)fluoranthene were detected at concentrations above the IEPA cleanup objectives of 0.8 mg/kg and 5 mg/kg, respectively, in B-6. Benzo(a)pyrene was detected at a concentration of 6.8 mg/kg and benzo(b)fluoranthene was detected at a concentration of 6.4 mg/kg. It should be noted that B-6, B-10, B-11, B-13, B-14, and B-16 through B-20 had elevated detection limits due to matrix interference. These elevated detection limits are above the cleanup objectives for benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene, and consequently, there is a possibility that the concentrations are actually above the cleanup objectives.

PCBs. The analytical results indicated that PCBs were detected in the subsurface soil samples collected. However, these concentrations were not above the IEPA cleanup objective of 1.0 mg/kg.

Metals. The analytical results indicated that arsenic was detected at concentrations above the IEPA cleanup objective of 3 mg/kg. Arsenic was detected at concentrations ranging from 3.1 mg/kg in B-13 to 11 mg/kg in B-35. However, the concentrations of arsenic are within the range of arsenic (0.35 mg/kg to 24 mg/kg) detected by the EPA during a state wide soil survey in 1992.

pH. pH values ranged from 7.20 in B-17 to 9.62 in B-12.

Analytical results are summarized in **Table 4**, and soil boring locations are illustrated on **Figure 5**. The analytical report and chain-of-custody forms are included in **Appendix B**.

3.4 Groundwater

The groundwater elevations ranged from 10.40 feet in MW-3 to 29.68 feet in MW-2. Groundwater was not detected in monitoring well MW-4. LPHC was not detected in any of the monitoring wells. Based on the gauging data, the apparent groundwater flow direction beneath

the facility has been calculated to be to the south (**Figure 6, Groundwater Elevation Map**). Monitoring well gauging data is included in **Appendix C**.

Water quality field parameters consisting of pH, specific conductivity, and temperature were measured. The recorded measurements are summarized in **Table 5**.

BTEX. The analytical results indicated that BTEX constituents were detected in the groundwater samples collected. However, these concentrations were not above the IEPA cleanup objectives.

PNAs. The analytical results indicated that PNA constituents were detected in the groundwater samples collected. However, these concentrations were not above the IEPA cleanup objectives.

PCBs. The analytical results indicated that PCBs were not detected above the laboratory method detection limits.

Metals. The analytical results indicated that lead was detected at a concentration above the IEPA cleanup objective of 0.0075 milligrams per liter (mg/l). Lead was detected at a concentration of 0.0124 mg/l in MW-1. It should be noted that laboratory detection limit for cadmium was at 0.01 mg/l which is above the cleanup objective of 0.005 mg/l. Consequently, there is a possibility that the concentrations are actually above the cleanup objective.

Analytical results are summarized in **Table 5**, and monitoring well locations are illustrated on **Figure 5**. The analytical report and chain-of-custody forms are included in **Appendix B**.

4.0 DATA ASSESSMENT

4.1 Extent of Contamination

Based on the results of the subsurface investigation conducted, the following determinations and assessments were made regarding the extent of contamination at the facility. The following conclusions are subject to the Limitations presented in **Section 1.4**. In addition, although arsenic was detected above the IEPA cleanup objective, the concentrations of arsenic are within the range of arsenic detected by the EPA during a state wide soil survey in 1992. However, it should be noted that soil analytical results for the RCRA metals are shown as totals. Therefore, the soil component of the groundwater ingestion exposure route has not been considered.

4.1.1 Sediment

Arsenic was the only constituent of concern detected at concentrations above the IEPA cleanup objective of 3 mg/kg, at a maximum concentration of 12 mg/kg. In addition, arsenic was detected above the IEPA cleanup objective in five out of six sediment samples collected.

Due to matrix interference in sample X-1, X-5, and X-6, benzo(a)anthracene, benzo(a)pyrene, and dibenzo(a,h)anthracene had elevated detection limits, which are above the cleanup objectives. Consequently, there is a possibility that the concentrations are actually above the cleanup objectives.

4.1.2 Surface Soil

Arsenic, lead, PCBs, BTEX constituents (toluene, ethyl benzene, and total xylenes) and PNA constituents listed as benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenzo(a,h)anthracene, ideno(1,2,3-c,d)pyrene, and naphthalene, were the constituents of concern detected at concentrations above the IEPA cleanup objectives.

PNA constituents were detected above the IEPA cleanup objectives in the following locations:

- **Materials Storage Buildings.** Storage area located to the east of the Roof and Yard Runoff Basin (S-2) and the storage area located to the west of the Roof and Yard Runoff Basin (S-5).
- **Transformers.** Transformers on the east side of the southern portion of the main building (S-6), transformers on the south side of the eastern portion of the main building (S-7), and transformers on the south side of the western portion of the main building (S-8).

It should be noted that due to matrix interference in samples S-2 and S-8 through S-22, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene had elevated detection limits. Consequently, there is a possibility that the concentrations are actually above the cleanup objectives. These samples were collected from the storage area located to the east of the Roof and Yard Runoff Basin (S-2), transformers on the south side of the western portion of the main building (S-8), diesel AST located to the south of the main building (S-9), chimneys/precipitators (S-10 through S-14), northeastern coal pile runoff pond (S-15), diesel AST located in the coal handling area (S-16), Conveyor House (S-17), natural gas aboveground piping (S-18), storage area located to the west of the chimney/ precipitators (S-19), transformers on the west side of the main building (S-20 and S-21), and transformers adjacent to the Ash Disposal Silos (S-22).

BTEX constituents were detected above the IEPA cleanup objectives in the following locations:

- **Materials Storage Buildings.** Storage area located to the east of the Roof and Yard Runoff Basin (S-2).

It should be noted that due to matrix interference in sample S-2, benzene had an elevated detection limit. Consequently, there is a possibility that the concentration is actually above the cleanup objective. This sample was collected from the storage area located to the east of the Roof and Yard Runoff Basin (S-2).

Arsenic was detected above the IEPA cleanup objective, at a maximum concentration of 8.9 mg/kg in the following locations:

- **Ash Disposal Silos.** The Ash Disposal Silos are located to the north of the Roof and Yard Runoff Basin (S-1).
- **Transformers.** Transformers on the east side of the former Wastewater Treatment Plant (S-4), transformers on the east side of the southern portion of the main building (S-6), transformers on the south side of the eastern portion of the main building (S-7), transformers on the west side of the main building (S-20 and S-21), and transformers adjacent to the Ash Disposal Silos (S-22).
- **Materials Storage Buildings.** Storage area is located to the west of the Roof and Yard Runoff Basin (S-5).
- **Chimneys/Precipitators.** The chimneys and precipitators are located to the north of the main building (S-10 through S-14). It should be noted that lead was also detected above the IEPA cleanup objective of 400 mg/kg in this area (S-10) at a maximum concentration of 721 mg/kg.
- **Coal Handling Area.** The northeastern coal pile runoff pond (S-15).
- **Former Wastewater Treatment Plant.** The former Wastewater Treatment Plant (S-23).

PCBs were detected above the IEPA cleanup objective in the following locations:

- **Transformers.** Transformers east side of the southern portion of the main building (S-6).

4.1.3 Subsurface Soil

Arsenic and PNA constituents listed as benzo(a)pyrene and benzo(b)fluoranthene, were the constituents of concern detected at concentrations above the IEPA cleanup objectives.

PNA constituents were detected above the IEPA cleanup objectives in the following locations:

- **Transformers.** Transformers on the south side of the eastern portion of the main building (B-6).

Arsenic was detected above the IEPA cleanup objective, at a maximum concentration of 11 mg/kg in the following locations:

- **Gasoline UST.** The gasoline UST system located at the northwest corner of the Roof and Yard Runoff Basin (B-1).
- **Ash Settling Ponds.** The ash settling ponds located to the west of the former Wastewater Treatment Plant (B-3).
- **Transformers.** Transformers on the east side of the former Wastewater Treatment Plant (B-4) and transformers on the south side of the eastern portion of the main building (B-6).
- **Chimneys/Precipitators.** The chimneys and precipitators are located to the north of the main building (B-9 and B-10).
- **Switch Yard.** The Switch Yard located to the north of the main building (B-11).
- **Diesel ASTs.** The diesel AST located in the coal handling area (B-13).
- **Coal Handling Area Buildings.** The southern Drive Tower (B-16).
- **Coal Handling Area.** The eastern end of the southern side of the coal pile (B-17).
- **Natural Gas Regulator House/Piping.** The natural gas regulator house located to the west of the main building (B-19).

4.1.4 Groundwater

Lead was the constituent of concern detected at concentrations above the IEPA cleanup objectives. Lead was detected above the IEPA cleanup objective, at a maximum concentration of 0.0124 mg/l in the following locations:

- **Materials Storage Buildings.** Storage area is located to the east of the Roof and Yard Runoff Basin (MW-1).

It should be noted that laboratory detection limit for cadmium was at 0.01 mg/l which is above the cleanup objective of 0.005 mg/l. Consequently, there is a possibility that the concentrations are actually above the cleanup objective.

4.2 Potential Contaminant Exposure Pathways

Based on the above-referenced assessment, potential exposure pathways by which humans may be exposed to the constituents of concern have been identified at the facility. Potential sources, fate and transport mechanisms, and exposure media were considered in determining these potential exposure pathways. An identified potential exposure pathway does not imply that exposure is occurring, only that the potential exists for exposure.

4.2.1 Soil Ingestion

The soil ingestion pathway includes the first three feet within ground surface. Therefore, based on the analytical results, soil ingestion is a potential contaminant exposure pathway. Soil ingestion occurs when soil containing elevated concentrations of the constituents of concern are ingested into the body. The facility is an industrial site and direct contact and ultimately ingestion of the impacted soil is not likely to occur. However, construction activities would increase the possibility of exposure. Therefore, this pathway would need to allow for protection/prevention for the construction worker scenario.

4.2.2 Soil Inhalation

The soil inhalation pathway includes the first ten feet within ground surface. However, bedrock was encountered at approximately 4 feet below grade. Therefore, based on the analytical results, soil inhalation is a potential contaminant exposure pathway. Soil inhalation occurs when elevated concentrations of the constituents of concern are inhaled into the body. The constituents that were detected at concentrations above the IEPA cleanup objectives (i.e., metals, semi-volatiles, PCBs), are not considered highly volatile. However, the highly volatile constituents (i.e., BTEX, TPH as gasoline), were only detected at concentrations above the IEPA cleanup objectives at the storage area located to the east of the Roof and Yard Runoff Basin.

Based on the relatively low volatility of the detected constituents of concern, this pathway would not likely be an effective exposure pathway in the areas other than the storage area located to the east of the Roof and Yard Runoff Basin. Construction activities in this area of concern would increase the possibility of exposure. Therefore, this pathway would need to allow for protection/prevention for the construction worker scenario.

4.2.3 Groundwater Ingestion

The groundwater ingestion pathway includes groundwater being used as a potable source of water. The City of Joliet receives its potable water via 16 municipal potable water supply wells. These wells were drilled to approximately 1,600 feet below grade, and are cased to

approximately 300 feet below grade. Based on the depths of these wells, it is unlikely that the impacted groundwater beneath the facility would have any impact on these wells. Therefore, the groundwater ingestion is not a potential contaminant exposure pathway.

Based on the current land use (industrial) and site conditions (analytical results and soil types), it is judged that the potential for human exposure to the constituents of concern from this facility is low. However, personnel working at the facility could be susceptible to exposure due to accidental soil ingestion or soil inhalation due to activities such as construction. Such exposure may result from contact with contaminated subsurface or surface materials previously located beneath a protective barrier (i.e., concrete cap, building).

There is no requirement under Illinois environmental law to further investigate or remediate this property.

TABLES

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

MWG13-15_23325

Table 1

Sampling Locations and Analyses Summary

Commonwealth Edison Company
Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

	Sampling Locations[1]	Sampling Parameters	Sampling Depth (in feet)	Date Collected
Sediment Sample Identification				
X-1	Roof & Yard Runoff Basin	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
X-2	Ash Settling Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
X-3	Ash Settling Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
X-4	Ash Settling Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
X-5	Coal Handling Area	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
X-6	Coal Handling Area	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
Surface Soil Sample Identification				
S-1	Ash Disposal Silos	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-2	Materials Storage Areas	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-3	Former Wastewater Treatment Plant	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-4	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-5	Materials Storage Areas	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-6	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-7	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-8	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-9	Diesel ASTs	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-10	Chimneys/Precipitators	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-11	Chimneys/Precipitators	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-12	Chimneys/Precipitators	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-13	Chimneys/Precipitators	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-14	Chimneys/Precipitators	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-15	Coal Handling Area	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-16	Diesel ASTs	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-17	Coal Handling Area Building	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-18	Natural Gas Regulator House/Piping	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-19	Materials Storage Areas	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-20	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-21	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-22	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/07/98
S-23	Former Wastewater Treatment Plant	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98

MWG13-15_23326

Table 1

Sampling Locations and Analyses Summary

Commonwealth Edison Company
Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

	Sampling Locations	Sampling Parameters	Sampling Depth (in feet)	Date Collected
Boring Identification				
B-1	Gasoline UST	BTEX, PNAs, PCBs, RCRA metals, pH	0-3	10/08/98
B-3	Ash Settling Ponds	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/08/98
B-4	Transformers	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/08/98
B-6	Transformers	BTEX, PNAs, PCBs, RCRA metals, pH	0-2	10/08/98
B-8	Oil/Water Separator	BTEX, PNAs, PCBs, RCRA metals, pH	0-3	10/08/98
B-9	Chimneys/Precipitators	BTEX, PNAs, PCBs, RCRA metals, pH	0-3	10/09/98
B-10	Chimneys/Precipitators	BTEX, PNAs, PCBs, RCRA metals, pH	0-2	10/09/98
B-11	Switch Yard	BTEX, PNAs, PCBs, RCRA metals, pH	0-2	10/09/98
B-12	Diesel ASTs	BTEX, PNAs, PCBs, RCRA metals, pH	0-1	10/09/98
B-13	Diesel ASTs	BTEX, PNAs, PCBs, RCRA metals, pH	0-3	10/08/98
B-14	oal Handling Tractor Buildin	BTEX, PNAs, PCBs, RCRA metals, pH	0-2	10/08/98
B-15	Coal Handling Area Building	BTEX, PNAs, PCBs, RCRA metals, pH	0-2	10/08/98
B-16	Coal Handling Area Building	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/08/98
B-17	Coal Handling Area	BTEX, PNAs, PCBs, RCRA metals, pH	0-2	10/08/98
B-18	Coal Handling Area	BTEX, PNAs, PCBs, RCRA metals, pH	0-1	10/08/98
B-19	Natural Gas Regulator House/Piping	BTEX, PNAs, PCBs, RCRA metals, pH	0-1	10/09/98
B-20	Transformers	BTEX, PNAs, PCBs, RCRA metals, pH	0-2	10/09/98
Monitoring Well Sample Identification				
MW-1	Materials Storage Areas	BTEX, PNAs, PCBs, RCRA metals	NA	10/27/98
MW-2 (B-3)	Ash Settling Ponds	BTEX, PNAs, PCBs, RCRA metals	NA	10/22/98
MW-3 (B-17)	Coal Handling Area	BTEX, PNAs, PCBs, RCRA metals	NA	10/22/98
MW-4 (B-18)	Coal Handling Area	BTEX, PNAs, PCBs, RCRA metals	NA	not sampled
MW-5 (B-13)	Diesel ASTs	BTEX, PNAs, PCBs, RCRA metals	NA	10/22/98

Notes:

BTEX was analyzed using EPA Method 8260.

PNAs were analyzed using EPA Method 8310

PCBs were analyzed using EPA Method 8081.

RCRA metals were analyzed using EPA Method series 6000 and 7000.

pH was measured using EPA Method 9045.

(1) Sampling locations are referenced in the Phase II Environmental Site Assessment Report in **Section 2.0**.

MWG13-15_23327

Sediment Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

Sample I.D. Lab I.D. Sample Date	X-1 496624 10/7/98	X-2 496628 10/7/98	X-3 496629 10/7/98	X-4 496630 10/7/98	X-5 496637 10/7/98	X-6 496641 10/7/98	IEPA Soil Cleanup Objectives
Parameters							
BTEX							
Benzene	< 0.03	< 0.008	< 0.008	< 0.007	< 0.01	< 0.01	0.03
Toluene	< 0.03	< 0.008	< 0.008	< 0.007	< 0.01	< 0.01	12
Ethyl Benzene	< 0.03	< 0.008	< 0.008	< 0.007	< 0.01	< 0.01	13
Total Xylenes	< 0.03	< 0.008	< 0.008	< 0.007	< 0.01	< 0.01	150
TPH							
Gasoline	< 33,000	< 78	< 76	< 66	< 1,080	< 960	NA[1]
Diesel	< 33,000	< 78	< 76	< 66	< 1,080	< 960	NA
Oil	193,000	< 78	149	112	1,640	9,980	NA
PNAs							
Acenaphthene	< 12	< 0.031	< 0.2	< 0.40	< 0.43	< 0.38	570
Acenaphthylene	< 12	< 0.031	< 0.2	< 0.40	< 0.43	< 0.38	NA
Anthracene	< 24	< 0.063	< 0.3	< 0.80	< 0.86	< 0.77	12,000
Benzo(a)anthracene	< 8.0	0.0077	< 1.5	< 0.37	< 9.7	< 8.1	2
Benzo(a)pyrene	< 2.7	< 0.0072	< 0.15	< 0.092	< 0.30	< 0.63	0.8
Benzo(b)fluoranthene	< 2.1	< 0.0056	< 0.21	0.23	< 0.35	< 0.36	5
Benzo(g,h,i)perylene	< 24	< 0.063	< 0.3	< 0.80	< 0.86	< 0.77	NA
Benzo(k)fluoranthene	< 2.1	< 0.0053	< 0.21	< 0.16	< 0.18	< 0.98	49
Chrysene	< 20	< 0.05	< 0.3	< 0.5	< 0.6	< 0.6	160
Dibenzo(a,h)anthracene	< 3	< 0.009	< 0.05	< 0.1	< 0.1	< 0.1	0.8
Fluoranthene	< 12	< 0.031	< 0.2	< 0.40	< 0.43	< 0.67	4,300
Fluorene	< 12	< 0.031	< 0.2	< 0.40	< 0.43	< 0.38	560
Indeno(1,2,3-c,d)pyrene	< 5.1	< 0.013	< 0.06	< 0.17	< 0.19	< 1.2	8
Naphthalene	< 15	< 0.039	< 0.2	< 0.50	< 0.54	< 0.48	84
Phenanthrene	< 24	< 0.063	< 0.3	< 0.80	< 0.86	< 0.77	NA
Pyrene	< 12	< 0.031	< 0.2	< 0.40	< 0.43	0.88	4,200
RCRA Metals[2]							
Arsenic	< 8.0	5.9	12	8.4	< 2.6	3.5	3
Barium	800	2,500	2,740	1,460	1,510	883	14,000
Cadmium	< 3.3	< 0.78	1.5	1.2	< 1.1	< 0.96	200
Chromium	35	19	30	24	10	14	420
Lead	45	42	40	33	9.5	31	400
Mercury	< 0.27	< 0.063	0.075	0.17	< 0.086	0.098	61
Selenium	< 1.7	< 0.39	0.66	0.37	< 0.54	< 0.48	1,000
Silver	< 13	< 3.1	< 3.0	< 2.7	< 4.3	< 3.8	1,000
Total PCBs	< 0.53	< 0.063	< 0.061	< 0.053	< 0.086	< 0.077	1
pH	7.66	10.40	10.47	9.24	8.10	7.96	NA

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table B: Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties.

[1] NA indicates not applicable, cleanup objectives have not been established for these parameters.

Surface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

Sample I.D.	S-1	S-2	S-3	S-4	S-5	S-6	IEPA Soil
Lab I.D.	496631	496625	496627	496626	496623	496633	Cleanup
Sample Date	10/7/98	10/7/98	10/7/98	10/7/98	10/7/98	10/7/98	Objectives
Parameters							
BTEX							
Benzene	< 0.005	< 11	< 0.005	< 0.006	< 0.006	< 0.008	0.03
Toluene	< 0.005	57	< 0.005	< 0.006	< 0.006	< 0.008	12
Ethyl Benzene	< 0.005	37	< 0.005	< 0.006	< 0.006	< 0.008	13
Total Xylenes	< 0.005	442	< 0.005	< 0.006	< 0.006	< 0.008	150
TPH							
Gasoline	< 5,400	136,000	< 540	< 5,700	< 314	< 20,000	NA[1]
Diesel	< 5,400	< 5,670	1,400	< 5,700	< 314	< 20,000	NA
Oil	15,100	< 5,670	9,830	13,600	489	33,000	NA
PNAs							
Acenaphthene	< 0.97	< 10	< 0.76	< 2.0	< 1.8	< 2.8	570
Acenaphthylene	< 0.97	< 10	< 0.76	< 2.0	< 1.8	< 2.8	NA
Anthracene	< 1.9	< 79	< 1.5	< 4.1	< 3.5	< 5.7	12,000
Benzo(a)anthracene	1.2	< 7.6	1.5	< 0.65	7.4	16	2
Benzo(a)pyrene	< 0.23	< 2.4	0.55	< 0.46	4.3	6.3	0.8
Benzo(b)fluoranthene	0.67	< 1.8	0.57	< 0.36	5	7.2	5
Benzo(g,h,i)perylene	< 1.9	< 20	< 1.5	< 4.1	4	6.8	NA
Benzo(k)fluoranthene	< 0.16	< 1.7	0.33	< 0.35	2.5	12	49
Chrysene	< 1	< 11	< 1	< 3	5.4	8	160
Dibenzo(a,h)anthracene	< 0.3	< 3	< 0.2	< 0.6	< 0.5	< 0.8	0.8
Fluoranthene	1.1	< 87	1.2	< 2.0	11	27	4,300
Fluorene	< 0.97	< 68	< 0.76	< 2.0	< 1.8	4.7	560
Indeno(1,2,3-c,d)pyrene	< 0.42	< 4.4	< 0.32	< 0.87	3.1	5.7	8
Naphthalene	< 1.2	363	< 0.95	< 2.5	< 2.3	< 3.5	84
Phenanthrene	< 1.9	< 52	< 1.5	< 4.1	4.3	17	NA
Pyrene	1.2	< 10	1	< 2.0	9	20	4,200
RCRA Metals[2]							
Arsenic	3.4	2	3	5.5	3.3	5.5	3
Barium	301	110	14	193	213	1,130	14,000
Cadmium	< 0.54	< 0.57	1.6	1.4	1.4	31	200
Chromium	30	5.2	7.6	12	10	68	420
Lead	22	8.7	27	55	75	251	400
Mercury	0.072	1.5	0.13	0.25	< 0.050	0.16	61
Selenium	< 0.27	0.33	0.28	< 0.28	0.35	0.58	1,000
Silver	< 2.2	< 2.3	< 2.2	< 2.3	< 2.5	< 3.1	1,000
Total PCBs	< 0.043	< 0.091	< 0.043	< 0.045	< 0.050	1.3	1
pH	8.62	8.37	8.34	8.90	8.62	7.79	NA

Surface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

Sample I.D.	S-7	S-8	S-9	S-10	S-11	S-12	IEPA Soil
Lab I.D.	496634	496635	496636	496966	496967	496968	Cleanup
Sample Date	10/7/98	10/7/98	10/7/98	10/7/98	10/7/98	10/7/98	Objectives
Parameters							
BTEX							
Benzene	< 0.006	< 0.007	< 0.005	< 0.006	< 0.006	< 0.005	0.03
Toluene	< 0.006	< 0.007	< 0.005	< 0.006	< 0.006	< 0.005	12
Ethyl Benzene	< 0.006	< 0.007	< 0.005	< 0.006	< 0.006	< 0.005	13
Total Xylenes	< 0.006	< 0.007	< 0.005	< 0.006	< 0.006	< 0.005	150
TPH							
Gasoline	< 2,800	< 6,900	< 530	< 5,600	< 5,700	< 5,400	NA
Diesel	< 2,800	< 6,900	1,170	< 5,600	< 5,700	< 5,400	NA
Oil	9,090	128,000	< 530	105,000	63,400	87,100	NA
PNAs							
Acenaphthene	< 22	< 4.1	< 1.1	< 2.5	< 2.3	< 4.3	570
Acenaphthylene	< 22	< 4.1	< 1.1	< 2.5	< 2.3	< 4.3	NA
Anthracene	155	< 8.3	< 2.1	< 5.0	< 4.5	< 8.6	12,000
Benzo(a)anthracene	244	< 17	< 2.2	< 2.8	< 4.8	< 3.7	2
Benzo(a)pyrene	200	6.3	< 0.57	< 0.57	< 0.52	< 0.99	0.8
Benzo(b)fluoranthene	222	5.4	< 0.57	< 0.45	< 0.41	1.5	5
Benzo(g,h,i)perylene	155	< 8.3	< 2.1	< 5.0	< 4.5	< 8.6	NA
Benzo(k)fluoranthene	100	< 3.0	< 0.34	< 0.42	< 0.39	0.92	49
Chrysene	211	< 6	< 2	< 3	< 3	< 6	160
Dibenzo(a,h)anthracene	34	< 1	< 0.3	< 0.8	< 0.7	< 1	0.8
Fluoranthene	543	11	< 1.1	< 2.5	< 2.3	< 4.3	4,300
Fluorene	64	< 4.1	< 1.1	< 2.5	< 2.3	< 4.3	560
Indeno(1,2,3-c,d)pyrene	126	4.3	< 0.46	< 1.1	< 0.97	< 1.8	8
Naphthalene	34	< 5.2	< 1.3	< 3.2	< 2.8	< 5.4	84
Phenanthrene	421	< 8.3	< 2.1	< 5.0	< 4.5	< 8.6	NA
Pyrene	410	15	< 1.1	< 2.5	< 2.3	< 4.3	4,200
RCRA Metals							
Arsenic	3.4	2.6	3	8.9	5.5	4.7	3
Barium	110	592	181	1,350	555	892	14,000
Cadmium	1.6	5.6	< 0.53	2.1	1.6	9.9	200
Chromium	8.4	13	8	23	11	29	420
Lead	18	37	35	721	110	366	400
Mercury	0.13	< 0.055	< 0.043	0.18	0.08	0.19	61
Selenium	0.31	< 0.34	0.31	0.71	0.46	0.37	1,000
Silver	< 2.2	< 2.8	< 2.1	< 2.3	< 2.3	< 2.2	1,000
Total PCBs	0.2	0.58	< 0.043	< 0.045	0.37	< 0.043	1
pH	9.22	7.70	8.66	7.95	7.58	6.71	NA

Surface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

Sample I.D.	S-13	S-14	S-15	S-16	S-17	S-18	IEPA Soil
Lab I.D.	496969	496970	496638	496639	496640	496644	Cleanup
Sample Date	10/7/98	10/7/98	10/7/98	10/7/98	10/7/98	10/7/98	Objectives
Parameters							
BTEX							
Benzene	< 0.007	< 0.006	< 0.006	< 0.006	< 0.01	< 0.006	0.03
Toluene	< 0.007	< 0.006	< 0.006	< 0.006	< 0.01	< 0.006	12
Ethyl Benzene	< 0.007	< 0.006	< 0.006	< 0.006	< 0.01	< 0.006	13
Total Xylenes	< 0.007	< 0.006	< 0.006	< 0.006	< 0.01	< 0.006	150
TPH							
Gasoline	< 6,700	< 12,000	< 61	< 6,100	< 1,200	< 560	NA
Diesel	< 6,700	< 12,000	< 61	40,500	< 1,200	< 560	NA
Oil	76,000	135,000	522	< 6,100	6,950	743	NA
PNAs							
Acenaphthene	< 2.7	< 3.0	< 0.24	< 2.5	< 1.2	< 0.23	570
Acenaphthylene	< 2.7	< 3.0	< 0.24	< 2.5	< 1.2	< 0.23	NA
Anthracene	< 5.3	< 5.9	< 0.49	< 4.9	< 2.5	< 0.45	12,000
Benzo(a)anthracene	**< 6.4**	**< 4.3**	**< 2.8**	**< 34**	**< 18**	**< 2.6**	2
Benzo(a)pyrene	< 0.61	< 0.68	< 0.30	< 0.57	**< 2.4**	< 0.18	0.8
Benzo(b)fluoranthene	0.92	< 0.53	< 0.41	< 1.8	**< 4.0**	< 0.20	5
Benzo(g,h,i)perylene	< 5.3	< 5.9	< 0.49	< 4.9	< 2.5	< 0.45	NA
Benzo(k)fluoranthene	0.69	< 0.50	< 0.27	< 0.42	< 3.0	< 0.33	49
Chrysene	< 4	< 5	0.41	< 4	2	< 0.3	160
Dibenzo(a,h)anthracene	< 0.8	**< 0.9**	< 0.07	< 0.7	**< 2.1**	< 0.087	0.8
Fluoranthene	< 2.7	< 3.0	< 0.64	< 23	< 2.7	< 0.23	4,300
Fluorene	< 2.7	< 3.0	< 0.24	5.5	< 1.2	< 0.23	560
Indeno(1,2,3-c,d)pyrene	< 1.1	< 1.2	< 0.10	< 1.1	< 7.7	< 0.54	8
Naphthalene	< 3.3	< 3.7	< 0.30	< 3.1	< 1.5	< 0.28	84
Phenanthrene	< 5.3	< 5.9	< 0.49	< 4.9	< 2.5	< 0.45	NA
Pyrene	< 2.7	< 3.0	0.49	< 23	3.2	< 0.23	4,200
RCRA Metals							
Arsenic	**5.9**	**4.8**	**6.9**	2.7	< 3.0	2.1	3
Barium	933	1,350	328	221	819	158	14,000
Cadmium	2.7	2.2	0.74	2	2.1	< 0.56	200
Chromium	19	20	8.6	4.4	8.9	3.4	420
Lead	187	283	23	14	82	6.9	400
Mercury	< 0.053	0.18	< 0.049	< 0.049	< 0.099	< 0.045	61
Selenium	0.4	0.71	< 0.30	0.32	< 0.62	< 0.28	1,000
Silver	< 2.7	< 2.5	< 2.4	< 2.5	< 5.0	< 2.3	1,000
Total PCBs	0.17	0.17	< 0.049	< 0.049	0.14	< 0.045	1
pH	8.13	7.27	7.88	7.85	10.09	8.42	NA

Surface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

Sample I.D. Lab I.D. Sample Date	S-19 496645 10/7/98	S-20 496642 10/7/98	S-21 496643 10/7/98	S-22 496632 10/7/98	S-23 496974 10/8/98	IEPA Soil Cleanup Objectives
Parameters						
BTEX						
Benzene	< 0.006	< 0.007	< 0.005	< 0.006	< 0.01	0.03
Toluene	< 0.006	< 0.007	< 0.005	< 0.006	< 0.01	12
Ethyl Benzene	< 0.006	< 0.007	< 0.005	< 0.006	< 0.01	13
Total Xylenes	< 0.006	< 0.007	< 0.005	< 0.006	< 0.01	150
TPH						
Gasoline	< 6,200	< 720	< 5,500	< 5,800	< 96	NA
Diesel	< 6,200	< 720	< 5,500	< 5,800	< 96	NA
Oil	77,500	1,420	104,000	32,500	< 96	NA
PNAs						
Acenaphthene	< 2.7	< 0.1	< 0.66	< 10	< 0.038	570
Acenaphthylene	< 2.7	< 0.1	< 0.66	< 10	< 0.038	NA
Anthracene	< 5.4	< 0.3	< 1.3	< 21	< 0.077	12,000
Benzo(a)anthracene	< 17	< 4.1	< 2.1	< 1.4	< 0.023	2
Benzo(a)pyrene	< 0.63	< 0.099	< 0.34	< 2.4	< 0.0088	0.8
Benzo(b)fluoranthene	< 0.49	< 0.03	< 0.12	< 1.9	< 0.0069	5
Benzo(g,h,i)perylene	< 5.4	< 0.3	< 1.3	< 21	< 0.077	NA
Benzo(k)fluoranthene	< 0.46	< 0.042	< 0.11	< 1.7	0.0067	49
Chrysene	< 4	< 0.3	< 1	< 12	< 0.06	160
Dibenzo(a,h)anthracene	< 0.9	< 0.17	< 0.2	< 3	< 0.01	0.8
Fluoranthene	< 2.7	< 0.1	< 0.66	< 10	< 0.038	4,300
Fluorene	< 2.7	< 0.1	< 0.66	< 10	< 0.038	560
Indeno(1,2,3-c,d)pyrene	< 1.2	< 0.06	< 0.29	< 4.5	< 0.017	8
Naphthalene	< 3.4	< 0.1	< 0.82	< 13	< 0.048	84
Phenanthrene	< 5.4	< 0.3	< 1.3	< 21	< 0.077	NA
Pyrene	< 2.7	< 0.1	< 0.66	< 10	< 0.038	4,200
RCRA Metals						
Arsenic	2.6	5.4	3.3	5.5	4.2	3
Barium	517	638	186	592	110	14,000
Cadmium	0.62	1	0.72	0.74	2.3	200
Chromium	11	5.8	23	60	6.3	420
Lead	23	13	15	32	16	400
Mercury	< 0.049	0.064	< 0.044	0.063	< 0.077	61
Selenium	< 1.5	< 0.36	< 0.27	0.36	< 0.48	1,000
Silver	< 2.5	< 2.9	< 2.2	< 2.3	< 3.8	1,000
Total PCBs	< 0.049	< 0.058	< 0.44	< 0.046	< 0.077	1
pH	7.85	7.66	8.13	8.10	9.04	NA

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table B: Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties.

(1) NA indicates not applicable, cleanup objectives have not been established for these parameters.
(2) [illegible]

MWG13-15_23332

Table 4
Subsurface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

Sample I.D.	B-1	B-3	B-4	B-6	B-8	
Lab I.D.	496972	496975	496973	496977	496978	IEPA Soil
Sample Date	10/8/98	10/8/98	10/8/98	10/8/98	10/8/98	Cleanup
Sample Depth (feet)	0-3	0-4	0-4	0-2	0-3	Objectives
Parameters						
BTEX						
Benzene	< 0.005	< 0.006	< 0.006	< 0.005	< 0.006	0.03
Toluene	< 0.005	< 0.006	< 0.006	< 0.005	< 0.006	12
Ethyl Benzene	< 0.005	< 0.006	< 0.006	< 0.005	< 0.006	13
Total Xylenes	< 0.005	< 0.006	0.01	< 0.005	< 0.006	150
PNAs						
Acenaphthene	< 0.1	< 0.023	< 2.2	< 2.0	< 0.1	570
Acenaphthylene	< 0.1	< 0.023	< 2.2	< 2.0	< 0.1	NA
Anthracene	< 0.2	< 0.045	< 4.4	< 4.0	< 0.2	12,000
Benzo(a)anthracene	0.48	< 0.065	< 0.99	< 9.0	< 0.46	2
Benzo(a)pyrene	0.55	< 0.0052	0.73	6.8	< 0.11	0.8
Benzo(b)fluoranthene	0.45	0.021	0.5	6.4	0.14	5
Benzo(g,h,i)perylene	0.66	< 0.045	< 4.4	5.8	< 0.2	NA
Benzo(k)fluoranthene	0.29	< 0.034	< 0.37	4	< 0.088	49
Chrysene	0.44	< 0.03	< 3	7.2	< 0.2	160
Dibenzo(a,h)anthracene	0.086	< 0.007	< 0.7	0.8	< 0.03	0.8
Fluoranthene	0.55	< 0.11	< 2.2	13	0.44	4,300
Fluorene	< 0.1	< 0.060	< 2.2	< 2.0	< 0.1	560
Indeno(1,2,3-c,d)pyrene	0.45	< 0.0097	< 0.95	5.3	0.083	8
Naphthalene	< 0.1	0.29	< 2.8	< 2.4	< 0.1	84
Phenanthrene	0.23	0.18	< 4.4	5	0.32	NA
Pyrene	0.51	< 0.19	< 2.2	11	0.26	4,200
RCRA Metals[2]						
Arsenic	8.8	11	8	7.1	2.9	3
Barium	242	169	132	209	237	14,000
Cadmium	8	1.7	1.4	2.7	3.9	200
Chromium	89	43	19	38	7.4	420
Lead	100	34	32	54	12	400
Mercury	0.68	< 0.045	0.068	0.13	0.16	61
Selenium	0.31	0.4	0.36	0.49	< 0.28	1,000
Silver	2.6	< 2.3	< 2.2	< 2.2	< 2.3	1,000
Total PCBs	0.15	< 0.045	< 0.044	0.36	< 0.045	1
pH	8.56	8.52	7.85	9.57	8.37	NA

Table 4
Subsurface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

Sample I.D.	B-9	B-10	B-11	B-12	B-13	B-14	
Lab I.D.	497460	497459	497458	497456	496971	497454	IEPA Soil
Sample Date	10/9/98	10/9/98	10/9/98	10/9/98	10/8/98	10/8/98	Cleanup
Sample Depth (feet)	0-3	0-2	0-2	0-1	0-3	0-2	Objectives
Parameters							
BTEX							
Benzene	< 0.005	< 0.007	< 0.006	< 0.006	< 0.005	< 0.007	0.03
Toluene	< 0.005	< 0.007	< 0.006	< 0.006	< 0.005	< 0.007	12
Ethyl Benzene	< 0.005	< 0.007	< 0.006	< 0.006	< 0.005	< 0.007	13
Total Xylenes	< 0.005	< 0.007	< 0.006	< 0.006	< 0.005	< 0.007	150
PNAs							
Acenaphthene	< 1.7	< 1.9	< 1.6	< 0.14	< 2.1	< 0.42	570
Acenaphthylene	< 1.7	< 1.9	< 1.6	< 0.17	< 2.1	< 0.27	NA
Anthracene	< 3.4	< 3.7	< 3.2	< 0.2	< 27	< 3.4	12,000
Benzo(a)anthracene	< 1.6	**< 5.3**	**< 2.4**	< 0.78	**< 7.1**	**< 9.3**	2
Benzo(a)pyrene	< 0.65	< 0.79	< 0.37	< 0.16	**< 1.6**	< 0.18	0.8
Benzo(b)fluoranthene	0.44	< 0.52	< 0.59	< 0.17	< 3.3	< 0.16	5
Benzo(g,h,i)perylene	< 3.4	< 3.7	< 3.2	< 0.2	< 4.3	< 0.55	NA
Benzo(k)fluoranthene	0.4	< 0.32	< 0.27	< 0.29	< 3.6	< 0.16	49
Chrysene	< 2	< 2.8	< 2.4	< 0.2	< 3	< 0.4	160
Dibenzo(a,h)anthracene	< 0.5	< 0.56	< 0.48	< 0.083	< 0.6	< 0.08	0.8
Fluoranthene	< 1.7	< 2.3	< 1.6	< 0.1	< 7.3	< 2.6	4,300
Fluorene	< 1.7	< 1.9	< 1.6	< 0.125	3.1	< 0.27	560
Indeno(1,2,3-c,d)pyrene	< 0.74	< 0.77	< 0.69	< 0.28	< 3.2	< 0.12	8
Naphthalene	< 2.1	< 2.3	< 2.0	< 0.16	5.8	< 0.34	84
Phenanthrene	< 3.4	< 3.7	< 3.2	< 0.2	< 4.3	< 0.55	NA
Pyrene	< 1.7	< 1.9	< 1.6	0.277	< 3.6	< 0.37	4,200
RCRA Metals							
Arsenic	**5.6**	**6**	**3.2**	2.4	**3.1**	1.9	3
Barium	332	1,080	2,070	240	321	423	14,000
Cadmium	1.3	7.9	< 0.58	< 0.60	< 0.54	0.82	200
Chromium	20	33	14	4.9	4.5	6.3	420
Lead	86	373	24	9.8	9.4	7.2	400
Mercury	0.2	0.13	< 0.046	< 0.048	< 0.043	0.064	61
Selenium	0.44	0.56	0.31	< 0.30	< 0.27	< 0.34	1,000
Silver	< 2.1	< 2.7	< 2.3	< 2.4	< 2.1	< 2.7	1,000
Total PCBs	0.113	0.24	< 0.046	< 0.048	< 0.043	< 0.055	1
pH	9.44	8.67	9.62	8.65	8.67	8.01	NA

Table 4
Subsurface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

Sample I.D.	B-15	B-16	B-17	B-18	B-19	B-20	
Lab I.D.	497453	497451	497452	497450	497457	497455	IEPA Soil
Sample Date	10/8/98	10/8/98	10/8/98	10/8/98	10/9/98	10/9/98	Cleanup
Sample Depth (feet)	0-2	0-4	0-2	0-1	0-1	0-2	Objectives
Parameters							
BTEX							
Benzene	< 0.005	< 0.006	< 0.006	< 0.007	< 0.008	< 0.006	0.03
Toluene	< 0.005	< 0.006	< 0.006	< 0.007	< 0.008	< 0.006	12
Ethyl Benzene	< 0.005	0.27	< 0.006	< 0.007	< 0.008	< 0.006	13
Total Xylenes	< 0.005	0.018	< 0.006	< 0.007	< 0.008	< 0.006	150
PNAs							
Acenaphthene	< 0.1	< 4.9	< 0.24	< 0.84	< 2.4	< 0.530	570
Acenaphthylene	< 0.1	< 4.9	< 0.24	< 0.84	< 2.4	< 0.333	NA
Anthracene	< 0.2	< 9.8	< 1.4	< 6.0	< 4.9	< 3.04	12,000
Benzo(a)anthracene	< 0.71	**< 18**	**< 2.2**	**< 6.4**	**< 12**	**< 9.71**	2
Benzo(a)pyrene	< 0.073	**< 8.3**	< 0.31	< 0.67	< 0.76	< 0.073	0.8
Benzo(b)fluoranthene	< 0.022	< 13	< 0.098	< 0.31	< 1.0	0.3	5
Benzo(g,h,i)perylene	< 0.2	< 9.8	< 0.47	< 1.7	< 4.9	< 0.46	NA
Benzo(k)fluoranthene	< 0.026	< 16	< 0.43	< 1.1	< 1.7	0.2	49
Chrysene	< 0.2	7.7	< 0.4	< 1	< 3.6	0.39	160
Dibenzo(a,h)anthracene	< 0.03	< 1	< 0.07	< 0.3	< 0.7	< 0.22	0.8
Fluoranthene	< 0.1	< 4.9	< 0.38	< 3.9	< 3.0	4.7	4,300
Fluorene	< 0.1	< 4.9	< 0.24	< 0.84	< 2.4	< 0.527	560
Indeno(1,2,3-c,d)pyrene	< 0.04	< 2.1	< 0.10	< 0.36	< 1.7	0.32	8
Naphthalene	< 0.1	< 6.1	< 0.30	1.5	< 3.0	< 0.43	84
Phenanthrene	< 0.2	< 9.8	0.61	2.1	< 4.9	1.4	NA
Pyrene	< 0.1	8.7	0.31	< 6.7	< 2.4	2.7	4,200
RCRA Metals							
Arsenic	2.5	**3.7**	**5.2**	2.2	**3.2**	2.8	3
Barium	100	982	449	656	912	312	14,000
Cadmium	< 0.54	0.98	< 0.59	1.8	7.1	< 0.58	200
Chromium	4.2	12	6.7	17	9	10	420
Lead	9.7	32	15	18	30	41	400
Mercury	< 0.043	0.21	0.057	0.092	0.071	0.047	61
Selenium	< 0.27	< 0.31	< 0.30	< 0.35	< 0.38	< 0.29	1,000
Silver	< 2.2	< 2.5	< 2.4	< 2.8	< 3.0	< 2.3	1,000
Total PCBs	< 0.043	0.05	< 0.047	0.059	< 0.061	< 0.046	1
pH	8.60	7.37	7.20	7.91	7.64	8.25	NA

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table B: Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties.

(1) NA indicates not applicable, cleanup objectives have not been established for these parameters.
(2) Results are shown as totals, therefore the soil component of the groundwater ingestion exposure route has not been considered.

Table 5
Groundwater Sampling
Groundwater Analytical Results in Milligrams per Liter (mg/l)
Commonwealth Edison Company - Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

Sample I.D.	MW-1	MW-2 (B-3)	MW-3 (B-17)	MW-5 (B-13)	IEPA Groundwater
Lab I.D.	500229	499551	499552	499553	(Class I)
Sample Date	10/27/98	10/22/98	10/22/98	10/22/98	Cleanup Objectives
Parameters					
BTEX					
Benzene	< 0.001	< 0.001	< 0.001	< 0.001	0.005
Toluene	0.0018	< 0.001	< 0.001	< 0.001	1.0
Ethyl Benzene	< 0.001	< 0.001	< 0.001	< 0.001	0.7
Total Xylenes	0.0029	< 0.001	< 0.001	< 0.001	10.0
PNAs					
Acenaphthene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.42
Acenaphthylene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	NA[1]
Anthracene	< 0.0036	< 0.0005	< 0.0005	< 0.0005	2.1
Benzo(a)anthracene	< 0.00013	< 0.00013	< 0.00013	< 0.00013	0.00013
Benzo(a)pyrene	< 0.00023	< 0.00023	< 0.00023	< 0.00023	0.0002
Benzo(b)fluoranthene	< 0.00018	< 0.00018	< 0.00018	< 0.00018	0.00018
Benzo(g,h,i)perylene	< 0.00076	< 0.00076	< 0.00076	< 0.00076	NA
Benzo(k)fluoranthene	< 0.00017	< 0.00017	< 0.00017	< 0.00017	0.00017
Chrysene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0015
Dibenzo(a,h)anthracene	< 0.00030	< 0.00030	< 0.00030	< 0.00030	0.0003
Fluoranthene	< 0.0028	< 0.0005	< 0.0005	< 0.0005	0.28
Fluorene	0.0012	< 0.0005	< 0.0005	< 0.0005	0.28
Indeno(1,2,3-c,d)pyrene	< 0.00043	< 0.00043	< 0.00043	< 0.00043	0.00043
Naphthalene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.025
Phenanthrene	< 0.0014	< 0.0010	< 0.0010	< 0.0010	NA
Pyrene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.21
RCRA Metals					
Arsenic	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.05
Barium	0.139	0.057	0.102	0.062	2.0
Cadmium	**< 0.010**	**< 0.010**	**< 0.010**	**< 0.010**	0.005
Chromium	< 0.040	< 0.040	< 0.040	< 0.040	0.1
Lead	**0.0124**	< 0.0050	< 0.0050	< 0.0050	0.0075
Mercury	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.002
Selenium	0.0055	0.005	< 0.0050	< 0.0050	0.05
Silver	< 0.040	< 0.040	< 0.040	< 0.040	0.05
Total PCBs	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0005
pH	7.26	7.18	6.73	7.20	NA
Specific Conductivity (mol)	0.210	149.3	133.2	119.2	NA
Temperature (C)	14.0	12.6	16.4	13.7	NA

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table E: Tier 1 Groundwater Remediation Objectives for the Groundwater Component of the Groundwater Ingestion Route.

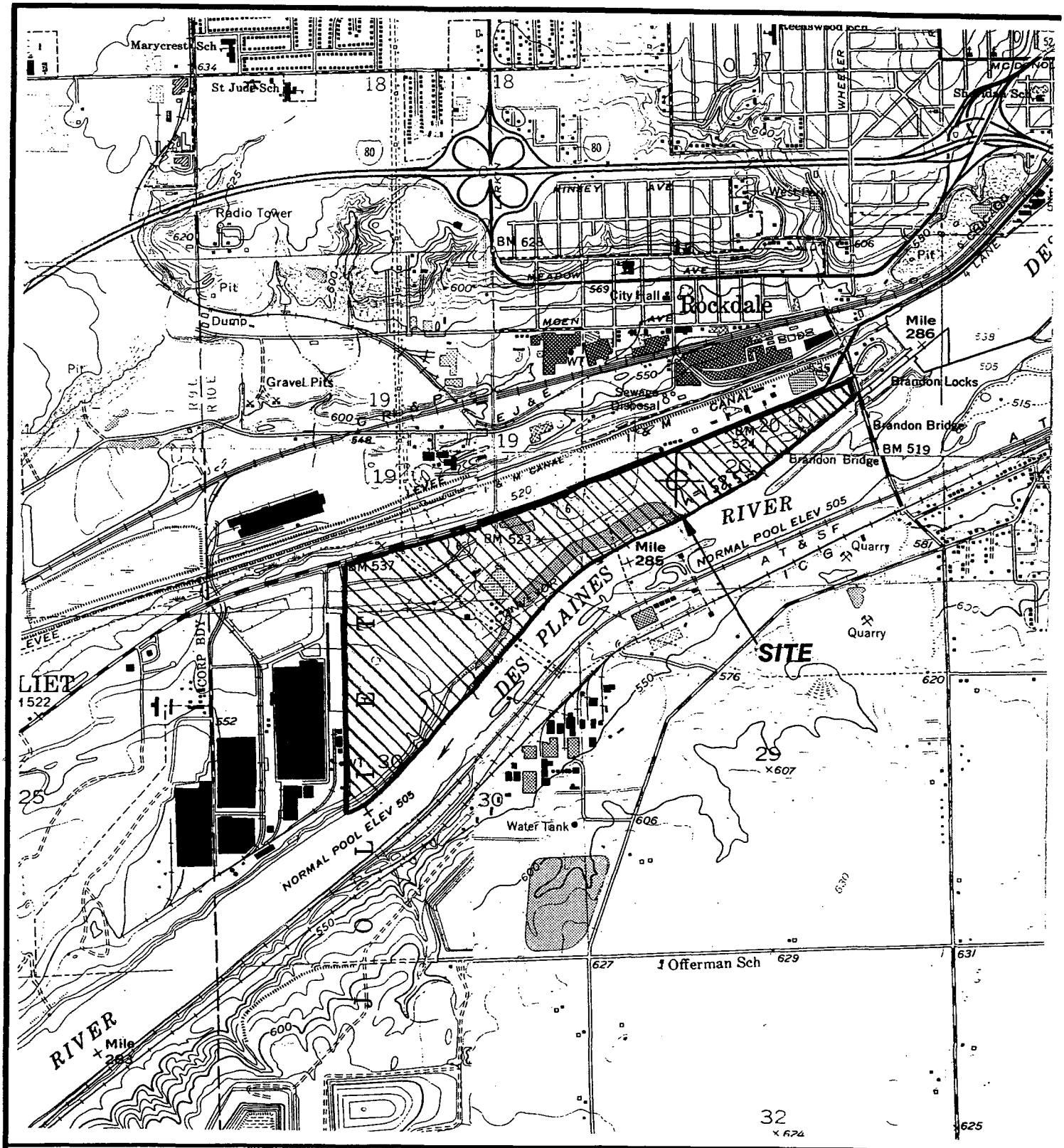
[1] NA indicates not applicable, cleanup objectives have not been established for these parameters.

FIGURES

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

MWG13-15_23337



SCALE 1:24,000

1 0 1/2 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

Contour interval 5 feet

Dwg No: WAUKEGANSL1

N

U.S.G.S.
ELWOOD, CHANNAHON,
PLAINFIELD & JOLIET, IL

SITE LOCATION MAP

JOLIET GENERATING STATION #29
1800 CHANNAHON ROAD
JOLIET, ILLINOIS

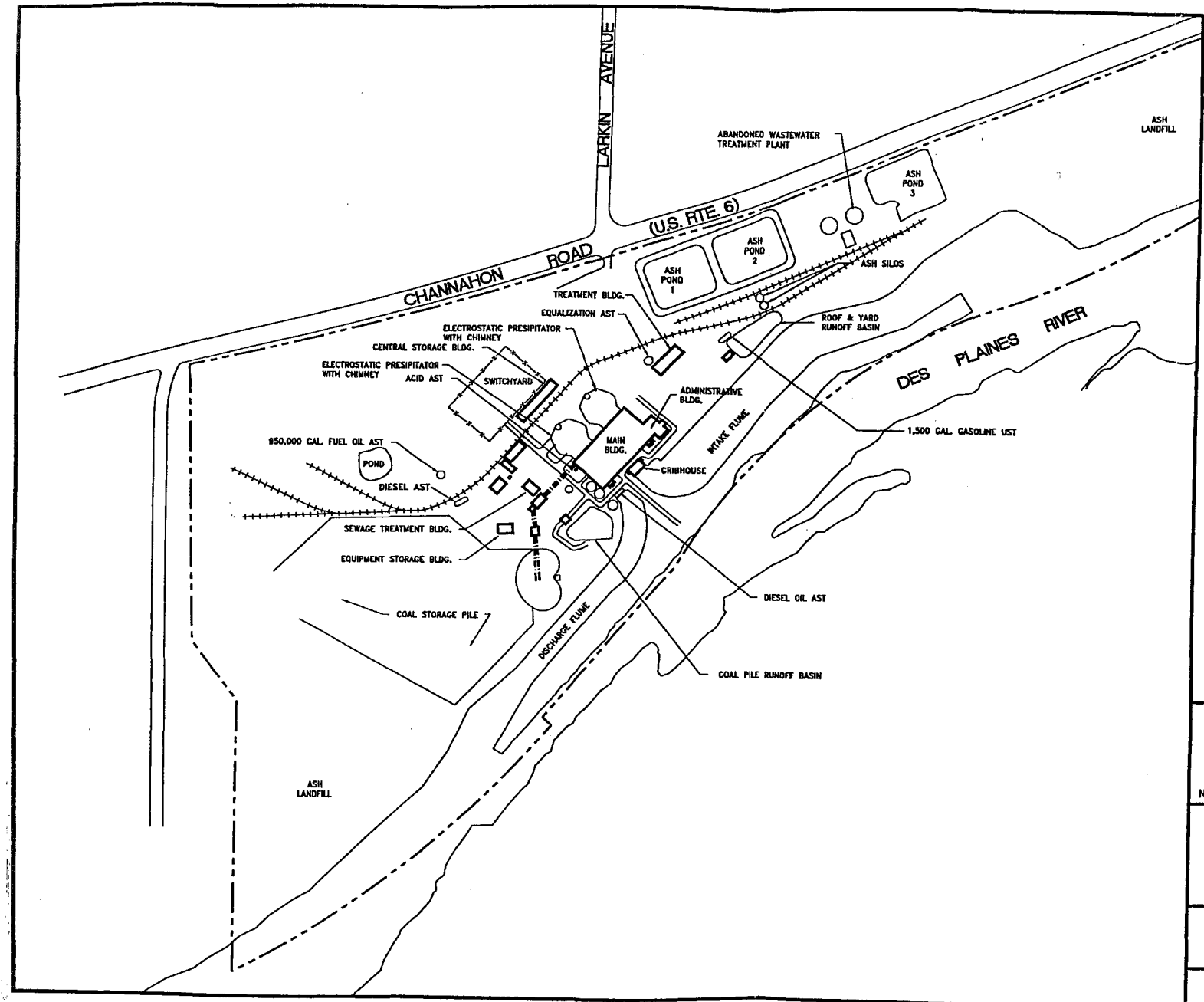
COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-410

FIGURE 1

ENSR

MWG13-15_23338



LEGEND:

- PROPERTY BOUNDARY
- RAILROAD LINE
- FENCE
- CONVEYOR LINE

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: JOLIET29SP1

JOLIET GENERATING STATION #29
1800 CHANNAHON ROAD
JOLIET, ILLINOIS

COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-410

SITE PLAN

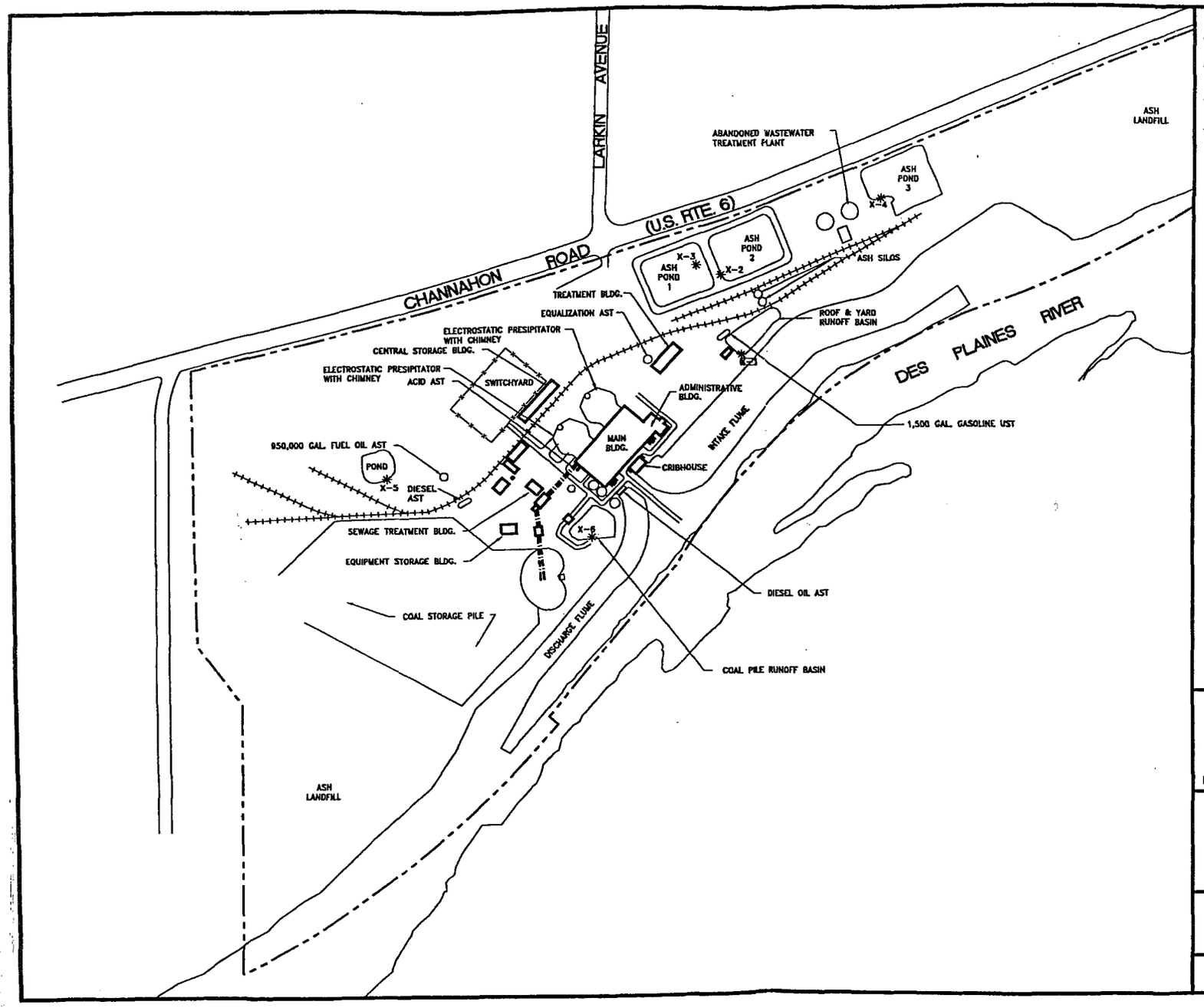
N

NOT TO SCALE

FIGURE 2

ENSR

MWG13-15_23339



LEGEND:

- PROPERTY BOUNDARY
- RAILROAD LINE
- FENCE
- CONVEYOR LINE
- X-1 SEDIMENT SAMPLE

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: JOLIET28SS2

JOLIET GENERATING STATION #29
1800 CHANNAHON ROAD
JOLIET, ILLINOIS

COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-410

SEDIMENT SAMPLING SITE PLAN

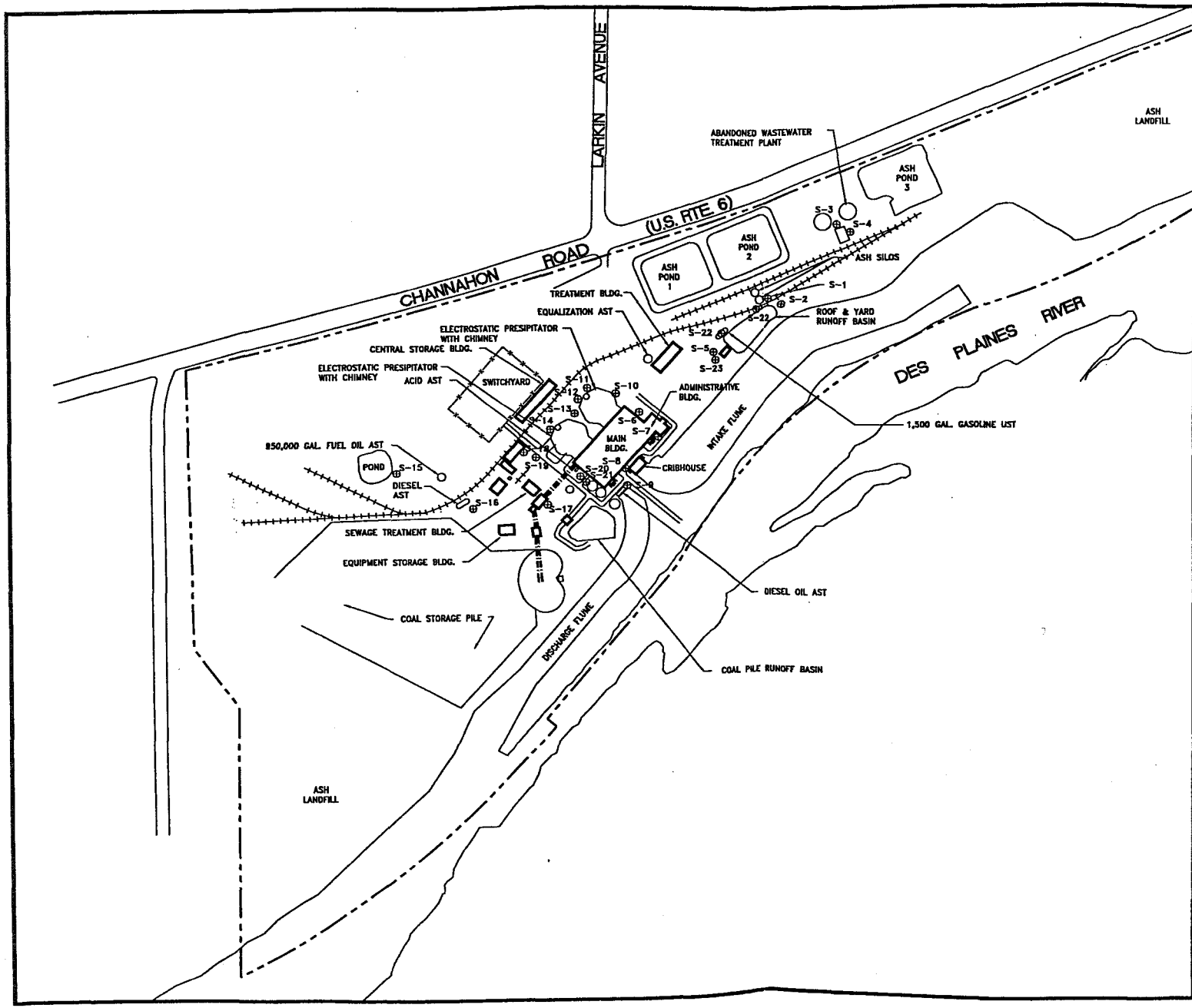
N

NOT TO SCALE

FIGURE 3

ENSR

MWG13-15_23340



LEGEND:

- PROPERTY BOUNDARY
- RAILROAD LINE
- FENCE
- CONVEYOR LINE
- ⊕ S-1 SURFACE SOIL SAMPLE

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: JOLIET28S32

JOLIET GENERATING STATION #29
1800 CHANNAHON ROAD
JOLIET, ILLINOIS

COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-410

SURFACE SOIL SAMPLING SITE PLAN

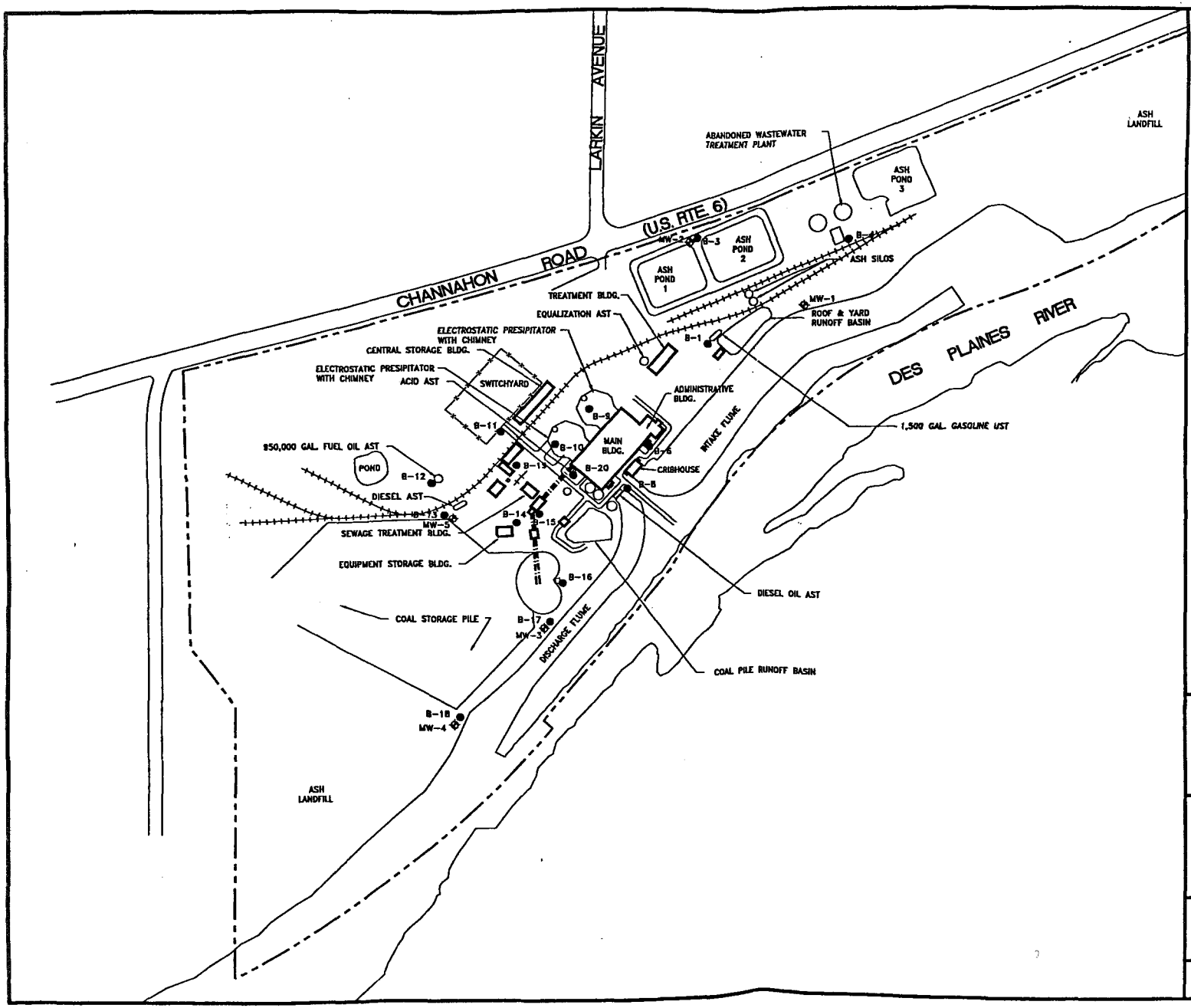
N

NOT TO SCALE

FIGURE 4

ENSR

MWG13-15_23341



LEGEND:

- PROPERTY BOUNDARY
- RAILROAD LINE
- FENCE
- CONVEYOR LINE
- MW-1 MONITORING WELL
- B-1 SOIL BORING

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: JOLIET29581

JOLIET GENERATING STATION #29
1800 CHANNAHON ROAD
JOLIET, ILLINOIS

COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-410

SOIL BORING/ MONITORING WELL SITE PLAN

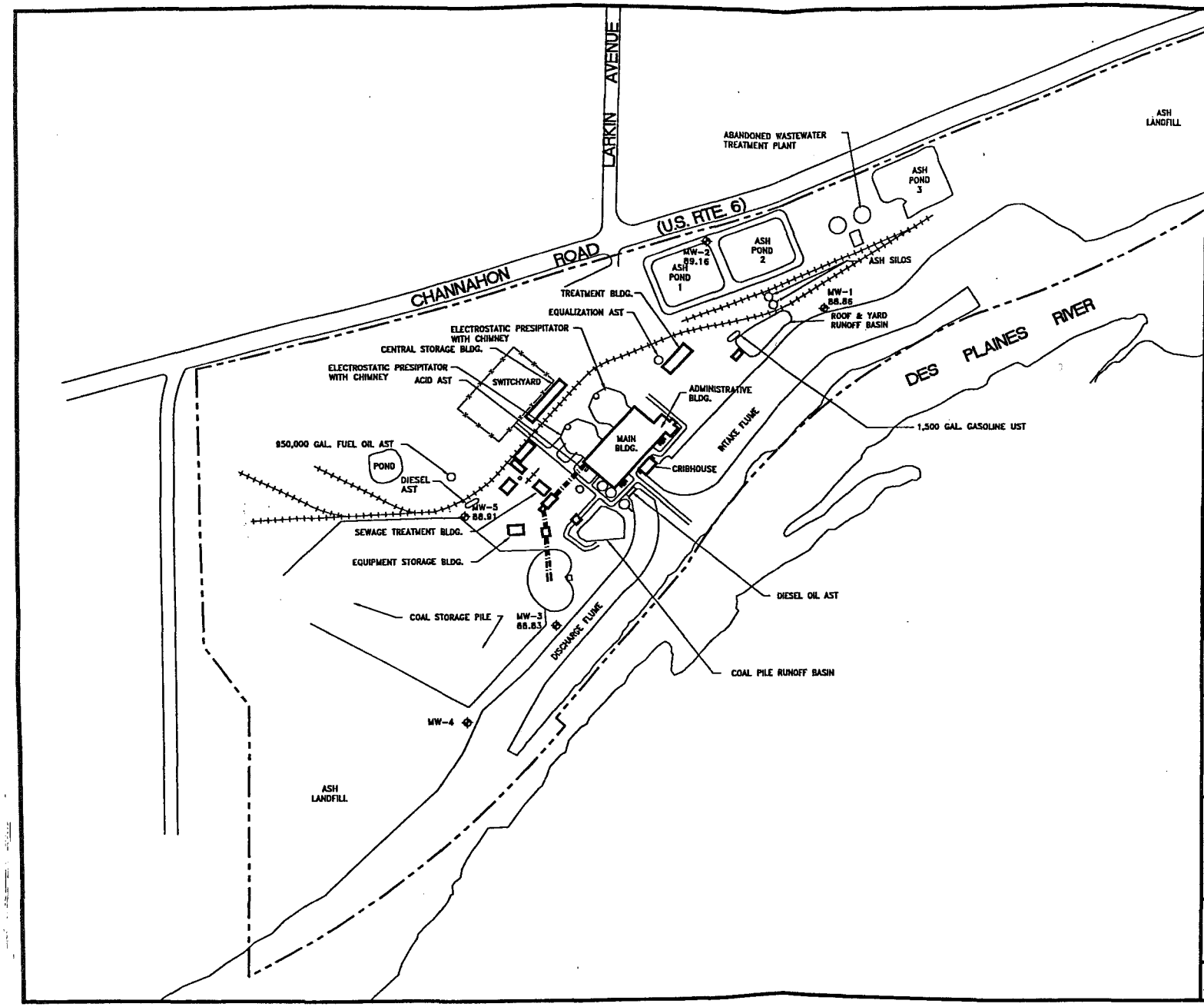
N

NOT TO SCALE

FIGURE 5

ENSR

MWG13-15_23342



LEGEND:

- PROPERTY BOUNDARY
- RAILROAD LINE
- FENCE
- CONVEYOR LINE
- MW-1 88.86 — MONITORING WELL WITH GROUND WATER ELEVATION IN FEET.

Note:
- All dimensions and locations are approximate.
- No water was detected in MW-4

Source:
- ENSR field observations.

Dwg No: JOLIET29GW.

JOLIET GENERATING STATION #29
1800 CHANNAHON ROAD
JOLIET, ILLINOIS

COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-410

GROUNDWATER ELEVATION MAP

N

NOT TO SCALE

FIGURE 6

ENSR

MWG13-15_23343

APPENDIX A

Boring Logs and Monitoring Well Construction Diagrams

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

MWG13-15_23344

ENSR®

Log of Borehole B-1

Project No: 1801-023-410

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Joliet#9 Power Station

Geologist: C. Howell

SUBSURFACE PROFILE			SAMPLE				
Depth ft / m	Symbol	*Description / Classification*	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
1		3" asphalt surface on top of bedrock.	1	GP	NA	14.0	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4		End of Borehole					
5							
6 / 2							
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/1/98

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740 Pasquinelli Drive
Westmont, IL 60559
630-887-1700

Sheet: 1 of 1

MWG13-15_23345

ENSR®

Log of Borehole B-2

Project No: 1801-023-410

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Joliet#9 Power Station

Geologist: C. Howell

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0 – 3 / 0 – 1		***Fill*** Clay and gravel fill to 2.5' -grades to coal and brick fragments	1	GP	71	10.2	0 - 4 PNAs/BETX/pH/PCBs RCRA Metals
4 / 1		End of Borehole Bedrock at 3.5'					
5 – 15 / 2 – 4							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/1/98

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Sheet: 1 of 1

ENSR®

Log of Borehole B-6

Project No: 1801-023-410

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Joliet#9 Power Station

Geologist: C. Howell

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	*Description / Classification*	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		-8" asphalt surface overlaying bed-rock, rust stained, wet	1	GP	NA	NA	0 - 2 PNAs/BETX/pH/PCBs/ RCRA Metals
		End of Borehole					
1 / 0							
2 / 1							
3 / 1							
4 / 1							
5 / 1							
6 / 2							
7 / 2							
8 / 2							
9 / 2							
10 / 3							
11 / 3							
12 / 3							
13 / 4							
14 / 4							
15 / 4							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/1/98

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Sheet: 1 of 1

MWG13-15_23347

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Log of Borehole B-7

Project No: 1801-023-410

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Joliet#9 Power Station

Geologist: C. Howell

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0–2 / 0–1		***Fill*** 6" asphalt surface. Slag and coal to 2'. Bedrock at 2'	1	GP	75	NA	0 - 2 PNAs/BETX/pH/PCBs/ RCRA Metals
2 / 1		End of Borehole					
3 / 1							
4 / 1							
5 / 2							
6 / 2							
7 / 2							
8 / 3							
9 / 3							
10 / 3							
11 / 4							
12 / 4							
13 / 4							
14 / 5							
15 / 5							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/2/98

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630-887-1700

ENSR®

Log of Borehole B-23

Project No: 1801-023-410

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Joliet#9 Power Station

Geologist: B. Buckley

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
		Gravel (GP) Gravel, trace brown, clayey silt to 1' 6". Bedrock 1' 6"	1	GP	79	NA	PNAs/BETX/pH/PCBs/ RCRA Metals
		End of Borehole					

1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / 10 / 11 / 12 / 13 / 14 / 15

Drilled By:Fox Drilling

Drill Method: Hollow Stem Auger

Drill Date: 10/6/98

ENSR
740 Pasquinelli Drive
Westmont, IL 60559
630-887-1700

Sheet: 1 of 1

MWG13-15_23349

Project No: 1801-023-310 Client: Commonwealth Edison Site: Joliet #9 Power Station

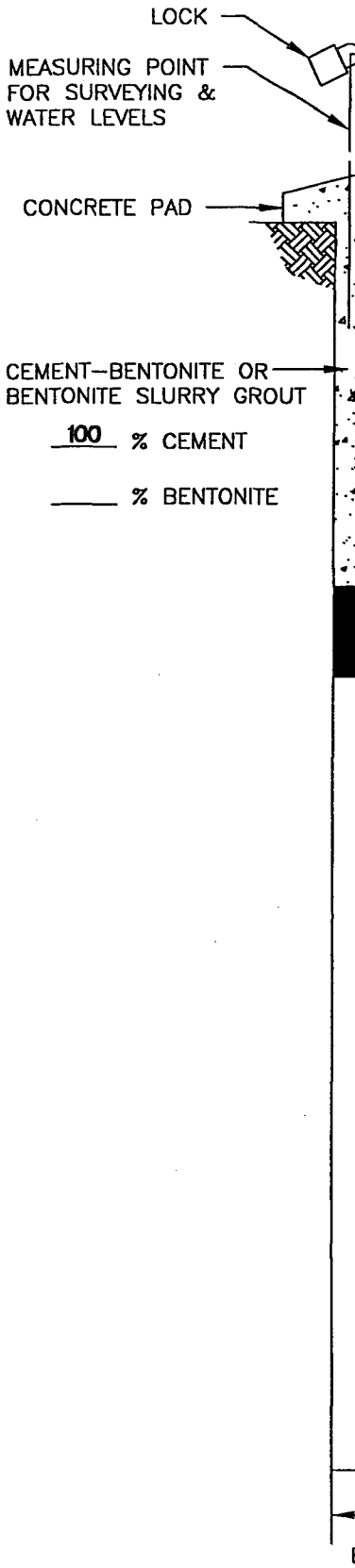
WELL No: MW-1

Well Location: South of Rail-Road, near N. entrance to Coal Storage Area

Date Installed: 10/7/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: B. Buckley

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	121.13
TOP OF RISER PIPE	0.43	120.70
GROUND SURFACE (G.S.)	0.00	121.13
BOTTOM OF STEEL GUARD	0.67	120.46
RISER PIPE:		
LENGTH: 1.4		
INSIDE DIAMETER (ID): 2.07		
TYPE OF MATERIAL: PVC Sch. 40		
TOP OF BENTONITE SEAL	0.83	120.3
BENTONITE SEAL THICKNESS	1.0	119.8
TOP OF SAND	1.83	119.3
TOP OF SCREEN	1.83	119.3
STABILIZED WATER LEVEL	7.85 (8.28 FROM G.S.)	116.7
SCREEN:		
LENGTH: 8.0		
INSIDE DIAMETER (ID): 2.07"		
SLOT SIZE: 0.010		
TYPE OF MATERIAL: PVC Sch.40		
TYPE/SIZE OF SAND: Qtz.#5		
SAND PACK THICKNESS: 3.0"		
BOTTOM OF SCREEN	9.83	111.3
BOTTOM OF TAILPIPE LENGTH: 2"	9.83	111.3
BOTTOM OF BOREHOLE	10.0	111.13

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/7/98
Date

ENSR™

MWG13-15_23350

Project No: 1801-023-310 Client: Commonwealth Edison Site: Joliet #9 Power Station

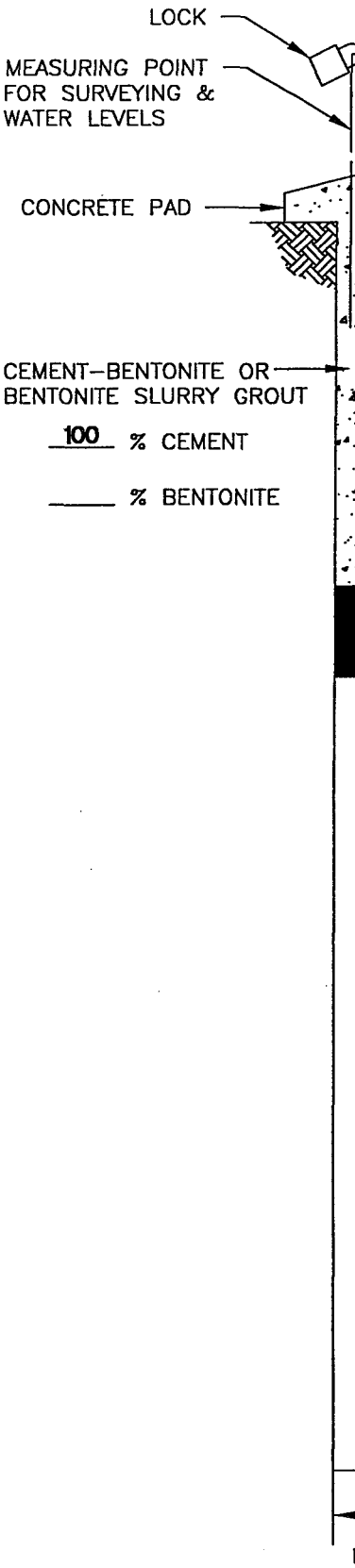
WELL No: MW-2

Well Location: Adjacent to B22, SE side of Coal Storage Area, N. of Peakers

Date Installed: 10/7/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: B. Buckley

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	150.9
TOP OF RISER PIPE	0.52	150.38
GROUND SURFACE (G.S.)	0.00	150.9
BOTTOM OF STEEL GUARD	0.67	150.23
RISER PIPE:		
LENGTH: 2.31		
INSIDE DIAMETER (ID): 2.07		
TYPE OF MATERIAL: PVC Sch. 40		
TOP OF BENTONITE SEAL	1.0	149.9
BENTONITE SEAL THICKNESS	1.0	149.4
TOP OF SAND	2.0	148.9
TOP OF SCREEN	2.83	148.07
STABILIZED WATER LEVEL	No Water Present	147.88
SCREEN:		
LENGTH: 6.0		
INSIDE DIAMETER (ID): 2.07"		
SLOT SIZE: 0.010		
TYPE OF MATERIAL: PVC Sch.40		
TYPE/SIZE OF SAND: Otz.#5		
SAND PACK THICKNESS: 3.0"		
BOTTOM OF SCREEN	8.83	142.07
BOTTOM OF TAILPIPE LENGTH: 2"	8.83	142.07
BOTTOM OF BOREHOLE	9.0	141.9

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/7/98
Date

ENSR™

MWG13-15_23351

Project No: 1801-023-310 Client: Commonwealth Edison Site: Joliet #9 Power Station

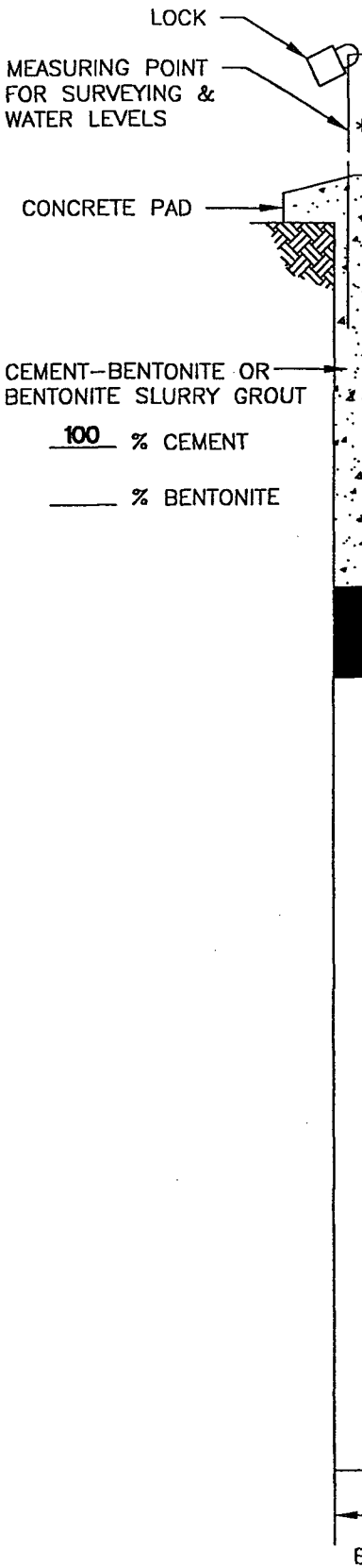
WELL No: MW-3

Well Location: Near B13

Date Installed: 10/5/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: B. Buckley

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	150.9
TOP OF RISER PIPE	0.3	150.38
GROUND SURFACE (G.S.)	0.00	150.9
BOTTOM OF STEEL GUARD	0.67	150.23
RISER PIPE: LENGTH 2.7; INSIDE DIAMETER (ID) 2.07; TYPE OF MATERIAL PVC Sch. 40		
TOP OF BENTONITE SEAL	1.0	149.9
BENTONITE SEAL THICKNESS	1.0	149.4
TOP OF SAND	2.0	148.9
TOP OF SCREEN	3.0	148.07
STABILIZED WATER LEVEL	6.95 (7.25 FROM G.S.)	147.88
SCREEN: LENGTH 9.83; INSIDE DIAMETER (ID) 2.07"; SLOT SIZE 0.010; TYPE OF MATERIAL PVC Sch.40		
TYPE/SIZE OF SAND Qtz.#5		
SAND PACK THICKNESS 3.0"		
BOTTOM OF SCREEN	12.83	142.07
BOTTOM OF TAILPIPE LENGTH 2"	12.83	142.07
BOTTOM OF BOREHOLE	13.0	141.9

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/5/98
Date

ENSR™

MWG13-15_23352

Project No: 1801-023-310 Client: Commonwealth Edison Site: Joliet #9 Power Station

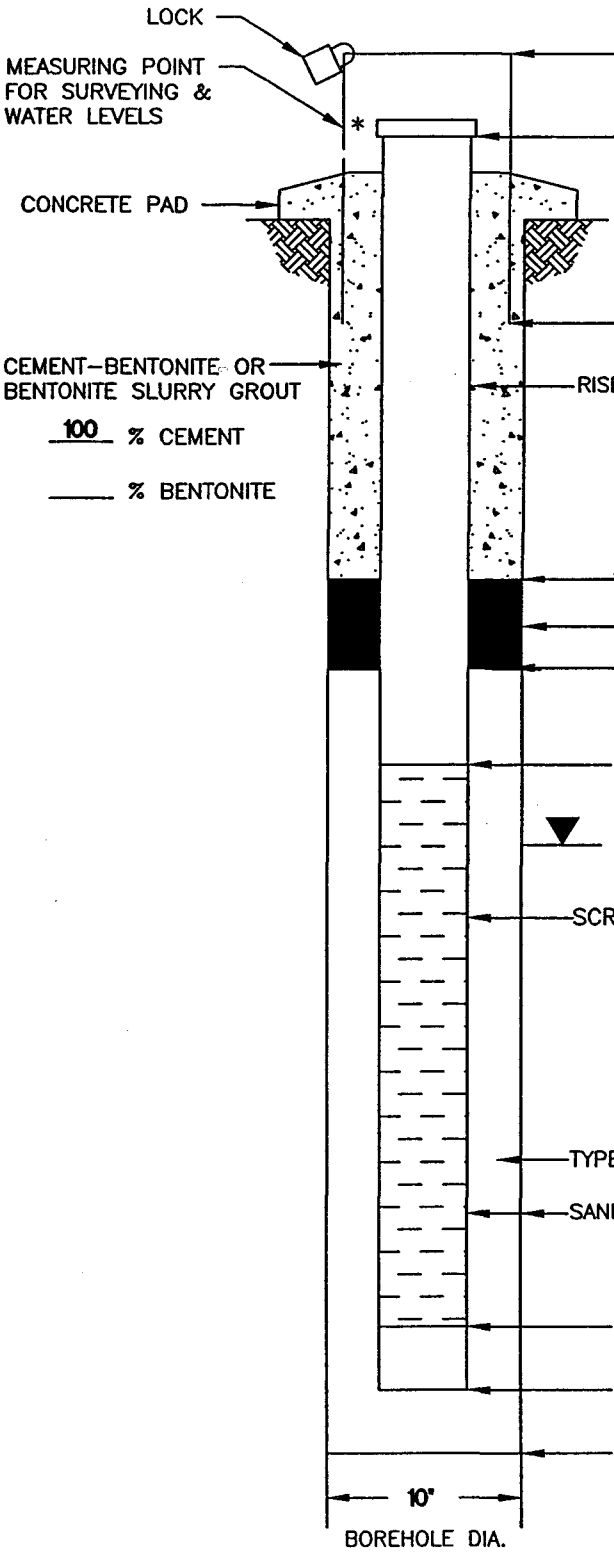
WELL No: MW-4/B-6

Well Location: Parking lot, adjacent to B6

Date Installed: 10/7/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: B. Buckley

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	91.64
TOP OF RISER PIPE	0.34	91.3
GROUND SURFACE (G.S.)	0.00	91.64
BOTTOM OF STEEL GUARD	0.67	90.97
RISER PIPE: LENGTH 1.66; INSIDE DIAMETER (ID) 2.07; TYPE OF MATERIAL PVC Sch. 40		
TOP OF BENTONITE SEAL	1.0	90.64
BENTONITE SEAL THICKNESS	1.0	90.14
TOP OF SAND	2.0	89.64
TOP OF SCREEN	2.0	89.64
STABILIZED WATER LEVEL	1.7 (2.04 FROM G.S.)	89.6
SCREEN: LENGTH 10; INSIDE DIAMETER (ID) 2.07"; SLOT SIZE 0.010; TYPE OF MATERIAL PVC Sch.40		
TYPE/SIZE OF SAND	Otz.#5	
SAND PACK THICKNESS	3.0"	
BOTTOM OF SCREEN	12.0	79.64
BOTTOM OF TAILPIPE LENGTH 3"	12.0	79.64
BOTTOM OF BOREHOLE	12.25	79.39

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/7/98
Date

ENSR™

MWG13-15_23353

Project No: 1801-023-310 Client: Commonwealth Edison Site: Joliet #9 Power Station

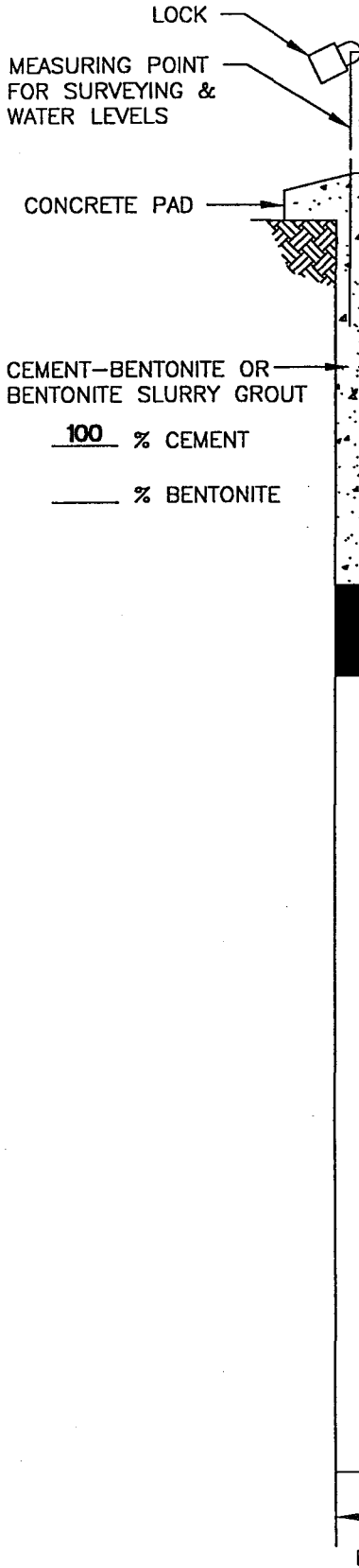
WELL No: MW-5

Well Location: Adjacent to B12, near pond

Date Installed: 10/6/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: B. Buckley

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	91.47
TOP OF RISER PIPE	0.37	91.10
GROUND SURFACE (G.S.)	0.00	91.47
BOTTOM OF STEEL GUARD	0.67	90.80
RISER PIPE:		
LENGTH	1.38	
INSIDE DIAMETER (ID)	2.07	
TYPE OF MATERIAL	PVC Sch. 40	
TOP OF BENTONITE SEAL	1.0	90.47
BENTONITE SEAL THICKNESS	1.0	89.97
TOP OF SAND	2.0	89.47
TOP OF SCREEN	1.75	89.72
STABILIZED WATER LEVEL	5.08 (5.45 FROM G.S.)	86.02
SCREEN:		
LENGTH	10	
INSIDE DIAMETER (ID)	2.07"	
SLOT SIZE	0.010	
TYPE OF MATERIAL	PVC Sch.40	
TYPE/SIZE OF SAND	Otz.#5	
SAND PACK THICKNESS	3.0"	
BOTTOM OF SCREEN	11.75	79.72
BOTTOM OF TAILPIPE LENGTH	3" 11.75	79.72
BOTTOM OF BOREHOLE	12.0	79.47

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/6/98

Date

ENSR™

MWG13-15_23354

APPENDIX B

Analytical Reports

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

MWG13-15_23355

NATIONAL ENVIRONMENTAL TESTING, INC.

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(800) 807-2877

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13172

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Joliet #29; 1801-023-410

Sample Number	Sample Description	Date Taken	Date Received
497450	B-18 (0-1)	10/08/1998	10/09/1998
497451	B-16 (0-4)	10/08/1998	10/09/1998
497452	B-17 (0-2)	10/08/1998	10/09/1998
497453	B-15 (0-2)	10/08/1998	10/09/1998
497454	B-14 (0-2)	10/08/1998	10/09/1998
497455	B-20 (0-2)	10/09/1998	10/09/1998
497456	B-12 (0-1)	10/09/1998	10/09/1998
497457	B-19 (0-1)	10/09/1998	10/09/1998
497458	B-11 (0-2)	10/09/1998	10/09/1998
497459	B-10 (0-2)	10/09/1998	10/09/1998
497460	B-9 (0-3)	10/09/1998	10/09/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
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Rockford Division
3548 35th Street
Rockford, IL 61109
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Fax: (815) 874-5622
(800) 807-2877

ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497450

NET Job No.: 98.13172

Sample Description: B-18 (0-1)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 15:00
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.91	units	10/16/1998	0.10	nwg		174	SW 9045B
Solids, Total	71.6	%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	2.2	mg/kg dw	10/31/1998	0.70	mhp	227	666	SW 7060
Barium, ICP	656	mg/kg dw	10/28/1998	1.4	jtt	1148	2162	SW 6010B
Cadmium, ICP	1.8	mg/kg dw	10/28/1998	0.70	jtt	1148	2147	SW 6010B
Chromium, ICP	17	mg/kg dw	10/28/1998	2.8	jtt	1148	2132	SW 6010B
Lead, ICP	18	mg/kg dw	10/28/1998	5.6	jtt	1148	2369	SW 6010B
Mercury, CVAA	0.092	mg/kg dw	10/27/1998	0.056	sep	662	767	SW 7471A
Selenium, GFAA	<0.35	mg/kg dw	11/01/1998	0.35	mhp	227	552	SW 7740
Silver, AA	<2.8	mg/kg dw	10/27/1998	2.8	sep	484	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.007	mg/kg dw	10/21/1998	0.007	jap		45	SW 8260A
Ethylbenzene	<0.007	mg/kg dw	10/21/1998	0.007	jap		45	SW 8260A
Toluene	<0.007	mg/kg dw	10/21/1998	0.007	jap		45	SW 8260A
Xylenes, Total	<0.007	mg/kg dw	10/21/1998	0.007	jap		45	SW 8260A
Dibromofluoromethane (Surr)	90.0	%	10/21/1998	81-129	jap		45	SW 8260A
Toluene-d8 (Surr)	94.0	%	10/21/1998	74-129	jap		45	SW 8260A
4-Bromofluoromethane (Surr)	84.0	%	10/21/1998	70-130	jap		45	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/17/1998		nwg	753		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.84	mg/kg dw	10/25/1998	0.028	keh	753	1809	SW 8310
Acenaphthylene	<0.84	mg/kg dw	10/25/1998	0.028	keh	753	1809	SW 8310
Anthracene	<6.0	mg/kg dw	10/25/1998	0.056	keh	753	1809	SW 8310
Benzo(a)anthracene	<6.4	mg/kg dw	10/25/1998	0.0036	keh	753	1809	SW 8310
Benzo(b)fluoranthene	<0.31	mg/kg dw	10/25/1998	0.0050	keh	753	1809	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23357

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497450

NET Job No.: 98.13172

Sample Description: B-18 (0-1)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 15:00
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<1.1	mg/kg dw	10/25/1998	0.0047	keh	753	1809	SW 8310
Benzo(a)pyrene	<0.67	mg/kg dw	10/25/1998	0.0064	keh	753	1809	SW 8310
Benzo(ghi)perylene	<1.7	mg/kg dw	10/25/1998	0.056	keh	753	1809	SW 8310
Chrysene	<1	mg/kg dw	10/25/1998	0.04	keh	753	1809	SW 8310
Dibenzo(a,h)anthracene	<0.3	mg/kg dw	10/25/1998	0.008	keh	753	1809	SW 8310
Fluoranthene	<3.9	mg/kg dw	10/25/1998	0.028	keh	753	1809	SW 8310
Fluorene	<0.84	mg/kg dw	10/25/1998	0.028	keh	753	1809	SW 8310
Indeno(1,2,3-cd)pyrene	<0.36	mg/kg dw	10/25/1998	0.012	keh	753	1809	SW 8310
Naphthalene	1.5	mg/kg dw	10/25/1998	0.035	keh	753	1809	SW 8310
Phenanthrene	2.1	mg/kg dw	10/25/1998	0.056	keh	753	1809	SW 8310
Pyrene	<6.7	mg/kg dw	10/25/1998	0.028	keh	753	1809	SW 8310
Surr: p-Terphenyl	Diluted out		10/25/1998	43-125	keh	753	1809	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/22/1998	COMPLETE	wna	373		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.056	mg/kg dw	10/27/1998	0.056	tls	373	46	SW 8082
PCB-1221	<0.056	mg/kg dw	10/27/1998	0.056	tls	373	46	SW 8082
PCB-1232	<0.056	mg/kg dw	10/27/1998	0.056	tls	373	46	SW 8082
PCB-1242	<0.056	mg/kg dw	10/27/1998	0.056	tls	373	46	SW 8082
PCB-1248	<0.056	mg/kg dw	10/27/1998	0.056	tls	373	46	SW 8082
PCB-1254	0.059	mg/kg dw	10/30/1998	0.056	tls	373	47	SW 8082
PCB-1260	<0.056	mg/kg dw	10/30/1998	0.056	tls	373	47	SW 8082
Decachlorobiphenyl (Surr)	87.0	%	10/27/1998	NA	tls	373	46	SW 8082
2,4,5,6-TCMX (Surr)	73.0	%	10/27/1998	NA	tls	373	46	SW 8082

NET® NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497451

NET Job No.: 98.13172

Sample Description: B-16 (0-4)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 14:45
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.37	units	10/16/1998	0.10	nwg		174	SW 9045B
Solids, Total	81.5	%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	3.7	mg/kg dw	10/31/1998	0.61	mhp	227	666	SW 7060
Barium, ICP	982	mg/kg dw	10/28/1998	1.2	jtt	1148	2162	SW 6010B
Cadmium, ICP	0.98	mg/kg dw	10/28/1998	0.61	jtt	1148	2147	SW 6010B
Chromium, ICP	12	mg/kg dw	10/28/1998	2.5	jtt	1148	2132	SW 6010B
Lead, ICP	32	mg/kg dw	10/28/1998	4.9	jtt	1148	2369	SW 6010B
Mercury, CVAA	0.21	mg/kg dw	10/27/1998	0.049	sep	662	767	SW 7471A
Selenium, GFAA	<0.31	mg/kg dw	11/01/1998	0.31	mhp	227	552	SW 7740
Silver, AA	<2.5	mg/kg dw	10/27/1998	2.5	sep	484	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Toluene	0.27	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Xylenes, Total	0.018	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Dibromofluoromethane (Surr)	89.6	%	10/21/1998	81-129	jap		45	SW 8260A
Toluene-d8 (Surr)	90.4	%	10/21/1998	74-129	jap		45	SW 8260A
4-Bromofluoromethane (Surr)	85.4	%	10/21/1998	70-130	jap		45	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/17/1998		nwg	753		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<4.9	mg/kg dw	10/25/1998	0.025	keh	753	1809	SW 8310
Acenaphthylene	<4.9	mg/kg dw	10/25/1998	0.025	keh	753	1809	SW 8310
Anthracene	<9.8	mg/kg dw	10/25/1998	0.049	keh	753	1809	SW 8310
Benzo(a)anthracene	<18	mg/kg dw	10/25/1998	0.0032	keh	753	1809	SW 8310
Benzo(b)fluoranthene	<13	mg/kg dw	10/25/1998	0.0044	keh	753	1809	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23359

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497451

NET Job No.: 98.13172

Sample Description: B-16 (0-4)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 14:45
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<16	mg/kg dw	10/25/1998	0.0042	keh	753	1809	SW 8310
Benzo(a)pyrene	<8.3	mg/kg dw	10/25/1998	0.0056	keh	753	1809	SW 8310
Benzo(ghi)perylene	<9.8	mg/kg dw	10/25/1998	0.049	keh	753	1809	SW 8310
Chrysene	7.7	mg/kg dw	10/25/1998	0.04	keh	753	1809	SW 8310
Dibenzo(a,h)anthracene	<1	mg/kg dw	10/25/1998	0.007	keh	753	1809	SW 8310
Fluoranthene	<4.9	mg/kg dw	10/25/1998	0.025	keh	753	1809	SW 8310
Fluorene	<4.9	mg/kg dw	10/25/1998	0.025	keh	753	1809	SW 8310
Indeno(1,2,3-cd)pyrene	<2.1	mg/kg dw	10/25/1998	0.011	keh	753	1809	SW 8310
Naphthalene	<6.1	mg/kg dw	10/25/1998	0.031	keh	753	1809	SW 8310
Phenanthrene	<9.8	mg/kg dw	10/25/1998	0.049	keh	753	1809	SW 8310
Pyrene	8.7	mg/kg dw	10/25/1998	0.025	keh	753	1809	SW 8310
Surr: p-Terphenyl	Diluted out		10/25/1998	43-125	keh	753	1809	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/22/1998	COMPLETE	wna	373		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.049	mg/kg dw	10/27/1998	0.049	tls	373	46	SW 8082
PCB-1221	<0.049	mg/kg dw	10/27/1998	0.049	tls	373	46	SW 8082
PCB-1232	<0.049	mg/kg dw	10/27/1998	0.049	tls	373	46	SW 8082
PCB-1242	<0.049	mg/kg dw	10/27/1998	0.049	tls	373	46	SW 8082
PCB-1248	<0.049	mg/kg dw	10/27/1998	0.049	tls	373	46	SW 8082
PCB-1254	<0.049	mg/kg dw	10/27/1998	0.049	tls	373	46	SW 8082
PCB-1260	0.050	mg/kg dw	10/27/1998	0.049	tls	373	46	SW 8082
Decachlorobiphenyl (Surr)	91.0	%	10/27/1998	NA	tls	373	46	SW 8082
2,4,5,6-TCMX (Surr)	73.0	%	10/27/1998	NA	tls	373	46	SW 8082

NET® NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497452

NET Job No.: 98.13172

Sample Description: B-17 (0-2)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 15:20
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.20	units	10/16/1998	0.10	nwg		174	SW 9045B
Solids, Total	84.7	%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	5.2	mg/kg dw	10/31/1998	0.59	mhp	227	666	SW 7060
Barium, ICP	449	mg/kg dw	10/28/1998	1.2	jtt	1148	2162	SW 6010B
Cadmium, ICP	<0.59	mg/kg dw	10/28/1998	0.59	jtt	1148	2147	SW 6010B
Chromium, ICP	6.7	mg/kg dw	10/28/1998	2.4	jtt	1148	2132	SW 6010B
Lead, ICP	15	mg/kg dw	10/28/1998	4.7	jtt	1148	2369	SW 6010B
Mercury, CVAA	0.057	mg/kg dw	10/27/1998	0.047	sep	662	767	SW 7471A
Selenium, GFAA	<0.30	mg/kg dw	11/01/1998	0.30	mhp	227	552	SW 7740
Silver, AA	<2.4	mg/kg dw	10/27/1998	2.4	sep	484	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Toluene	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Dibromofluoromethane (Surr)	98.2	%	10/21/1998	81-129	jap		45	SW 8260A
Toluene-d8 (Surr)	92.8	%	10/21/1998	74-129	jap		45	SW 8260A
4-Bromofluoromethane (Surr)	84.4	%	10/21/1998	70-130	jap		45	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/17/1998		nwg	753		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.24	mg/kg dw	10/25/1998	0.024	keh	753	1809	SW 8310
Acenaphthylene	<0.24	mg/kg dw	10/25/1998	0.024	keh	753	1809	SW 8310
Anthracene	<1.4	mg/kg dw	10/25/1998	0.047	keh	753	1809	SW 8310
Benzo(a)anthracene	<2.2	mg/kg dw	10/25/1998	0.0031	keh	753	1809	SW 8310
Benzo(b)fluoranthene	<0.098	mg/kg dw	10/25/1998	0.0043	keh	753	1809	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23361

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497452

NET Job No.: 98.13172

Sample Description: B-17 (0-2)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 15:20
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.43	mg/kg dw	10/25/1998	0.0040	keh	753	1809	SW 8310
Benzo(a)pyrene	<0.31	mg/kg dw	10/25/1998	0.0054	keh	753	1809	SW 8310
Benzo(ghi)perylene	<0.47	mg/kg dw	10/25/1998	0.047	keh	753	1809	SW 8310
Chrysene	<0.4	mg/kg dw	10/25/1998	0.04	keh	753	1809	SW 8310
Dibenzo(a,h)anthracene	<0.07	mg/kg dw	10/25/1998	0.007	keh	753	1809	SW 8310
Fluoranthene	<0.38	mg/kg dw	10/25/1998	0.024	keh	753	1809	SW 8310
Fluorene	<0.24	mg/kg dw	10/25/1998	0.024	keh	753	1809	SW 8310
Indeno(1,2,3-cd)pyrene	<0.10	mg/kg dw	10/25/1998	0.010	keh	753	1809	SW 8310
Naphthalene	<0.30	mg/kg dw	10/25/1998	0.030	keh	753	1809	SW 8310
Phenanthrene	0.61	mg/kg dw	10/25/1998	0.047	keh	753	1809	SW 8310
Pyrene	0.31	mg/kg dw	10/25/1998	0.024	keh	753	1809	SW 8310
Surr: p-Terphenyl	Masked	"	10/25/1998	43-125	keh	753	1809	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/22/1998	COMPLETE	wna	373		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.047	mg/kg dw	10/27/1998	0.047	tls	373	46	SW 8082
PCB-1221	<0.047	mg/kg dw	10/27/1998	0.047	tls	373	46	SW 8082
PCB-1232	<0.047	mg/kg dw	10/27/1998	0.047	tls	373	46	SW 8082
PCB-1242	<0.047	mg/kg dw	10/27/1998	0.047	tls	373	46	SW 8082
PCB-1248	<0.047	mg/kg dw	10/27/1998	0.047	tls	373	46	SW 8082
PCB-1254	<0.047	mg/kg dw	10/27/1998	0.047	tls	373	46	SW 8082
PCB-1260	<0.047	mg/kg dw	10/27/1998	0.047	tls	373	46	SW 8082
Decachlorobiphenyl (Surr)	99.0	%	10/27/1998	NA	tls	373	46	SW 8082
2,4,5,6-TCMX (Surr)	79.0	%	10/27/1998	NA	tls	373	46	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497453

NET Job No.: 98.13172

Sample Description: B-15 (0-2)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 15:45
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	8.60	units	10/16/1998	0.10	nwg	174	SW 9045B
Solids, Total	93.0	%	11/02/1998	0.1	efw	2514	SM 2540
Arsenic, GFAA	2.5	mg/kg dw	10/31/1998	0.54	mhp	227 666	SW 7060
Barium, ICP	100	mg/kg dw	10/28/1998	1.1	jtt	1148 2162	SW 6010B
Cadmium, ICP	<0.54	mg/kg dw	10/28/1998	0.54	jtt	1148 2147	SW 6010B
Chromium, ICP	4.2	mg/kg dw	10/28/1998	2.2	jtt	1148 2132	SW 6010B
Lead, ICP	9.7	mg/kg dw	10/28/1998	4.3	jtt	1148 2369	SW 6010B
Mercury, CVAA	<0.043	mg/kg dw	10/27/1998	0.043	sep	662 767	SW 7471A
Selenium, GFAA	<0.27	mg/kg dw	11/01/1998	0.27	mhp	227 552	SW 7740
Silver, AA	<2.2	mg/kg dw	10/27/1998	2.2	sep	484 567	SW 7760
UST VOLATILES NON-AQUEOUS							
Benzene	<0.005	mg/kg dw	10/21/1998	0.005	jap	45	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/21/1998	0.005	jap	45	SW 8260A
Toluene	<0.005	mg/kg dw	10/21/1998	0.005	jap	45	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/21/1998	0.005	jap	45	SW 8260A
Dibromofluoromethane (Surr)	107.0	%	10/21/1998	81-129	jap	45	SW 8260A
Toluene-d8 (Surr)	108.0	%	10/21/1998	74-129	jap	45	SW 8260A
4-Bromofluoromethane (Surr)	105.8	%	10/21/1998	70-130	jap	45	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/17/1998		nwg	753	SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV						
Acenaphthene	<0.1	mg/kg dw	10/25/1998	0.022	keh	753 1809	SW 8310
Acenaphthylene	<0.1	mg/kg dw	10/25/1998	0.022	keh	753 1809	SW 8310
Anthracene	<0.2	mg/kg dw	10/25/1998	0.043	keh	753 1809	SW 8310
Benzo(a)anthracene	<0.71	mg/kg dw	10/25/1998	0.0028	keh	753 1809	SW 8310
Benzo(b)fluoranthene	<0.022	mg/kg dw	10/25/1998	0.0039	keh	753 1809	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23363

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497453

NET Job No.: 98.13172

Sample Description: B-15 (0-2)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 15:45
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.026	mg/kg dw	10/25/1998	0.0037	keh	753	1809	SW 8310
Benzo(a)pyrene	<0.073	mg/kg dw	10/25/1998	0.0049	keh	753	1809	SW 8310
Benzo(ghi)perylene	<0.2	mg/kg dw	10/25/1998	0.043	keh	753	1809	SW 8310
Chrysene	<0.2	mg/kg dw	10/25/1998	0.03	keh	753	1809	SW 8310
Dibenzo(a,h)anthracene	<0.03	mg/kg dw	10/25/1998	0.006	keh	753	1809	SW 8310
Fluoranthene	<0.1	mg/kg dw	10/25/1998	0.022	keh	753	1809	SW 8310
Fluorene	<0.1	mg/kg dw	10/25/1998	0.022	keh	753	1809	SW 8310
Indeno(1,2,3-cd)pyrene	<0.04	mg/kg dw	10/25/1998	0.0092	keh	753	1809	SW 8310
Naphthalene	<0.1	mg/kg dw	10/25/1998	0.027	keh	753	1809	SW 8310
Phenanthrene	<0.2	mg/kg dw	10/25/1998	0.043	keh	753	1809	SW 8310
Pyrene	<0.1	mg/kg dw	10/25/1998	0.022	keh	753	1809	SW 8310
Surr: p-Terphenyl	Masked		10/25/1998	43-125	keh	753	1809	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/22/1998	COMPLETE	wna	373		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.043	mg/kg dw	10/27/1998	0.043	tls	373	46	SW 8082
PCB-1221	<0.043	mg/kg dw	10/27/1998	0.043	tls	373	46	SW 8082
PCB-1232	<0.043	mg/kg dw	10/27/1998	0.043	tls	373	46	SW 8082
PCB-1242	<0.043	mg/kg dw	10/27/1998	0.043	tls	373	46	SW 8082
PCB-1248	<0.043	mg/kg dw	10/27/1998	0.043	tls	373	46	SW 8082
PCB-1254	<0.043	mg/kg dw	10/27/1998	0.043	tls	373	46	SW 8082
PCB-1260	<0.043	mg/kg dw	10/27/1998	0.043	tls	373	46	SW 8082
Decachlorobiphenyl (Surr)	103.0	%	10/27/1998	NA	tls	373	46	SW 8082
2,4,5,6-TCMX (Surr)	92.0	%	10/27/1998	NA	tls	373	46	SW 8082

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497454

NET Job No.: 98.13172

Sample Description: B-14 (0-2)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 16:00
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.01	units	10/16/1998	0.10	nwg		174	SW 9045B
Solids, Total	73.3	%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	1.9	mg/kg dw	10/31/1998	0.68	mhp	227	666	SW 7060
Barium, ICP	423	mg/kg dw	10/28/1998	1.4	jtt	1148	2162	SW 6010B
Cadmium, ICP	0.82	mg/kg dw	10/28/1998	0.68	jtt	1148	2147	SW 6010B
Chromium, ICP	6.3	mg/kg dw	10/28/1998	2.7	jtt	1148	2132	SW 6010B
Lead, ICP	7.2	mg/kg dw	10/28/1998	5.5	jtt	1148	2369	SW 6010B
Mercury, CVAA	0.064	mg/kg dw	10/27/1998	0.055	sep	662	767	SW 7471A
Selenium, GFAA	<0.34	mg/kg dw	11/01/1998	0.34	mhp	227	552	SW 7740
Silver, AA	<2.7	mg/kg dw	10/27/1998	2.7	sep	484	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.007	mg/kg dw	10/21/1998	0.007	jap		45	SW 8260A
Ethylbenzene	<0.007	mg/kg dw	10/21/1998	0.007	jap		45	SW 8260A
Toluene	<0.007	mg/kg dw	10/21/1998	0.007	jap		45	SW 8260A
Xylenes, Total	<0.007	mg/kg dw	10/21/1998	0.007	jap		45	SW 8260A
Dibromofluoromethane (Surr)	101.8	%	10/21/1998	81-129	jap		45	SW 8260A
Toluene-d8 (Surr)	104.6	%	10/21/1998	74-129	jap		45	SW 8260A
4-Bromofluoromethane (Surr)	103.0	%	10/21/1998	70-130	jap		45	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/17/1998		nwg	753		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.42	mg/kg dw	10/25/1998	0.027	keh	753	1809	SW 8310
Acenaphthylene	<0.27	mg/kg dw	10/25/1998	0.027	keh	753	1809	SW 8310
Anthracene	<3.4	mg/kg dw	10/25/1998	0.055	keh	753	1809	SW 8310
Benzo(a)anthracene	<9.3	mg/kg dw	10/25/1998	0.0035	keh	753	1809	SW 8310
Benzo(b)fluoranthene	<0.16	mg/kg dw	10/25/1998	0.0049	keh	753	1809	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23365

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497454

NET Job No.: 98.13172

Sample Description: B-14 (0-2)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 16:00
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.16	mg/kg dw	10/25/1998	0.0046	keh	753	1809	SW 8310
Benzo(a)pyrene	<0.18	mg/kg dw	10/25/1998	0.0063	keh	753	1809	SW 8310
Benzo(ghi)perylene	<0.55	mg/kg dw	10/25/1998	0.055	keh	753	1809	SW 8310
Chrysene	<0.4	mg/kg dw	10/25/1998	0.04	keh	753	1809	SW 8310
Dibenzo(a,h)anthracene	<0.08	mg/kg dw	10/25/1998	0.008	keh	753	1809	SW 8310
Fluoranthene	<2.6	mg/kg dw	10/25/1998	0.027	keh	753	1809	SW 8310
Fluorene	<0.27	mg/kg dw	10/25/1998	0.027	keh	753	1809	SW 8310
Indeno(1,2,3-cd)pyrene	<0.12	mg/kg dw	10/25/1998	0.012	keh	753	1809	SW 8310
Naphthalene	<0.34	mg/kg dw	10/25/1998	0.034	keh	753	1809	SW 8310
Phenanthrene	<0.55	mg/kg dw	10/25/1998	0.055	keh	753	1809	SW 8310
Pyrene	<0.37	mg/kg dw	10/25/1998	0.027	keh	753	1809	SW 8310
Surr: p-Terphenyl	Masked		10/25/1998	43-125	keh	753	1809	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/22/1998	COMPLETE	wna	373		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.055	mg/kg dw	10/27/1998	0.055	tls	373	46	SW 8082
PCB-1221	<0.055	mg/kg dw	10/27/1998	0.055	tls	373	46	SW 8082
PCB-1232	<0.055	mg/kg dw	10/27/1998	0.055	tls	373	46	SW 8082
PCB-1242	<0.055	mg/kg dw	10/27/1998	0.055	tls	373	46	SW 8082
PCB-1248	<0.055	mg/kg dw	10/27/1998	0.055	tls	373	46	SW 8082
PCB-1254	<0.055	mg/kg dw	10/27/1998	0.055	tls	373	46	SW 8082
PCB-1260	<0.055	mg/kg dw	10/27/1998	0.055	tls	373	46	SW 8082
Decachlorobiphenyl (Surr)	101.0	%	10/27/1998	NA	tls	373	46	SW 8082
2,4,5,6-TCMX (Surr)	79.0	%	10/27/1998	NA	tls	373	46	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998
Sample No. : 497455
NET Job No.: 98.13172

Sample Description: B-20 (0-2)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/09/1998
Time Taken: 07:35
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.25	units	10/16/1998	0.10	nwg		174	SW 9045B
Solids, Total	86.4	%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	2.8	mg/kg dw	10/31/1998	0.58	mhp	227	666	SW 7060
Barium, ICP	312	mg/kg dw	10/28/1998	1.2	jtt	1148	2162	SW 6010B
Cadmium, ICP	<0.58	mg/kg dw	10/28/1998	0.58	jtt	1148	2147	SW 6010B
Chromium, ICP	10	mg/kg dw	10/28/1998	2.3	jtt	1148	2132	SW 6010B
Lead, ICP	41	mg/kg dw	10/28/1998	4.6	jtt	1148	2369	SW 6010B
Mercury, CVAA	0.047	mg/kg dw	10/27/1998	0.046	sep	662	767	SW 7471A
Selenium, GFAA	<0.29	mg/kg dw	11/01/1998	0.29	mhp	227	552	SW 7740
Silver, AA	<2.3	mg/kg dw	10/27/1998	2.3	sep	484	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Toluene	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Dibromofluoromethane (Surr)	97.0	%	10/21/1998	81-129	jap		45	SW 8260A
Toluene-d8 (Surr)	100.4	%	10/21/1998	74-129	jap		45	SW 8260A
4-Bromofluoromethane (Surr)	102.2	%	10/21/1998	70-130	jap		45	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	EXTRACTED		10/20/1998		mmv	754		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.530	mg/kg dw	10/25/1998	0.023	kdw	754	1809	SW 8310
Acenaphthylene	<0.333	mg/kg dw	10/25/1998	0.023	kdw	754	1809	SW 8310
Anthracene	<3.04	mg/kg dw	10/25/1998	0.046	kdw	754	1809	SW 8310
Benzo(a)anthracene	<9.71	mg/kg dw	10/25/1998	0.0030	kdw	754	1809	SW 8310
Benzo(b)fluoranthene	0.30	mg/kg dw	10/25/1998	0.0042	kdw	754	1809	SW 8310

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497455

NET Job No.: 98.13172

Sample Description: B-20 (0-2)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/09/1998
Time Taken: 07:35
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.20	mg/kg dw	10/25/1998	0.0039	kdw	754	1809	SW 8310
Benzo(a)pyrene	<0.073	mg/kg dw	10/25/1998	0.0053	kdw	754	1809	SW 8310
Benzo(ghi)perylene	<0.46	mg/kg dw	10/25/1998	0.046	kdw	754	1809	SW 8310
Chrysene	0.39	mg/kg dw	10/25/1998	0.03	kdw	754	1809	SW 8310
Dibenzo(a,h)anthracene	<0.22	mg/kg dw	10/25/1998	0.007	kdw	754	1809	SW 8310
Fluoranthene	4.7	mg/kg dw	10/25/1998	0.023	kdw	754	1809	SW 8310
Fluorene	<0.527	mg/kg dw	10/25/1998	0.023	kdw	754	1809	SW 8310
Indeno(1,2,3-cd)pyrene	0.32	mg/kg dw	10/25/1998	0.010	kdw	754	1809	SW 8310
Naphthalene	<0.43	mg/kg dw	10/25/1998	0.029	kdw	754	1809	SW 8310
Phenanthrene	1.4	mg/kg dw	10/25/1998	0.046	kdw	754	1809	SW 8310
Pyrene	2.7	mg/kg dw	10/25/1998	0.023	kdw	754	1809	SW 8310
Surr: p-Terphenyl	Diluted out		10/25/1998	43-125	kdw	754	1809	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/22/1998	COMPLETE	wna	373		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.046	mg/kg dw	10/27/1998	0.046	tls	373	46	SW 8082
PCB-1221	<0.046	mg/kg dw	10/27/1998	0.046	tls	373	46	SW 8082
PCB-1232	<0.046	mg/kg dw	10/27/1998	0.046	tls	373	46	SW 8082
PCB-1242	<0.046	mg/kg dw	10/27/1998	0.046	tls	373	46	SW 8082
PCB-1248	<0.046	mg/kg dw	10/27/1998	0.046	tls	373	46	SW 8082
PCB-1254	<0.046	mg/kg dw	10/30/1998	0.046	tls	373	47	SW 8082
PCB-1260	<0.046	mg/kg dw	10/27/1998	0.046	tls	373	46	SW 8082
Decachlorobiphenyl (Surr)	90.0	%	10/27/1998	NA	tls	373	46	SW 8082
2,4,5,6-TCMX (Surr)	70.0	%	10/27/1998	NA	tls	373	46	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497456

NET Job No.: 98.13172

Sample Description: B-12 (0-1)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/09/1998
Time Taken: 08:00
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.65	units	10/16/1998	0.10	nwg		175	SW 9045B
Solids, Total	83.5	%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	2.4	mg/kg dw	10/31/1998	0.60	mhp	227	666	SW 7060
Barium, ICP	240	mg/kg dw	10/29/1998	1.2	jtt	1148	2162	SW 6010B
Cadmium, ICP	<0.60	mg/kg dw	10/28/1998	0.60	jtt	1148	2147	SW 6010B
Chromium, ICP	4.9	mg/kg dw	10/28/1998	2.4	jtt	1148	2132	SW 6010B
Lead, ICP	9.8	mg/kg dw	10/28/1998	4.8	jtt	1148	2369	SW 6010B
Mercury, CVAA	<0.048	mg/kg dw	10/27/1998	0.048	sep	662	767	SW 7471A
Selenium, GFAA	<0.30	mg/kg dw	11/01/1998	0.30	mhp	227	552	SW 7740
Silver, AA	<2.4	mg/kg dw	10/27/1998	2.4	sep	484	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Toluene	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Dibromofluoromethane (Surr)	100.0	%	10/21/1998	81-129	jap		45	SW 8260A
Toluene-d8 (Surr)	100.0	%	10/21/1998	74-129	jap		45	SW 8260A
4-Bromofluoromethane (Surr)	96.0	%	10/21/1998	70-130	jap		45	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	EXTRACTED		10/20/1998		mmv	754		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.14	mg/kg dw	10/25/1998	0.024	kdw	754	1809	SW 8310
Acenaphthylene	<0.17	mg/kg dw	10/25/1998	0.024	kdw	754	1809	SW 8310
Anthracene	<0.2	mg/kg dw	10/25/1998	0.048	kdw	754	1809	SW 8310
Benzo(a)anthracene	<0.78	mg/kg dw	10/25/1998	0.0031	kdw	754	1809	SW 8310
Benzo(b)fluoranthene	<0.17	mg/kg dw	10/25/1998	0.0043	kdw	754	1809	SW 8310

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497456

NET Job No.: 98.13172

Sample Description: B-12 (0-1)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/09/1998
Time Taken: 08:00
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.29	mg/kg dw	10/25/1998	0.0041	kdw	754	1809	SW 8310
Benzo(a)pyrene	<0.16	mg/kg dw	10/25/1998	0.0055	kdw	754	1809	SW 8310
Benzo(ghi)perylene	<0.2	mg/kg dw	10/25/1998	0.048	kdw	754	1809	SW 8310
Chrysene	<0.2	mg/kg dw	10/25/1998	0.04	kdw	754	1809	SW 8310
Dibenzo(a,h)anthracene	<0.083	mg/kg dw	10/25/1998	0.007	kdw	754	1809	SW 8310
Fluoranthene	<0.1	mg/kg dw	10/25/1998	0.024	kdw	754	1809	SW 8310
Fluorene	<0.125	mg/kg dw	10/25/1998	0.024	kdw	754	1809	SW 8310
Indeno(1,2,3-cd)pyrene	<0.28	mg/kg dw	10/25/1998	0.010	kdw	754	1809	SW 8310
Naphthalene	<0.16	mg/kg dw	10/25/1998	0.030	kdw	754	1809	SW 8310
Phenanthrene	<0.2	mg/kg dw	10/25/1998	0.048	kdw	754	1809	SW 8310
Pyrene	0.277	mg/kg dw	10/25/1998	0.024	kdw	754	1809	SW 8310
Surr: p-Terphenyl	Diluted out		10/25/1998	43-125	kdw	754	1809	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/23/1998	COMPLETE	wna	374		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.048	mg/kg dw	11/04/1998	0.048	tls	374	51	SW 8082
PCB-1221	<0.048	mg/kg dw	11/04/1998	0.048	tls	374	51	SW 8082
PCB-1232	<0.048	mg/kg dw	11/04/1998	0.048	tls	374	51	SW 8082
PCB-1242	<0.048	mg/kg dw	11/04/1998	0.048	tls	374	51	SW 8082
PCB-1248	<0.048	mg/kg dw	11/04/1998	0.048	tls	374	51	SW 8082
PCB-1254	<0.048	mg/kg dw	11/04/1998	0.048	tls	374	51	SW 8082
PCB-1260	<0.048	mg/kg dw	11/04/1998	0.048	tls	374	51	SW 8082
Decachlorobiphenyl (Surr)	82.0	%	11/04/1998	NA	tls	374	51	SW 8082
2,4,5,6-TCMX (Surr)	72.0	%	11/04/1998	NA	tls	374	51	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
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Westmont, IL 60559

11/05/1998

Sample No. : 497457

NET Job No.: 98.13172

Sample Description: B-19 (0-1)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/09/1998
Time Taken: 08:15
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.64	units	10/16/1998	0.10	nwg		175	SW 9045B
Solids, Total	65.8	%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	3.2	mg/kg dw	11/02/1998	0.76	mhp	226	668	SW 7060
Barium, ICP	912	mg/kg dw	10/29/1998	1.5	jtt	1148	2162	SW 6010B
Cadmium, ICP	7.1	mg/kg dw	10/28/1998	0.76	jtt	1148	2147	SW 6010B
Chromium, ICP	9.0	mg/kg dw	10/28/1998	3.0	jtt	1148	2132	SW 6010B
Lead, ICP	30	mg/kg dw	10/28/1998	6.1	jtt	1148	2369	SW 6010B
Mercury, CVAA	0.071	mg/kg dw	10/27/1998	0.061	sep	662	767	SW 7471A
Selenium, GFAA	<0.38	mg/kg dw	11/03/1998	0.38	mhp	226	555	SW 7740
Silver, AA	<3.0	mg/kg dw	10/27/1998	3.0	sep	485	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.008	mg/kg dw	10/21/1998	0.008	jap		45	SW 8260A
Ethylbenzene	<0.008	mg/kg dw	10/21/1998	0.008	jap		45	SW 8260A
Toluene	<0.008	mg/kg dw	10/21/1998	0.008	jap		45	SW 8260A
Xylenes, Total	<0.008	mg/kg dw	10/21/1998	0.008	jap		45	SW 8260A
Dibromofluoromethane (Surr)	100.0	%	10/21/1998	81-129	jap		45	SW 8260A
Toluene-d8 (Surr)	98.0	%	10/21/1998	74-129	jap		45	SW 8260A
4-Bromofluoromethane (Surr)	88.0	%	10/21/1998	70-130	jap		45	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	EXTRACTED		10/20/1998		mmv	754		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS								
Acenaphthene	<2.4	mg/kg dw	10/25/1998	0.030	kdw	754	1809	SW 8310
Acenaphthylene	<2.4	mg/kg dw	10/25/1998	0.030	kdw	754	1809	SW 8310
Anthracene	<4.9	mg/kg dw	10/25/1998	0.061	kdw	754	1809	SW 8310
Benzo(a)anthracene	<12	mg/kg dw	10/25/1998	0.0040	kdw	754	1809	SW 8310
Benzo(b)fluoranthene	<1.0	mg/kg dw	10/25/1998	0.0055	kdw	754	1809	SW 8310

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497457

NET Job No.: 98.13172

Sample Description: B-19 (0-1)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/09/1998
Time Taken: 08:15
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<1.7	mg/kg dw	10/25/1998	0.0052	kdw	754	1809	SW 8310
Benzo(a)pyrene	<0.76	mg/kg dw	10/25/1998	0.0070	kdw	754	1809	SW 8310
Benzo(ghi)perylene	<4.9	mg/kg dw	10/25/1998	0.061	kdw	754	1809	SW 8310
Chrysene	<3.6	mg/kg dw	10/25/1998	0.05	kdw	754	1809	SW 8310
Dibenzo(a,h)anthracene	<0.7	mg/kg dw	10/25/1998	0.009	kdw	754	1809	SW 8310
Fluoranthene	<3.0	mg/kg dw	10/25/1998	0.030	kdw	754	1809	SW 8310
Fluorene	<2.4	mg/kg dw	10/25/1998	0.030	kdw	754	1809	SW 8310
Indeno(1,2,3-cd)pyrene	<1.7	mg/kg dw	10/25/1998	0.013	kdw	754	1809	SW 8310
Naphthalene	<3.0	mg/kg dw	10/25/1998	0.038	kdw	754	1809	SW 8310
Phenanthrene	<4.9	mg/kg dw	10/25/1998	0.061	kdw	754	1809	SW 8310
Pyrene	<2.4	mg/kg dw	10/25/1998	0.030	kdw	754	1809	SW 8310
Surr: p-Terphenyl	Diluted out		10/25/1998	43-125	kdw	754	1809	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/22/1998	COMPLETE	wna	373		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.061	mg/kg dw	10/28/1998	0.061	tls	373	46	SW 8082
PCB-1221	<0.061	mg/kg dw	10/28/1998	0.061	tls	373	46	SW 8082
PCB-1232	<0.061	mg/kg dw	10/28/1998	0.061	tls	373	46	SW 8082
PCB-1242	<0.061	mg/kg dw	10/28/1998	0.061	tls	373	46	SW 8082
PCB-1248	<0.061	mg/kg dw	10/28/1998	0.061	tls	373	46	SW 8082
PCB-1254	<0.061	mg/kg dw	10/28/1998	0.061	tls	373	46	SW 8082
PCB-1260	<0.061	mg/kg dw	10/28/1998	0.061	tls	373	46	SW 8082
Decachlorobiphenyl (Surr)	88.0	%	10/28/1998	NA	tls	373	46	SW 8082
2,4,5,6-TCMX (Surr)	72.0	%	10/28/1998	NA	tls	373	46	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497458

NET Job No.: 98.13172

Sample Description: B-11 (0-2)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/09/1998
Time Taken: 08:40
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.62	units	10/16/1998	0.10	nwg		175	SW 9045B
Solids, Total	86.9	%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	3.2	mg/kg dw	11/02/1998	0.58	mhp	226	668	SW 7060
Barium, ICP	2,070	mg/kg dw	10/29/1998	1.2	jtt	1148	2162	SW 6010B
Cadmium, ICP	<0.58	mg/kg dw	10/28/1998	0.58	jtt	1148	2147	SW 6010B
Chromium, ICP	14	mg/kg dw	10/28/1998	2.3	jtt	1148	2132	SW 6010B
Lead, ICP	24	mg/kg dw	10/28/1998	4.6	jtt	1148	2369	SW 6010B
Mercury, CVAA	<0.046	mg/kg dw	10/27/1998	0.046	sep	662	767	SW 7471A
Selenium, GFAA	0.31	mg/kg dw	11/03/1998	0.29	mhp	226	555	SW 7740
Silver, AA	<2.3	mg/kg dw	10/27/1998	2.3	sep	485	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Toluene	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/21/1998	0.006	jap		45	SW 8260A
Dibromofluoromethane (Surr)	97.2	%	10/21/1998	81-129	jap		45	SW 8260A
Toluene-d8 (Surr)	103.2	%	10/21/1998	74-129	jap		45	SW 8260A
4-Bromofluoromethane (Surr)	103.8	%	10/21/1998	70-130	jap		45	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	EXTRACTED		10/20/1998		mmv	754		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<1.6	mg/kg dw	10/25/1998	0.023	kdw	754	1809	SW 8310
Acenaphthylene	<1.6	mg/kg dw	10/25/1998	0.023	kdw	754	1809	SW 8310
Anthracene	<3.2	mg/kg dw	10/25/1998	0.046	kdw	754	1809	SW 8310
Benzo(a)anthracene	<2.4	mg/kg dw	10/25/1998	0.0030	kdw	754	1809	SW 8310
Benzo(b)fluoranthene	<0.59	mg/kg dw	10/25/1998	0.0041	kdw	754	1809	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23373

NET® NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497458

NET Job No.: 98.13172

Sample Description: B-11 (0-2)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/09/1998
Time Taken: 08:40
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.27	mg/kg dw	10/25/1998	0.0039	kdw	754	1809	SW 8310
Benzo(a)pyrene	<0.37	mg/kg dw	10/25/1998	0.0053	kdw	754	1809	SW 8310
Benzo(ghi)perylene	<3.2	mg/kg dw	10/25/1998	0.046	kdw	754	1809	SW 8310
Chrysene	<2.4	mg/kg dw	10/25/1998	0.03	kdw	754	1809	SW 8310
Dibenzo(a,h)anthracene	<0.48	mg/kg dw	10/25/1998	0.007	kdw	754	1809	SW 8310
Fluoranthene	<1.6	mg/kg dw	10/25/1998	0.023	kdw	754	1809	SW 8310
Fluorene	<1.6	mg/kg dw	10/25/1998	0.023	kdw	754	1809	SW 8310
Indeno(1,2,3-cd)pyrene	<0.69	mg/kg dw	10/25/1998	0.0099	kdw	754	1809	SW 8310
Naphthalene	<2.0	mg/kg dw	10/25/1998	0.029	kdw	754	1809	SW 8310
Phenanthrene	<3.2	mg/kg dw	10/25/1998	0.046	kdw	754	1809	SW 8310
Pyrene	<1.6	mg/kg dw	10/25/1998	0.023	kdw	754	1809	SW 8310
Surr: p-Terphenyl	Diluted out		10/25/1998	43-125	kdw	754	1809	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/22/1998	COMPLETE	wna	373		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.046	mg/kg dw	10/28/1998	0.046	tls	373	46	SW 8082
PCB-1221	<0.046	mg/kg dw	10/28/1998	0.046	tls	373	46	SW 8082
PCB-1232	<0.046	mg/kg dw	10/28/1998	0.046	tls	373	46	SW 8082
PCB-1242	<0.046	mg/kg dw	10/28/1998	0.046	tls	373	46	SW 8082
PCB-1248	<0.046	mg/kg dw	10/28/1998	0.046	tls	373	46	SW 8082
PCB-1254	<0.046	mg/kg dw	10/28/1998	0.046	tls	373	46	SW 8082
PCB-1260	<0.046	mg/kg dw	10/28/1998	0.046	tls	373	46	SW 8082
Decachlorobiphenyl (Surr)	103.0	%	10/28/1998	NA	tls	373	46	SW 8082
2,4,5,6-TCMX (Surr)	84.0	%	10/28/1998	NA	tls	373	46	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998
Sample No. : 497459
NET Job No.: 98.13172

Sample Description: B-10 (0-2)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/09/1998
Time Taken: 08:50
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.67	units	10/16/1998	0.10	nwg		175	SW 9045B
Solids, Total	75.0	%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	6.0	mg/kg dw	11/02/1998	0.67	mhp	226	668	SW 7060
Barium, ICP	1,080	mg/kg dw	10/29/1998	1.3	jtt	1148	2162	SW 6010B
Cadmium, ICP	7.9	mg/kg dw	10/28/1998	0.67	jtt	1148	2147	SW 6010B
Chromium, ICP	33	mg/kg dw	10/28/1998	2.7	jtt	1148	2132	SW 6010B
Lead, ICP	373	mg/kg dw	10/28/1998	5.3	jtt	1148	2369	SW 6010B
Mercury, CVAA	0.13	mg/kg dw	10/27/1998	0.053	sep	662	767	SW 7471A
Selenium, GFAA	0.56	mg/kg dw	11/03/1998	0.33	mhp	226	555	SW 7740
Silver, AA	<2.7	mg/kg dw	10/27/1998	2.7	sep	485	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.007	mg/kg dw	10/21/1998	0.007	jap		45	SW 8260A
Ethylbenzene	<0.007	mg/kg dw	10/21/1998	0.007	jap		45	SW 8260A
Toluene	<0.007	mg/kg dw	10/21/1998	0.007	jap		45	SW 8260A
Xylenes, Total	<0.007	mg/kg dw	10/21/1998	0.007	jap		45	SW 8260A
Dibromofluoromethane (Surr)	103.6	%	10/21/1998	81-129	jap		45	SW 8260A
Toluene-d8 (Surr)	96.8	%	10/21/1998	74-129	jap		45	SW 8260A
4-Bromofluoromethane (Surr)	87.0	%	10/21/1998	70-130	jap		45	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	EXTRACTED		10/20/1998		mmv	754		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<1.9	mg/kg dw	10/25/1998	0.027	kdw	754	1809	SW 8310
Acenaphthylene	<1.9	mg/kg dw	10/25/1998	0.027	kdw	754	1809	SW 8310
Anthracene	<3.7	mg/kg dw	10/25/1998	0.053	kdw	754	1809	SW 8310
Benzo(a)anthracene	<5.3	mg/kg dw	10/25/1998	0.0035	kdw	754	1809	SW 8310
Benzo(b)fluoranthene	<0.52	mg/kg dw	10/25/1998	0.0048	kdw	754	1809	SW 8310

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

Sample No. : 497459

NET Job No.: 98.13172

Sample Description: B-10 (0-2)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/09/1998
Time Taken: 08:50
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.32	mg/kg dw	10/25/1998	0.0045	kdw	754	1809	SW 8310
Benzo(a)pyrene	<0.79	mg/kg dw	10/25/1998	0.0061	kdw	754	1809	SW 8310
Benzo(ghi)perylene	<3.7	mg/kg dw	10/25/1998	0.053	kdw	754	1809	SW 8310
Chrysene	<2.8	mg/kg dw	10/25/1998	0.04	kdw	754	1809	SW 8310
Dibenzo(a,h)anthracene	<0.56	mg/kg dw	10/25/1998	0.008	kdw	754	1809	SW 8310
Fluoranthene	<2.3	mg/kg dw	10/25/1998	0.027	kdw	754	1809	SW 8310
Fluorene	<1.9	mg/kg dw	10/25/1998	0.027	kdw	754	1809	SW 8310
Indeno(1,2,3-cd)pyrene	<0.77	mg/kg dw	10/25/1998	0.011	kdw	754	1809	SW 8310
Naphthalene	<2.3	mg/kg dw	10/25/1998	0.033	kdw	754	1809	SW 8310
Phenanthrene	<3.7	mg/kg dw	10/25/1998	0.053	kdw	754	1809	SW 8310
Pyrene	<1.9	mg/kg dw	10/25/1998	0.027	kdw	754	1809	SW 8310
Surr: p-Terphenyl	Diluted out		10/25/1998	43-125	kdw	754	1809	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/22/1998	COMPLETE	wna	373		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.053	mg/kg dw	10/28/1998	0.053	tls	373	46	SW 8082
PCB-1221	<0.053	mg/kg dw	10/28/1998	0.053	tls	373	46	SW 8082
PCB-1232	<0.053	mg/kg dw	10/28/1998	0.053	tls	373	46	SW 8082
PCB-1242	<0.053	mg/kg dw	10/28/1998	0.053	tls	373	46	SW 8082
PCB-1248	<0.053	mg/kg dw	10/28/1998	0.053	tls	373	46	SW 8082
PCB-1254	0.24	mg/kg dw	10/30/1998	0.053	tls	373	47	SW 8082
PCB-1260	<0.053	mg/kg dw	10/30/1998	0.053	tls	373	47	SW 8082
Decachlorobiphenyl (Surr)	110.0	%	10/28/1998	NA	tls	373	46	SW 8082
2,4,5,6-TCMX (Surr)	86.0	%	10/28/1998	NA	tls	373	46	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998
Sample No. : 497460
NET Job No.: 98.13172

Sample Description: B-9 (0-3)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/09/1998
Time Taken: 09:05
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.44	units	10/16/1998	0.10	nwg		175	SW 9045B
Solids, Total	93.3	%	11/02/1998	0.1	efw		2514	SM 2540
Arsenic, GFAA	5.6	mg/kg dw	11/02/1998	0.54	mhp	226	668	SW 7060
Barium, ICP	332	mg/kg dw	10/30/1998	1.1	jtt	1153	2169	SW 6010B
Cadmium, ICP	1.3	mg/kg dw	10/31/1998	0.54	jtt	1153	2155	SW 6010B
Chromium, ICP	20	mg/kg dw	10/31/1998	2.1	jtt	1153	2140	SW 6010B
Lead, ICP	86	mg/kg dw	11/02/1998	4.3	jtt	1153	2382	SW 6010B
Mercury, CVAA	0.20	mg/kg dw	10/27/1998	0.043	sep	662	767	SW 7471A
Selenium, GFAA	0.44	mg/kg dw	11/03/1998	0.27	mhp	226	556	SW 7740
Silver, AA	<2.1	mg/kg dw	10/27/1998	2.1	sep	485	567	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	10/22/1998	0.005	jap		46	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/22/1998	0.005	jap		46	SW 8260A
Toluene	<0.005	mg/kg dw	10/22/1998	0.005	jap		46	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/22/1998	0.005	jap		46	SW 8260A
Dibromofluoromethane (Surr)	97.6	%	10/22/1998	81-129	jap		46	SW 8260A
Toluene-d8 (Surr)	102.4	%	10/22/1998	74-129	jap		46	SW 8260A
4-Bromofluoromethane (Surr)	102.6	%	10/22/1998	70-130	jap		46	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	EXTRACTED		10/20/1998		mmv	754		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS								
Acenaphthene	<1.7	mg/kg dw	10/25/1998	0.021	kdw	754	1809	SW 8310
Acenaphthylene	<1.7	mg/kg dw	10/25/1998	0.021	kdw	754	1809	SW 8310
Anthracene	<3.4	mg/kg dw	10/25/1998	0.043	kdw	754	1809	SW 8310
Benzo(a)anthracene	<1.6	mg/kg dw	10/25/1998	0.0028	kdw	754	1809	SW 8310
Benzo(b)fluoranthene	0.44	mg/kg dw	10/25/1998	0.0039	kdw	754	1809	SW 8310

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
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11/05/1998

Sample No. : 497460

NET Job No.: 98.13172

Sample Description: B-9 (0-3)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/09/1998
Time Taken: 09:05
IEPA Cert. No. 100221

Date Received: 10/09/1998
Time Received: 14:15
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.40	mg/kg dw	10/25/1998	0.0036	kdw	754	1809	SW 8310
Benzo(a)pyrene	<0.65	mg/kg dw	10/25/1998	0.0049	kdw	754	1809	SW 8310
Benzo(ghi)perylene	<3.4	mg/kg dw	10/25/1998	0.043	kdw	754	1809	SW 8310
Chrysene	<2	mg/kg dw	10/25/1998	0.03	kdw	754	1809	SW 8310
Dibenzo(a,h)anthracene	<0.5	mg/kg dw	10/25/1998	0.006	kdw	754	1809	SW 8310
Fluoranthene	<1.7	mg/kg dw	10/25/1998	0.021	kdw	754	1809	SW 8310
Fluorene	<1.7	mg/kg dw	10/25/1998	0.021	kdw	754	1809	SW 8310
Indeno(1,2,3-cd)pyrene	<0.74	mg/kg dw	10/25/1998	0.0092	kdw	754	1809	SW 8310
Naphthalene	<2.1	mg/kg dw	10/25/1998	0.027	kdw	754	1809	SW 8310
Phenanthrene	<3.4	mg/kg dw	10/25/1998	0.043	kdw	754	1809	SW 8310
Pyrene	<1.7	mg/kg dw	10/25/1998	0.021	kdw	754	1809	SW 8310
Surr: p-Terphenyl	Diluted out		10/25/1998	43-125	kdw	754	1809	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/22/1998	COMPLETE	wna	373		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.043	mg/kg dw	10/28/1998	0.043	tls	373	46	SW 8082
PCB-1221	<0.043	mg/kg dw	10/28/1998	0.043	tls	373	46	SW 8082
PCB-1232	<0.043	mg/kg dw	10/28/1998	0.043	tls	373	46	SW 8082
PCB-1242	0.045	mg/kg dw	11/04/1998	0.043	tls	373	51	SW 8082
PCB-1248	<0.043	mg/kg dw	11/04/1998	0.043	tls	373	51	SW 8082
PCB-1254	<0.043	mg/kg dw	11/04/1998	0.043	tls	373	51	SW 8082
PCB-1260	0.068	mg/kg dw	11/04/1998	0.043	tls	373	51	SW 8082
Decachlorobiphenyl (Surr)	92.0	%	10/28/1998	NA	tls	373	46	SW 8082
2,4,5,6-TCMX (Surr)	79.0	%	10/28/1998	NA	tls	373	46	SW 8082

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13172

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
pH, Non-Aqueous	174	7.00	6.93	99.0
pH, Non-Aqueous	175	7.00	6.93	99.0
Arsenic, GFAA	666	0.0250	0.0226	90.4
Arsenic, GFAA	668	0.0250	0.0262	104.8
Barium, ICP	2162	2.00	2.10	105.0
Barium, ICP	2162	2.00	2.08	104.0
Barium, ICP	2169	2.00	2.05	102.5
Cadmium, ICP	2147	1.00	1.05	105.0
Chromium, ICP	2132	2.00	2.12	106.0
Lead, ICP	2369	2.00	2.09	104.5
Lead, ICP	2382	2.00	2.04	102.0
Mercury, CVAA	767	0.0025	0.00230	92.0
Selenium, GFAA	552	0.0500	0.0492	98.4
Selenium, GFAA	555	0.0500	0.0497	99.4
Selenium, GFAA	556	0.0500	0.0516	103.2
Silver, AA	567	0.50	0.533	106.6
UST VOLATILES NON-AQUEOUS				
Benzene	45	50.0	54.9	109.8
Ethylbenzene	45	50.0	57.0	114.0
Toluene	45	50.0	55.4	110.8
Xylenes, Total	45	150	164	109.3
UST VOLATILES NON-AQUEOUS				
Benzene	46	50.0	56.6	113.2
Ethylbenzene	46	50.0	59.2	118.4
Toluene	46	50.0	57.6	115.2
Xylenes, Total	46	150	169	112.7
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1809	5000	4,983	99.7
Acenaphthylene	1809	5000	5,153	103.1
Anthracene	1809	5000	5,288	105.8
Benzo(a)anthracene	1809	5000	5,181	103.6
Benzo(b)fluoranthene	1809	5000	4,857	97.1
Benzo(k)fluoranthene	1809	5000	4,828	96.6
Benzo(a)pyrene	1809	5000	4,929	98.6

CCV - Continuing Calibration Verification

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13172

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Benzo(ghi)perylene	1809	5000	4,799	96.0
Chrysene	1809	5000	5,115	102.3
Dibenzo(a,h)anthracene	1809	5000	4,909	98.2
Fluoranthene	1809	5000	4,866	97.3
Fluorene	1809	5000	4,873	97.5
Indeno(1,2,3-cd)pyrene	1809	5000	4,793	95.9
Naphthalene	1809	5000	5,094	101.9
Phenanthrene	1809	5000	4,952	99.0
Pyrene	1809	5000	5,042	100.8
Surr: p-Terphenyl	1809	5000	4,955	99.1
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1809	5000	5,078	101.6
Acenaphthylene	1809	5000	5,189	103.8
Anthracene	1809	5000	5,118	102.4
Benzo(a)anthracene	1809	5000	5,087	101.7
Benzo(b)fluoranthene	1809	5000	4,860	97.2
Benzo(k)fluoranthene	1809	5000	4,816	96.3
Benzo(a)pyrene	1809	5000	4,866	97.3
Benzo(ghi)perylene	1809	5000	4,746	94.9
Chrysene	1809	5000	5,231	104.6
Dibenzo(a,h)anthracene	1809	5000	4,904	98.1
Fluoranthene	1809	5000	4,884	97.7
Fluorene	1809	5000	4,846	96.9
Indeno(1,2,3-cd)pyrene	1809	5000	4,812	96.2
Naphthalene	1809	5000	5,120	102.4
Phenanthrene	1809	5000	4,915	98.3
Pyrene	1809	5000	5,108	102.2
Surr: p-Terphenyl	1809	5000	4,968	99.4
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1809	5000	5,057	101.1
Acenaphthylene	1809	5000	5,034	100.7
Anthracene	1809	5000	5,125	102.5
Benzo(a)anthracene	1809	5000	5,124	102.5
Benzo(b)fluoranthene	1809	5000	5,126	102.5

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13172

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Benzo(k)fluoranthene	1809	5000	5,055	101.1
Benzo(a)pyrene	1809	5000	4,854	97.1
Benzo(ghi)perylene	1809	5000	4,751	95.0
Chrysene	1809	5000	5,158	103.2
Dibenzo(a,h)anthracene	1809	5000	4,921	98.4
Fluoranthene	1809	5000	5,052	101.0
Fluorene	1809	5000	4,874	97.5
Indeno(1,2,3-cd)pyrene	1809	5000	4,849	97.0
Naphthalene	1809	5000	5,073	101.5
Phenanthrene	1809	5000	4,973	99.5
Pyrene	1809	5000	5,181	103.6
Surr: p-Terphenyl	1809	5000	4,978	99.6
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1809	5000	5,093	101.9
Acenaphthylene	1809	5000	5,074	101.5
Anthracene	1809	5000	5,099	102.0
Benzo(a)anthracene	1809	5000	5,401	108.0
Benzo(b)fluoranthene	1809	5000	4,995	99.9
Benzo(k)fluoranthene	1809	5000	4,950	99.0
Benzo(a)pyrene	1809	5000	4,951	99.0
Benzo(ghi)perylene	1809	5000	4,787	95.7
Chrysene	1809	5000	5,296	105.9
Dibenzo(a,h)anthracene	1809	5000	4,904	98.1
Fluoranthene	1809	5000	5,038	100.8
Fluorene	1809	5000	4,880	97.6
Indeno(1,2,3-cd)pyrene	1809	5000	4,809	96.2
Naphthalene	1809	5000	5,088	101.8
Phenanthrene	1809	5000	4,969	99.4
Pyrene	1809	5000	5,211	104.2
Surr: p-Terphenyl	1809	5000	5,156	103.1
PCB'S NON-AQUEOUS				
PCB-1016	46	500	519	103.8
PCB-1260	46	500	519	103.8
PCB'S NON-AQUEOUS				

CCV - Continuing Calibration Verification

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13172

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
PCB-1016	46	500	472	94.4
PCB-1260	46	500	492	98.4
PCB'S NON-AQUEOUS				
PCB-1016	46	500	478	95.6
PCB-1260	46	500	476	95.2
PCB'S NON-AQUEOUS				
PCB-1016	46	500	505	101.0
PCB-1260	46	500	500	100.0
PCB'S NON-AQUEOUS				
PCB-1016	46	500	487	97.4
PCB-1260	46	500	489	97.8
PCB'S NON-AQUEOUS				
PCB-1260	47	500	502	100.4
PCB'S NON-AQUEOUS				
PCB-1260	47	500	479	95.8
PCB'S NON-AQUEOUS				
PCB-1260	47	500	470	94.0
PCB'S NON-AQUEOUS				
PCB-1260	47	500	470	94.0
PCB'S NON-AQUEOUS				
PCB-1260	47	500	494	98.8
PCB'S NON-AQUEOUS				
PCB-1016	51	500	477	95.4
PCB-1260	51	500	473	94.6
PCB'S NON-AQUEOUS				
PCB-1016	51	500	501	100.2
PCB-1260	51	500	505	101.0
PCB'S NON-AQUEOUS				
PCB-1016	51	500	496	99.2
PCB-1260	51	500	485	97.0

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13172

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Arsenic, GFAA	227	666	<0.50	mg/Kg	0.50	SW 7060
Arsenic, GFAA	226	668	<0.50	mg/Kg	0.50	SW 7060
Barium, ICP	1148	2161	<1.0	mg/Kg	1.0	SW 6010B
Barium, ICP	1153	2169	<1.0	mg/Kg	1.0	SW 6010B
Cadmium, ICP	1148	2147	<0.50	mg/Kg	0.50	SW 6010B
Cadmium, ICP	1153	2155	<0.50	mg/Kg	0.50	SW 6010B
Chromium, ICP	1148	2132	<2.0	mg/Kg	2.0	SW 6010B
Chromium, ICP	1153	2140	<2.0	mg/Kg	2.0	SW 6010B
Lead, ICP	1148	2369	<4.0	mg/Kg	4.0	SW 6010B
Lead, ICP	1153	2380	<4.0	mg/Kg	4.0	SW 6010B
Mercury, CVAA	662	767	<0.040	mg/Kg	0.040	SW 7471A
Selenium, GFAA	227	551	<0.25	mg/Kg	0.25	SW 7740
Selenium, GFAA	226	555	<0.25	mg/Kg	0.25	SW 7740
Silver, AA	484	567	<2.0	mg/Kg	2.0	SW 7760
Silver, AA	485	567	<2.0	mg/Kg	2.0	SW 7760
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		45	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		45	<0.005	mg/Kg	0.005	SW 8260A
Toluene		45	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		45	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		45	101.2	%	74-134	SW 8260A
Toluene-d8 (Surr)		45	109.8	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		45	106.2	%	64-131	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		46	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		46	<0.005	mg/Kg	0.005	SW 8260A
Toluene		46	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		46	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		46	102.2	%	74-134	SW 8260A

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
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11/05/1998

NET Job Number: 98.13172

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Toluene-d8 (Surr)		46	108.4	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		46	107.4	%	64-131	SW 8260A
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	753	1801	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	753	1801	<0.020	mg/Kg	0.020	SW 8310
Anthracene	753	1801	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	753	1801	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	753	1801	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	753	1801	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	753	1801	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	753	1801	<0.040	mg/Kg	0.040	SW 8310
Chrysene	753	1801	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	753	1801	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	753	1801	<0.020	mg/Kg	0.020	SW 8310
Fluorene	753	1801	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	753	1801	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	753	1801	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	753	1801	<0.040	mg/Kg	0.040	SW 8310
Pyrene	753	1801	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	753	1801	80.0	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	754	1806	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	754	1806	<0.020	mg/Kg	0.020	SW 8310
Anthracene	754	1806	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	754	1806	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	754	1806	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	754	1806	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	754	1806	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	754	1806	<0.040	mg/Kg	0.040	SW 8310

Advisory Control Limits for Blanks:

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13172

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Chrysene	754	1806	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	754	1806	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	754	1806	<0.020	mg/Kg	0.020	SW 8310
Fluorene	754	1806	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	754	1806	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	754	1806	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	754	1806	<0.040	mg/Kg	0.040	SW 8310
Pyrene	754	1806	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	754	1806	82.0	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	754	1812	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	754	1812	<0.020	mg/Kg	0.020	SW 8310
Anthracene	754	1812	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	754	1812	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	754	1812	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	754	1812	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	754	1812	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	754	1812	<0.040	mg/Kg	0.040	SW 8310
Chrysene	754	1812	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	754	1812	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	754	1812	<0.020	mg/Kg	0.020	SW 8310
Fluorene	754	1812	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	754	1812	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	754	1812	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	754	1812	<0.040	mg/Kg	0.040	SW 8310
Pyrene	754	1812	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	754	1812	100.0	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	754	1825	<0.020	mg/Kg	0.020	SW 8310

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13172

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Acenaphthylene	754	1825	<0.020	mg/Kg	0.020	SW 8310
Anthracene	754	1825	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	754	1825	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	754	1825	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	754	1825	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	754	1825	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	754	1825	<0.040	mg/Kg	0.040	SW 8310
Chrysene	754	1825	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	754	1825	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	754	1825	<0.020	mg/Kg	0.020	SW 8310
Fluorene	754	1825	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	754	1825	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	754	1825	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	754	1825	<0.040	mg/Kg	0.040	SW 8310
Pyrene	754	1825	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	754	1825	90.8	%	43-125	SW 8310
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	373	46	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	373	46	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	373	46	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	373	46	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	373	46	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	373	46	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	373	46	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	373	46	91.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	373	46	72.0	%	NA	SW 8082
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	374	51	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	374	51	<0.040	mg/Kg	0.040	SW 8082

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
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11/05/1998

NET Job Number: 98.13172

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
PCB-1232	374	51	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	374	51	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	374	51	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	374	51	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	374	51	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	374	51	75.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	374	51	65.0	%	NA	SW 8082

Advisory Control Limits for Blanks:

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
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11/05/1998

NET Job Number: 98.13172

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Arsenic, GFAA	227	666	0.0100	0.0096	96.0
Arsenic, GFAA	226	668	0.0100	0.0110	110.0
Barium, ICP	1148	2162	5.00	4.80	96.0
Barium, ICP	1153	2169	5.00	5.06	101.2
Cadmium, ICP	1148	2147	2.50	2.22	88.8
Cadmium, ICP	1153	2155	2.50	2.52	100.8
Chromium, ICP	1148	2132	5.00	4.7	94.0
Chromium, ICP	1153	2140	5.00	5.22	104.4
Lead, ICP	1148	2369	5.00	4.65	93.0
Lead, ICP	1153	2380	50.0	52.4	104.8
Mercury, CVAA	662	767	0.0025	0.00251	100.4
Mercury, CVAA		767	0.0020	0.00220	110.0
Selenium, GFAA	227	551	0.0100	0.0118	118.0
Selenium, GFAA	226	555	0.0100	0.0105	105.0
Silver, AA	484	567	0.1	0.101	101.0
Silver, AA		567	1.0	0.922	92.2
Silver, AA	485	567	0.1	0.098	98.0
UST VOLATILES NON-AQUEOUS					
Benzene		45	20.0	21.8	109.0
Ethylbenzene		45	20.0	23.1	115.5
Toluene		45	20.0	22.0	110.0
Xylenes, Total		45	60.0	66.2	110.3
Dibromofluoromethane (Surr)		45	50.0	49.5	99.0
Toluene-d8 (Surr)		45	50.0	53.2	106.4
4-Bromofluoromethane (Surr)		45	50.0	51.6	103.2
UST VOLATILES NON-AQUEOUS					
Benzene		46	20.0	22.1	110.5
Ethylbenzene		46	20.0	23.5	117.5
Toluene		46	20.0	22.7	113.5
Xylenes, Total		46	60.0	67	111.7
Dibromofluoromethane (Surr)		46	50.0	53.5	107.0

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LABORATORY CONTROL STANDARD

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11/05/1998

NET Job Number: 98.13172

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Toluene-d8 (Surr)		46	50.0	54.9	109.8
4-Bromofluoromethane (Surr)		46	50.0	54.4	108.8
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	753	1801	0.033	0.028	84.8
Acenaphthylene	753	1801	0.033	0.033	100.0
Anthracene	753	1801	0.033	0.030	90.9
Benzo(a)anthracene	753	1801	0.033	0.029	87.9
Benzo(b)fluoranthene	753	1801	0.033	0.028	84.8
Benzo(k)fluoranthene	753	1801	0.033	0.027	81.8
Benzo(a)pyrene	753	1801	0.033	0.026	78.8
Benzo(ghi)perylene	753	1801	0.033	0.029	87.9
Chrysene	753	1801	0.033	0.029	87.9
Dibenzo(a,h)anthracene	753	1801	0.033	0.028	84.8
Fluoranthene	753	1801	0.033	0.029	87.9
Fluorene	753	1801	0.033	0.029	87.9
Indeno(1,2,3-cd)pyrene	753	1801	0.033	0.028	84.8
Naphthalene	753	1801	0.033	0.026	78.8
Phenanthrene	753	1801	0.033	0.030	90.9
Pyrene	753	1801	0.033	0.028	84.8
Surr: p-Terphenyl	753	1801	2000	1,651	82.6
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	754	1806	0.033	0.027	81.8
Acenaphthylene	754	1806	0.033	0.030	90.9
Anthracene	754	1806	0.033	0.029	87.9
Benzo(a)anthracene	754	1806	0.033	0.029	87.9
Benzo(b)fluoranthene	754	1806	0.033	0.028	84.8
Benzo(k)fluoranthene	754	1806	0.033	0.031	93.9
Benzo(a)pyrene	754	1806	0.033	0.027	81.8
Benzo(ghi)perylene	754	1806	0.033	0.032	97.0
Chrysene	754	1806	0.033	0.029	87.9
Dibenzo(a,h)anthracene	754	1806	0.033	0.029	87.9

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
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NET Job Number: 98.13172

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Fluoranthene	754	1806	0.033	0.029	87.9
Fluorene	754	1806	0.033	0.028	84.8
Indeno(1,2,3-cd)pyrene	754	1806	0.033	0.030	90.9
Naphthalene	754	1806	0.033	0.025	75.8
Phenanthrene	754	1806	0.033	0.029	87.9
Pyrene	754	1806	0.033	0.028	84.8
Surr: p-Terphenyl	754	1806	2000	1,660	83.0
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	754	1812	0.033	0.031	93.9
Acenaphthylene	754	1812	0.033	0.029	87.9
Anthracene	754	1812	0.033	0.032	97.0
Benzo(a)anthracene	754	1812	0.033	0.030	90.9
Benzo(b)fluoranthene	754	1812	0.033	0.030	90.9
Benzo(k)fluoranthene	754	1812	0.033	0.030	90.9
Benzo(a)pyrene	754	1812	0.033	0.031	93.9
Benzo(ghi)perylene	754	1812	0.033	0.028	84.8
Chrysene	754	1812	0.033	0.032	97.0
Dibenzo(a,h)anthracene	754	1812	0.033	0.030	90.9
Fluoranthene	754	1812	0.033	0.025	75.8
Fluorene	754	1812	0.033	0.033	100.0
Indeno(1,2,3-cd)pyrene	754	1812	0.033	0.049	148.5
Naphthalene	754	1812	0.033	0.027	81.8
Phenanthrene	754	1812	0.033	0.029	87.9
Pyrene	754	1812	0.033	0.029	87.9
Surr: p-Terphenyl	754	1812	2000	2000	100.0
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	754	1825	0.033	0.029	87.9
Acenaphthylene	754	1825	0.033	0.031	93.9
Anthracene	754	1825	0.033	0.030	90.9
Benzo(a)anthracene	754	1825	0.033	0.032	97.0
Benzo(b)fluoranthene	754	1825	0.033	0.029	87.9

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13172

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Benzo(k)fluoranthene	754	1825	0.033	0.031	93.9
Benzo(a)pyrene	754	1825	0.033	0.029	87.9
Benzo(ghi)perylene	754	1825	0.033	0.029	87.9
Chrysene	754	1825	0.033	0.032	97.0
Dibenzo(a,h)anthracene	754	1825	0.033	0.028	84.8
Fluoranthene	754	1825	0.033	0.029	87.9
Fluorene	754	1825	0.033	0.028	84.8
Indeno(1,2,3-cd)pyrene	754	1825	0.033	0.027	81.8
Naphthalene	754	1825	0.033	0.027	81.8
Phenanthrene	754	1825	0.033	0.030	90.9
Pyrene	754	1825	0.033	0.029	87.9
Surr: p-Terphenyl	754	1825	2000	1,766	88.3
PCB'S NON-AQUEOUS					
PCB-1016	373	46	500	443	88.6
PCB-1260	373	46	500	494	98.8
Decachlorobiphenyl (Surr)	373	46	100	92	92.0
2,4,5,6-TCMX (Surr)	373	46	100	75	75.0
PCB'S NON-AQUEOUS					
PCB-1016	374	51	500	486	97.2
PCB-1260	374	51	500	518	103.6
Decachlorobiphenyl (Surr)	374	51	100	91	91.0
2,4,5,6-TCMX (Surr)	374	51	100	81	81.0

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QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/05/1998

NET Job Number: 98.13172

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
PNA NON-AQUEOUS												
Acenaphthene	753	1803	0.028	<0.020	0.033	mg/kg	84.8	0.029	0.033	mg/kg	87.9	3.6
Acenaphthylene	753	1804	0.029	<0.020	0.033	mg/kg	87.9	0.030	0.033	mg/kg	90.9	3.4
Anthracene	753	1804	0.027	<0.040	0.033	mg/kg	81.8	0.030	0.033	mg/kg	90.9	10.5
Benzo(a)anthracene	753	1803	0.028	<0.0026	0.033	mg/kg	84.8	0.031	0.033	mg/kg	93.9	10.2
Benzo(b)fluoranthene	753	1803	0.027	<0.0036	0.033	mg/kg	81.8	0.028	0.033	mg/kg	84.8	3.6
Benzo(k)fluoranthene	753	1803	0.027	<0.0034	0.033	mg/kg	81.8	0.029	0.033	mg/kg	87.9	7.2
Benzo(a)pyrene	753	1803	0.022	<0.0046	0.033	mg/kg	66.7	0.028	0.033	mg/kg	84.8	23.9
Benzo(ghi)perylene	753	1803	0.025	<0.040	0.033	mg/kg	75.8	0.024	0.033	mg/kg	72.7	4.2
Chrysene	753	1804	0.024	<0.03	0.033	mg/kg	72.7	0.028	0.033	mg/kg	84.8	15.4
Dibenzo(a,h)anthracene	753	1803	0.023	<0.006	0.033	mg/kg	69.7	0.027	0.033	mg/kg	81.8	16.0
Fluoranthene	753	1803	0.027	<0.020	0.033	mg/kg	81.8	0.030	0.033	mg/kg	90.9	10.5
Fluorene	753	1803	0.027	<0.020	0.033	mg/kg	81.8	0.030	0.033	mg/kg	90.9	10.5
Indeno(1,2,3-cd)pyrene	753	1803	0.025	<0.0086	0.033	mg/kg	75.8	0.029	0.033	mg/kg	87.9	14.8
Naphthalene	753	1803	0.027	<0.025	0.033	mg/kg	81.8	0.029	0.033	mg/kg	87.9	7.2
Phenanthrene	753	1803	0.028	<0.040	0.033	mg/kg	84.8	0.031	0.033	mg/kg	93.9	10.2
Pyrene	753	1803	0.030	<0.020	0.033	mg/kg	90.9	0.032	0.033	mg/kg	97.0	6.5
PNA CMPDS - 8310 NONAQUEOUS												
Acenaphthene	753	1806	0.033	<0.023	0.038	mg/kg	87.9	0.033	0.038	mg/kg	87.9	0.0
Acenaphthylene	753	1806	0.037	<0.023	0.038	mg/kg	97.0	0.034	0.038	mg/kg	90.9	6.5
Anthracene	753	1806	<0.040	<0.046	0.038	mg/kg	90.9	<0.040	0.038	mg/kg	90.9	0.0
Benzo(a)anthracene	753	1806	0.037	<0.0030	0.038	mg/kg	97.0	0.037	0.038	mg/kg	97.0	0.0
Benzo(b)fluoranthene	753	1806	0.038	<0.0041	0.038	mg/kg	100.0	0.034	0.038	mg/kg	90.9	9.4
Benzo(k)fluoranthene	753	1806	0.038	<0.0039	0.038	mg/kg	100.0	0.033	0.038	mg/kg	87.9	12.8
Benzo(a)pyrene	753	1806	0.030	<0.0053	0.038	mg/kg	78.8	0.031	0.038	mg/kg	81.8	3.7

NOTE: Matrix Spike Samples may not be samples from this job.

Advisory Control Limits for MS/MSDs:

For Inorganic Parameters and GC Volatiles, the spike recovery should be 75 - 125% if the spike added value was greater than or equal to one fourth of the sample result value. If not, the control limits are not established. The RPD for the MS/MSD pair should be less than 20.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13172

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MS RPD
Benzo(ghi)perylene	753	1806	<0.040	<0.046	0.038	mg/kg	90.9	<0.040	0.038	mg/kg	75.8	18.1
Chrysene	753	1806	0.033	<0.03	0.038	mg/kg	87.9	0.034	0.038	mg/kg	90.9	3.4
Dibenzo(a,h)anthracene	753	1806	0.033	<0.007	0.038	mg/kg	87.9	0.034	0.038	mg/kg	90.9	3.4
Fluoranthene	753	1806	0.034	<0.023	0.038	mg/kg	90.9	0.036	0.038	mg/kg	93.9	3.2
Fluorene	753	1806	0.037	<0.023	0.038	mg/kg	97.0	0.034	0.038	mg/kg	90.9	6.5
Indeno(1,2,3-cd)pyrene	753	1806	0.033	<0.0099	0.038	mg/kg	87.9	0.033	0.038	mg/kg	87.9	0.0
Naphthalene	753	1806	0.033	<0.029	0.038	mg/kg	87.9	0.030	0.038	mg/kg	78.8	10.5
Phenanthrene	753	1806	<0.040	<0.046	0.038	mg/kg	93.9	<0.040	0.038	mg/kg	97.0	3.2
Pyrene	753	1806	0.034	<0.023	0.038	mg/kg	90.9	0.034	0.038	mg/kg	90.9	0.0
PNA CMPDS - 8310 NONAQUEOUS												
Acenaphthene	754	1809	3.42	<1.7	3.56	mg/kg	96.1	3.26	3.57	mg/kg	91.3	5.1
Acenaphthylene	754	1809	3.69	<1.7	3.56	mg/kg	103.6	3.46	3.57	mg/kg	97.0	6.5
Anthracene	754	1809	3.77	<3.4	3.56	mg/kg	106.0	3.37	3.57	mg/kg	94.3	11.6
Benzo(a)anthracene	754	1809	3.90	<1.6	3.56	mg/kg	109.6	3.10	3.57	mg/kg	86.8	23.1
Benzo(b)fluoranthene	754	1809	3.41	0.44	3.56	mg/kg	83.4	2.87	3.57	mg/kg	68.2	20.1
Benzo(k)fluoranthene	754	1809	3.38	0.40	3.56	mg/kg	83.7	2.73	3.57	mg/kg	65.5	24.4
Benzo(a)pyrene	754	1809	4.28	<0.65	3.56	mg/kg	120.2	3.52	3.57	mg/kg	98.5	19.7
Benzo(ghi)perylene	754	1809	3.33	<3.4	3.56	mg/kg	93.7	2.54	3.57	mg/kg	71.2	27.3
Chrysene	754	1809	4.09	<2	3.56	mg/kg	115.1	3.43	3.57	mg/kg	96.1	17.5
Dibenzo(a,h)anthracene	754	1809	3.87	<0.5	3.56	mg/kg	108.7	3.19	3.57	mg/kg	89.5	19.3
Fluoranthene	754	1809	4.03	<1.7	3.56	mg/kg	113.3	3.10	3.57	mg/kg	86.8	26.4
Fluorene	754	1809	3.71	<1.7	3.56	mg/kg	104.2	3.37	3.57	mg/kg	94.3	9.9
Indeno(1,2,3-cd)pyrene	754	1809	3.54	<0.74	3.56	mg/kg	99.4	2.82	3.57	mg/kg	79.0	22.5
Naphthalene	754	1809	3.93	<2.1	3.56	mg/kg	110.5	3.60	3.57	mg/kg	100.9	9.1

NOTE: Matrix Spike Samples may not be samples from this job.

Advisory Control Limits for MS/MSDs:

For Inorganic Parameters and GC Volatiles, the spike recovery should be 75 - 125% if the spike added value was greater than or equal to one fourth of the sample result value. If not, the control limits are not established. The RPD for the MS/MSD pair should be less than 20.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13172

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Phenanthrene	754	1809	4.46	<3.4	3.56	mg/kg	125.3	3.86	3.57	mg/kg	108.1	14.7
Pyrene	754	1809	4.30	<1.7	3.56	mg/kg	120.8	3.41	3.57	mg/kg	95.5	23.3
PCB'S NON-AQUEOUS												
PCB-1016	373	46	401	<0.040	500	mg/kg	80.2	419	500	mg/kg	83.8	4.4
PCB-1260	373	46	549	<0.040	500	mg/kg	109.8	545	500	mg/kg	109.0	0.7
PCB'S NON-AQUEOUS												
PCB-1016	373	46	479	<0.040	500	mg/kg	95.8	796	500	mg/kg	159.2	49.6
PCB-1260	373	51	0.224	0.068	0.179	mg/kg	87.4	0.208	0.179	mg/kg	78.4	10.9
PCB'S NON-AQUEOUS												
PCB-1016	374	49	354	<0.045	567	mg/kg	62.4	247	567	mg/kg	43.6	35.5
PCB-1260	374	49	.37	0.212	.189	mg/kg	85.6	.32	.189	mg/kg	55.7	42.3
PCB'S NON-AQUEOUS												
PCB-1016	374	49	463	<0.045	567	mg/kg	81.6	484	567	mg/kg	85.4	4.6
PCB-1260	374	49	480	<0.045	567	mg/kg	84.6	520	567	mg/kg	91.8	8.2

NOTE: Matrix Spike Samples may not be samples from this job.

Advisory Control Limits for MS/MSDs:

For Inorganic Parameters and GC Volatiles, the spike recovery should be 75 - 125% if the spike added value was greater than or equal to one fourth of the sample result value. If not, the control limits are not established. The RPD for the MS/MSD pair should be less than 20.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

RPD calculations are performed on the Percent Recovery calculated from the observed Matrix spike and Matrix Spike Duplicate results.

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QUALITY CONTROL REPORT

DUPLICATES

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/05/1998

NET Job Number: 98.13172

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	RPD
pH, Non-Aqueous		174	6.54	6.45	units	1.4
pH, Non-Aqueous		175	5.33	5.40	units	1.3
Solids, Total		2514	71.6	73.6	%	2.8
Solids, Total		2514	88.9	89.3	%	0.4
Solids, Total		2514	83.3	83.9	%	0.7
Solids, Total		2514	71.1	68.4	%	3.9

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.

NET Midwest, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY ENSR
ADDRESS 140 Pasquinelli Dr. Westmont, IL
PHONE (630) 887-4700 FAX (630) 850-5307
PROJECT NAME/LOCATION ComEd Joliet #29
PROJECT NUMBER 1801-023-410
PROJECT MANAGER Wei-Lin Feng/Karen Johnics

REPORT TO: Wei-Lin Feng
INVOICE TO:
P.O. NO.
NET QUOTE NO.

SAMPLED BY Charlene Howell (PRINT NAME) Charlene Howell SIGNATURE
(PRINT NAME) SIGNATURE

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: PH (9045)	PNAs (8310)	BTEX (8260)	PCBs (8081)	RCRA Metals (totals)
10/8/98	15:00	B-18(0-1)	S	X						2	X	X	X	X	X
	14:45	B-16(0-4)	S	X						2	X	X	X	X	X
	15:20	B-17(0-2)	S	X						2	X	X	X	X	X
	15:45	B-15(0-2)	S	X						2	X	X	X	X	X
	16:00	B-14(0-2)	S	X						2	X	X	X	X	X
10/9/98	9:35	B-20(0-2)	S	X						2	X	X	X	X	X
	8:00	B-12(0-1)	S	X						2	X	X	X	X	X
	8:15	B-19(0-1)	S	X						2	X	X	X	X	X
	8:40	B-11(0-2)	S	X						2	X	X	X	X	X
	8:50	B-10(0-2)	S	X						2	X	X	X	X	X
	9:05	B-9(0-3)	S	X						2	X	X	X	X	X

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ____ No ____

Is this work being conducted for regulatory enforcement action? Yes ____ No ____

Which regulations apply: RCRA ____ NPDES Wastewater ____ UST ____ Drinking Water ____ Other ____ None ____

COMMENTS

1-4oz, 1-16oz

1-4oz, 1-16oz

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) NO FIELD FILTERED? ~~YES/NO~~ N/A

COC SEALS PRESENT AND INTACT? ~~YES/NO~~ VOLATILES FREE OF HEADSPACE? (YES) NO

TEMPERATURE UPON RECEIPT: 0.6°C wet ice Bottles supplied by NET? (YES) NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ____
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ____ DATE ____

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
Charlene Howell	10/9/98	11:00			10/09/98	1415	P. Merrill

METHOD OF SHIPMENT: Pickup

REMARKS: Max 10-day turnaround

MWG13-15_23398

NATIONAL ENVIRONMENTAL TESTING, INC.

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Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

NET Job Number: 98.13012

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Joliet #29; 1801-023-410

Sample Number	Sample Description	Date Taken	Date Received
496623	S-5	10/07/1998	10/07/1998
496624	X-1	10/07/1998	10/07/1998
496625	S-2	10/07/1998	10/07/1998
496626	S-4	10/07/1998	10/07/1998
496627	S-3	10/07/1998	10/07/1998
496628	X-2	10/07/1998	10/07/1998
496629	X-3	10/07/1998	10/07/1998
496630	X-4	10/07/1998	10/07/1998
496631	S-1	10/07/1998	10/07/1998
496632	S-22	10/07/1998	10/07/1998
496633	S-6	10/07/1998	10/07/1998
496634	S-7	10/07/1998	10/07/1998
496635	S-8	10/07/1998	10/07/1998
496636	S-9	10/07/1998	10/07/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

NET® NATIONAL ENVIRONMENTAL TESTING, INC.

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Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

NET Job Number: 98.13012

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Joliet #29; 1801-023-410

Sample Number	Sample Description	Date Taken	Date Received
496637	X-5	10/07/1998	10/07/1998
496638	S-15	10/07/1998	10/07/1998
496639	S-16	10/07/1998	10/07/1998
496640	S-17	10/07/1998	10/07/1998
496641	X-6	10/07/1998	10/07/1998
496642	S-20	10/07/1998	10/07/1998
496643	S-21	10/07/1998	10/07/1998
496644	S-18	10/07/1998	10/07/1998
496645	S-19	10/07/1998	10/07/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496623

NET Job No.: 98.13012

Sample Description: S-5
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 09:10
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.62		units	10/12/1998	0.10	nwg		163	SW 9045B
Solids, Total	79.7		%	10/28/1998	0.1	efw		2501	SM 2540
Arsenic, GFAA	3.3		mg/kg dw	10/17/1998	0.63	mhp	215	653	SW 7060
Barium, ICP	213		mg/kg dw	10/23/1998	1.3	kdw	1138	2150	SW 6010B
Cadmium, ICP	1.4		mg/kg dw	10/15/1998	0.63	kdw	1138	2126	SW 6010B
Chromium, ICP	10		mg/kg dw	10/15/1998	2.5	kdw	1138	2112	SW 6010B
Lead, ICP	75		mg/kg dw	10/15/1998	5.0	kdw	1138	2348	SW 6010B
Mercury, CVAA	<0.050		mg/kg dw	10/23/1998	0.050	sep	657	764	SW 7471A
Selenium, GFAA	0.35		mg/kg dw	10/20/1998	0.31	mhp	215	538	SW 7740
Silver, AA	<2.5		mg/kg dw	10/16/1998	2.5	sep	474	563	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/13/1998		mmv	237		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<314		mg/kg dw	11/03/1998	63	btl	237	485	SW 8015M
TPH as Diesel	<314		mg/kg dw	11/03/1998	63	btl	237	485	SW 8015M
TPH as Oil	489	PT	mg/kg dw	11/03/1998	63	btl	237	485	SW 8015M
N-octacosane (TPH surr)	144.0		%	11/03/1998		btl	237	485	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	10/15/1998	0.006	mjo		31	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	10/15/1998	0.006	mjo		31	SW 8260A
Toluene	<0.006		mg/kg dw	10/15/1998	0.006	mjo		31	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	10/15/1998	0.006	mjo		31	SW 8260A
Dibromofluoromethane (Surr)	90.2		%	10/15/1998	81-129	mjo		31	SW 8260A
Toluene-d8 (Surr)	91.4		%	10/15/1998	74-129	mjo		31	SW 8260A
4-Bromofluoromethane (Surr)	73.8		%	10/15/1998	70-130	mjo		31	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/12/1998		mmv	748		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

MWG13-15_23401

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998
Sample No. : 496623
NET Job No.: 98.13012

Sample Description: S-5
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 09:10
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<1.8	mg/kg dw	10/18/1998	0.025	keh	748	1798	SW 8310
Acenaphthylene	<1.8	mg/kg dw	10/18/1998	0.025	keh	748	1798	SW 8310
Anthracene	<3.5	mg/kg dw	10/18/1998	0.050	keh	748	1798	SW 8310
Benzo(a)anthracene	7.4	mg/kg dw	10/18/1998	0.0033	keh	748	1798	SW 8310
Benzo(b)fluoranthene	5.0	mg/kg dw	10/18/1998	0.0045	keh	748	1798	SW 8310
Benzo(k)fluoranthene	2.5	mg/kg dw	10/18/1998	0.0043	keh	748	1798	SW 8310
Benzo(a)pyrene	4.3	mg/kg dw	10/18/1998	0.0058	keh	748	1798	SW 8310
Benzo(ghi)perylene	4.0	mg/kg dw	10/18/1998	0.050	keh	748	1798	SW 8310
Chrysene	5.4	mg/kg dw	10/18/1998	0.04	keh	748	1798	SW 8310
Dibenzo(a,h)anthracene	<0.5	mg/kg dw	10/18/1998	0.008	keh	748	1798	SW 8310
Fluoranthene	11	mg/kg dw	10/18/1998	0.025	keh	748	1798	SW 8310
Fluorene	<1.8	mg/kg dw	10/18/1998	0.025	keh	748	1798	SW 8310
Indeno(1,2,3-cd)pyrene	3.1	mg/kg dw	10/18/1998	0.011	keh	748	1798	SW 8310
Naphthalene	<2.3	mg/kg dw	10/18/1998	0.031	keh	748	1798	SW 8310
Phenanthrene	4.3	mg/kg dw	10/18/1998	0.050	keh	748	1798	SW 8310
Pyrene	9.0	mg/kg dw	10/18/1998	0.025	keh	748	1798	SW 8310
Surr: p-Terphenyl	Diluted out		10/18/1998	43-125	keh	748	1798	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	362		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.050	mg/kg dw	10/14/1998	0.050	jrs	362	34	SW 8082
PCB-1221	<0.050	mg/kg dw	10/14/1998	0.050	jrs	362	34	SW 8082
PCB-1232	<0.050	mg/kg dw	10/14/1998	0.050	jrs	362	34	SW 8082
PCB-1242	<0.050	mg/kg dw	10/14/1998	0.050	jrs	362	34	SW 8082
PCB-1248	<0.050	mg/kg dw	10/14/1998	0.050	jrs	362	34	SW 8082
PCB-1254	<0.050	mg/kg dw	10/14/1998	0.050	jrs	362	34	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496623

NET Job No.: 98.13012

Sample Description: S-5
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 09:10
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.050	mg/kg dw	10/14/1998	0.050	jrs	362	34	SW 8082
Decachlorobiphenyl (Surr)	110.0	%	10/14/1998	NA	jrs	362	34	SW 8082
2,4,5,6-TCMX (Surr)	107.0	%	10/14/1998	NA	jrs	362	34	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496624

NET Job No.: 98.13012

Sample Description: X-1
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 09:20
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.66		units	10/12/1998	0.10	nwg		164	SW 9045B
Solids, Total	15.0		%	10/28/1998	0.1	efw		2501	SM 2540
Arsenic, GFAA	<8.0	MX	mg/kg dw	10/17/1998	3.3	mhp	215	653	SW 7060
Barium, ICP	800		mg/kg dw	10/23/1998	6.7	kdw	1138	2150	SW 6010B
Cadmium, ICP	<3.3		mg/kg dw	10/15/1998	3.3	kdw	1138	2126	SW 6010B
Chromium, ICP	35		mg/kg dw	10/15/1998	13	kdw	1138	2112	SW 6010B
Lead, ICP	45		mg/kg dw	10/15/1998	27	kdw	1138	2348	SW 6010B
Mercury, CVAA	<0.27		mg/kg dw	10/23/1998	0.27	sep	657	764	SW 7471A
Selenium, GFAA	<1.7		mg/kg dw	10/20/1998	1.7	mhp	215	538	SW 7740
Silver, AA	<13		mg/kg dw	10/16/1998	13	sep	474	563	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/13/1998		mmv	237		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<33,000		mg/kg dw	10/31/1998	330	btl	237	484	SW 8015M
TPH as Diesel	<33,000		mg/kg dw	10/31/1998	330	btl	237	484	SW 8015M
TPH as Oil	193,000	PT	mg/kg dw	10/31/1998	330	btl	237	484	SW 8015M
N-octacosane (TPH surr)	Diluted out			10/31/1998		btl	237	484	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.03		mg/kg dw	10/15/1998	0.03	jap		31	SW 8260A
Ethylbenzene	<0.03		mg/kg dw	10/15/1998	0.03	jap		31	SW 8260A
Toluene	<0.03		mg/kg dw	10/15/1998	0.03	jap		31	SW 8260A
Xylenes, Total	<0.03		mg/kg dw	10/15/1998	0.03	jap		31	SW 8260A
Dibromofluoromethane (Surr)	82.0		%	10/15/1998	81-129	jap		31	SW 8260A
Toluene-d8 (Surr)	88.0		%	10/15/1998	74-129	jap		31	SW 8260A
4-Bromofluoromethane (Surr)	66.0	R	%	10/15/1998	70-130	jap		31	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/12/1998		mmv	748		SW 3540C

MX : Dilution required due to sample matrix; analyte is not detected.
PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.
R : Surrogate recovery verified by re-analysis.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496624

NET Job No.: 98.13012

Sample Description: X-1
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 09:20
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<12	mg/kg dw	10/18/1998	0.13	keh	748	1798	SW 8310
Acenaphthylene	<12	mg/kg dw	10/18/1998	0.13	keh	748	1798	SW 8310
Anthracene	<24	mg/kg dw	10/18/1998	0.27	keh	748	1798	SW 8310
Benzo(a)anthracene	<8.0	mg/kg dw	10/18/1998	0.017	keh	748	1798	SW 8310
Benzo(b)fluoranthene	<2.1	mg/kg dw	10/18/1998	0.024	keh	748	1798	SW 8310
Benzo(k)fluoranthene	<2.1	mg/kg dw	10/18/1998	0.023	keh	748	1798	SW 8310
Benzo(a)pyrene	<2.7	mg/kg dw	10/18/1998	0.031	keh	748	1798	SW 8310
Benzo(ghi)perylene	<24	mg/kg dw	10/18/1998	0.27	keh	748	1798	SW 8310
Chrysene	<20	mg/kg dw	10/18/1998	0.2	keh	748	1798	SW 8310
Dibenzo(a,h)anthracene	<3	mg/kg dw	10/18/1998	0.04	keh	748	1798	SW 8310
Fluoranthene	<12	mg/kg dw	10/18/1998	0.13	keh	748	1798	SW 8310
Fluorene	<12	mg/kg dw	10/18/1998	0.13	keh	748	1798	SW 8310
Indeno(1,2,3-cd)pyrene	<5.1	mg/kg dw	10/18/1998	0.057	keh	748	1798	SW 8310
Naphthalene	<15	mg/kg dw	10/18/1998	0.17	keh	748	1798	SW 8310
Phenanthrene	<24	mg/kg dw	10/18/1998	0.27	keh	748	1798	SW 8310
Pyrene	<12	mg/kg dw	10/18/1998	0.13	keh	748	1798	SW 8310
Surr: p-Terphenyl	Diluted out		10/18/1998	43-125	keh	748	1798	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	362		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.53	mg/kg dw	10/14/1998	0.27	jrs	362	34	SW 8082
PCB-1221	<0.53	mg/kg dw	10/14/1998	0.27	jrs	362	34	SW 8082
PCB-1232	<0.53	mg/kg dw	10/14/1998	0.27	jrs	362	34	SW 8082
PCB-1242	<0.53	mg/kg dw	10/14/1998	0.27	jrs	362	34	SW 8082
PCB-1248	<0.53	mg/kg dw	10/14/1998	0.27	jrs	362	34	SW 8082
PCB-1254	<0.53	mg/kg dw	10/14/1998	0.27	jrs	362	34	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496624

NET Job No.: 98.13012

Sample Description: X-1
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 09:20
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.53	mg/kg dw	10/14/1998	0.27	jrs	362	34	SW 8082
Decachlorobiphenyl (Surr)	114.0	%	10/14/1998	NA	jrs	362	34	SW 8082
2,4,5,6-TCMX (Surr)	88.0	%	10/14/1998	NA	jrs	362	34	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496625

NET Job No.: 98.13012

Sample Description: S-2
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 09:40
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.37	units	10/12/1998	0.10	nwg		164	SW 9045B
Solids, Total	88.2	%	10/28/1998	0.1	efw		2501	SM 2540
Arsenic, GFAA	2.0	mg/kg dw	10/17/1998	0.57	mhp	215	653	SW 7060
Barium, ICP	110	mg/kg dw	10/23/1998	1.1	kdw	1138	2150	SW 6010B
Cadmium, ICP	<0.57	mg/kg dw	10/15/1998	0.57	kdw	1138	2126	SW 6010B
Chromium, ICP	5.2	mg/kg dw	10/15/1998	2.3	kdw	1138	2112	SW 6010B
Lead, ICP	8.7	mg/kg dw	10/15/1998	4.5	kdw	1138	2348	SW 6010B
Mercury, CVAA	1.5	mg/kg dw	10/20/1998	0.045	sep	657	760	SW 7471A
Selenium, GFAA	0.33	mg/kg dw	10/20/1998	0.28	mhp	215	538	SW 7740
Silver, AA	<2.3	mg/kg dw	10/16/1998	2.3	sep	474	563	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/13/1998		mmv	237		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	136,000 PT	mg/kg dw	10/31/1998	57	btl	237	484	SW 8015M
TPH as Diesel	<5,670	mg/kg dw	10/31/1998	57	btl	237	484	SW 8015M
TPH as Oil	<5,670	mg/kg dw	10/31/1998	57	btl	237	484	SW 8015M
N-octacosane (TPH surr)	Diluted out		10/31/1998		btl	237	484	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<11	mg/kg dw	10/18/1998	0.006	mjo		34	SW 8260A
Ethylbenzene	57	mg/kg dw	10/18/1998	0.006	mjo		34	SW 8260A
Toluene	37	mg/kg dw	10/18/1998	0.006	mjo		34	SW 8260A
Xylenes, Total	442	mg/kg dw	10/18/1998	0.006	mjo		34	SW 8260A
Dibromofluoromethane (Surr)	Diluted out		10/18/1998	81-129	mjo		34	SW 8260A
Toluene-d8 (Surr)	Diluted out		10/18/1998	74-129	mjo		34	SW 8260A
4-Bromofluoromethane (Surr)	Diluted out		10/18/1998	70-130	mjo		34	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/12/1998		mmv	748		SW 3540C

PT: Pattern does not match the gasoline standard; however, hydrocarbons are present in the gasoline range.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496625

NET Job No.: 98.13012

Sample Description: S-2
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 09:40
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<10	mg/kg dw	10/18/1998	0.023	keh	748	1798	SW 8310
Acenaphthylene	<10	mg/kg dw	10/18/1998	0.023	keh	748	1798	SW 8310
Anthracene	<79	mg/kg dw	10/18/1998	0.045	keh	748	1798	SW 8310
Benzo(a)anthracene	<7.6	mg/kg dw	10/18/1998	0.0029	keh	748	1798	SW 8310
Benzo(b)fluoranthene	<1.8	mg/kg dw	10/18/1998	0.0041	keh	748	1798	SW 8310
Benzo(k)fluoranthene	<1.7	mg/kg dw	10/18/1998	0.0039	keh	748	1798	SW 8310
Benzo(a)pyrene	<2.4	mg/kg dw	10/18/1998	0.0052	keh	748	1798	SW 8310
Benzo(ghi)perylene	<20	mg/kg dw	10/18/1998	0.045	keh	748	1798	SW 8310
Chrysene	<11	mg/kg dw	10/18/1998	0.03	keh	748	1798	SW 8310
Dibenzo(a,h)anthracene	<3	mg/kg dw	10/18/1998	0.007	keh	748	1798	SW 8310
Fluoranthene	<87	mg/kg dw	10/18/1998	0.023	keh	748	1798	SW 8310
Fluorene	<68	mg/kg dw	10/18/1998	0.023	keh	748	1798	SW 8310
Indeno(1,2,3-cd)pyrene	<4.4	mg/kg dw	10/18/1998	0.0098	keh	748	1798	SW 8310
Naphthalene	363	mg/kg dw	10/18/1998	0.028	keh	748	1798	SW 8310
Phenanthrene	<52	mg/kg dw	10/18/1998	0.045	keh	748	1798	SW 8310
Pyrene	<10	mg/kg dw	10/18/1998	0.023	keh	748	1798	SW 8310
Surr: p-Terphenyl	Diluted out		10/18/1998	43-125	keh	748	1798	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	362		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.091	mg/kg dw	10/14/1998	0.045	jrs	362	34	SW 8082
PCB-1221	<0.091	mg/kg dw	10/14/1998	0.045	jrs	362	34	SW 8082
PCB-1232	<0.091	mg/kg dw	10/14/1998	0.045	jrs	362	34	SW 8082
PCB-1242	<0.091	mg/kg dw	10/14/1998	0.045	jrs	362	34	SW 8082
PCB-1248	<0.091	mg/kg dw	10/14/1998	0.045	jrs	362	34	SW 8082
PCB-1254	<0.091	mg/kg dw	10/14/1998	0.045	jrs	362	34	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496625

NET Job No.: 98.13012

Sample Description: S-2
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 09:40
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.091	mg/kg dw	10/14/1998	0.045	jrs	362	34	SW 8082
Decachlorobiphenyl (Surr)	108.0	%	10/14/1998	NA	jrs	362	34	SW 8082
2,4,5,6-TCMX (Surr)	118.0	%	10/14/1998	NA	jrs	362	34	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496626

NET Job No.: 98.13012

Sample Description: S-4
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 09:46
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.90	units	10/12/1998	0.10	nwg		164	SW 9045B
Solids, Total	88.3	%	10/28/1998	0.1	efw		2501	SM 2540
Arsenic, GFAA	5.5	mg/kg dw	10/17/1998	0.57	mhp	215	653	SW 7060
Barium, ICP	193	mg/kg dw	10/23/1998	1.1	kdw	1138	2150	SW 6010B
Cadmium, ICP	1.4	mg/kg dw	10/15/1998	0.57	kdw	1138	2126	SW 6010B
Chromium, ICP	12	mg/kg dw	10/15/1998	2.3	kdw	1138	2112	SW 6010B
Lead, ICP	55	mg/kg dw	10/15/1998	4.5	kdw	1138	2348	SW 6010B
Mercury, CVAA	0.25	mg/kg dw	10/20/1998	0.045	sep	657	760	SW 7471A
Selenium, GFAA	<0.28	mg/kg dw	10/20/1998	0.28	mhp	215	538	SW 7740
Silver, AA	<2.3	mg/kg dw	10/16/1998	2.3	sep	474	563	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/13/1998		mmv	237		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<5,700	mg/kg dw	10/31/1998	57	btl	237	484	SW 8015M
TPH as Diesel	<5,700	mg/kg dw	10/31/1998	57	btl	237	484	SW 8015M
TPH as Oil	13,600 PT	mg/kg dw	10/31/1998	57	btl	237	484	SW 8015M
N-octacosane (TPH surr)	Diluted out		10/31/1998		btl	237	484	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/17/1998	0.006	mjo		35	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/17/1998	0.006	mjo		35	SW 8260A
Toluene	<0.006	mg/kg dw	10/17/1998	0.006	mjo		35	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/17/1998	0.006	mjo		35	SW 8260A
Dibromofluoromethane (Surr)	115.8	%	10/17/1998	81-129	mjo		35	SW 8260A
Toluene-d8 (Surr)	88.2	%	10/17/1998	74-129	mjo		35	SW 8260A
4-Bromofluoromethane (Surr)	77.6	%	10/17/1998	70-130	mjo		35	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/12/1998		mmv	748		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496626

NET Job No.: 98.13012

Sample Description: S-4
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 09:46
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.0	mg/kg dw	10/18/1998	0.023	keh	748	1798	SW 8310
Acenaphthylene	<2.0	mg/kg dw	10/18/1998	0.023	keh	748	1798	SW 8310
Anthracene	<4.1	mg/kg dw	10/18/1998	0.045	keh	748	1798	SW 8310
Benzo(a)anthracene	<0.65	mg/kg dw	10/18/1998	0.0029	keh	748	1798	SW 8310
Benzo(b)fluoranthene	<0.36	mg/kg dw	10/18/1998	0.0041	keh	748	1798	SW 8310
Benzo(k)fluoranthene	<0.35	mg/kg dw	10/18/1998	0.0039	keh	748	1798	SW 8310
Benzo(a)pyrene	<0.46	mg/kg dw	10/18/1998	0.0052	keh	748	1798	SW 8310
Benzo(ghi)perylene	<4.1	mg/kg dw	10/18/1998	0.045	keh	748	1798	SW 8310
Chrysene	<3	mg/kg dw	10/18/1998	0.03	keh	748	1798	SW 8310
Dibenzo(a,h)anthracene	<0.6	mg/kg dw	10/18/1998	0.007	keh	748	1798	SW 8310
Fluoranthene	<2.0	mg/kg dw	10/18/1998	0.023	keh	748	1798	SW 8310
Fluorene	<2.0	mg/kg dw	10/18/1998	0.023	keh	748	1798	SW 8310
Indeno(1,2,3-cd)pyrene	<0.87	mg/kg dw	10/18/1998	0.0097	keh	748	1798	SW 8310
Naphthalene	<2.5	mg/kg dw	10/18/1998	0.028	keh	748	1798	SW 8310
Phenanthrene	<4.1	mg/kg dw	10/18/1998	0.045	keh	748	1798	SW 8310
Pyrene	<2.0	mg/kg dw	10/18/1998	0.023	keh	748	1798	SW 8310
Surr: p-Terphenyl	Diluted out		10/18/1998	43-125	keh	748	1798	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	362		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.045	mg/kg dw	10/14/1998	0.045	jrs	362	34	SW 8082
PCB-1221	<0.045	mg/kg dw	10/14/1998	0.045	jrs	362	34	SW 8082
PCB-1232	<0.045	mg/kg dw	10/14/1998	0.045	jrs	362	34	SW 8082
PCB-1242	<0.045	mg/kg dw	10/14/1998	0.045	jrs	362	34	SW 8082
PCB-1248	<0.045	mg/kg dw	10/14/1998	0.045	jrs	362	34	SW 8082
PCB-1254	<0.045	mg/kg dw	10/14/1998	0.045	jrs	362	34	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496626

NET Job No.: 98.13012

Sample Description: S-4
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 09:46
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.045	mg/kg dw	10/14/1998	0.045	jrs	362	34	SW 8082
Decachlorobiphenyl (Surr)	108.0	%	10/14/1998	NA	jrs	362	34	SW 8082
2,4,5,6-TCMX (Surr)	88.0	%	10/14/1998	NA	jrs	362	34	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496627

NET Job No.: 98.13012

Sample Description: S-3
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:00
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.34		units	10/12/1998	0.10	nwg		164	SW 9045B
Solids, Total	92.6		%	10/29/1998	0.1	efw		2501	SM 2540
Arsenic, GFAA	3.0		mg/kg dw	10/17/1998	0.54	mhp	215	653	SW 7060
Barium, ICP	14		mg/kg dw	10/23/1998	1.1	kdw	1138	2150	SW 6010B
Cadmium, ICP	1.6		mg/kg dw	10/15/1998	0.54	kdw	1138	2126	SW 6010B
Chromium, ICP	7.6		mg/kg dw	10/15/1998	2.2	kdw	1138	2112	SW 6010B
Lead, ICP	27		mg/kg dw	10/15/1998	4.3	kdw	1138	2348	SW 6010B
Mercury, CVAA	0.13		mg/kg dw	10/20/1998	0.043	sep	657	760	SW 7471A
Selenium, GFAA	0.28		mg/kg dw	10/20/1998	0.27	mhp	215	538	SW 7740
Silver, AA	<2.2		mg/kg dw	10/16/1998	2.2	sep	474	563	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/13/1998		mmv	237		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<540		mg/kg dw	10/31/1998	54	btl	237	484	SW 8015M
TPH as Diesel	1,400	PT	mg/kg dw	10/31/1998	54	btl	237	484	SW 8015M
TPH as Oil	9,830		mg/kg dw	10/31/1998	54	btl	237	484	SW 8015M
N-octacosane (TPH surr)	132.0		%	10/31/1998		btl	237	484	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.005		mg/kg dw	10/17/1998	0.005	mjo		35	SW 8260A
Ethylbenzene	<0.005		mg/kg dw	10/17/1998	0.005	mjo		35	SW 8260A
Toluene	<0.005		mg/kg dw	10/17/1998	0.005	mjo		35	SW 8260A
Xylenes, Total	<0.005		mg/kg dw	10/17/1998	0.005	mjo		35	SW 8260A
Dibromofluoromethane (Surr)	102.8		%	10/17/1998	81-129	mjo		35	SW 8260A
Toluene-d8 (Surr)	96.0		%	10/17/1998	74-129	mjo		35	SW 8260A
4-Bromofluoromethane (Surr)	87.2		%	10/17/1998	70-130	mjo		35	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/12/1998		mmv	748		SW 3540C

PT : Pattern does not match the calibration standard; however, hyrdrocarbons are present in the diesel range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
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Westmont, IL 60559

11/04/1998
Sample No. : 496627
NET Job No.: 98.13012

Sample Description: S-3
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:00
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.76	mg/kg dw	10/18/1998	0.022	keh	748	1798	SW 8310
Acenaphthylene	<0.76	mg/kg dw	10/18/1998	0.022	keh	748	1798	SW 8310
Anthracene	<1.5	mg/kg dw	10/18/1998	0.043	keh	748	1798	SW 8310
Benzo(a)anthracene	1.5	mg/kg dw	10/18/1998	0.0028	keh	748	1798	SW 8310
Benzo(b)fluoranthene	0.57	mg/kg dw	10/18/1998	0.0039	keh	748	1798	SW 8310
Benzo(k)fluoranthene	0.33	mg/kg dw	10/18/1998	0.0037	keh	748	1798	SW 8310
Benzo(a)pyrene	0.55	mg/kg dw	10/18/1998	0.0050	keh	748	1798	SW 8310
Benzo(ghi)perylene	<1.5	mg/kg dw	10/18/1998	0.043	keh	748	1798	SW 8310
Chrysene	<1	mg/kg dw	10/18/1998	0.03	keh	748	1798	SW 8310
Dibenzo(a,h)anthracene	<0.2	mg/kg dw	10/18/1998	0.006	keh	748	1798	SW 8310
Fluoranthene	1.2	mg/kg dw	10/18/1998	0.022	keh	748	1798	SW 8310
Fluorene	<0.76	mg/kg dw	10/18/1998	0.022	keh	748	1798	SW 8310
Indeno(1,2,3-cd)pyrene	<0.32	mg/kg dw	10/18/1998	0.0093	keh	748	1798	SW 8310
Naphthalene	<0.95	mg/kg dw	10/18/1998	0.027	keh	748	1798	SW 8310
Phenanthrene	<1.5	mg/kg dw	10/18/1998	0.043	keh	748	1798	SW 8310
Pyrene	1.0	mg/kg dw	10/18/1998	0.022	keh	748	1798	SW 8310
Surr: p-Terphenyl	Diluted out		10/18/1998	43-125	keh	748	1798	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	362		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.043	mg/kg dw	10/14/1998	0.043	jrs	362	34	SW 8082
PCB-1221	<0.043	mg/kg dw	10/14/1998	0.043	jrs	362	34	SW 8082
PCB-1232	<0.043	mg/kg dw	10/14/1998	0.043	jrs	362	34	SW 8082
PCB-1242	<0.043	mg/kg dw	10/14/1998	0.043	jrs	362	34	SW 8082
PCB-1248	<0.043	mg/kg dw	10/14/1998	0.043	jrs	362	34	SW 8082
PCB-1254	<0.043	mg/kg dw	10/14/1998	0.043	jrs	362	34	SW 8082

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23414

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496627

NET Job No.: 98.13012

Sample Description: S-3
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:00
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.043	mg/kg dw	10/14/1998	0.043	jrs	362	34	SW 8082
Decachlorobiphenyl (Surr)	108.0	%	10/14/1998	NA	jrs	362	34	SW 8082
2,4,5,6-TCMX (Surr)	98.0	%	10/14/1998	NA	jrs	362	34	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
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740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496628

NET Job No.: 98.13012

Sample Description: X-2
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:10
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	10.40	units	10/12/1998	0.10	nwg		164	SW 9045B
Solids, Total	63.9	%	10/29/1998	0.1	efw		2501	SM 2540
Arsenic, GFAA	5.9	mg/kg dw	10/19/1998	0.78	mhp	216	654	SW 7060
Barium, ICP	2,500	mg/kg dw	10/23/1998	1.6	kdw	1139	2150	SW 6010B
Cadmium, ICP	<0.78	mg/kg dw	10/19/1998	0.78	jtt	1139	2127	SW 6010B
Chromium, ICP	19	mg/kg dw	10/19/1998	3.1	jtt	1139	2113	SW 6010B
Lead, ICP	42	mg/kg dw	10/19/1998	6.3	jtt	1139	2349	SW 6010B
Mercury, CVAA	<0.063	mg/kg dw	10/20/1998	0.063	sep	657	760	SW 7471A
Selenium, GFAA	<0.39	mg/kg dw	10/20/1998	0.39	mhp	216	538	SW 7740
Silver, AA	<3.1	mg/kg dw	10/16/1998	3.1	sep	475	563	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/13/1998		mmv	237		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<78	mg/kg dw	10/31/1998	78	btl	237	484	SW 8015M
TPH as Diesel	<78	mg/kg dw	10/31/1998	78	btl	237	484	SW 8015M
TPH as Oil	<78	mg/kg dw	10/31/1998	78	btl	237	484	SW 8015M
N-octacosane (TPH surr)	115.0	%	10/31/1998		btl	237	484	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.008	mg/kg dw	10/17/1998	0.008	mjo		35	SW 8260A
Ethylbenzene	<0.008	mg/kg dw	10/17/1998	0.008	mjo		35	SW 8260A
Toluene	<0.008	mg/kg dw	10/17/1998	0.008	mjo		35	SW 8260A
Xylenes, Total	<0.008	mg/kg dw	10/17/1998	0.008	mjo		35	SW 8260A
Dibromofluoromethane (Surr)	86.0	%	10/17/1998	81-129	mjo		35	SW 8260A
Toluene-d8 (Surr)	110.0	%	10/17/1998	74-129	mjo		35	SW 8260A
4-Bromofluoromethane (Surr)	90.6	%	10/17/1998	70-130	mjo		35	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/12/1998		mmv	748		SW 3540C

MWG13-15_23416

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496628

NET Job No.: 98.13012

Sample Description: X-2
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:10
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS								
Acenaphthene	<0.031	mg/kg dw	10/18/1998	0.031	keh	748	1798	SW 8310
Acenaphthylene	<0.031	mg/kg dw	10/18/1998	0.031	keh	748	1798	SW 8310
Anthracene	<0.063	mg/kg dw	10/18/1998	0.063	keh	748	1798	SW 8310
Benzo(a)anthracene	0.0077	mg/kg dw	10/18/1998	0.0041	keh	748	1798	SW 8310
Benzo(b)fluoranthene	<0.0056	mg/kg dw	10/18/1998	0.0056	keh	748	1798	SW 8310
Benzo(k)fluoranthene	<0.0053	mg/kg dw	10/18/1998	0.0053	keh	748	1798	SW 8310
Benzo(a)pyrene	<0.0072	mg/kg dw	10/18/1998	0.0072	keh	748	1798	SW 8310
Benzo(ghi)perylene	<0.063	mg/kg dw	10/18/1998	0.063	keh	748	1798	SW 8310
Chrysene	<0.05	mg/kg dw	10/18/1998	0.05	keh	748	1798	SW 8310
Dibenzo(a,h)anthracene	<0.009	mg/kg dw	10/18/1998	0.009	keh	748	1798	SW 8310
Fluoranthene	<0.031	mg/kg dw	10/18/1998	0.031	keh	748	1798	SW 8310
Fluorene	<0.031	mg/kg dw	10/18/1998	0.031	keh	748	1798	SW 8310
Indeno(1,2,3-cd)pyrene	<0.013	mg/kg dw	10/18/1998	0.013	keh	748	1798	SW 8310
Naphthalene	<0.039	mg/kg dw	10/18/1998	0.039	keh	748	1798	SW 8310
Phenanthrene	<0.063	mg/kg dw	10/18/1998	0.063	keh	748	1798	SW 8310
Pyrene	<0.031	mg/kg dw	10/18/1998	0.031	keh	748	1798	SW 8310
Surr: p-Terphenyl	76.1	%	10/18/1998	43-125	keh	748	1798	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	362		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.063	mg/kg dw	10/14/1998	0.063	jrs	362	34	SW 8082
PCB-1221	<0.063	mg/kg dw	10/14/1998	0.063	jrs	362	34	SW 8082
PCB-1232	<0.063	mg/kg dw	10/14/1998	0.063	jrs	362	34	SW 8082
PCB-1242	<0.063	mg/kg dw	10/14/1998	0.063	jrs	362	34	SW 8082
PCB-1248	<0.063	mg/kg dw	10/14/1998	0.063	jrs	362	34	SW 8082
PCB-1254	<0.063	mg/kg dw	10/14/1998	0.063	jrs	362	34	SW 8082

MWG13-15_23417

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496628

NET Job No.: 98.13012

Sample Description: X-2
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:10
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.063	mg/kg dw	10/14/1998	0.063	jrs	362	34	SW 8082
Decachlorobiphenyl (Surr)	106.0	%	10/14/1998	NA	jrs	362	34	SW 8082
2,4,5,6-TCMX (Surr)	99.0	%	10/14/1998	NA	jrs	362	34	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496629

NET Job No.: 98.13012

Sample Description: X-3
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:20
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	10.47		units	10/12/1998	0.10	nwg		164	SW 9045B
Solids, Total	65.6		%	10/29/1998	0.1	efw		2501	SM 2540
Arsenic, GFAA	12		mg/kg dw	10/19/1998	0.76	mhp	216	654	SW 7060
Barium, ICP	2,740		mg/kg dw	10/23/1998	1.5	kdw	1139	2150	SW 6010B
Cadmium, ICP	1.5		mg/kg dw	10/19/1998	0.76	jtt	1139	2127	SW 6010B
Chromium, ICP	30		mg/kg dw	10/19/1998	3.0	jtt	1139	2113	SW 6010B
Lead, ICP	40		mg/kg dw	10/19/1998	6.1	jtt	1139	2349	SW 6010B
Mercury, CVAA	0.075		mg/kg dw	10/20/1998	0.061	sep	657	760	SW 7471A
Selenium, GFAA	0.66		mg/kg dw	10/20/1998	0.38	mhp	216	538	SW 7740
Silver, AA	<3.0		mg/kg dw	10/16/1998	3.0	sep	475	563	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/13/1998		mmv	237		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<76		mg/kg dw	11/02/1998	76	btl	237	485	SW 8015M
TPH as Diesel	<76		mg/kg dw	11/02/1998	76	btl	237	485	SW 8015M
TPH as Oil	149	PT	mg/kg dw	11/02/1998	76	btl	237	485	SW 8015M
N-octacosane (TPH surr)	114.0		%	11/02/1998		btl	237	485	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.008		mg/kg dw	10/17/1998	0.008	mjo		35	SW 8260A
Ethylbenzene	<0.008		mg/kg dw	10/17/1998	0.008	mjo		35	SW 8260A
Toluene	<0.008		mg/kg dw	10/17/1998	0.008	mjo		35	SW 8260A
Xylenes, Total	<0.008		mg/kg dw	10/17/1998	0.008	mjo		35	SW 8260A
Dibromofluoromethane (Surr)	90.0		%	10/17/1998	81-129	mjo		35	SW 8260A
Toluene-d8 (Surr)	104.2		%	10/17/1998	74-129	mjo		35	SW 8260A
4-Bromofluoromethane (Surr)	87.2		%	10/17/1998	70-130	mjo		35	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/12/1998		mmv	748		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496629

NET Job No.: 98.13012

Sample Description: X-3
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:20
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.2	mg/kg dw	10/18/1998	0.030	keh	748	1798	SW 8310
Acenaphthylene	<0.2	mg/kg dw	10/18/1998	0.030	keh	748	1798	SW 8310
Anthracene	<0.3	mg/kg dw	10/18/1998	0.061	keh	748	1798	SW 8310
Benzo(a)anthracene	<1.5	mg/kg dw	10/18/1998	0.0040	keh	748	1798	SW 8310
Benzo(b)fluoranthene	<0.21	mg/kg dw	10/18/1998	0.0055	keh	748	1798	SW 8310
Benzo(k)fluoranthene	<0.21	mg/kg dw	10/18/1998	0.0052	keh	748	1798	SW 8310
Benzo(a)pyrene	<0.15	mg/kg dw	10/18/1998	0.0070	keh	748	1798	SW 8310
Benzo(ghi)perylene	<0.3	mg/kg dw	10/18/1998	0.061	keh	748	1798	SW 8310
Chrysene	<0.3	mg/kg dw	10/18/1998	0.05	keh	748	1798	SW 8310
Dibenzo(a,h)anthracene	<0.05	mg/kg dw	10/18/1998	0.009	keh	748	1798	SW 8310
Fluoranthene	<0.2	mg/kg dw	10/18/1998	0.030	keh	748	1798	SW 8310
Fluorene	<0.2	mg/kg dw	10/18/1998	0.030	keh	748	1798	SW 8310
Indeno(1,2,3-cd)pyrene	<0.06	mg/kg dw	10/18/1998	0.013	keh	748	1798	SW 8310
Naphthalene	<0.2	mg/kg dw	10/18/1998	0.038	keh	748	1798	SW 8310
Phenanthrene	<0.3	mg/kg dw	10/18/1998	0.061	keh	748	1798	SW 8310
Pyrene	<0.2	mg/kg dw	10/18/1998	0.030	keh	748	1798	SW 8310
Surr: p-Terphenyl	Masked		10/18/1998	43-125	keh	748	1798	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	362		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.061	mg/kg dw	10/13/1998	0.061	jrs	362	31	SW 8082
PCB-1221	<0.061	mg/kg dw	10/13/1998	0.061	jrs	362	31	SW 8082
PCB-1232	<0.061	mg/kg dw	10/13/1998	0.061	jrs	362	31	SW 8082
PCB-1242	<0.061	mg/kg dw	10/13/1998	0.061	jrs	362	31	SW 8082
PCB-1248	<0.061	mg/kg dw	10/13/1998	0.061	jrs	362	31	SW 8082
PCB-1254	<0.061	mg/kg dw	10/13/1998	0.061	jrs	362	31	SW 8082

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23420

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496629

NET Job No.: 98.13012

Sample Description: X-3
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:20
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.061	mg/kg dw	10/13/1998	0.061	jrs	362	31	SW 8082
Decachlorobiphenyl (Surr)	93.0	%	10/13/1998	NA	jrs	362	31	SW 8082
2,4,5,6-TCMX (Surr)	83.0	%	10/13/1998	NA	jrs	362	31	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496630

NET Job No.: 98.13012

Sample Description: X-4
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:25
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.24		units	10/12/1998	0.10	nwg		164	SW 9045B
Solids, Total	75.3		%	10/29/1998	0.1	efw		2501	SM 2540
Arsenic, GFAA	8.4		mg/kg dw	10/19/1998	0.66	mhp	216	654	SW 7060
Barium, ICP	1,460		mg/kg dw	10/23/1998	1.3	kdw	1139	2150	SW 6010B
Cadmium, ICP	1.2		mg/kg dw	10/19/1998	0.66	jtt	1139	2127	SW 6010B
Chromium, ICP	24		mg/kg dw	10/19/1998	2.7	jtt	1139	2113	SW 6010B
Lead, ICP	33		mg/kg dw	10/19/1998	5.3	jtt	1139	2349	SW 6010B
Mercury, CVAA	0.17		mg/kg dw	10/20/1998	0.053	aep	657	760	SW 7471A
Selenium, GFAA	0.37		mg/kg dw	10/20/1998	0.33	mhp	216	538	SW 7740
Silver, AA	<2.7		mg/kg dw	10/16/1998	2.7	aep	475	563	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/13/1998		mmv	237		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<66		mg/kg dw	11/03/1998	66	btl	237	485	SW 8015M
TPH as Diesel	<66		mg/kg dw	11/03/1998	66	btl	237	485	SW 8015M
TPH as Oil	112	PT	mg/kg dw	11/03/1998	66	btl	237	485	SW 8015M
N-octacosane (TPH surr)	110.0		%	11/03/1998		btl	237	485	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.007		mg/kg dw	10/19/1998	0.007	mjo		41	SW 8260A
Ethylbenzene	<0.007		mg/kg dw	10/19/1998	0.007	mjo		41	SW 8260A
Toluene	<0.007		mg/kg dw	10/19/1998	0.007	mjo		41	SW 8260A
Xylenes, Total	<0.007		mg/kg dw	10/19/1998	0.007	mjo		41	SW 8260A
Dibromofluoromethane (Surr)	111.6		%	10/19/1998	81-129	mjo		41	SW 8260A
Toluene-d8 (Surr)	106.4		%	10/19/1998	74-129	mjo		41	SW 8260A
4-Bromofluoromethane (Surr)	103.6		%	10/19/1998	70-130	mjo		41	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/12/1998		mmv	748		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496630

NET Job No.: 98.13012

Sample Description: X-4
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:25
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.40	mg/kg dw	10/18/1998	0.027	keh	748	1798	SW 8310
Acenaphthylene	<0.40	mg/kg dw	10/18/1998	0.027	keh	748	1798	SW 8310
Anthracene	<0.80	mg/kg dw	10/18/1998	0.053	keh	748	1798	SW 8310
Benzo(a)anthracene	<0.37	mg/kg dw	10/18/1998	0.0035	keh	748	1798	SW 8310
Benzo(b)fluoranthene	0.23	mg/kg dw	10/18/1998	0.0048	keh	748	1798	SW 8310
Benzo(k)fluoranthene	<0.16	mg/kg dw	10/18/1998	0.0045	keh	748	1798	SW 8310
Benzo(a)pyrene	<0.092	mg/kg dw	10/18/1998	0.0061	keh	748	1798	SW 8310
Benzo(ghi)perylene	<0.80	mg/kg dw	10/18/1998	0.053	keh	748	1798	SW 8310
Chrysene	<0.5	mg/kg dw	10/18/1998	0.04	keh	748	1798	SW 8310
Dibenzo(a,h)anthracene	<0.1	mg/kg dw	10/18/1998	0.008	keh	748	1798	SW 8310
Fluoranthene	<0.40	mg/kg dw	10/18/1998	0.027	keh	748	1798	SW 8310
Fluorene	<0.40	mg/kg dw	10/18/1998	0.027	keh	748	1798	SW 8310
Indeno(1,2,3-cd)pyrene	<0.17	mg/kg dw	10/18/1998	0.011	keh	748	1798	SW 8310
Naphthalene	<0.50	mg/kg dw	10/18/1998	0.033	keh	748	1798	SW 8310
Phenanthrene	<0.80	mg/kg dw	10/18/1998	0.053	keh	748	1798	SW 8310
Pyrene	<0.40	mg/kg dw	10/18/1998	0.027	keh	748	1798	SW 8310
Surr: p-Terphenyl	Diluted out		10/18/1998	43-125	keh	748	1798	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	362		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.053	mg/kg dw	10/13/1998	0.053	jrs	362	31	SW 8082
PCB-1221	<0.053	mg/kg dw	10/13/1998	0.053	jrs	362	31	SW 8082
PCB-1232	<0.053	mg/kg dw	10/13/1998	0.053	jrs	362	31	SW 8082
PCB-1242	<0.053	mg/kg dw	10/13/1998	0.053	jrs	362	31	SW 8082
PCB-1248	<0.053	mg/kg dw	10/13/1998	0.053	jrs	362	31	SW 8082
PCB-1254	<0.053	mg/kg dw	10/13/1998	0.053	jrs	362	31	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496630

NET Job No.: 98.13012

Sample Description: X-4
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:25
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.053	mg/kg dw	10/13/1998	0.053	jrs	362	31	SW 8082
Decachlorobiphenyl (Surr)	92.0	%	10/13/1998	NA	jrs	362	31	SW 8082
2,4,5,6-TCMX (Surr)	89.0	%	10/13/1998	NA	jrs	362	31	SW 8082

NET NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
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Westmont, IL 60559

11/04/1998

Sample No. : 496631

NET Job No.: 98.13012

Sample Description: S-1
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:35
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.62	units	10/12/1998	0.10	nwg		164	SW 9045B
Solids, Total	92.9	%	10/29/1998	0.1	efw		2501	SM 2540
Arsenic, GFAA	3.4	mg/kg dw	10/19/1998	0.54	mhp	216	654	SW 7060
Barium, ICP	301	mg/kg dw	10/23/1998	1.1	kdw	1139	2150	SW 6010B
Cadmium, ICP	<0.54	mg/kg dw	10/19/1998	0.54	jtt	1139	2127	SW 6010B
Chromium, ICP	30	mg/kg dw	10/19/1998	2.2	jtt	1139	2113	SW 6010B
Lead, ICP	22	mg/kg dw	10/19/1998	4.3	jtt	1139	2349	SW 6010B
Mercury, CVAA	0.072	mg/kg dw	10/20/1998	0.043	sep	657	760	SW 7471A
Selenium, GFAA	<0.27	mg/kg dw	10/20/1998	0.27	mhp	216	538	SW 7740
Silver, AA	<2.2	mg/kg dw	10/16/1998	2.2	sep	475	563	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/13/1998		mmv	237		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<5,400	mg/kg dw	10/31/1998	54	btl	237	484	SW 8015M
TPH as Diesel	<5,400	mg/kg dw	10/31/1998	54	btl	237	484	SW 8015M
TPH as Oil	15,100 PT	mg/kg dw	10/31/1998	54	btl	237	484	SW 8015M
N-octacosane (TPH surr)	Diluted out		10/31/1998		btl	237	484	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	10/19/1998	0.005	mjo		41	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/19/1998	0.005	mjo		41	SW 8260A
Toluene	<0.005	mg/kg dw	10/19/1998	0.005	mjo		41	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/19/1998	0.005	mjo		41	SW 8260A
Dibromofluoromethane (Surr)	116.2	%	10/19/1998	81-129	mjo		41	SW 8260A
Toluene-d8 (Surr)	99.0	%	10/19/1998	74-129	mjo		41	SW 8260A
4-Bromofluoromethane (Surr)	91.2	%	10/19/1998	70-130	mjo		41	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/12/1998		mmv	748		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496631

NET Job No.: 98.13012

Sample Description: S-1
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:35
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.97	mg/kg dw	10/18/1998	0.022	keh	748	1798	SW 8310
Acenaphthylene	<0.97	mg/kg dw	10/18/1998	0.022	keh	748	1798	SW 8310
Anthracene	<1.9	mg/kg dw	10/18/1998	0.043	keh	748	1798	SW 8310
Benzo(a)anthracene	1.2	mg/kg dw	10/18/1998	0.0028	keh	748	1798	SW 8310
Benzo(b)fluoranthene	0.67	mg/kg dw	10/18/1998	0.0039	keh	748	1798	SW 8310
Benzo(k)fluoranthene	<0.16	mg/kg dw	10/18/1998	0.0037	keh	748	1798	SW 8310
Benzo(a)pyrene	<0.23	mg/kg dw	10/18/1998	0.0050	keh	748	1798	SW 8310
Benzo(ghi)perylene	<1.9	mg/kg dw	10/18/1998	0.043	keh	748	1798	SW 8310
Chrysene	<1	mg/kg dw	10/18/1998	0.03	keh	748	1798	SW 8310
Dibenzo(a,h)anthracene	<0.3	mg/kg dw	10/18/1998	0.006	keh	748	1798	SW 8310
Fluoranthene	1.1	mg/kg dw	10/18/1998	0.022	keh	748	1798	SW 8310
Fluorene	<0.97	mg/kg dw	10/18/1998	0.022	keh	748	1798	SW 8310
Indeno(1,2,3-cd)pyrene	<0.42	mg/kg dw	10/18/1998	0.0093	keh	748	1798	SW 8310
Naphthalene	<1.2	mg/kg dw	10/18/1998	0.027	keh	748	1798	SW 8310
Phenanthrene	<1.9	mg/kg dw	10/18/1998	0.043	keh	748	1798	SW 8310
Pyrene	1.2	mg/kg dw	10/18/1998	0.022	keh	748	1798	SW 8310
Surr: p-Terphenyl	Diluted out		10/18/1998	43-125	keh	748	1798	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	362		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.043	mg/kg dw	10/13/1998	0.043	jrs	362	31	SW 8082
PCB-1221	<0.043	mg/kg dw	10/13/1998	0.043	jrs	362	31	SW 8082
PCB-1232	<0.043	mg/kg dw	10/13/1998	0.043	jrs	362	31	SW 8082
PCB-1242	<0.043	mg/kg dw	10/13/1998	0.043	jrs	362	31	SW 8082
PCB-1248	<0.043	mg/kg dw	10/13/1998	0.043	jrs	362	31	SW 8082
PCB-1254	<0.043	mg/kg dw	10/13/1998	0.043	jrs	362	31	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496631

NET Job No.: 98.13012

Sample Description: S-1
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:35
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.043	mg/kg dw	10/13/1998	0.043	jrs	362	31	SW 8082
Decachlorobiphenyl (Surr)	72.0	%	10/13/1998	NA	jrs	362	31	SW 8082
2,4,5,6-TCMX (Surr)	90.0	%	10/13/1998	NA	jrs	362	31	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998
Sample No. : 496632
NET Job No.: 98.13012

Sample Description: S-22
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:45
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	8.10	units	10/12/1998	0.10	nwg	164	SW 9045B
Solids, Total	86.2	%	10/29/1998	0.1	efw	2501	SM 2540
Arsenic, GFAA	5.5	mg/kg dw	10/19/1998	0.58	mhp	216 654	SW 7060
Barium, ICP	592	mg/kg dw	10/23/1998	1.2	kdw	1139 2150	SW 6010B
Cadmium, ICP	0.74	mg/kg dw	10/19/1998	0.58	jtt	1139 2127	SW 6010B
Chromium, ICP	60	mg/kg dw	10/19/1998	2.3	jtt	1139 2113	SW 6010B
Lead, ICP	32	mg/kg dw	10/19/1998	4.6	jtt	1139 2349	SW 6010B
Mercury, CVAA	0.063	mg/kg dw	10/20/1998	0.046	sep	657 760	SW 7471A
Selenium, GFAA	0.36	mg/kg dw	10/20/1998	0.29	mhp	216 538	SW 7740
Silver, AA	<2.3	mg/kg dw	10/16/1998	2.3	sep	475 563	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/13/1998		mmv	237	SW 8015M
TPH MODIFIED 8015							
TPH as Gas	<5,800	mg/kg dw	11/03/1998	58	btl	237 485	SW 8015M
TPH as Diesel	<5,800	mg/kg dw	11/03/1998	58	btl	237 485	SW 8015M
TPH as Oil	32,500 PT	mg/kg dw	11/03/1998	58	btl	237 485	SW 8015M
N-octacosane (TPH surr)	Diluted out		11/03/1998		btl	237 485	SW 8015M
UST VOLATILES NON-AQUEOUS							
Benzene	<0.006	mg/kg dw	10/19/1998	0.006	mjo	41	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/19/1998	0.006	mjo	41	SW 8260A
Toluene	<0.006	mg/kg dw	10/19/1998	0.006	mjo	41	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/19/1998	0.006	mjo	41	SW 8260A
Dibromofluoromethane (Surr)	114.4	%	10/19/1998	81-129	mjo	41	SW 8260A
Toluene-d8 (Surr)	102.6	%	10/19/1998	74-129	mjo	41	SW 8260A
4-Bromofluoromethane (Surr)	104.0	%	10/19/1998	70-130	mjo	41	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/12/1998		mmv	748	SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

MWG13-15_23428

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
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11/04/1998

Sample No. : 496632

NET Job No.: 98.13012

Sample Description: S-22
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:45
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<10	mg/kg dw	10/18/1998	0.023	keh	748	1798	SW 8310
Acenaphthylene	<10	mg/kg dw	10/18/1998	0.023	keh	748	1798	SW 8310
Anthracene	<21	mg/kg dw	10/18/1998	0.046	keh	748	1798	SW 8310
Benzo(a)anthracene	<1.4	mg/kg dw	10/18/1998	0.0030	keh	748	1798	SW 8310
Benzo(b)fluoranthene	<1.9	mg/kg dw	10/18/1998	0.0042	keh	748	1798	SW 8310
Benzo(k)fluoranthene	<1.7	mg/kg dw	10/18/1998	0.0039	keh	748	1798	SW 8310
Benzo(a)pyrene	<2.4	mg/kg dw	10/18/1998	0.0053	keh	748	1798	SW 8310
Benzo(ghi)perylene	<21	mg/kg dw	10/18/1998	0.046	keh	748	1798	SW 8310
Chrysene	<12	mg/kg dw	10/18/1998	0.03	keh	748	1798	SW 8310
Dibenzo(a,h)anthracene	<3	mg/kg dw	10/18/1998	0.007	keh	748	1798	SW 8310
Fluoranthene	<10	mg/kg dw	10/18/1998	0.023	keh	748	1798	SW 8310
Fluorene	<10	mg/kg dw	10/18/1998	0.023	keh	748	1798	SW 8310
Indeno(1,2,3-cd)pyrene	<4.5	mg/kg dw	10/18/1998	0.010	keh	748	1798	SW 8310
Naphthalene	<13	mg/kg dw	10/18/1998	0.029	keh	748	1798	SW 8310
Phenanthrene	<21	mg/kg dw	10/18/1998	0.046	keh	748	1798	SW 8310
Pyrene	<10	mg/kg dw	10/18/1998	0.023	keh	748	1798	SW 8310
Surr: p-Terphenyl	Diluted out		10/18/1998	43-125	keh	748	1798	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	362		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.046	mg/kg dw	10/13/1998	0.046	jrs	362	31	SW 8082
PCB-1221	<0.046	mg/kg dw	10/13/1998	0.046	jrs	362	31	SW 8082
PCB-1232	<0.046	mg/kg dw	10/13/1998	0.046	jrs	362	31	SW 8082
PCB-1242	<0.046	mg/kg dw	10/13/1998	0.046	jrs	362	31	SW 8082
PCB-1248	<0.046	mg/kg dw	10/13/1998	0.046	jrs	362	31	SW 8082
PCB-1254	<0.046	mg/kg dw	10/13/1998	0.046	jrs	362	31	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496632

NET Job No.: 98.13012

Sample Description: S-22
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:45
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.046	mg/kg dw	10/13/1998	0.046	jrs	362	31	SW 8082
Decachlorobiphenyl (Surr)	32.0	%	10/13/1998	NA	jrs	362	31	SW 8082
2,4,5,6-TCMX (Surr)	79.0	%	10/13/1998	NA	jrs	362	31	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496633

NET Job No.: 98.13012

Sample Description: S-6
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:57
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	7.79	units	10/12/1998	0.10	nwg	164	SW 9045B
Solids, Total	63.7	%	10/29/1998	0.1	efw	2501	SM 2540
Arsenic, GFAA	5.5	mg/kg dw	10/19/1998	0.78	mhp	216 654	SW 7060
Barium, ICP	1,130	mg/kg dw	10/23/1998	1.6	kdw	1139 2150	SW 6010B
Cadmium, ICP	31	mg/kg dw	10/15/1998	0.78	kdw	1139 2126	SW 6010B
Chromium, ICP	68	mg/kg dw	10/15/1998	3.1	kdw	1139 2112	SW 6010B
Lead, ICP	251	mg/kg dw	10/15/1998	6.3	kdw	1139 2348	SW 6010B
Mercury, CVAA	0.16	mg/kg dw	10/20/1998	0.063	sep	657 760	SW 7471A
Selenium, GFAA	0.58	mg/kg dw	10/20/1998	0.39	mhp	216 538	SW 7740
Silver, AA	<3.1	mg/kg dw	10/16/1998	3.1	sep	475 563	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/13/1998		mmv	237	SW 8015M
TPH MODIFIED 8015							
TPH as Gas	<20,000	mg/kg dw	11/03/1998	78	btl	237 485	SW 8015M
TPH as Diesel	<20,000	mg/kg dw	11/03/1998	78	btl	237 485	SW 8015M
TPH as Oil	33,000 PT	mg/kg dw	11/03/1998	78	btl	237 485	SW 8015M
N-octacosane (TPH surr)	Diluted out		11/03/1998		btl	237 485	SW 8015M
UST VOLATILES NON-AQUEOUS							
Benzene	<0.008	mg/kg dw	10/19/1998	0.008	mjo	41	SW 8260A
Ethylbenzene	<0.008	mg/kg dw	10/19/1998	0.008	mjo	41	SW 8260A
Toluene	<0.008	mg/kg dw	10/19/1998	0.008	mjo	41	SW 8260A
Xylenes, Total	<0.008	mg/kg dw	10/19/1998	0.008	mjo	41	SW 8260A
Dibromofluoromethane (Surr)	117.8	%	10/19/1998	81-129	mjo	41	SW 8260A
Toluene-d8 (Surr)	96.8	%	10/19/1998	74-129	mjo	41	SW 8260A
4-Bromofluoromethane (Surr)	90.6	%	10/19/1998	70-130	mjo	41	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/12/1998		mmv	748	SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

MWG13-15_23431

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496633

NET Job No.: 98.13012

Sample Description: S-6
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:57
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.8	mg/kg dw	10/18/1998	0.031	keh	748	1798	SW 8310
Acenaphthylene	<2.8	mg/kg dw	10/18/1998	0.031	keh	748	1798	SW 8310
Anthracene	<5.7	mg/kg dw	10/18/1998	0.063	keh	748	1798	SW 8310
Benzo(a)anthracene	16	mg/kg dw	10/18/1998	0.0041	keh	748	1798	SW 8310
Benzo(b)fluoranthene	7.2	mg/kg dw	10/18/1998	0.0057	keh	748	1798	SW 8310
Benzo(k)fluoranthene	12	mg/kg dw	10/18/1998	0.0053	keh	748	1798	SW 8310
Benzo(a)pyrene	6.3	mg/kg dw	10/18/1998	0.0072	keh	748	1798	SW 8310
Benzo(ghi)perylene	6.8	mg/kg dw	10/18/1998	0.063	keh	748	1798	SW 8310
Chrysene	8.0	mg/kg dw	10/18/1998	0.05	keh	748	1798	SW 8310
Dibenzo(a,h)anthracene	<0.8	mg/kg dw	10/18/1998	0.009	keh	748	1798	SW 8310
Fluoranthene	27	mg/kg dw	10/18/1998	0.031	keh	748	1798	SW 8310
Fluorene	4.7	mg/kg dw	10/18/1998	0.031	keh	748	1798	SW 8310
Indeno(1,2,3-cd)pyrene	5.7	mg/kg dw	10/18/1998	0.014	keh	748	1798	SW 8310
Naphthalene	<3.5	mg/kg dw	10/18/1998	0.039	keh	748	1798	SW 8310
Phenanthrene	17	mg/kg dw	10/18/1998	0.063	keh	748	1798	SW 8310
Pyrene	20	mg/kg dw	10/18/1998	0.031	keh	748	1798	SW 8310
Surr: p-Terphenyl	Diluted out		10/18/1998	43-125	keh	748	1798	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	362		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.063	mg/kg dw	10/13/1998	0.063	jrs	362	31	SW 8082
PCB-1221	<0.063	mg/kg dw	10/13/1998	0.063	jrs	362	31	SW 8082
PCB-1232	<0.063	mg/kg dw	10/13/1998	0.063	jrs	362	31	SW 8082
PCB-1242	<0.063	mg/kg dw	10/13/1998	0.063	jrs	362	31	SW 8082
PCB-1248	<0.063	mg/kg dw	10/13/1998	0.063	jrs	362	31	SW 8082
PCB-1254	1.30	mg/kg dw	10/15/1998	0.063	jrs	362	36	SW 8082

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23432

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496633

NET Job No.: 98.13012

Sample Description: S-6
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 10:57
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.063		mg/kg dw	10/13/1998	0.063	jrs	362	31	SW 8082
Decachlorobiphenyl (Surr)	21.0	RM	%	10/13/1998	NA	jrs	362	31	SW 8082
2,4,5,6-TCMX (Surr)	87.0		%	10/13/1998	NA	jrs	362	31	SW 8082

RM : Low surrogate recovery due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496634

NET Job No.: 98.13012

Sample Description: S-7
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 11:05
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.22	units	10/13/1998	0.10	nwg		165	SW 9045B
Solids, Total	90.2	%	10/29/1998	0.1	efw		2501	SM 2540
Arsenic, GFAA	3.4	mg/kg dw	10/19/1998	0.55	mhp	216	654	SW 7060
Barium, ICP	110	mg/kg dw	10/23/1998	1.1	kdw	1139	2150	SW 6010B
Cadmium, ICP	1.6	mg/kg dw	10/19/1998	0.55	jtt	1139	2127	SW 6010B
Chromium, ICP	8.4	mg/kg dw	10/19/1998	2.2	jtt	1139	2113	SW 6010B
Lead, ICP	18	mg/kg dw	10/19/1998	4.4	jtt	1139	2349	SW 6010B
Mercury, CVAA	0.13	mg/kg dw	10/22/1998	0.044	sep	658	761	SW 7471A
Selenium, GFAA	0.31	mg/kg dw	10/20/1998	0.28	mhp	216	538	SW 7740
Silver, AA	<2.2	mg/kg dw	10/16/1998	2.2	sep	475	563	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/13/1998		mmv	237		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<2,800	mg/kg dw	11/02/1998	55	btl	237	485	SW 8015M
TPH as Diesel	<2,800	mg/kg dw	11/02/1998	55	btl	237	485	SW 8015M
TPH as Oil	9,090 PT	mg/kg dw	11/02/1998	55	btl	237	485	SW 8015M
N-octacosane (TPH surr)	Diluted out		11/02/1998		btl	237	485	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/19/1998	0.006	mjo		41	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/19/1998	0.006	mjo		41	SW 8260A
Toluene	<0.006	mg/kg dw	10/19/1998	0.006	mjo		41	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/19/1998	0.006	mjo		41	SW 8260A
Dibromofluoromethane (Surr)	116.0	%	10/19/1998	81-129	mjo		41	SW 8260A
Toluene-d8 (Surr)	101.6	%	10/19/1998	74-129	mjo		41	SW 8260A
4-Bromofluoromethane (Surr)	96.8	%	10/19/1998	70-130	mjo		41	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/12/1998		mmv	748		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496634

NET Job No.: 98.13012

Sample Description: S-7
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 11:05
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<22	mg/kg dw	10/18/1998	0.022	keh	748	1798	SW 8310
Acenaphthylene	<22	mg/kg dw	10/18/1998	0.022	keh	748	1798	SW 8310
Anthracene	155	mg/kg dw	10/18/1998	0.044	keh	748	1798	SW 8310
Benzo(a)anthracene	244	mg/kg dw	10/18/1998	0.0029	keh	748	1798	SW 8310
Benzo(b)fluoranthene	222	mg/kg dw	10/18/1998	0.0040	keh	748	1798	SW 8310
Benzo(k)fluoranthene	100	mg/kg dw	10/18/1998	0.0038	keh	748	1798	SW 8310
Benzo(a)pyrene	200	mg/kg dw	10/18/1998	0.0051	keh	748	1798	SW 8310
Benzo(ghi)perylene	155	mg/kg dw	10/18/1998	0.044	keh	748	1798	SW 8310
Chrysene	211	mg/kg dw	10/18/1998	0.03	keh	748	1798	SW 8310
Dibenzo(a,h)anthracene	34	mg/kg dw	10/18/1998	0.007	keh	748	1798	SW 8310
Fluoranthene	543	mg/kg dw	10/18/1998	0.022	keh	748	1798	SW 8310
Fluorene	64	mg/kg dw	10/18/1998	0.022	keh	748	1798	SW 8310
Indeno(1,2,3-cd)pyrene	126	mg/kg dw	10/18/1998	0.0095	keh	748	1798	SW 8310
Naphthalene	34	mg/kg dw	10/18/1998	0.028	keh	748	1798	SW 8310
Phenanthrene	421	mg/kg dw	10/18/1998	0.044	keh	748	1798	SW 8310
Pyrene	410	mg/kg dw	10/18/1998	0.022	keh	748	1798	SW 8310
Surr: p-Terphenyl	Diluted out		10/18/1998	43-125	keh	748	1798	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	363		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.044	mg/kg dw	10/13/1998	0.044	jrs	363	31	SW 8082
PCB-1221	<0.044	mg/kg dw	10/13/1998	0.044	jrs	363	31	SW 8082
PCB-1232	<0.044	mg/kg dw	10/13/1998	0.044	jrs	363	31	SW 8082
PCB-1242	<0.044	mg/kg dw	10/13/1998	0.044	jrs	363	31	SW 8082
PCB-1248	<0.044	mg/kg dw	10/13/1998	0.044	jrs	363	31	SW 8082
PCB-1254	<0.044	mg/kg dw	10/13/1998	0.044	jrs	363	31	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496634

NET Job No.: 98.13012

Sample Description: S-7
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 11:05
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	0.20	mg/kg dw	10/13/1998	0.044	jrs	363	31	SW 8082
Decachlorobiphenyl (Surr)	37.0	%	10/13/1998	NA	jrs	363	31	SW 8082
2,4,5,6-TCMX (Surr)	65.0	%	10/13/1998	NA	jrs	363	31	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496635

NET Job No.: 98.13012

Sample Description: S-8
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 13:00
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.70	units	10/13/1998	0.10	nwg		165	SW 9045B
Solids, Total	72.6	%	10/29/1998	0.1	efw		2501	SM 2540
Arsenic, GFAA	2.6	mg/kg dw	10/19/1998	0.69	mhp	216	654	SW 7060
Barium, ICP	592	mg/kg dw	10/23/1998	1.4	kdw	1139	2150	SW 6010B
Cadmium, ICP	5.6	mg/kg dw	10/19/1998	0.69	jtt	1139	2127	SW 6010B
Chromium, ICP	13	mg/kg dw	10/19/1998	2.8	jtt	1139	2113	SW 6010B
Lead, ICP	37	mg/kg dw	10/19/1998	5.5	jtt	1139	2349	SW 6010B
Mercury, CVAA	<0.055	mg/kg dw	10/22/1998	0.055	sep	658	761	SW 7471A
Selenium, GFAA	<0.34	mg/kg dw	10/20/1998	0.34	mhp	216	540	SW 7740
Silver, AA	<2.8	mg/kg dw	10/16/1998	2.8	sep	475	563	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/15/1998		wna	238		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<6,900	mg/kg dw	11/03/1998	69	btl	238	485	SW 8015M
TPH as Diesel	<6,900	mg/kg dw	11/03/1998	69	btl	238	485	SW 8015M
TPH as Oil	128,000 PT	mg/kg dw	11/03/1998	69	btl	238	485	SW 8015M
N-octacosane (TPH surr)	Diluted out		11/03/1998		btl	238	485	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.007	mg/kg dw	10/19/1998	0.007	mjo		41	SW 8260A
Ethylbenzene	<0.007	mg/kg dw	10/19/1998	0.007	mjo		41	SW 8260A
Toluene	<0.007	mg/kg dw	10/19/1998	0.007	mjo		41	SW 8260A
Xylenes, Total	<0.007	mg/kg dw	10/19/1998	0.007	mjo		41	SW 8260A
Dibromofluoromethane (Surr)	110.2	%	10/19/1998	81-129	mjo		41	SW 8260A
Toluene-d8 (Surr)	107.8	%	10/19/1998	74-129	mjo		41	SW 8260A
4-Bromofluoromethane (Surr)	109.2	%	10/19/1998	70-130	mjo		41	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/12/1998		mmv	748		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

MWG13-15_23437

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496635

NET Job No.: 98.13012

Sample Description: S-8
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 13:00
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<4.1	mg/kg dw	10/18/1998	0.028	keh	748	1798	SW 8310
Acenaphthylene	<4.1	mg/kg dw	10/18/1998	0.028	keh	748	1798	SW 8310
Anthracene	<8.3	mg/kg dw	10/18/1998	0.055	keh	748	1798	SW 8310
Benzo(a)anthracene	<17	mg/kg dw	10/18/1998	0.0036	keh	748	1798	SW 8310
Benzo(b)fluoranthene	5.4	mg/kg dw	10/18/1998	0.0050	keh	748	1798	SW 8310
Benzo(k)fluoranthene	<3.0	mg/kg dw	10/18/1998	0.0047	keh	748	1798	SW 8310
Benzo(a)pyrene	6.3	mg/kg dw	10/18/1998	0.0063	keh	748	1798	SW 8310
Benzo(ghi)perylene	<8.3	mg/kg dw	10/18/1998	0.055	keh	748	1798	SW 8310
Chrysene	<6	mg/kg dw	10/18/1998	0.04	keh	748	1798	SW 8310
Dibenzo(a,h)anthracene	<1	mg/kg dw	10/18/1998	0.008	keh	748	1798	SW 8310
Fluoranthene	11	mg/kg dw	10/18/1998	0.028	keh	748	1798	SW 8310
Fluorene	<4.1	mg/kg dw	10/18/1998	0.028	keh	748	1798	SW 8310
Indeno(1,2,3-cd)pyrene	4.3	mg/kg dw	10/18/1998	0.012	keh	748	1798	SW 8310
Naphthalene	<5.2	mg/kg dw	10/18/1998	0.034	keh	748	1798	SW 8310
Phenanthrene	<8.3	mg/kg dw	10/18/1998	0.055	keh	748	1798	SW 8310
Pyrene	15	mg/kg dw	10/18/1998	0.028	keh	748	1798	SW 8310
Surr: p-Terphenyl	Diluted out		10/18/1998	43-125	keh	748	1798	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	363		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.11	mg/kg dw	10/15/1998	0.055	jrs	363	35	SW 8082
PCB-1221	<0.11	mg/kg dw	10/15/1998	0.055	jrs	363	35	SW 8082
PCB-1232	<0.11	mg/kg dw	10/15/1998	0.055	jrs	363	35	SW 8082
PCB-1242	<0.11	mg/kg dw	10/15/1998	0.055	jrs	363	35	SW 8082
PCB-1248	<0.11	mg/kg dw	10/15/1998	0.055	jrs	363	35	SW 8082
PCB-1254	<0.11	mg/kg dw	10/15/1998	0.055	jrs	363	35	SW 8082

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23438

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496635

NET Job No.: 98.13012

Sample Description: S-8
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 13:00
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	0.58		mg/kg dw	10/15/1998	0.055	jrs	363	35	SW 8082
Decachlorobiphenyl (Surr)	9.0	RM	%	10/15/1998	NA	jrs	363	35	SW 8082
2,4,5,6-TCMX (Surr)	Masked			10/15/1998	NA	jrs	363	35	SW 8082

RM : Low surrogate recovery due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496636

NET Job No.: 98.13012

Sample Description: S-9
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 13:12
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.66		units	10/13/1998	0.10	nwg		165	SW 9045B
Solids, Total	94.0		%	10/29/1998	0.1	efw		2501	SM 2540
Arsenic, GFAA	3.0		mg/kg dw	10/19/1998	0.53	mhp	216	654	SW 7060
Barium, ICP	181		mg/kg dw	10/23/1998	1.1	kdw	1140	2150	SW 6010B
Cadmium, ICP	<0.53		mg/kg dw	10/15/1998	0.53	kdw	1140	2126	SW 6010B
Chromium, ICP	8.0		mg/kg dw	10/15/1998	2.1	kdw	1140	2112	SW 6010B
Lead, ICP	35		mg/kg dw	10/15/1998	4.3	kdw	1140	2348	SW 6010B
Mercury, CVAA	<0.043		mg/kg dw	10/22/1998	0.043	sep	658	761	SW 7471A
Selenium, GFAA	0.31		mg/kg dw	10/20/1998	0.27	mhp	216	538	SW 7740
Silver, AA	<2.1		mg/kg dw	10/21/1998	2.1	sep	476	564	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/15/1998		wna	238		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<530		mg/kg dw	11/03/1998	53	btl	238	485	SW 8015M
TPH as Diesel	1,170	PT	mg/kg dw	11/03/1998	53	btl	238	485	SW 8015M
TPH as Oil	<530		mg/kg dw	11/03/1998	53	btl	238	485	SW 8015M
N-octacosane (TPH surr)	105.0		%	11/03/1998		btl	238	485	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.005		mg/kg dw	10/17/1998	0.005	mjo		35	SW 8260A
Ethylbenzene	<0.005		mg/kg dw	10/17/1998	0.005	mjo		35	SW 8260A
Toluene	<0.005		mg/kg dw	10/17/1998	0.005	mjo		35	SW 8260A
Xylenes, Total	<0.005		mg/kg dw	10/17/1998	0.005	mjo		35	SW 8260A
Dibromofluoromethane (Surr)	106.6		%	10/17/1998	81-129	mjo		35	SW 8260A
Toluene-d8 (Surr)	87.0		%	10/17/1998	74-129	mjo		35	SW 8260A
4-Bromofluoromethane (Surr)	76.6		%	10/17/1998	70-130	mjo		35	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/12/1998		mmv	748		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the diesel range.

MWG13-15_23440

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
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Westmont, IL 60559

11/04/1998

Sample No. : 496636

NET Job No.: 98.13012

Sample Description: S-9
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 13:12
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<1.1	mg/kg dw	10/18/1998	0.021	keh	748	1798	SW 8310
Acenaphthylene	<1.1	mg/kg dw	10/18/1998	0.021	keh	748	1798	SW 8310
Anthracene	<2.1	mg/kg dw	10/18/1998	0.043	keh	748	1798	SW 8310
Benzo(a)anthracene	<2.2	mg/kg dw	10/18/1998	0.0028	keh	748	1798	SW 8310
Benzo(b)fluoranthene	<0.57	mg/kg dw	10/18/1998	0.0038	keh	748	1798	SW 8310
Benzo(k)fluoranthene	<0.34	mg/kg dw	10/18/1998	0.0036	keh	748	1798	SW 8310
Benzo(a)pyrene	<0.57	mg/kg dw	10/18/1998	0.0049	keh	748	1798	SW 8310
Benzo(ghi)perylene	<2.1	mg/kg dw	10/18/1998	0.043	keh	748	1798	SW 8310
Chrysene	<2	mg/kg dw	10/18/1998	0.03	keh	748	1798	SW 8310
Dibenzo(a,h)anthracene	<0.3	mg/kg dw	10/18/1998	0.006	keh	748	1798	SW 8310
Fluoranthene	<1.1	mg/kg dw	10/18/1998	0.021	keh	748	1798	SW 8310
Fluorene	<1.1	mg/kg dw	10/18/1998	0.021	keh	748	1798	SW 8310
Indeno(1,2,3-cd)pyrene	<0.46	mg/kg dw	10/18/1998	0.0091	keh	748	1798	SW 8310
Naphthalene	<1.3	mg/kg dw	10/18/1998	0.027	keh	748	1798	SW 8310
Phenanthrene	<2.1	mg/kg dw	10/18/1998	0.043	keh	748	1798	SW 8310
Pyrene	<1.1	mg/kg dw	10/18/1998	0.021	keh	748	1798	SW 8310
Surr: p-Terphenyl	Diluted out		10/18/1998	43-125	keh	748	1798	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	363		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.043	mg/kg dw	10/15/1998	0.043	jrs	363	35	SW 8082
PCB-1221	<0.043	mg/kg dw	10/15/1998	0.043	jrs	363	35	SW 8082
PCB-1232	<0.043	mg/kg dw	10/15/1998	0.043	jrs	363	35	SW 8082
PCB-1242	<0.043	mg/kg dw	10/15/1998	0.043	jrs	363	35	SW 8082
PCB-1248	<0.043	mg/kg dw	10/15/1998	0.043	jrs	363	35	SW 8082
PCB-1254	<0.043	mg/kg dw	10/15/1998	0.043	jrs	363	35	SW 8082

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23441

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496636

NET Job No.: 98.13012

Sample Description: S-9
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 13:12
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.043	mg/kg dw	10/15/1998	0.043	jrs	363	35	SW 8082
Decachlorobiphenyl (Surr)	116.0	%	10/15/1998	NA	jrs	363	35	SW 8082
2,4,5,6-TCMX (Surr)	83.0	%	10/15/1998	NA	jrs	363	35	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496637

NET Job No.: 98.13012

Sample Description: X-5
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 13:35
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.10		units	10/13/1998	0.10	nwg		165	SW 9045B
Solids, Total	46.3		%	10/29/1998	0.1	efw		2501	SM 2540
Arsenic, GFAA	<2.6	MX	mg/kg dw	10/19/1998	1.1	mhp	216	654	SW 7060
Barium, ICP	1,510		mg/kg dw	10/23/1998	2.2	kdw	1140	2150	SW 6010B
Cadmium, ICP	<1.1		mg/kg dw	10/19/1998	1.1	jtt	1140	2127	SW 6010B
Chromium, ICP	10		mg/kg dw	10/19/1998	4.3	jtt	1140	2113	SW 6010B
Lead, ICP	9.5		mg/kg dw	10/19/1998	8.6	jtt	1140	2349	SW 6010B
Mercury, CVAA	<0.086		mg/kg dw	10/22/1998	0.086	sep	658	761	SW 7471A
Selenium, GFAA	<0.54		mg/kg dw	10/20/1998	0.54	mhp	216	538	SW 7740
Silver, AA	<4.3		mg/kg dw	10/21/1998	4.3	sep	476	564	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/15/1998		wna	238		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<1,080		mg/kg dw	10/20/1998	110	btl	238	479	SW 8015M
TPH as Diesel	<1,080		mg/kg dw	10/20/1998	110	btl	238	479	SW 8015M
TPH as Oil	1,640	PT	mg/kg dw	10/20/1998	110	btl	238	479	SW 8015M
N-octacosane (TPH surr)	109.0		%	10/20/1998		btl	238	479	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.01		mg/kg dw	10/17/1998	0.01	mjo		35	SW 8260A
Ethylbenzene	<0.01		mg/kg dw	10/17/1998	0.01	mjo		35	SW 8260A
Toluene	<0.01		mg/kg dw	10/17/1998	0.01	mjo		35	SW 8260A
Xylenes, Total	<0.01		mg/kg dw	10/17/1998	0.01	mjo		35	SW 8260A
Dibromofluoromethane (Surr)	133.8	R	%	10/17/1998	81-129	mjo		35	SW 8260A
Toluene-d8 (Surr)	78.2		%	10/17/1998	74-129	mjo		35	SW 8260A
4-Bromofluoromethane (Surr)	42.4	R	%	10/17/1998	70-130	mjo		35	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/12/1998		mmv	748		SW 3540C

MX : Dilution required due to sample matrix; analyte is not detected.
PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.
R : Surrogate recovery verified by re-analysis.

MWG13-15_23443

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496637

NET Job No.: 98.13012

Sample Description: X-5
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 13:35
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS		ELV							
Acenaphthene	<0.43		mg/kg dw	10/19/1998	0.043	keh	748	1799	SW 8310
Acenaphthylene	<0.43		mg/kg dw	10/19/1998	0.043	keh	748	1799	SW 8310
Anthracene	<0.86		mg/kg dw	10/19/1998	0.086	keh	748	1799	SW 8310
Benzo(a)anthracene	<9.7		mg/kg dw	10/19/1998	0.0056	keh	748	1799	SW 8310
Benzo(b)fluoranthene	<0.35		mg/kg dw	10/19/1998	0.0078	keh	748	1799	SW 8310
Benzo(k)fluoranthene	<0.18		mg/kg dw	10/19/1998	0.0073	keh	748	1799	SW 8310
Benzo(a)pyrene	<0.30		mg/kg dw	10/19/1998	0.0099	keh	748	1799	SW 8310
Benzo(ghi)perylene	<0.86		mg/kg dw	10/19/1998	0.086	keh	748	1799	SW 8310
Chrysene	<0.6		mg/kg dw	10/19/1998	0.06	keh	748	1799	SW 8310
Dibenzo(a,h)anthracene	<0.1		mg/kg dw	10/19/1998	0.01	keh	748	1799	SW 8310
Fluoranthene	<0.43		mg/kg dw	10/19/1998	0.043	keh	748	1799	SW 8310
Fluorene	<0.43		mg/kg dw	10/19/1998	0.043	keh	748	1799	SW 8310
Indeno(1,2,3-cd)pyrene	<0.19		mg/kg dw	10/19/1998	0.019	keh	748	1799	SW 8310
Naphthalene	<0.54		mg/kg dw	10/19/1998	0.054	keh	748	1799	SW 8310
Phenanthrene	<0.86		mg/kg dw	10/19/1998	0.086	keh	748	1799	SW 8310
Pyrene	<0.43		mg/kg dw	10/19/1998	0.043	keh	748	1799	SW 8310
Surr: p-Terphenyl	Masked			10/19/1998	43-125	keh	748	1799	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			10/11/1998	COMPLETE	wna	363		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.086		mg/kg dw	10/15/1998	0.086	jrs	363	35	SW 8082
PCB-1221	<0.086		mg/kg dw	10/15/1998	0.086	jrs	363	35	SW 8082
PCB-1232	<0.086		mg/kg dw	10/15/1998	0.086	jrs	363	35	SW 8082
PCB-1242	<0.086		mg/kg dw	10/15/1998	0.086	jrs	363	35	SW 8082
PCB-1248	<0.086		mg/kg dw	10/15/1998	0.086	jrs	363	35	SW 8082
PCB-1254	<0.086		mg/kg dw	10/15/1998	0.086	jrs	363	35	SW 8082

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23444

NET® NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496637

NET Job No.: 98.13012

Sample Description: X-5
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 13:35
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.086	mg/kg dw	10/15/1998	0.086	jrs	363	35	SW 8082
Decachlorobiphenyl (Surr)	77.0	%	10/15/1998	NA	jrs	363	35	SW 8082
2,4,5,6-TCMX (Surr)	82.0	%	10/15/1998	NA	jrs	363	35	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496638

NET Job No.: 98.13012

Sample Description: S-15
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 13:50
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.88		units	10/13/1998	0.10	nwg		165	SW 9045B
Solids, Total	82.4		%	10/14/1998	0.1	efw		2477	SM 2540
Arsenic, GFAA	6.9		mg/kg dw	10/19/1998	0.61	mhp	217	654	SW 7060
Barium, ICP	328		mg/kg dw	10/23/1998	1.2	kdw	1140	2150	SW 6010B
Cadmium, ICP	0.74		mg/kg dw	10/19/1998	0.61	jtt	1140	2127	SW 6010B
Chromium, ICP	8.6		mg/kg dw	10/19/1998	2.4	jtt	1140	2113	SW 6010B
Lead, ICP	23		mg/kg dw	10/19/1998	4.8	jtt	1140	2349	SW 6010B
Mercury, CVAA	<0.049		mg/kg dw	10/22/1998	0.049	sep	658	761	SW 7471A
Selenium, GFAA	<0.30		mg/kg dw	10/20/1998	0.30	mhp	217	539	SW 7740
Silver, AA	<2.4		mg/kg dw	10/21/1998	2.4	sep	476	564	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/15/1998		wna	238		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<61		mg/kg dw	11/03/1998	61	btl	238	485	SW 8015M
TPH as Diesel	<61		mg/kg dw	11/03/1998	61	btl	238	485	SW 8015M
TPH as Oil	522	PT	mg/kg dw	11/03/1998	61	btl	238	485	SW 8015M
N-octacosane (TPH surr)	106.0		%	11/03/1998		btl	238	485	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	10/17/1998	0.006	mjo		36	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	10/17/1998	0.006	mjo		36	SW 8260A
Toluene	<0.006		mg/kg dw	10/17/1998	0.006	mjo		36	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	10/17/1998	0.006	mjo		36	SW 8260A
Dibromofluoromethane (Surr)	123.4		%	10/17/1998	81-129	mjo		36	SW 8260A
Toluene-d8 (Surr)	97.6		%	10/17/1998	74-129	mjo		36	SW 8260A
4-Bromofluoromethane (Surr)	86.0		%	10/17/1998	70-130	mjo		36	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/12/1998		mmv	748		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496638

NET Job No.: 98.13012

Sample Description: S-15
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 13:50
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.24	mg/kg dw	10/19/1998	0.024	keh	748	1799	SW 8310
Acenaphthylene	<0.24	mg/kg dw	10/19/1998	0.024	keh	748	1799	SW 8310
Anthracene	<0.49	mg/kg dw	10/19/1998	0.049	keh	748	1799	SW 8310
Benzo(a)anthracene	<2.8	mg/kg dw	10/19/1998	0.0032	keh	748	1799	SW 8310
Benzo(b)fluoranthene	<0.41	mg/kg dw	10/19/1998	0.0044	keh	748	1799	SW 8310
Benzo(k)fluoranthene	<0.27	mg/kg dw	10/19/1998	0.0041	keh	748	1799	SW 8310
Benzo(a)pyrene	<0.30	mg/kg dw	10/19/1998	0.0056	keh	748	1799	SW 8310
Benzo(ghi)perylene	<0.49	mg/kg dw	10/19/1998	0.049	keh	748	1799	SW 8310
Chrysene	0.41	mg/kg dw	10/19/1998	0.04	keh	748	1799	SW 8310
Dibenzo(a,h)anthracene	<0.07	mg/kg dw	10/19/1998	0.007	keh	748	1799	SW 8310
Fluoranthene	<0.64	mg/kg dw	10/19/1998	0.024	keh	748	1799	SW 8310
Fluorene	<0.24	mg/kg dw	10/19/1998	0.024	keh	748	1799	SW 8310
Indeno(1,2,3-cd)pyrene	<0.10	mg/kg dw	10/19/1998	0.010	keh	748	1799	SW 8310
Naphthalene	<0.30	mg/kg dw	10/19/1998	0.030	keh	748	1799	SW 8310
Phenanthrene	<0.49	mg/kg dw	10/19/1998	0.049	keh	748	1799	SW 8310
Pyrene	0.49	mg/kg dw	10/19/1998	0.024	keh	748	1799	SW 8310
Surr: p-Terphenyl	Masked		10/19/1998	43-125	keh	748	1799	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	363		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.049	mg/kg dw	10/15/1998	0.049	jrs	363	35	SW 8082
PCB-1221	<0.049	mg/kg dw	10/15/1998	0.049	jrs	363	35	SW 8082
PCB-1232	<0.049	mg/kg dw	10/15/1998	0.049	jrs	363	35	SW 8082
PCB-1242	<0.049	mg/kg dw	10/15/1998	0.049	jrs	363	35	SW 8082
PCB-1248	<0.049	mg/kg dw	10/15/1998	0.049	jrs	363	35	SW 8082
PCB-1254	<0.049	mg/kg dw	10/15/1998	0.049	jrs	363	35	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496638

NET Job No.: 98.13012

Sample Description: S-15
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 13:50
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.049	mg/kg dw	10/15/1998	0.049	jrs	363	35	SW 8082
Decachlorobiphenyl (Surr)	75.0	%	10/15/1998	NA	jrs	363	35	SW 8082
2,4,5,6-TCMX (Surr)	84.0	%	10/15/1998	NA	jrs	363	35	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496639

NET Job No.: 98.13012

Sample Description: S-16
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 13:57
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.85		units	10/13/1998	0.10	nwg		165	SW 9045B
Solids, Total	81.4		%	10/14/1998	0.1	efw		2477	SM 2540
Arsenic, GFAA	2.7		mg/kg dw	10/19/1998	0.61	mhp	217	654	SW 7060
Barium, ICP	221		mg/kg dw	10/23/1998	1.2	kdw	1140	2150	SW 6010B
Cadmium, ICP	2.0		mg/kg dw	10/19/1998	0.61	jtt	1140	2127	SW 6010B
Chromium, ICP	4.4		mg/kg dw	10/19/1998	2.4	jtt	1140	2113	SW 6010B
Lead, ICP	14		mg/kg dw	10/19/1998	4.9	jtt	1140	2349	SW 6010B
Mercury, CVAA	<0.049		mg/kg dw	10/22/1998	0.049	sep	658	761	SW 7471A
Selenium, GFAA	0.32		mg/kg dw	10/20/1998	0.31	mhp	217	539	SW 7740
Silver, AA	<2.5		mg/kg dw	10/21/1998	2.5	sep	476	564	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/15/1998		wna	238		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<6,100		mg/kg dw	11/03/1998	61	btl	238	485	SW 8015M
TPH as Diesel	40,500	PT	mg/kg dw	11/03/1998	61	btl	238	485	SW 8015M
TPH as Oil	<6,100		mg/kg dw	11/03/1998	61	btl	238	485	SW 8015M
N-octacosane (TPH surr)	120.0		%	11/03/1998		btl	238	485	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	10/17/1998	0.006	mjo		36	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	10/17/1998	0.006	mjo		36	SW 8260A
Toluene	<0.006		mg/kg dw	10/17/1998	0.006	mjo		36	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	10/17/1998	0.006	mjo		36	SW 8260A
Dibromofluoromethane (Surr)	106.4		%	10/17/1998	81-129	mjo		36	SW 8260A
Toluene-d8 (Surr)	111.4		%	10/17/1998	74-129	mjo		36	SW 8260A
4-Bromofluoromethane (Surr)	111.6		%	10/17/1998	70-130	mjo		36	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/12/1998		mmv	748		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the diesel range.

NATIONAL ENVIRONMENTAL TESTING, INC.

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(800) 807-2877

ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496639

NET Job No.: 98.13012

Sample Description: S-16
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 13:57
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.5	mg/kg dw	10/19/1998	0.025	keh	748	1799	SW 8310
Acenaphthylene	<2.5	mg/kg dw	10/19/1998	0.025	keh	748	1799	SW 8310
Anthracene	<4.9	mg/kg dw	10/19/1998	0.049	keh	748	1799	SW 8310
Benzo(a)anthracene	<34	mg/kg dw	10/19/1998	0.0032	keh	748	1799	SW 8310
Benzo(b)fluoranthene	<1.8	mg/kg dw	10/19/1998	0.0044	keh	748	1799	SW 8310
Benzo(k)fluoranthene	<0.42	mg/kg dw	10/19/1998	0.0042	keh	748	1799	SW 8310
Benzo(a)pyrene	<0.57	mg/kg dw	10/19/1998	0.0057	keh	748	1799	SW 8310
Benzo(ghi)perylene	<4.9	mg/kg dw	10/19/1998	0.049	keh	748	1799	SW 8310
Chrysene	<4	mg/kg dw	10/19/1998	0.04	keh	748	1799	SW 8310
Dibenzo(a,h)anthracene	<0.7	mg/kg dw	10/19/1998	0.007	keh	748	1799	SW 8310
Fluoranthene	<23	mg/kg dw	10/19/1998	0.025	keh	748	1799	SW 8310
Fluorene	5.5	mg/kg dw	10/19/1998	0.025	keh	748	1799	SW 8310
Indeno(1,2,3-cd)pyrene	<1.1	mg/kg dw	10/19/1998	0.011	keh	748	1799	SW 8310
Naphthalene	<3.1	mg/kg dw	10/19/1998	0.031	keh	748	1799	SW 8310
Phenanthrene	<4.9	mg/kg dw	10/19/1998	0.049	keh	748	1799	SW 8310
Pyrene	<23	mg/kg dw	10/19/1998	0.025	keh	748	1799	SW 8310
Surr: p-Terphenyl	Diluted out		10/19/1998	43-125	keh	748	1799	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	363		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.049	mg/kg dw	10/15/1998	0.049	jrs	363	35	SW 8082
PCB-1221	<0.049	mg/kg dw	10/15/1998	0.049	jrs	363	35	SW 8082
PCB-1232	<0.049	mg/kg dw	10/15/1998	0.049	jrs	363	35	SW 8082
PCB-1242	<0.049	mg/kg dw	10/15/1998	0.049	jrs	363	35	SW 8082
PCB-1248	<0.049	mg/kg dw	10/15/1998	0.049	jrs	363	35	SW 8082
PCB-1254	<0.049	mg/kg dw	10/15/1998	0.049	jrs	363	35	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496639

NET Job No.: 98.13012

Sample Description: S-16
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 13:57
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.049	mg/kg dw	10/15/1998	0.049	jrs	363	35	SW 8082
Decachlorobiphenyl (Surr)	75.0	%	10/15/1998	NA	jrs	363	35	SW 8082
2,4,5,6-TCMX (Surr)	73.0	%	10/15/1998	NA	jrs	363	35	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496640

NET Job No.: 98.13012

Sample Description: S-17
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 14:10
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	10.09		units	10/13/1998	0.10	nwg		165	SW 9045B
Solids, Total	40.3		%	10/20/1998	0.1	efw		2490	SM 2540
Arsenic, GFAA	<3.0	MX	mg/kg dw	10/19/1998	1.2	mhp	217	654	SW 7060
Barium, ICP	819		mg/kg dw	10/23/1998	2.5	kdw	1140	2150	SW 6010B
Cadmium, ICP	2.1		mg/kg dw	10/19/1998	1.2	jtt	1140	2127	SW 6010B
Chromium, ICP	8.9		mg/kg dw	10/19/1998	5.0	jtt	1140	2113	SW 6010B
Lead, ICP	82		mg/kg dw	10/19/1998	9.9	jtt	1140	2349	SW 6010B
Mercury, CVAA	<0.099		mg/kg dw	10/22/1998	0.099	sep	658	761	SW 7471A
Selenium, GFAA	<0.62		mg/kg dw	10/20/1998	0.62	mhp	217	539	SW 7740
Silver, AA	<5.0		mg/kg dw	10/21/1998	5.0	sep	476	564	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/15/1998		wna	238		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<1,200		mg/kg dw	11/04/1998	120	btl	238	485	SW 8015M
TPH as Diesel	<1,200		mg/kg dw	11/04/1998	120	btl	238	485	SW 8015M
TPH as Oil	6,950	PT	mg/kg dw	11/04/1998	120	btl	238	485	SW 8015M
N-octacosane (TPH surr)	132.0		%	11/04/1998		btl	238	485	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.01		mg/kg dw	10/17/1998	0.01	mjo		36	SW 8260A
Ethylbenzene	<0.01		mg/kg dw	10/17/1998	0.01	mjo		36	SW 8260A
Toluene	<0.01		mg/kg dw	10/17/1998	0.01	mjo		36	SW 8260A
Xylenes, Total	<0.01		mg/kg dw	10/17/1998	0.01	mjo		36	SW 8260A
Dibromofluoromethane (Surr)	99.4		%	10/17/1998	81-129	mjo		36	SW 8260A
Toluene-d8 (Surr)	105.4		%	10/17/1998	74-129	mjo		36	SW 8260A
4-Bromofluoromethane (Surr)	97.8		%	10/17/1998	70-130	mjo		36	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/12/1998		mmv	748		SW 3540C

MX : Dilution required due to sample matrix; analyte is not detected.
PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496640

NET Job No.: 98.13012

Sample Description: S-17
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 14:10
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<1.2	mg/kg dw	10/19/1998	0.050	keh	748	1799	SW 8310
Acenaphthylene	<1.2	mg/kg dw	10/19/1998	0.050	keh	748	1799	SW 8310
Anthracene	<2.5	mg/kg dw	10/19/1998	0.099	keh	748	1799	SW 8310
Benzo(a)anthracene	<18	mg/kg dw	10/19/1998	0.0065	keh	748	1799	SW 8310
Benzo(b)fluoranthene	<4.0	mg/kg dw	10/19/1998	0.0089	keh	748	1799	SW 8310
Benzo(k)fluoranthene	<3.0	mg/kg dw	10/19/1998	0.0084	keh	748	1799	SW 8310
Benzo(a)pyrene	<2.4	mg/kg dw	10/19/1998	0.011	keh	748	1799	SW 8310
Benzo(ghi)perylene	<2.5	mg/kg dw	10/19/1998	0.099	keh	748	1799	SW 8310
Chrysene	2.0	mg/kg dw	10/19/1998	0.07	keh	748	1799	SW 8310
Dibenzo(a,h)anthracene	<2.1	mg/kg dw	10/19/1998	0.01	keh	748	1799	SW 8310
Fluoranthene	<2.7	mg/kg dw	10/19/1998	0.050	keh	748	1799	SW 8310
Fluorene	<1.2	mg/kg dw	10/19/1998	0.050	keh	748	1799	SW 8310
Indeno(1,2,3-cd)pyrene	<7.7	mg/kg dw	10/19/1998	0.021	keh	748	1799	SW 8310
Naphthalene	<1.5	mg/kg dw	10/19/1998	0.062	keh	748	1799	SW 8310
Phenanthrene	<2.5	mg/kg dw	10/19/1998	0.099	keh	748	1799	SW 8310
Pyrene	3.2	mg/kg dw	10/19/1998	0.050	keh	748	1799	SW 8310
Surr: p-Terphenyl	Diluted out		10/19/1998	43-125	keh	748	1799	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	363		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.099	mg/kg dw	10/15/1998	0.099	jrs	363	35	SW 8082
PCB-1221	<0.099	mg/kg dw	10/15/1998	0.099	jrs	363	35	SW 8082
PCB-1232	<0.099	mg/kg dw	10/15/1998	0.099	jrs	363	35	SW 8082
PCB-1242	<0.099	mg/kg dw	10/15/1998	0.099	jrs	363	35	SW 8082
PCB-1248	<0.099	mg/kg dw	10/15/1998	0.099	jrs	363	35	SW 8082
PCB-1254	<0.099	mg/kg dw	10/15/1998	0.099	jrs	363	35	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496640

NET Job No.: 98.13012

Sample Description: S-17
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 14:10
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	0.14	mg/kg dw	10/15/1998	0.099	jrs	363	35	SW 8082
Decachlorobiphenyl (Surr)	70.0	%	10/15/1998	NA	jrs	363	35	SW 8082
2,4,5,6-TCMX (Surr)	81.0	%	10/15/1998	NA	jrs	363	35	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496641

NET Job No.: 98.13012

Sample Description: X-6
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 14:22
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.96		units	10/13/1998	0.10	nwg		165	SW 9045B
Solids, Total	52.1		%	10/20/1998	0.1	efw		2490	SM 2540
Arsenic, GFAA	3.5		mg/kg dw	10/19/1998	0.96	mhp	217	654	SW 7060
Barium, ICP	883		mg/kg dw	10/23/1998	1.9	kdw	1140	2150	SW 6010B
Cadmium, ICP	<0.96		mg/kg dw	10/19/1998	0.96	jtt	1140	2127	SW 6010B
Chromium, ICP	14		mg/kg dw	10/19/1998	3.8	jtt	1140	2113	SW 6010B
Lead, ICP	31		mg/kg dw	10/19/1998	7.7	jtt	1140	2349	SW 6010B
Mercury, CVAA	0.098		mg/kg dw	10/22/1998	0.077	sep	658	761	SW 7471A
Selenium, GFAA	<0.48		mg/kg dw	10/20/1998	0.48	mhp	217	539	SW 7740
Silver, AA	<3.8		mg/kg dw	10/21/1998	3.8	sep	476	564	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/15/1998		wna	238		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<960		mg/kg dw	11/03/1998	96	btl	238	485	SW 8015M
TPH as Diesel	<960		mg/kg dw	11/03/1998	96	btl	238	485	SW 8015M
TPH as Oil	9,980	PT	mg/kg dw	11/03/1998	96	btl	238	485	SW 8015M
N-octacosane (TPH surr)	120.0		%	11/03/1998		btl	238	485	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.01		mg/kg dw	10/19/1998	0.01	mjo		41	SW 8260A
Ethylbenzene	<0.01		mg/kg dw	10/19/1998	0.01	mjo		41	SW 8260A
Toluene	<0.01		mg/kg dw	10/19/1998	0.01	mjo		41	SW 8260A
Xylenes, Total	<0.01		mg/kg dw	10/19/1998	0.01	mjo		41	SW 8260A
Dibromofluoromethane (Surr)	109.4		%	10/19/1998	81-129	mjo		41	SW 8260A
Toluene-d8 (Surr)	94.2		%	10/19/1998	74-129	mjo		41	SW 8260A
4-Bromofluoromethane (Surr)	78.6		%	10/19/1998	70-130	mjo		41	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/12/1998		mmv	748		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

MWG13-15_23455

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496641

NET Job No.: 98.13012

Sample Description: X-6
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 14:22
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.38	mg/kg dw	10/20/1998	0.038	keh	748	1799	SW 8310
Acenaphthylene	<0.38	mg/kg dw	10/20/1998	0.038	keh	748	1799	SW 8310
Anthracene	<0.77	mg/kg dw	10/20/1998	0.077	keh	748	1799	SW 8310
Benzo(a)anthracene	<8.1	mg/kg dw	10/20/1998	0.0050	keh	748	1799	SW 8310
Benzo(b)fluoranthene	<0.36	mg/kg dw	10/20/1998	0.0069	keh	748	1799	SW 8310
Benzo(k)fluoranthene	<0.98	mg/kg dw	10/20/1998	0.0065	keh	748	1799	SW 8310
Benzo(a)pyrene	<0.63	mg/kg dw	10/20/1998	0.0088	keh	748	1799	SW 8310
Benzo(ghi)perylene	<0.77	mg/kg dw	10/20/1998	0.077	keh	748	1799	SW 8310
Chrysene	<0.6	mg/kg dw	10/20/1998	0.06	keh	748	1799	SW 8310
Dibenzo(a,h)anthracene	<0.1	mg/kg dw	10/20/1998	0.01	keh	748	1799	SW 8310
Fluoranthene	<0.67	mg/kg dw	10/20/1998	0.038	keh	748	1799	SW 8310
Fluorene	<0.38	mg/kg dw	10/20/1998	0.038	keh	748	1799	SW 8310
Indeno(1,2,3-cd)pyrene	<1.2	mg/kg dw	10/20/1998	0.017	keh	748	1799	SW 8310
Naphthalene	<0.48	mg/kg dw	10/20/1998	0.048	keh	748	1799	SW 8310
Phenanthrene	<0.77	mg/kg dw	10/20/1998	0.077	keh	748	1799	SW 8310
Pyrene	0.88	mg/kg dw	10/20/1998	0.038	keh	748	1799	SW 8310
Surr: p-Terphenyl	Masked		10/20/1998	43-125	keh	748	1799	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	363		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.077	mg/kg dw	10/15/1998	0.077	jrs	363	35	SW 8082
PCB-1221	<0.077	mg/kg dw	10/15/1998	0.077	jrs	363	35	SW 8082
PCB-1232	<0.077	mg/kg dw	10/15/1998	0.077	jrs	363	35	SW 8082
PCB-1242	<0.077	mg/kg dw	10/15/1998	0.077	jrs	363	35	SW 8082
PCB-1248	<0.077	mg/kg dw	10/15/1998	0.077	jrs	363	35	SW 8082
PCB-1254	<0.077	mg/kg dw	10/15/1998	0.077	jrs	363	35	SW 8082

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23456

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496641

NET Job No.: 98.13012

Sample Description: X-6
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 14:22
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.077	mg/kg dw	10/15/1998	0.077	jrs	363	35	SW 8082
Decachlorobiphenyl (Surr)	59.0	%	10/15/1998	NA	jrs	363	35	SW 8082
2,4,5,6-TCMX (Surr)	78.0	%	10/15/1998	NA	jrs	363	35	SW 8082

MWG13-15_23457

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
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Westmont, IL 60559

11/04/1998

Sample No. : 496642

NET Job No.: 98.13012

Sample Description: S-20
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 14:30
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.66		units	10/13/1998	0.10	nwg		165	SW 9045B
Solids, Total	69.0		%	10/20/1998	0.1	efw		2490	SM 2540
Arsenic, GFAA	5.4		mg/kg dw	10/19/1998	0.72	mhp	217	654	SW 7060
Barium, ICP	638		mg/kg dw	10/23/1998	1.4	kdw	1140	2150	SW 6010B
Cadmium, ICP	1.0		mg/kg dw	10/19/1998	0.72	jtt	1140	2127	SW 6010B
Chromium, ICP	5.8		mg/kg dw	10/19/1998	2.9	jtt	1140	2113	SW 6010B
Lead, ICP	13		mg/kg dw	10/19/1998	5.8	jtt	1140	2349	SW 6010B
Mercury, CVAA	0.064		mg/kg dw	10/22/1998	0.058	sep	658	761	SW 7471A
Selenium, GFAA	<0.36		mg/kg dw	10/20/1998	0.36	mhp	217	539	SW 7740
Silver, AA	<2.9		mg/kg dw	10/21/1998	2.9	sep	476	564	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/15/1998		wna	238		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<720		mg/kg dw	11/03/1998	72	btl	238	485	SW 8015M
TPH as Diesel	<720		mg/kg dw	11/03/1998	72	btl	238	485	SW 8015M
TPH as Oil	1,420	PT	mg/kg dw	11/03/1998	72	btl	238	485	SW 8015M
N-octacosane (TPH surr)	73.0		%	11/03/1998		btl	238	485	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.007		mg/kg dw	10/19/1998	0.007	mjo		42	SW 8260A
Ethylbenzene	<0.007		mg/kg dw	10/19/1998	0.007	mjo		42	SW 8260A
Toluene	<0.007		mg/kg dw	10/19/1998	0.007	mjo		42	SW 8260A
Xylenes, Total	<0.007		mg/kg dw	10/19/1998	0.007	mjo		42	SW 8260A
Dibromofluoromethane (Surr)	112.2		%	10/19/1998	81-129	mjo		42	SW 8260A
Toluene-d8 (Surr)	92.4		%	10/19/1998	74-129	mjo		42	SW 8260A
4-Bromofluoromethane (Surr)	75.2		%	10/19/1998	70-130	mjo		42	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/12/1998		mmv	748		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

MWG13-15_23458

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496642

NET Job No.: 98.13012

Sample Description: S-20
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 14:30
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.1	mg/kg dw	10/20/1998	0.029	keh	748	1799	SW 8310
Acenaphthylene	<0.1	mg/kg dw	10/20/1998	0.029	keh	748	1799	SW 8310
Anthracene	<0.3	mg/kg dw	10/20/1998	0.058	keh	748	1799	SW 8310
Benzo(a)anthracene	<4.1	mg/kg dw	10/20/1998	0.0038	keh	748	1799	SW 8310
Benzo(b)fluoranthene	<0.03	mg/kg dw	10/20/1998	0.0052	keh	748	1799	SW 8310
Benzo(k)fluoranthene	<0.042	mg/kg dw	10/20/1998	0.0049	keh	748	1799	SW 8310
Benzo(a)pyrene	<0.099	mg/kg dw	10/20/1998	0.0067	keh	748	1799	SW 8310
Benzo(ghi)perylene	<0.3	mg/kg dw	10/20/1998	0.058	keh	748	1799	SW 8310
Chrysene	<0.3	mg/kg dw	10/20/1998	0.04	keh	748	1799	SW 8310
Dibenzo(a,h)anthracene	<0.17	mg/kg dw	10/20/1998	0.009	keh	748	1799	SW 8310
Fluoranthene	<0.1	mg/kg dw	10/20/1998	0.029	keh	748	1799	SW 8310
Fluorene	<0.1	mg/kg dw	10/20/1998	0.029	keh	748	1799	SW 8310
Indeno(1,2,3-cd)pyrene	<0.06	mg/kg dw	10/20/1998	0.012	keh	748	1799	SW 8310
Naphthalene	<0.1	mg/kg dw	10/20/1998	0.036	keh	748	1799	SW 8310
Phenanthrene	<0.3	mg/kg dw	10/20/1998	0.058	keh	748	1799	SW 8310
Pyrene	<0.1	mg/kg dw	10/20/1998	0.029	keh	748	1799	SW 8310
Surr: p-Terphenyl	Masked		10/20/1998	43-125	keh	748	1799	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	363		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.058	mg/kg dw	10/15/1998	0.058	jrs	363	35	SW 8082
PCB-1221	<0.058	mg/kg dw	10/15/1998	0.058	jrs	363	35	SW 8082
PCB-1232	<0.058	mg/kg dw	10/15/1998	0.058	jrs	363	35	SW 8082
PCB-1242	<0.058	mg/kg dw	10/15/1998	0.058	jrs	363	35	SW 8082
PCB-1248	<0.058	mg/kg dw	10/15/1998	0.058	jrs	363	35	SW 8082
PCB-1254	<0.058	mg/kg dw	10/15/1998	0.058	jrs	363	35	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496642

NET Job No.: 98.13012

Sample Description: S-20
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 14:30
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.058	mg/kg dw	10/15/1998	0.058	jrs	363	35	SW 8082
Decachlorobiphenyl (Surr)	67.0	%	10/15/1998	NA	jrs	363	35	SW 8082
2,4,5,6-TCMX (Surr)	70.0	%	10/15/1998	NA	jrs	363	35	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496643

NET Job No.: 98.13012

Sample Description: S-21
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 14:35
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	8.13	units	10/13/1998	0.10	nwg	166	SW 9045B
Solids, Total	91.2	%	10/20/1998	0.1	efw	2490	SM 2540
Arsenic, GFAA	3.3	mg/kg dw	10/19/1998	0.55	mhp	217 654	SW 7060
Barium, ICP	186	mg/kg dw	10/23/1998	1.1	kdw	1140 2150	SW 6010B
Cadmium, ICP	0.72	mg/kg dw	10/19/1998	0.55	jtt	1140 2127	SW 6010B
Chromium, ICP	23	mg/kg dw	10/19/1998	2.2	jtt	1140 2113	SW 6010B
Lead, ICP	15	mg/kg dw	10/19/1998	4.4	jtt	1140 2349	SW 6010B
Mercury, CVAA	<0.044	mg/kg dw	10/22/1998	0.044	sep	658 761	SW 7471A
Selenium, GFAA	<0.27	mg/kg dw	10/20/1998	0.27	mhp	217 539	SW 7740
Silver, AA	<2.2	mg/kg dw	10/21/1998	2.2	sep	476 564	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/15/1998		wna	238	SW 8015M
TPH MODIFIED 8015							
TPH as Gas	<5,500	mg/kg dw	11/03/1998	55	btl	238 485	SW 8015M
TPH as Diesel	<5,500	mg/kg dw	11/03/1998	55	btl	238 485	SW 8015M
TPH as Oil	104,000 PT	mg/kg dw	11/03/1998	55	btl	238 485	SW 8015M
N-octacosane (TPH surr)	Diluted out		11/03/1998		btl	238 485	SW 8015M
UST VOLATILES NON-AQUEOUS							
Benzene	<0.005	mg/kg dw	10/19/1998	0.005	mjo	42	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/19/1998	0.005	mjo	42	SW 8260A
Toluene	<0.005	mg/kg dw	10/19/1998	0.005	mjo	42	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/19/1998	0.005	mjo	42	SW 8260A
Dibromofluoromethane (Surr)	102.4	%	10/19/1998	81-129	mjo	42	SW 8260A
Toluene-d8 (Surr)	102.6	%	10/19/1998	74-129	mjo	42	SW 8260A
4-Bromofluoromethane (Surr)	104.0	%	10/19/1998	70-130	mjo	42	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/12/1998		mmv	749	SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496643

NET Job No.: 98.13012

Sample Description: S-21
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 14:35
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.66	mg/kg dw	10/20/1998	0.022	keh	749	1799	SW 8310
Acenaphthylene	<0.66	mg/kg dw	10/20/1998	0.022	keh	749	1799	SW 8310
Anthracene	<1.3	mg/kg dw	10/20/1998	0.044	keh	749	1799	SW 8310
Benzo(a)anthracene	<2.1	mg/kg dw	10/20/1998	0.0029	keh	749	1799	SW 8310
Benzo(b)fluoranthene	<0.12	mg/kg dw	10/20/1998	0.0039	keh	749	1799	SW 8310
Benzo(k)fluoranthene	<0.11	mg/kg dw	10/20/1998	0.0037	keh	749	1799	SW 8310
Benzo(a)pyrene	<0.34	mg/kg dw	10/20/1998	0.0050	keh	749	1799	SW 8310
Benzo(ghi)perylene	<1.3	mg/kg dw	10/20/1998	0.044	keh	749	1799	SW 8310
Chrysene	<1	mg/kg dw	10/20/1998	0.03	keh	749	1799	SW 8310
Dibenzo(a,h)anthracene	<0.2	mg/kg dw	10/20/1998	0.007	keh	749	1799	SW 8310
Fluoranthene	<0.66	mg/kg dw	10/20/1998	0.022	keh	749	1799	SW 8310
Fluorene	<0.66	mg/kg dw	10/20/1998	0.022	keh	749	1799	SW 8310
Indeno(1,2,3-cd)pyrene	<0.29	mg/kg dw	10/20/1998	0.0094	keh	749	1799	SW 8310
Naphthalene	<0.82	mg/kg dw	10/20/1998	0.027	keh	749	1799	SW 8310
Phenanthrene	<1.3	mg/kg dw	10/20/1998	0.044	keh	749	1799	SW 8310
Pyrene	<0.66	mg/kg dw	10/20/1998	0.022	keh	749	1799	SW 8310
Surr: p-Terphenyl	Diluted out		10/20/1998	43-125	keh	749	1799	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/11/1998	COMPLETE	wna	363		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.44	mg/kg dw	10/15/1998	0.044	jrs	363	35	SW 8082
PCB-1221	<0.44	mg/kg dw	10/15/1998	0.044	jrs	363	35	SW 8082
PCB-1232	<0.44	mg/kg dw	10/15/1998	0.044	jrs	363	35	SW 8082
PCB-1242	<0.44	mg/kg dw	10/15/1998	0.044	jrs	363	35	SW 8082
PCB-1248	<0.44	mg/kg dw	10/15/1998	0.044	jrs	363	35	SW 8082
PCB-1254	<0.44	mg/kg dw	10/15/1998	0.044	jrs	363	35	SW 8082

ELV : Elevated reporting limits due ot matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496643

NET Job No.: 98.13012

Sample Description: S-21
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 14:35
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.44	mg/kg dw	10/15/1998	0.044	jrs	363	35	SW 8082
Decachlorobiphenyl (Surr)	72.0	%	10/15/1998	NA	jrs	363	35	SW 8082
2,4,5,6-TCMX (Surr)	84.0	%	10/15/1998	NA	jrs	363	35	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496644

NET Job No.: 98.13012

Sample Description: S-18
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 14:45
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.42		units	10/13/1998	0.10	nwg		166	SW 9045B
Solids, Total	88.8		%	10/20/1998	0.1	efw		2490	SM 2540
Arsenic, GFAA	2.1		mg/kg dw	10/19/1998	0.56	mhp	217	654	SW 7060
Barium, ICP	158		mg/kg dw	10/23/1998	1.1	kdw	1140	2150	SW 6010B
Cadmium, ICP	<0.56		mg/kg dw	10/19/1998	0.56	jtt	1140	2127	SW 6010B
Chromium, ICP	3.4		mg/kg dw	10/19/1998	2.3	jtt	1140	2113	SW 6010B
Lead, ICP	6.9		mg/kg dw	10/19/1998	4.5	jtt	1140	2349	SW 6010B
Mercury, CVAA	<0.045		mg/kg dw	10/22/1998	0.045	sep	658	761	SW 7471A
Selenium, GFAA	<0.28		mg/kg dw	10/20/1998	0.28	mhp	217	540	SW 7740
Silver, AA	<2.3		mg/kg dw	10/21/1998	2.3	sep	476	564	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/15/1998		wna	238		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<560		mg/kg dw	11/03/1998	56	btl	238	485	SW 8015M
TPH as Diesel	<560		mg/kg dw	11/03/1998	56	btl	238	485	SW 8015M
TPH as Oil	743	PT	mg/kg dw	11/03/1998	56	btl	238	485	SW 8015M
N-octacosane (TPH surr)	113.0		%	11/03/1998		btl	238	485	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	10/17/1998	0.006	mjo		36	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	10/17/1998	0.006	mjo		36	SW 8260A
Toluene	<0.006		mg/kg dw	10/17/1998	0.006	mjo		36	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	10/17/1998	0.006	mjo		36	SW 8260A
Dibromofluoromethane (Surr)	115.8		%	10/17/1998	81-129	mjo		36	SW 8260A
Toluene-d8 (Surr)	101.4		%	10/17/1998	74-129	mjo		36	SW 8260A
4-Bromofluoromethane (Surr)	97.0		%	10/17/1998	70-130	mjo		36	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/12/1998		mmv	749		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
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11/04/1998

Sample No. : 496644

NET Job No.: 98.13012

Sample Description: S-18
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 14:45
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.23	mg/kg dw	10/20/1998	0.023	keh	749	1799	SW 8310
Acenaphthylene	<0.23	mg/kg dw	10/20/1998	0.023	keh	749	1799	SW 8310
Anthracene	<0.45	mg/kg dw	10/20/1998	0.045	keh	749	1799	SW 8310
Benzo(a)anthracene	<2.6	mg/kg dw	10/20/1998	0.0029	keh	749	1799	SW 8310
Benzo(b)fluoranthene	<0.20	mg/kg dw	10/20/1998	0.0041	keh	749	1799	SW 8310
Benzo(k)fluoranthene	<0.33	mg/kg dw	10/20/1998	0.0038	keh	749	1799	SW 8310
Benzo(a)pyrene	<0.18	mg/kg dw	10/20/1998	0.0052	keh	749	1799	SW 8310
Benzo(ghi)perylene	<0.45	mg/kg dw	10/20/1998	0.045	keh	749	1799	SW 8310
Chrysene	<0.3	mg/kg dw	10/20/1998	0.03	keh	749	1799	SW 8310
Dibenzo(a,h)anthracene	<0.087	mg/kg dw	10/20/1998	0.007	keh	749	1799	SW 8310
Fluoranthene	<0.23	mg/kg dw	10/20/1998	0.023	keh	749	1799	SW 8310
Fluorene	<0.23	mg/kg dw	10/20/1998	0.023	keh	749	1799	SW 8310
Indeno(1,2,3-cd)pyrene	<0.54	mg/kg dw	10/20/1998	0.0097	keh	749	1799	SW 8310
Naphthalene	<0.28	mg/kg dw	10/20/1998	0.028	keh	749	1799	SW 8310
Phenanthrene	<0.45	mg/kg dw	10/20/1998	0.045	keh	749	1799	SW 8310
Pyrene	<0.23	mg/kg dw	10/20/1998	0.023	keh	749	1799	SW 8310
Surr: p-Terphenyl	Masked		10/20/1998	43-125	keh	749	1799	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/13/1998	COMPLETE	wna	364		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.045	mg/kg dw	10/20/1998	0.045	jrs	364	43	SW 8082
PCB-1221	<0.045	mg/kg dw	10/20/1998	0.045	jrs	364	43	SW 8082
PCB-1232	<0.045	mg/kg dw	10/20/1998	0.045	jrs	364	43	SW 8082
PCB-1242	<0.045	mg/kg dw	10/20/1998	0.045	jrs	364	43	SW 8082
PCB-1248	<0.045	mg/kg dw	10/20/1998	0.045	jrs	364	43	SW 8082
PCB-1254	<0.045	mg/kg dw	10/20/1998	0.045	jrs	364	43	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496644

NET Job No.: 98.13012

Sample Description: S-18
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
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IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.045	mg/kg dw	10/20/1998	0.045	jrs	364	43	SW 8082
Decachlorobiphenyl (Surr)	78.0	%	10/20/1998	NA	jrs	364	43	SW 8082
2,4,5,6-TCMX (Surr)	78.0	%	10/20/1998	NA	jrs	364	43	SW 8082

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

Sample No. : 496645

NET Job No.: 98.13012

Sample Description: S-19
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 14:50
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.85		units	10/13/1998	0.10	nwg		166	SW 9045B
Solids, Total	81.3		%	10/20/1998	0.1	efw		2490	SM 2540
Arsenic, GFAA	2.6		mg/kg dw	10/20/1998	0.62	mhp	217	655	SW 7060
Barium, ICP	517		mg/kg dw	10/23/1998	1.2	kdw	1140	2150	SW 6010B
Cadmium, ICP	0.62		mg/kg dw	10/19/1998	0.62	jtt	1140	2127	SW 6010B
Chromium, ICP	11		mg/kg dw	10/19/1998	2.5	jtt	1140	2113	SW 6010B
Lead, ICP	23		mg/kg dw	10/19/1998	4.9	jtt	1140	2349	SW 6010B
Mercury, CVAA	<0.049		mg/kg dw	10/22/1998	0.049	sep	658	761	SW 7471A
Selenium, GFAA	<1.5	MX	mg/kg dw	10/20/1998	0.31	mhp	217	539	SW 7740
Silver, AA	<2.5		mg/kg dw	10/21/1998	2.5	sep	476	564	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/15/1998		wna	238		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<6,200		mg/kg dw	11/03/1998	62	btl	238	485	SW 8015M
TPH as Diesel	<6,200		mg/kg dw	11/03/1998	62	btl	238	485	SW 8015M
TPH as Oil	77,500	PT	mg/kg dw	11/03/1998	62	btl	238	485	SW 8015M
N-octacosane (TPH surr)	Diluted out			11/03/1998		btl	238	485	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	10/17/1998	0.006	mjo		36	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	10/17/1998	0.006	mjo		36	SW 8260A
Toluene	<0.006		mg/kg dw	10/17/1998	0.006	mjo		36	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	10/17/1998	0.006	mjo		36	SW 8260A
Dibromofluoromethane (Surr)	95.4		%	10/17/1998	81-129	mjo		36	SW 8260A
Toluene-d8 (Surr)	99.6		%	10/17/1998	74-129	mjo		36	SW 8260A
4-Bromofluoromethane (Surr)	92.8		%	10/17/1998	70-130	mjo		36	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/12/1998		mmv	749		SW 3540C

MX : Dilution required due to sample matrix; analyte is not detected.
PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range.

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ANALYTICAL REPORT

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11/04/1998

Sample No. : 496645

NET Job No.: 98.13012

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ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 14:50
IEPA Cert. No. 100221

Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.7	mg/kg dw	10/20/1998	0.025	keh	749	1799	SW 8310
Acenaphthylene	<2.7	mg/kg dw	10/20/1998	0.025	keh	749	1799	SW 8310
Anthracene	<5.4	mg/kg dw	10/20/1998	0.049	keh	749	1799	SW 8310
Benzo(a)anthracene	<17	mg/kg dw	10/20/1998	0.0032	keh	749	1799	SW 8310
Benzo(b)fluoranthene	<0.49	mg/kg dw	10/20/1998	0.0044	keh	749	1799	SW 8310
Benzo(k)fluoranthene	<0.46	mg/kg dw	10/20/1998	0.0042	keh	749	1799	SW 8310
Benzo(a)pyrene	<0.63	mg/kg dw	10/20/1998	0.0057	keh	749	1799	SW 8310
Benzo(ghi)perylene	<5.4	mg/kg dw	10/20/1998	0.049	keh	749	1799	SW 8310
Chrysene	<4	mg/kg dw	10/20/1998	0.04	keh	749	1799	SW 8310
Dibenzo(a,h)anthracene	<0.9	mg/kg dw	10/20/1998	0.007	keh	749	1799	SW 8310
Fluoranthene	<2.7	mg/kg dw	10/20/1998	0.025	keh	749	1799	SW 8310
Fluorene	<2.7	mg/kg dw	10/20/1998	0.025	keh	749	1799	SW 8310
Indeno(1,2,3-cd)pyrene	<1.2	mg/kg dw	10/20/1998	0.011	keh	749	1799	SW 8310
Naphthalene	<3.4	mg/kg dw	10/20/1998	0.031	keh	749	1799	SW 8310
Phenanthrene	<5.4	mg/kg dw	10/20/1998	0.049	keh	749	1799	SW 8310
Pyrene	<2.7	mg/kg dw	10/20/1998	0.025	keh	749	1799	SW 8310
Surr: p-Terphenyl	Diluted out		10/20/1998	43-125	keh	749	1799	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/13/1998	COMPLETE	wna	364		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.049	mg/kg dw	10/16/1998	0.049	jrs	364	37	SW 8082
PCB-1221	<0.049	mg/kg dw	10/16/1998	0.049	jrs	364	37	SW 8082
PCB-1232	<0.049	mg/kg dw	10/16/1998	0.049	jrs	364	37	SW 8082
PCB-1242	<0.049	mg/kg dw	10/16/1998	0.049	jrs	364	37	SW 8082
PCB-1248	<0.049	mg/kg dw	10/16/1998	0.049	jrs	364	37	SW 8082
PCB-1254	<0.049	mg/kg dw	10/16/1998	0.049	jrs	364	37	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

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11/04/1998

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Date Taken: 10/07/1998
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Date Received: 10/07/1998
Time Received: 16:40
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.049	mg/kg dw	10/16/1998	0.049	jrs	364	37	SW 8082
Decachlorobiphenyl (Surr)	96.0	%	10/16/1998	NA	jrs	364	37	SW 8082
2,4,5,6-TCMX (Surr)	81.0	%	10/16/1998	NA	jrs	364	37	SW 8082

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
pH, Non-Aqueous	163	7.00	7.04	100.6
pH, Non-Aqueous	164	7.00	7.04	100.6
pH, Non-Aqueous	165	7.00	7.00	100.0
pH, Non-Aqueous	166	7.00	7.00	100.0
Arsenic, GFAA	653	0.0250	0.0240	96.0
Arsenic, GFAA	654	0.0250	0.0257	102.8
Arsenic, GFAA	655	0.0250	0.0245	98.0
Barium, ICP	2150	2.00	2.01	100.5
Cadmium, ICP	2126	1.00	0.978	97.8
Cadmium, ICP	2127	1.00	0.975	97.5
Cadmium, ICP	2127	1.00	1.09	109.0
Chromium, ICP	2112	2.00	1.94	97.0
Chromium, ICP	2113	2.00	1.94	97.0
Chromium, ICP	2113	2.00	2.16	108.0
Lead, ICP	2348	2.00	1.99	99.5
Lead, ICP	2349	2.00	1.96	98.0
Lead, ICP	2349	2.00	2.16	108.0
Mercury, CVAA	760	0.0025	0.00268	107.2
Mercury, CVAA	761	0.0025	0.00262	104.8
Mercury, CVAA	764	0.0025	0.00256	102.4
Selenium, GFAA	538	0.0500	0.0513	102.6
Selenium, GFAA	539	0.0500	0.0504	100.8
Selenium, GFAA	540	0.0500	0.0494	98.8
Silver, AA	563	0.50	0.496	99.2
Silver, AA	564	0.50	0.497	99.4
TPH MODIFIED 8015				
TPH as Gas	479	2,500	2,588	103.5
TPH as Diesel	479	2,500	2,651	106.0
TPH as Oil	479	2,500	2,575	103.0
N-octacosane (TPH surr)	479	100	104	104.0
TPH MODIFIED 8015				
TPH as Gas	479	2,500	2,609	104.4
TPH as Diesel	479	2,500	2,576	103.0
TPH as Oil	479	2,500	2,548	101.9

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
N-octacosane (TPH surr)	479	100	101	101.0
TPH MODIFIED 8015				
TPH as Gas	479	2,500	2,620	104.8
TPH as Diesel	479	2,500	2,681	107.2
TPH as Oil	479	2,500	2,560	102.4
N-octacosane (TPH surr)	479	100	105	105.0
TPH MODIFIED 8015				
TPH as Gas	479	2,500	2,511	100.4
TPH as Diesel	479	2,500	2,541	101.6
TPH as Oil	479	2,500	2,454	98.2
N-octacosane (TPH surr)	479	100	99	99.0
TPH MODIFIED 8015				
TPH as Gas	479	2,500	2,340	93.6
TPH as Diesel	479	2,500	2,665	106.6
TPH as Oil	479	2,500	2,365	94.6
N-octacosane (TPH surr)	479	100	106	106.0
TPH MODIFIED 8015				
TPH as Gas	484	2,500	2,428	97.1
TPH as Diesel	484	2,500	2,770	110.8
TPH as Oil	484	2,500	2,350	94.0
N-octacosane (TPH surr)	484	100	109	109.0
TPH MODIFIED 8015				
TPH as Gas	484	2,500	2,461	98.4
TPH as Diesel	484	2,500	2,713	108.5
TPH as Oil	484	2,500	2,289	91.6
N-octacosane (TPH surr)	484	100	106	106.0
TPH MODIFIED 8015				
TPH as Gas	484	2,500	2,180	87.2
TPH as Diesel	484	2,500	2,868	114.7
TPH as Oil	484	2,500	2,249	90.0
N-octacosane (TPH surr)	484	100	112	112.0
TPH MODIFIED 8015				
TPH as Gas	484	2,500	2,763	110.5
TPH as Diesel	484	2,500	2,665	106.6

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
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11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
TPH as Oil	484	2,500	2,392	95.7
N-octacosane (TPH surr)	484	100	100	100.0
TPH MODIFIED 8015				
TPH as Gas	484	2,500	2,739	109.6
TPH as Diesel	484	2,500	2,834	113.4
TPH as Oil	484	2,500	2,437	97.5
N-octacosane (TPH surr)	484	100	105	105.0
TPH MODIFIED 8015				
TPH as Gas	484	2,500	2,642	105.7
TPH as Diesel	484	2,500	2,412	96.5
TPH as Oil	484	2,500	2,354	94.2
N-octacosane (TPH surr)	484	100	95	95.0
TPH MODIFIED 8015				
TPH as Gas	485	2,500	2,524	101.0
TPH as Diesel	485	2,500	2,794	111.8
TPH as Oil	485	2,500	2,398	95.9
N-octacosane (TPH surr)	485	100	108	108.0
TPH MODIFIED 8015				
TPH as Gas	485	2,500	2,418	96.7
TPH as Diesel	485	2,500	2,529	101.2
TPH as Oil	485	2,500	2,289	91.6
N-octacosane (TPH surr)	485	100	107	107.0
TPH MODIFIED 8015				
TPH as Gas	485	2,500	2,639	105.6
TPH as Diesel	485	2,500	2,556	102.2
TPH as Oil	485	2,500	2,429	97.2
N-octacosane (TPH surr)	485	100	107	107.0
TPH MODIFIED 8015				
TPH as Gas	485	2,500	2,699	108.0
TPH as Diesel	485	2,500	2,613	104.5
TPH as Oil	485	2,500	2,531	101.2
N-octacosane (TPH surr)	485	100	110	110.0
TPH MODIFIED 8015				
TPH as Gas	485	2,500	2,726	109.0

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11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
TPH as Diesel	485	2,500	2,458	98.3
TPH as Oil	485	2,500	2,528	101.1
N-octacosane (TPH surr)	485	100	107	107.0
UST VOLATILES NON-AQUEOUS				
Benzene	31	50.0	58.0	116.0
Ethylbenzene	31	50.0	50.0	100.0
Toluene	31	50.0	57.0	114.0
Xylenes, Total	31	150	141	94.0
UST VOLATILES NON-AQUEOUS				
Benzene	34	50.0	48.9	97.8
Ethylbenzene	34	50.0	49.8	99.6
Toluene	34	50.0	48.9	97.8
Xylenes, Total	34	150	147	98.0
UST VOLATILES NON-AQUEOUS				
Benzene	35	50.0	50.1	100.2
Ethylbenzene	35	50.0	47.2	94.4
Toluene	35	50.0	49.3	98.6
Xylenes, Total	35	150	137	91.3
UST VOLATILES NON-AQUEOUS				
Benzene	36	50.0	53.4	106.8
Ethylbenzene	36	50.0	54.7	109.4
Toluene	36	50.0	53.8	107.6
Xylenes, Total	36	150	156	104.0
UST VOLATILES NON-AQUEOUS				
Benzene	41	50.0	50.1	100.2
Ethylbenzene	41	50.0	53.4	106.8
Toluene	41	50.0	50.7	101.4
Xylenes, Total	41	150	155	103.3
UST VOLATILES NON-AQUEOUS				
Benzene	42	50.0	52.1	104.2
Ethylbenzene	42	50.0	54.8	109.6
Toluene	42	50.0	52.2	104.4
Xylenes, Total	42	150	156	104.0
PNA CMPDS - 8310 NONAQUEOUS				

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11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Acenaphthene	1798	1000	1,096	109.6
Acenaphthylene	1798	1000	964	96.4
Anthracene	1798	1000	1,111	111.1
Benzo(a)anthracene	1798	1000	1,028	102.8
Benzo(b)fluoranthene	1798	1000	971	97.1
Benzo(k)fluoranthene	1798	1000	1,018	101.8
Benzo(a)pyrene	1798	1000	1,008	100.8
Benzo(ghi)perylene	1798	1000	1,064	106.4
Chrysene	1798	1000	1,088	108.8
Dibenzo(a,h)anthracene	1798	1000	1,042	104.2
Fluoranthene	1798	1000	1,049	104.9
Fluorene	1798	1000	1,013	101.3
Indeno(1,2,3-cd)pyrene	1798	1000	1,017	101.7
Naphthalene	1798	1000	1,080	108.0
Phenanthrene	1798	1000	1,078	107.8
Pyrene	1798	1000	1,021	102.1
Surr: p-Terphenyl	1798	1000	1,010	101.0
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1798	1000	1,060	106.0
Acenaphthylene	1798	1000	943	94.3
Anthracene	1798	1000	1,085	108.5
Benzo(a)anthracene	1798	1000	1,030	103.0
Benzo(b)fluoranthene	1798	1000	1,000	100.0
Benzo(k)fluoranthene	1798	1000	1,027	102.7
Benzo(a)pyrene	1798	1000	1,014	101.4
Benzo(ghi)perylene	1798	1000	1,038	103.8
Chrysene	1798	1000	1,031	103.1
Dibenzo(a,h)anthracene	1798	1000	1,007	100.7
Fluoranthene	1798	1000	1,027	102.7
Fluorene	1798	1000	1,013	101.3
Indeno(1,2,3-cd)pyrene	1798	1000	1,040	104.0
Naphthalene	1798	1000	1,044	104.4
Phenanthrene	1798	1000	1,056	105.6
Pyrene	1798	1000	991	99.1

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Surr: p-Terphenyl	1798	1000	1,044	104.4
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1798	1000	1,047	104.7
Acenaphthylene	1798	1000	936	93.6
Anthracene	1798	1000	1,080	108.0
Benzo(a)anthracene	1798	1000	1,029	102.9
Benzo(b)fluoranthene	1798	1000	990	99.0
Benzo(k)fluoranthene	1798	1000	976	97.6
Benzo(a)pyrene	1798	1000	942	94.2
Benzo(ghi)perylene	1798	1000	1,000	100.0
Chrysene	1798	1000	1,042	104.2
Dibenzo(a,h)anthracene	1798	1000	1,024	102.4
Fluoranthene	1798	1000	1,067	106.7
Fluorene	1798	1000	979	97.9
Indeno(1,2,3-cd)pyrene	1798	1000	973	97.3
Naphthalene	1798	1000	968	96.8
Phenanthrene	1798	1000	1,061	106.1
Pyrene	1798	1000	1,003	100.3
Surr: p-Terphenyl	1798	1000	1,004	100.4
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1798	1000	1,037	103.7
Acenaphthylene	1798	1000	977	97.7
Anthracene	1798	1000	1,085	108.5
Benzo(a)anthracene	1798	1000	1,054	105.4
Benzo(b)fluoranthene	1798	1000	977	97.7
Benzo(k)fluoranthene	1798	1000	1,036	103.6
Benzo(a)pyrene	1798	1000	949	94.9
Benzo(ghi)perylene	1798	1000	1,000	100.0
Chrysene	1798	1000	1,032	103.2
Dibenzo(a,h)anthracene	1798	1000	1,025	102.5
Fluoranthene	1798	1000	1,077	107.7
Fluorene	1798	1000	1,016	101.6
Indeno(1,2,3-cd)pyrene	1798	1000	971	97.1
Naphthalene	1798	1000	1,036	103.6

CCV - Continuing Calibration Verification

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Phenanthrene	1798	1000	1,037	103.7
Pyrene	1798	1000	1,027	102.7
Surr: p-Terphenyl	1798	1000	938	93.8
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1799	1000	985	98.5
Acenaphthylene	1799	1000	1,062	106.2
Anthracene	1799	1000	1,031	103.1
Benzo(a)anthracene	1799	1000	1,052	105.2
Benzo(b)fluoranthene	1799	1000	941	94.1
Benzo(k)fluoranthene	1799	1000	986	98.6
Benzo(a)pyrene	1799	1000	997	99.7
Benzo(ghi)perylene	1799	1000	1,053	105.3
Chrysene	1799	1000	1,047	104.7
Dibenzo(a,h)anthracene	1799	1000	1,005	100.5
Fluoranthene	1799	1000	1,052	105.2
Fluorene	1799	1000	1,037	103.7
Indeno(1,2,3-cd)pyrene	1799	1000	1,032	103.2
Naphthalene	1799	1000	1,027	102.7
Phenanthrene	1799	1000	1,025	102.5
Pyrene	1799	1000	1,030	103.0
Surr: p-Terphenyl	1799	1000	983	98.3
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1799	1000	1,018	101.8
Acenaphthylene	1799	1000	1,053	105.3
Anthracene	1799	1000	1,052	105.2
Benzo(a)anthracene	1799	1000	1,063	106.3
Benzo(b)fluoranthene	1799	1000	999	99.9
Benzo(k)fluoranthene	1799	1000	991	99.1
Benzo(a)pyrene	1799	1000	992	99.2
Benzo(ghi)perylene	1799	1000	1,089	108.9
Chrysene	1799	1000	1,040	104.0
Dibenzo(a,h)anthracene	1799	1000	1,013	101.3
Fluoranthene	1799	1000	1,053	105.3
Fluorene	1799	1000	1,014	101.4

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
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11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Indeno(1,2,3-cd)pyrene	1799	1000	995	99.5
Naphthalene	1799	1000	970	97.0
Phenanthrene	1799	1000	1,044	104.4
Pyrene	1799	1000	990	99.0
Surr: p-Terphenyl	1799	1000	1,008	100.8
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1799	1000	1,005	100.5
Acenaphthylene	1799	1000	1,075	107.5
Anthracene	1799	1000	1,059	105.9
Benzo(a)anthracene	1799	1000	1,053	105.3
Benzo(b)fluoranthene	1799	1000	973	97.3
Benzo(k)fluoranthene	1799	1000	1,014	101.4
Benzo(a)pyrene	1799	1000	1,001	100.1
Benzo(ghi)perylene	1799	1000	1,004	100.4
Chrysene	1799	1000	1,038	103.8
Dibenzo(a,h)anthracene	1799	1000	1,036	103.6
Fluoranthene	1799	1000	1,060	106.0
Fluorene	1799	1000	1,022	102.2
Indeno(1,2,3-cd)pyrene	1799	1000	1,041	104.1
Naphthalene	1799	1000	928	92.8
Phenanthrene	1799	1000	1,037	103.7
Pyrene	1799	1000	1,024	102.4
Surr: p-Terphenyl	1799	1000	999	99.9
PCB'S NON-AQUEOUS				
PCB-1016	31	500	488	97.6
PCB-1260	31	500	484	96.8
PCB'S NON-AQUEOUS				
PCB-1016	31	500	500	100.0
PCB-1260	31	500	489	97.8
PCB'S NON-AQUEOUS				
PCB-1016	34	500	489	97.8
PCB-1260	34	500	488	97.6
PCB'S NON-AQUEOUS				
PCB-1016	34	500	484	96.8

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CONTINUING CALIBRATION VERIFICATION

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11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
PCB-1260	34	500	481	96.2
PCB'S NON-AQUEOUS				
PCB-1016	35	500	487	97.4
PCB-1260	35	500	491	98.2
PCB'S NON-AQUEOUS				
PCB-1016	35	500	503	100.6
PCB-1260	35	500	467	93.4
PCB'S NON-AQUEOUS				
PCB-1016	37	500	498	99.6
PCB-1260	37	500	498	99.6
PCB'S NON-AQUEOUS				
PCB-1016	37	500	500	100.0
PCB-1260	37	500	530	106.0
PCB'S NON-AQUEOUS				
PCB-1016	43	500	509	101.8
PCB-1260	43	500	497	99.4
PCB'S NON-AQUEOUS				
PCB-1016	43	500	505	101.0
PCB-1260	43	500	480	96.0

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
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11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Arsenic, GFAA	215	653	<0.50	mg/Kg	0.50	SW 7060
Arsenic, GFAA	216	654	<0.50	mg/Kg	0.50	SW 7060
Arsenic, GFAA	217	654	<0.50	mg/Kg	0.50	SW 7060
Barium, ICP	1138	2150	<1.0	mg/Kg	1.0	SW 6010B
Barium, ICP	1139	2150	<1.0	mg/Kg	1.0	SW 6010B
Barium, ICP	1140	2150	<1.0	mg/Kg	1.0	SW 6010B
Cadmium, ICP	1138	2126	<0.50	mg/Kg	0.50	SW 6010B
Cadmium, ICP	1139	2126	<0.50	mg/Kg	0.50	SW 6010B
Cadmium, ICP	1140	2126	<0.50	mg/Kg	0.50	SW 6010B
Chromium, ICP	1138	2112	<2.0	mg/Kg	2.0	SW 6010B
Chromium, ICP	1139	2112	<2.0	mg/Kg	2.0	SW 6010B
Chromium, ICP	1140	2112	<2.0	mg/Kg	2.0	SW 6010B
Lead, ICP	1138	2348	<4.0	mg/Kg	4.0	SW 6010B
Lead, ICP	1139	2348	<4.0	mg/Kg	4.0	SW 6010B
Lead, ICP	1140	2348	<4.0	mg/Kg	4.0	SW 6010B
Mercury, CVAA	657	760	<0.040	mg/Kg	0.040	SW 7471A
Mercury, CVAA	658	761	<0.040	mg/Kg	0.040	SW 7471A
Selenium, GFAA	215	538	<0.25	mg/Kg	0.25	SW 7740
Selenium, GFAA	216	538	<0.25	mg/Kg	0.25	SW 7740
Selenium, GFAA	217	539	<0.25	mg/Kg	0.25	SW 7740
Silver, AA	474	563	<2.0	mg/Kg	2.0	SW 7760
Silver, AA	475	563	<2.0	mg/Kg	2.0	SW 7760
Silver, AA	476	564	<2.0	mg/Kg	2.0	SW 7760
TPH MODIFIED 8015						SW 8015M
TPH as Gas	238	479	<50.	mg/Kg	50	SW 8015M
TPH as Diesel	238	479	<50.	mg/Kg	50	SW 8015M
TPH as Oil	238	479	<50.	mg/Kg	50	SW 8015M
N-octacosane (TPH surr)	238	479	113.0	%		SW 8015M
TPH MODIFIED 8015						SW 8015M

Advisory Control Limits for Blanks:

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
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11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
TPH as Gas	237	483	<50.	mg/Kg	50	SW 8015M
TPH as Diesel	237	483	<50.	mg/Kg	50	SW 8015M
TPH as Oil	237	483	<50.	mg/Kg	50	SW 8015M
N-octacosane (TPH surr)	237	483	117.0	%		SW 8015M
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		31	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		31	<0.005	mg/Kg	0.005	SW 8260A
Toluene		31	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		31	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		31	90.0	%	80-120	SW 8260A
Toluene-d8 (Surr)		31	106.0	%	81-117	SW 8260A
4-Bromofluoromethane (Surr)		31	84.0	%	74-121	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		34	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		34	<0.005	mg/Kg	0.005	SW 8260A
Toluene		34	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		34	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		34	85.2	%	80-120	SW 8260A
Toluene-d8 (Surr)		34	93.2	%	81-117	SW 8260A
4-Bromofluoromethane (Surr)		34	90.4	%	74-121	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		35	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		35	<0.005	mg/Kg	0.005	SW 8260A
Toluene		35	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		35	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		35	90.0	%	80-120	SW 8260A
Toluene-d8 (Surr)		35	102.0	%	81-117	SW 8260A
4-Bromofluoromethane (Surr)		35	90.0	%	74-121	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A

Advisory Control Limits for Blanks:

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Benzene		36	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		36	<0.005	mg/Kg	0.005	SW 8260A
Toluene		36	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		36	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		36	104.0	%	80-120	SW 8260A
Toluene-d8 (Surr)		36	113.6	%	81-117	SW 8260A
4-Bromofluoromethane (Surr)		36	115.2	%	74-121	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		41	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		41	<0.005	mg/Kg	0.005	SW 8260A
Toluene		41	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		41	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		41	102.6	%	74-124	SW 8260A
Toluene-d8 (Surr)		41	107.8	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		41	110.8	%	64-131	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		42	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		42	<0.005	mg/Kg	0.005	SW 8260A
Toluene		42	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		42	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		42	99.0	%	74-134	SW 8260A
Toluene-d8 (Surr)		42	107.8	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		42	110.4	%	64-131	SW 8260A
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	748	1794	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	748	1794	<0.020	mg/Kg	0.020	SW 8310
Anthracene	748	1794	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	748	1794	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	748	1794	<0.0036	mg/Kg	0.0036	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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BLANK ANALYSIS

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11/04/1998

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Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Benzo(k)fluoranthene	748	1794	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	748	1794	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	748	1794	<0.040	mg/Kg	0.040	SW 8310
Chrysene	748	1794	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	748	1794	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	748	1794	<0.020	mg/Kg	0.020	SW 8310
Fluorene	748	1794	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	748	1794	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	748	1794	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	748	1794	<0.040	mg/Kg	0.040	SW 8310
Pyrene	748	1794	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	748	1794	78.8	%	43-125	SW 8310
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	749	1793	<0.020	mg/Kg	0.020	SW 8310
Acenaphthylene	749	1793	<0.020	mg/Kg	0.020	SW 8310
Anthracene	749	1793	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	749	1793	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	749	1793	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	749	1793	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	749	1793	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	749	1793	<0.040	mg/Kg	0.040	SW 8310
Chrysene	749	1793	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	749	1793	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	749	1793	<0.020	mg/Kg	0.020	SW 8310
Fluorene	749	1793	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	749	1793	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	749	1793	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	749	1793	<0.040	mg/Kg	0.040	SW 8310
Pyrene	749	1793	<0.020	mg/Kg	0.020	SW 8310

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Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Surr: p-Terphenyl	749	1793	75.3	%	43-125	SW 8310
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	362	31	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	362	31	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	362	31	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	362	31	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	362	31	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	362	31	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	362	31	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	362	31	86.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	362	31	85.0	%	NA	SW 8082
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	363	33	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	363	33	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	363	33	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	363	33	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	363	33	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	363	33	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	363	33	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	363	33	100.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	363	33	96.0	%	NA	SW 8082
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	364	37	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	364	37	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	364	37	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	364	37	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	364	37	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	364	37	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	364	37	<0.040	mg/Kg	0.040	SW 8082

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Fax: (815) 874-5622
(800) 807-2877

QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/04/1998

NET Job Number: 98.13012

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Decachlorobiphenyl (Surr)	364	37	90.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	364	37	83.0	%	NA	SW 8082

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Arsenic, GFAA	215	653	0.0100	0.0094	94.0
Arsenic, GFAA	216	654	0.0100	0.0083	83.0
Arsenic, GFAA	217	654	0.0100	0.0088	88.0
Barium, ICP	1138	2150	5.00	4.54	90.8
Barium, ICP	1139	2150	5.00	5.07	101.4
Barium, ICP	1140	2150	5.00	5.23	104.6
Cadmium, ICP	1138	2126	2.50	2.25	90.0
Cadmium, ICP	1139	2126	2.50	2.48	99.2
Cadmium, ICP	1140	2126	2.50	2.44	97.6
Chromium, ICP	1138	2112	5.00	4.65	93.0
Chromium, ICP	1139	2112	5.00	4.75	95.0
Chromium, ICP	1140	2112	5.00	4.80	96.0
Lead, ICP	1138	2348	5.00	6.15	123.0
Lead, ICP	1139	2348	5.00	5.45	109.0
Lead, ICP	1140	2348	5.00	6.35	127.0
Mercury, CVAA	657	760	0.0025	0.00274	109.6
Mercury, CVAA		760	0.0020	0.00211	105.5
Mercury, CVAA	658	761	0.0025	0.00256	102.4
Selenium, GFAA	215	538	0.0100	0.0111	111.0
Selenium, GFAA	216	538	0.0100	0.0103	103.0
Selenium, GFAA	217	539	0.0100	0.0092	92.0
Silver, AA	474	563	1.0	0.915	91.5
Silver, AA		563	0.10	0.104	104.0
Silver, AA	475	563	0.10	0.087	87.0
Silver, AA	476	564	0.1	0.110	110.0
TPH MODIFIED 8015					
TPH as Gas	238	479	200	223	111.5
TPH as Diesel	238	479	200	211	105.5
TPH as Oil	238	479	200	203	101.5
N-octacosane (TPH surr)	238	479	100	111	111.0
TPH MODIFIED 8015					

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
TPH as Gas	237	483	200	234	117.0
TPH as Diesel	237	483	200	232	116.0
TPH as Oil	237	483	200	214	107.0
N-octacosane (TPH surr)	237	483	100	116	116.0
UST VOLATILES NON-AQUEOUS					
Benzene		31	20.0	27.0	135.0
Ethylbenzene		31	20.0	23.0	115.0
Toluene		31	20.0	25.0	125.0
Xylenes, Total		31	60.0	63.0	105.0
Dibromofluoromethane (Surr)		31	50.0	50.0	100.0
Toluene-d8 (Surr)		31	50.0	59.0	118.0
4-Bromofluoromethane (Surr)		31	50.0	45.0	90.0
UST VOLATILES NON-AQUEOUS					
Benzene		34	20.0	19.5	97.5
Ethylbenzene		34	20.0	20.0	100.0
Toluene		34	20.0	20.0	100.0
Xylenes, Total		34	60.0	59.3	98.8
Dibromofluoromethane (Surr)		34	50.0	43.4	86.8
Toluene-d8 (Surr)		34	50.0	46.1	92.2
4-Bromofluoromethane (Surr)		34	50.0	45.4	90.8
UST VOLATILES NON-AQUEOUS					
Benzene		35	20.0	21.0	105.0
Ethylbenzene		35	20.0	19.3	96.5
Toluene		35	20.0	20.7	103.5
Xylenes, Total		35	60.0	57.0	95.0
Dibromofluoromethane (Surr)		35	50.0	46.0	92.0
Toluene-d8 (Surr)		35	50.0	53.0	106.0
4-Bromofluoromethane (Surr)		35	50.0	46.0	92.0
UST VOLATILES NON-AQUEOUS					
Benzene		36	20.0	21.1	105.5
Ethylbenzene		36	20.0	22.6	113.0

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Toluene		36	20.0	21.8	109.0
Xylenes, Total		36	60.0	64.0	106.7
Dibromofluoromethane (Surr)		36	50.0	53.8	107.6
Toluene-d8 (Surr)		36	50.0	54.4	108.8
4-Bromofluoromethane (Surr)		36	50.0	57.0	114.0
UST VOLATILES NON-AQUEOUS					
Benzene		41	20.0	20.9	104.5
Ethylbenzene		41	20.0	22.2	111.0
Toluene		41	20.0	21.3	106.5
Xylenes, Total		41	60.0	64.7	107.8
Dibromofluoromethane (Surr)		41	50.0	52.6	105.2
Toluene-d8 (Surr)		41	50.0	54.8	109.6
4-Bromofluoromethane (Surr)		41	50.0	55.3	110.6
UST VOLATILES NON-AQUEOUS					
Benzene		42	20.0	20.3	101.5
Ethylbenzene		42	20.0	21.8	109.0
Toluene		42	20.0	20.8	104.0
Xylenes, Total		42	60.0	62.7	104.5
Dibromofluoromethane (Surr)		42	50.0	50.3	100.6
Toluene-d8 (Surr)		42	50.0	54.7	109.4
4-Bromofluoromethane (Surr)		42	50.0	54.0	108.0
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	748	1794	0.033	0.031	93.9
Acenaphthylene	748	1794	0.033	0.030	90.9
Anthracene	748	1794	0.033	0.029	87.9
Benzo(a)anthracene	748	1794	0.033	0.031	93.9
Benzo(b)fluoranthene	748	1794	0.033	0.028	84.8
Benzo(k)fluoranthene	748	1794	0.033	0.029	87.9
Benzo(a)pyrene	748	1794	0.033	0.026	78.8
Benzo(ghi)perylene	748	1794	0.033	0.031	93.9
Chrysene	748	1794	0.033	0.030	90.9

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Dibenzo(a,h)anthracene	748	1794	0.033	0.029	87.9
Fluoranthene	748	1794	0.033	0.031	93.9
Fluorene	748	1794	0.033	0.030	90.9
Indeno(1,2,3-cd)pyrene	748	1794	0.033	0.027	81.8
Naphthalene	748	1794	0.033	0.025	75.8
Phenanthrene	748	1794	0.033	0.030	90.9
Pyrene	748	1794	0.033	0.030	90.9
Surr: p-Terphenyl	748	1794	2000	1,658	82.9
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	749	1793	0.033	0.030	90.9
Acenaphthylene	749	1793	0.033	0.029	87.9
Anthracene	749	1793	0.033	0.031	93.9
Benzo(a)anthracene	749	1793	0.033	0.032	97.0
Benzo(b)fluoranthene	749	1793	0.033	0.029	87.9
Benzo(k)fluoranthene	749	1793	0.033	0.029	87.9
Benzo(a)pyrene	749	1793	0.033	0.028	84.8
Benzo(ghi)perylene	749	1793	0.033	0.031	93.9
Chrysene	749	1793	0.033	0.031	93.9
Dibenzo(a,h)anthracene	749	1793	0.033	0.030	90.9
Fluoranthene	749	1793	0.033	0.032	97.0
Fluorene	749	1793	0.033	0.030	90.9
Indeno(1,2,3-cd)pyrene	749	1793	0.033	0.031	93.9
Naphthalene	749	1793	0.033	0.029	87.9
Phenanthrene	749	1793	0.033	0.031	93.9
Pyrene	749	1793	0.033	0.032	97.0
Surr: p-Terphenyl	749	1793	2000	1,757	87.8
PCB'S NON-AQUEOUS					
PCB-1016	362	31	500	470	94.0
PCB-1260	362	31	500	471	94.2
Decachlorobiphenyl (Surr)	362	31	100	90	90.0
2,4,5,6-TCMX (Surr)	362	31	100	89	89.0

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
PCB'S NON-AQUEOUS					
PCB-1016	363	33	500	496	99.2
PCB-1260	363	33	500	517	103.4
Decachlorobiphenyl (Surr)	363	33	100	100	100.0
2,4,5,6-TCMX (Surr)	363	33	100	96	96.0
PCB'S NON-AQUEOUS					
PCB-1016	364	37	500	477	95.4
PCB-1260	364	37	500	499	99.8
Decachlorobiphenyl (Surr)	364	37	100	93	93.0
2,4,5,6-TCMX (Surr)	364	37	100	87	87.0

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QUALITY CONTROL REPORT

DUPLICATES

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/04/1998

NET Job Number: 98.13012

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	RPD
pH, Non-Aqueous		163	8.32	8.23	units	1.1
pH, Non-Aqueous		164	10.40	10.31	units	0.9
pH, Non-Aqueous		165	9.22	9.17	units	0.5
pH, Non-Aqueous		166	7.85	7.76	units	1.2
Solids, Total		2477	89.0	88.9	%	0.1
Solids, Total		2477	81.8	79.3	%	3.1
Solids, Total		2477	67.9	72.9	%	7.1
Solids, Total		2490	94.5	94.6	%	0.1
Solids, Total		2490	82.6	81.9	%	0.9
Solids, Total		2501	79.7	83.6	%	4.8
Solids, Total		2501	63.7	64.7	%	1.6

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.

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NET Midwest, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

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(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY ENSR
ADDRESS 140 Pasquinelli Drive Westmont, IL
PHONE (630) 887-1700 FAX (630) 850-5307
PROJECT NAME/LOCATION ComEd Joliet #29
PROJECT NUMBER 1801-023-410
PROJECT MANAGER Wei-Lin Feng / Karen Dolnicz

REPORT TO: Wei-Lin Feng
INVOICE TO:
P.O. NO.
NET QUOTE NO.

SAMPLED BY Charlene Howell (PRINT NAME) Charlene Howell SIGNATURE
(PRINT NAME) SIGNATURE

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: pH (9045)	PNAs (8310)	BTEX (8260)	TPH (8015)	PCBs (8081)	RCRA Metals (totals)
10/7	9:10	S-5.	S	X						2	X	X	X	X	X	X
	9:20	X-1.														
	9:40	S-2.														
	9:46	S-4.														
	10:00	S-3.														
	10:10	X-2.														
	10:20	X-3.														
	10:25	X-4.														
	10:35	S-1.														
	10:46	S-22.														
	10:57	S-6.														
	11:05	S-7.														
	13:00	S-8.														
	13:12	S-9.														
	13:35	X-5.														

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ___ No ___

Is this work being conducted for regulatory enforcement action? Yes ___ No ___

Which regulations apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other ___ None ___

COMMENTS: 1-4oz, 1-16oz

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) / NO FIELD FILTERED? YES / (NO)
COC SEALS PRESENT AND INTACT? (YES) / NO VOLATILES FREE OF HEADSPACE? (YES) / NO
TEMPERATURE UPON RECEIPT: 1.8° Wet Ice Bottles supplied by NET? (YES) / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ___ DATE ___

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
Charlene Howell	10/7/98	14:58	Becky Corbett	Becky Corbett	10/7/98	1650	J. O'Dell

METHOD OF SHIPMENT: Pickup - NET

REMARKS: Max 10-day turnaround

MWG13-15_23493

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY ENSR
ADDRESS 140 Pasquinelli Drive Westmont, IL
PHONE (630) 887-1700 FAX (630) 850-5307
PROJECT NAME/LOCATION ComEd Joliet #29
PROJECT NUMBER 1801-023-410
PROJECT MANAGER Wei-Lin Feng / Karen Dolnicar

REPORT TO: Wei-Lin Feng
INVOICE TO:
P.O. NO.
NET QUOTE NO.

SAMPLED BY
Charlene Howell (PRINT NAME) Charlene Howell SIGNATURE
(PRINT NAME) SIGNATURE

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: pH (9045)	PNAs (8310)	BTEX (8260)	TPH (8015)	PCBs (8081)	RCRA Metals	(totals)
10/7	13:50	S-15	S	X						2	X	X	X	X	X	X	
	13:57	S-16	S	X						2	X	X	X	X	X	X	
	14:10	S-17	S	X						2	X	X	X	X	X	X	
	14:22	X-6	S	X						2	X	X	X	X	X	X	
	14:30	S-20	S	X						2	X	X	X	X	X	X	
	14:35	S-21	S	X						2	X	X	X	X	X	X	
	14:45	S-18	S	X						2	X	X	X	X	X	X	
	14:50	S-19	S	X						2	X	X	X	X	X	X	

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ____ No ____

Is this work being conducted for regulatory enforcement action? Yes ____ No ____

Which regulations apply: RCRA ____ NPDES Wastewater ____ UST ____ Drinking Water ____ Other ____ None ____

COMMENTS: 1-40z, 1-160z

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) / NO FIELD FILTERED? YES / (NO)

COC SEALS PRESENT AND INTACT? (YES) / NO VOLATILES FREE OF HEADSPACE? (YES) / NO

TEMPERATURE UPON RECEIPT: 1.8°C Wet Ice
Bottles supplied by NET? (YES) / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ____
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ____ DATE ____

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
Charlene Howell	10/7/98	14:58	Bucky Crockett	Bucky Crockett	10/7/98	1650	J. O'Dell

METHOD OF SHIPMENT: Pickup - NET

REMARKS: Max 10-day turnaround

PT 1 - ORIGINAL - WHITE PT 2 - NET PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

MWG13-15_23494

NATIONAL ENVIRONMENTAL TESTING, INC.

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Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

NET Job Number: 98.13082

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Joliet #29; 1801-023-410

Sample Number	Sample Description	Date Taken	Date Received
496966	S-10	10/07/1998	10/08/1998
496967	S-11	10/07/1998	10/08/1998
496968	S-12	10/07/1998	10/08/1998
496969	S-13	10/07/1998	10/08/1998
496970	S-14	10/07/1998	10/08/1998
496971	B-13 (0-3)	10/08/1998	10/08/1998
496972	B-1 (0-3)	10/08/1998	10/08/1998
496973	B-4 (0-4)	10/08/1998	10/08/1998
496974	S-23	10/08/1998	10/08/1998
496975	B-3 (0-4)	10/08/1998	10/08/1998
496976	B-5-S	10/08/1998	10/08/1998
496977	B-6 (0-2)	10/08/1998	10/08/1998
496978	B-8 (0-3)	10/08/1998	10/08/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496966

NET Job No.: 98.13082

Sample Description: S-10
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 15:05
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	7.95	units	10/14/1998	0.10	nwg	170	SW 9045B
Solids, Total	88.8	%	10/29/1998	0.1	efw	2502	SM 2540
Arsenic, GFAA	8.9	mg/kg dw	10/25/1998	0.56	mhp	221 661	SW 7060
Barium, ICP	1,350	mg/kg dw	10/28/1998	1.1	kdw	1146 2159	SW 6010B
Cadmium, ICP	2.1	mg/kg dw	10/20/1998	0.56	kdw	1146 2130	SW 6010B
Chromium, ICP	23	mg/kg dw	10/20/1998	2.3	kdw	1146 2116	SW 6010B
Lead, ICP	721	mg/kg dw	10/20/1998	4.5	kdw	1146 2352	SW 6010B
Mercury, CVAA	0.18	mg/kg dw	10/23/1998	0.045	sep	660 764	SW 7471A
Selenium, GFAA	0.71	mg/kg dw	10/26/1998	0.28	mhp	221 548	SW 7740
Silver, AA	<2.3	mg/kg dw	10/21/1998	2.3	sep	479 564	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/15/1998		wna	238	SW 8015M
TPH MODIFIED 8015							
TPH as Gas	<5,600	mg/kg dw	11/04/1998	56	btl	238 485	SW 8015M
TPH as Diesel	<5,600	mg/kg dw	11/04/1998	56	btl	238 485	SW 8015M
TPH as Oil	105,000 PT	mg/kg dw	11/04/1998	56	btl	238 485	SW 8015M
N-octacosane (TPH surr)	Diluted out		11/04/1998		btl	238 485	SW 8015M
UST VOLATILES NON-AQUEOUS							
Benzene	<0.006	mg/kg dw	10/19/1998	0.006	mjo	42	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/19/1998	0.006	mjo	42	SW 8260A
Toluene	<0.006	mg/kg dw	10/19/1998	0.006	mjo	42	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/19/1998	0.006	mjo	42	SW 8260A
Toluene-d8 (Surr)	100.4	%	10/19/1998	74-129	mjo	42	SW 8260A
4-Bromofluoromethane (Surr)	101.0	%	10/19/1998	70-130	mjo	42	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/14/1998		mmv	750	SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
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11/06/1998

Sample No. : 496966

NET Job No.: 98.13082

Sample Description: S-10
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 15:05
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.5	mg/kg dw	10/23/1998	0.023	keh	750	1807	SW 8310
Acenaphthylene	<2.5	mg/kg dw	10/23/1998	0.023	keh	750	1807	SW 8310
Anthracene	<5.0	mg/kg dw	10/23/1998	0.045	keh	750	1807	SW 8310
Benzo(a)anthracene	<2.8	mg/kg dw	10/23/1998	0.0029	keh	750	1807	SW 8310
Benzo(b)fluoranthene	<0.45	mg/kg dw	10/23/1998	0.0041	keh	750	1807	SW 8310
Benzo(k)fluoranthene	<0.42	mg/kg dw	10/23/1998	0.0038	keh	750	1807	SW 8310
Benzo(a)pyrene	<0.57	mg/kg dw	10/23/1998	0.0052	keh	750	1807	SW 8310
Benzo(ghi)perylene	<5.0	mg/kg dw	10/23/1998	0.045	keh	750	1807	SW 8310
Chrysene	<3	mg/kg dw	10/23/1998	0.03	keh	750	1807	SW 8310
Dibenzo(a,h)anthracene	<0.8	mg/kg dw	10/23/1998	0.007	keh	750	1807	SW 8310
Fluoranthene	<2.5	mg/kg dw	10/23/1998	0.023	keh	750	1807	SW 8310
Fluorene	<2.5	mg/kg dw	10/23/1998	0.023	keh	750	1807	SW 8310
Indeno(1,2,3-cd)pyrene	<1.1	mg/kg dw	10/23/1998	0.0097	keh	750	1807	SW 8310
Naphthalene	<3.2	mg/kg dw	10/23/1998	0.028	keh	750	1807	SW 8310
Phenanthrene	<5.0	mg/kg dw	10/23/1998	0.045	keh	750	1807	SW 8310
Pyrene	<2.5	mg/kg dw	10/23/1998	0.023	keh	750	1807	SW 8310
Surr: p-Terphenyl	Diluted out		10/23/1998	43-125	keh	750	1807	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/15/1998	COMPLETE	wna	368		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.045	mg/kg dw	10/20/1998	0.045	jrs	368	40	SW 8082
PCB-1221	<0.045	mg/kg dw	10/20/1998	0.045	jrs	368	40	SW 8082
PCB-1232	<0.045	mg/kg dw	10/20/1998	0.045	jrs	368	40	SW 8082
PCB-1242	<0.045	mg/kg dw	10/20/1998	0.045	jrs	368	40	SW 8082
PCB-1248	<0.045	mg/kg dw	10/20/1998	0.045	jrs	368	40	SW 8082
PCB-1254	<0.045	mg/kg dw	10/20/1998	0.045	jrs	368	40	SW 8082

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23497

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496966

NET Job No.: 98.13082

Sample Description: S-10
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 15:05
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.045	mg/kg dw	10/20/1998	0.045	jrs	368	40	SW 8082
Decachlorobiphenyl (Surr)	120.0	%	10/20/1998	NA	jrs	368	40	SW 8082
2,4,5,6-TCMX (Surr)	100.0	%	10/20/1998	NA	jrs	368	40	SW 8082

MWG13-15_23498

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496967

NET Job No.: 98.13082

Sample Description: S-11
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 15:10
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis-	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.58	units	10/14/1998	0.10	nwg		170	SW 9045B
Solids, Total	88.3	%	10/29/1998	0.1	efw		2502	SM 2540
Arsenic, GFAA	5.5	mg/kg dw	10/25/1998	0.57	mhp	221	661	SW 7060
Barium, ICP	555	mg/kg dw	10/28/1998	1.1	kdw	1146	2159	SW 6010B
Cadmium, ICP	1.6	mg/kg dw	10/20/1998	0.57	kdw	1146	2130	SW 6010B
Chromium, ICP	11	mg/kg dw	10/20/1998	2.3	kdw	1146	2116	SW 6010B
Lead, ICP	110	mg/kg dw	10/20/1998	4.5	kdw	1146	2352	SW 6010B
Mercury, CVAA	0.080	mg/kg dw	10/23/1998	0.045	sep	660	764	SW 7471A
Selenium, GFAA	0.46	mg/kg dw	10/26/1998	0.28	mhp	221	548	SW 7740
Silver, AA	<2.3	mg/kg dw	10/21/1998	2.3	sep	479	564	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/15/1998		wna	238		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<5,700	mg/kg dw	11/04/1998	57	btl	238	485	SW 8015M
TPH as Diesel	<5,700	mg/kg dw	11/04/1998	57	btl	238	485	SW 8015M
TPH as Oil	63,400 PT	mg/kg dw	11/04/1998	57	btl	238	485	SW 8015M
N-octacosane (TPH surr)	Diluted out		11/04/1998		btl	238	485	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/19/1998	0.006	mjo		42	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/19/1998	0.006	mjo		42	SW 8260A
Toluene	<0.006	mg/kg dw	10/19/1998	0.006	mjo		42	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/19/1998	0.006	mjo		42	SW 8260A
Toluene-d8 (Surr)	99.8	%	10/19/1998	74-129	mjo		42	SW 8260A
4-Bromofluoromethane (Surr)	103.0	%	10/19/1998	70-130	mjo		42	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/14/1998		mmv	750		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range

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ANALYTICAL REPORT

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11/06/1998

Sample No. : 496967

NET Job No.: 98.13082

Sample Description: S-11
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
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Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.3	mg/kg dw	10/23/1998	0.023	keh	750	1807	SW 8310
Acenaphthylene	<2.3	mg/kg dw	10/23/1998	0.023	keh	750	1807	SW 8310
Anthracene	<4.5	mg/kg dw	10/23/1998	0.045	keh	750	1807	SW 8310
Benzo(a)anthracene	<4.8	mg/kg dw	10/23/1998	0.0029	keh	750	1807	SW 8310
Benzo(b)fluoranthene	<0.41	mg/kg dw	10/23/1998	0.0041	keh	750	1807	SW 8310
Benzo(k)fluoranthene	<0.39	mg/kg dw	10/23/1998	0.0039	keh	750	1807	SW 8310
Benzo(a)pyrene	<0.52	mg/kg dw	10/23/1998	0.0052	keh	750	1807	SW 8310
Benzo(ghi)perylene	<4.5	mg/kg dw	10/23/1998	0.045	keh	750	1807	SW 8310
Chrysene	<3	mg/kg dw	10/23/1998	0.03	keh	750	1807	SW 8310
Dibenzo(a,h)anthracene	<0.7	mg/kg dw	10/23/1998	0.007	keh	750	1807	SW 8310
Fluoranthene	<2.3	mg/kg dw	10/23/1998	0.023	keh	750	1807	SW 8310
Fluorene	<2.3	mg/kg dw	10/23/1998	0.023	keh	750	1807	SW 8310
Indeno(1,2,3-cd)pyrene	<0.97	mg/kg dw	10/23/1998	0.0097	keh	750	1807	SW 8310
Naphthalene	<2.8	mg/kg dw	10/23/1998	0.028	keh	750	1807	SW 8310
Phenanthrene	<4.5	mg/kg dw	10/23/1998	0.045	keh	750	1807	SW 8310
Pyrene	<2.3	mg/kg dw	10/23/1998	0.023	keh	750	1807	SW 8310
Surr: p-Terphenyl	Diluted out		10/23/1998	43-125	keh	750	1807	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/15/1998	COMPLETE	wna	368		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.045	mg/kg dw	10/20/1998	0.045	jrs	368	40	SW 8082
PCB-1221	<0.045	mg/kg dw	10/20/1998	0.045	jrs	368	40	SW 8082
PCB-1232	<0.045	mg/kg dw	10/20/1998	0.045	jrs	368	40	SW 8082
PCB-1242	<0.045	mg/kg dw	10/20/1998	0.045	jrs	368	40	SW 8082
PCB-1248	<0.045	mg/kg dw	10/20/1998	0.045	jrs	368	40	SW 8082
PCB-1254	<0.045	mg/kg dw	10/20/1998	0.045	jrs	368	40	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496967

NET Job No.: 98.13082

Sample Description: S-11
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 15:10
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	0.37	mg/kg dw	10/20/1998	0.045	jrs	368	40	SW 8082
Decachlorobiphenyl (Surr)	103.0	%	10/20/1998	NA	jrs	368	40	SW 8082
2,4,5,6-TCMX (Surr)	106.0	%	10/20/1998	NA	jrs	368	40	SW 8082

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998
Sample No. : 496968
NET Job No.: 98.13082

Sample Description: S-12
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 15:15
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH, Non-Aqueous	6.71	units	10/14/1998	0.10	nwg	170	SW 9045B
Solids, Total	93.0	%	10/29/1998	0.1	efw	2502	SM 2540
Arsenic, GFAA	4.7	mg/kg dw	10/25/1998	0.54	mhp	221 661	SW 7060
Barium, ICP	892	mg/kg dw	10/28/1998	1.1	kdw	1146 2159	SW 6010B
Cadmium, ICP	9.9	mg/kg dw	10/20/1998	0.54	kdw	1146 2130	SW 6010B
Chromium, ICP	29	mg/kg dw	10/20/1998	2.2	kdw	1146 2116	SW 6010B
Lead, ICP	366	mg/kg dw	10/20/1998	4.3	kdw	1146 2352	SW 6010B
Mercury, CVAA	0.19	mg/kg dw	10/23/1998	0.043	sep	660 764	SW 7471A
Selenium, GFAA	0.37	mg/kg dw	10/26/1998	0.27	mhp	221 548	SW 7740
Silver, AA	<2.2	mg/kg dw	10/22/1998	2.2	sep	481 565	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/15/1998		wna	238	SW 8015M
TPH MODIFIED 8015							
TPH as Gas	<5,400	mg/kg dw	11/04/1998	54	btl	238 485	SW 8015M
TPH as Diesel	<5,400	mg/kg dw	11/04/1998	54	btl	238 485	SW 8015M
TPH as Oil	87,100 PT	mg/kg dw	11/04/1998	54	btl	238 485	SW 8015M
N-octacosane (TPH surr)	Diluted out		11/04/1998		btl	238 485	SW 8015M
UST VOLATILES NON-AQUEOUS							
Benzene	<0.005	mg/kg dw	10/19/1998	0.005	jap	40	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/19/1998	0.005	jap	40	SW 8260A
Toluene	<0.005	mg/kg dw	10/19/1998	0.005	jap	40	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/19/1998	0.005	jap	40	SW 8260A
Toluene-d8 (Surr)	100.0	%	10/19/1998	74-129	jap	40	SW 8260A
4-Bromofluoromethane (Surr)	104.0	%	10/19/1998	70-130	jap	40	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/14/1998		mmv	750	SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range

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11/06/1998

Sample No. : 496968

NET Job No.: 98.13082

Sample Description: S-12
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 15:15
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<4.3	mg/kg dw	10/23/1998	0.022	keh	750	1807	SW 8310
Acenaphthylene	<4.3	mg/kg dw	10/23/1998	0.022	keh	750	1807	SW 8310
Anthracene	<8.6	mg/kg dw	10/23/1998	0.043	keh	750	1807	SW 8310
Benzo(a)anthracene	<3.7	mg/kg dw	10/23/1998	0.0028	keh	750	1807	SW 8310
Benzo(b)fluoranthene	1.5	mg/kg dw	10/23/1998	0.0039	keh	750	1807	SW 8310
Benzo(k)fluoranthene	0.92	mg/kg dw	10/23/1998	0.0037	keh	750	1807	SW 8310
Benzo(a)pyrene	<0.99	mg/kg dw	10/23/1998	0.0049	keh	750	1807	SW 8310
Benzo(ghi)perylene	<8.6	mg/kg dw	10/23/1998	0.043	keh	750	1807	SW 8310
Chrysene	<6	mg/kg dw	10/23/1998	0.03	keh	750	1807	SW 8310
Dibenzo(a,h)anthracene	<1	mg/kg dw	10/23/1998	0.006	keh	750	1807	SW 8310
Fluoranthene	<4.3	mg/kg dw	10/23/1998	0.022	keh	750	1807	SW 8310
Fluorene	<4.3	mg/kg dw	10/23/1998	0.022	keh	750	1807	SW 8310
Indeno(1,2,3-cd)pyrene	<1.8	mg/kg dw	10/23/1998	0.0092	keh	750	1807	SW 8310
Naphthalene	<5.4	mg/kg dw	10/23/1998	0.027	keh	750	1807	SW 8310
Phenanthrene	<8.6	mg/kg dw	10/23/1998	0.043	keh	750	1807	SW 8310
Pyrene	<4.3	mg/kg dw	10/23/1998	0.022	keh	750	1807	SW 8310
Surr: p-Terphenyl	Diluted out		10/23/1998	43-125	keh	750	1807	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/15/1998	COMPLETE	wna	368		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.043	mg/kg dw	10/20/1998	0.043	jrs	368	40	SW 8082
PCB-1221	<0.043	mg/kg dw	10/20/1998	0.043	jrs	368	40	SW 8082
PCB-1232	<0.043	mg/kg dw	10/20/1998	0.043	jrs	368	40	SW 8082
PCB-1242	<0.043	mg/kg dw	10/20/1998	0.043	jrs	368	40	SW 8082
PCB-1248	<0.043	mg/kg dw	10/20/1998	0.043	jrs	368	40	SW 8082
PCB-1254	<0.043	mg/kg dw	10/20/1998	0.043	jrs	368	40	SW 8082

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496968

NET Job No.: 98.13082

Sample Description: S-12
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 15:15
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.043	mg/kg dw	10/20/1998	0.043	jrs	368	40	SW 8082
Decachlorobiphenyl (Surr)	47.0	%	10/20/1998	NA	jrs	368	40	SW 8082
2,4,5,6-TCMX (Surr)	45.0	%	10/20/1998	NA	jrs	368	40	SW 8082

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496969

NET Job No.: 98.13082

Sample Description: S-13
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 15:25
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.13	units	10/14/1998	0.10	nwg		170	SW 9045B
Solids, Total	75.0	%	10/29/1998	0.1	efw		2502	SM 2540
Arsenic, GFAA	5.9	mg/kg dw	10/25/1998	0.67	mhp	221	661	SW 7060
Barium, ICP	933	mg/kg dw	10/28/1998	1.3	kdw	1146	2159	SW 6010B
Cadmium, ICP	2.7	mg/kg dw	10/20/1998	0.67	kdw	1146	2130	SW 6010B
Chromium, ICP	19	mg/kg dw	10/20/1998	2.7	kdw	1146	2116	SW 6010B
Lead, ICP	187	mg/kg dw	10/20/1998	5.3	kdw	1146	2352	SW 6010B
Mercury, CVAA	<0.053	mg/kg dw	10/23/1998	0.053	sep	660	764	SW 7471A
Selenium, GFAA	0.40	mg/kg dw	10/26/1998	0.33	mhp	221	548	SW 7740
Silver, AA	<2.7	mg/kg dw	10/22/1998	2.7	sep	481	565	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/15/1998		wna	238		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<6,700	mg/kg dw	11/04/1998	67	btl	238	485	SW 8015M
TPH as Diesel	<6,700	mg/kg dw	11/04/1998	67	btl	238	485	SW 8015M
TPH as Oil	76,000 PT	mg/kg dw	11/04/1998	67	btl	238	485	SW 8015M
N-octacosane (TPH surr)	Diluted out		11/04/1998		btl	238	485	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.007	mg/kg dw	10/19/1998	0.007	jap		40	SW 8260A
Ethylbenzene	<0.007	mg/kg dw	10/19/1998	0.007	jap		40	SW 8260A
Toluene	<0.007	mg/kg dw	10/19/1998	0.007	jap		40	SW 8260A
Xylenes, Total	<0.007	mg/kg dw	10/19/1998	0.007	jap		40	SW 8260A
Toluene-d8 (Surr)	94.0	%	10/19/1998	74-129	jap		40	SW 8260A
4-Bromofluoromethane (Surr)	94.0	%	10/19/1998	70-130	jap		40	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/14/1998		mmv	750		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496969

NET Job No.: 98.13082

Sample Description: S-13
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 15:25
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.7	mg/kg dw	10/23/1998	0.027	keh	750	1807	SW 8310
Acenaphthylene	<2.7	mg/kg dw	10/23/1998	0.027	keh	750	1807	SW 8310
Anthracene	<5.3	mg/kg dw	10/23/1998	0.053	keh	750	1807	SW 8310
Benzo(a)anthracene	<6.4	mg/kg dw	10/23/1998	0.0035	keh	750	1807	SW 8310
Benzo(b)fluoranthene	0.92	mg/kg dw	10/23/1998	0.0048	keh	750	1807	SW 8310
Benzo(k)fluoranthene	0.69	mg/kg dw	10/23/1998	0.0045	keh	750	1807	SW 8310
Benzo(a)pyrene	<0.61	mg/kg dw	10/23/1998	0.0061	keh	750	1807	SW 8310
Benzo(ghi)perylene	<5.3	mg/kg dw	10/23/1998	0.053	keh	750	1807	SW 8310
Chrysene	<4	mg/kg dw	10/23/1998	0.04	keh	750	1807	SW 8310
Dibenzo(a,h)anthracene	<0.8	mg/kg dw	10/23/1998	0.008	keh	750	1807	SW 8310
Fluoranthene	<2.7	mg/kg dw	10/23/1998	0.027	keh	750	1807	SW 8310
Fluorene	<2.7	mg/kg dw	10/23/1998	0.027	keh	750	1807	SW 8310
Indeno(1,2,3-cd)pyrene	<1.1	mg/kg dw	10/23/1998	0.011	keh	750	1807	SW 8310
Naphthalene	<3.3	mg/kg dw	10/23/1998	0.033	keh	750	1807	SW 8310
Phenanthrene	<5.3	mg/kg dw	10/23/1998	0.053	keh	750	1807	SW 8310
Pyrene	<2.7	mg/kg dw	10/23/1998	0.027	keh	750	1807	SW 8310
Surr: p-Terphenyl	Diluted out		10/23/1998	43-125	keh	750	1807	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/15/1998	COMPLETE	wna	368		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.053	mg/kg dw	10/20/1998	0.053	jrs	368	40	SW 8082
PCB-1221	<0.053	mg/kg dw	10/20/1998	0.053	jrs	368	40	SW 8082
PCB-1232	<0.053	mg/kg dw	10/20/1998	0.053	jrs	368	40	SW 8082
PCB-1242	<0.053	mg/kg dw	10/20/1998	0.053	jrs	368	40	SW 8082
PCB-1248	<0.053	mg/kg dw	10/20/1998	0.053	jrs	368	40	SW 8082
PCB-1254	<0.053	mg/kg dw	10/20/1998	0.053	jrs	368	40	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496969

NET Job No.: 98.13082

Sample Description: S-13
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 15:25
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	0.17	mg/kg dw	10/20/1998	0.053	jrs	368	40	SW 8082
Decachlorobiphenyl (Surr)	95.0	%	10/20/1998	NA	jrs	368	40	SW 8082
2,4,5,6-TCMX (Surr)	99.0	%	10/20/1998	NA	jrs	368	40	SW 8082

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496970

NET Job No.: 98.13082

Sample Description: S-14
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 15:30
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.27		units	10/14/1998	0.10	nwg		170	SW 9045B
Solids, Total	81.2		%	10/29/1998	0.1	efw		2502	SM 2540
Arsenic, GFAA	4.8	M+	mg/kg dw	10/25/1998	0.62	mhp	223	661	SW 7060
Barium, ICP	1,350		mg/kg dw	10/28/1998	1.2	kdw	1146	2159	SW 6010B
Cadmium, ICP	2.2		mg/kg dw	10/20/1998	0.62	kdw	1146	2130	SW 6010B
Chromium, ICP	20		mg/kg dw	10/20/1998	2.5	kdw	1146	2116	SW 6010B
Lead, ICP	283		mg/kg dw	10/20/1998	4.9	kdw	1146	2352	SW 6010B
Mercury, CVAA	0.18		mg/kg dw	10/23/1998	0.049	sep	660	764	SW 7471A
Selenium, GFAA	0.71		mg/kg dw	10/26/1998	0.31	mhp	223	548	SW 7740
Silver, AA	<2.5		mg/kg dw	10/22/1998	2.5	sep	481	565	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted			10/15/1998		wna	238		SW 8015M
TPH MODIFIED 8015									
TPH as Gas	<12,000		mg/kg dw	11/05/1998	62	btl	238	486	SW 8015M
TPH as Diesel	<12,000		mg/kg dw	11/05/1998	62	btl	238	486	SW 8015M
TPH as Oil	135,000	PT	mg/kg dw	11/05/1998	62	btl	238	486	SW 8015M
N-octacosane (TPH surr)	Diluted out			11/05/1998		btl	238	486	SW 8015M
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	10/19/1998	0.006	jap		40	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	10/19/1998	0.006	jap		40	SW 8260A
Toluene	<0.006		mg/kg dw	10/19/1998	0.006	jap		40	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	10/19/1998	0.006	jap		40	SW 8260A
Toluene-d8 (Surr)	104.0		%	10/19/1998	74-129	jap		40	SW 8260A
4-Bromofluoromethane (Surr)	102.0		%	10/19/1998	70-130	jap		40	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/14/1998		mmv	750		SW 3540C

PT : Pattern does not match the calibration standard; however, hydrocarbons are present in the oil range
M+ : Analyte quantified by MSA due to low spike recovery.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496970

NET Job No.: 98.13082

Sample Description: S-14
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 15:30
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<3.0	mg/kg dw	10/23/1998	0.025	keh	750	1807	SW 8310
Acenaphthylene	<3.0	mg/kg dw	10/23/1998	0.025	keh	750	1807	SW 8310
Anthracene	<5.9	mg/kg dw	10/23/1998	0.049	keh	750	1807	SW 8310
Benzo(a)anthracene	<4.3	mg/kg dw	10/23/1998	0.0032	keh	750	1807	SW 8310
Benzo(b)fluoranthene	<0.53	mg/kg dw	10/23/1998	0.0044	keh	750	1807	SW 8310
Benzo(k)fluoranthene	<0.50	mg/kg dw	10/23/1998	0.0042	keh	750	1807	SW 8310
Benzo(a)pyrene	<0.68	mg/kg dw	10/23/1998	0.0057	keh	750	1807	SW 8310
Benzo(ghi)perylene	<5.9	mg/kg dw	10/23/1998	0.049	keh	750	1807	SW 8310
Chrysene	<5	mg/kg dw	10/23/1998	0.04	keh	750	1807	SW 8310
Dibenzo(a,h)anthracene	<0.9	mg/kg dw	10/23/1998	0.007	keh	750	1807	SW 8310
Fluoranthene	<3.0	mg/kg dw	10/23/1998	0.025	keh	750	1807	SW 8310
Fluorene	<3.0	mg/kg dw	10/23/1998	0.025	keh	750	1807	SW 8310
Indeno(1,2,3-cd)pyrene	<1.2	mg/kg dw	10/23/1998	0.011	keh	750	1807	SW 8310
Naphthalene	<3.7	mg/kg dw	10/23/1998	0.031	keh	750	1807	SW 8310
Phenanthrene	<5.9	mg/kg dw	10/23/1998	0.049	keh	750	1807	SW 8310
Pyrene	<3.0	mg/kg dw	10/23/1998	0.025	keh	750	1807	SW 8310
Surr: p-Terphenyl	Diluted out		10/23/1998	43-125	keh	750	1807	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/15/1998	COMPLETE	wna	368		SW 3540C
PCB'S NON-AQUEOUS	ELV							
PCB-1016	<0.49	mg/kg dw	10/20/1998	0.049	jrs	368	40	SW 8082
PCB-1221	<0.49	mg/kg dw	10/20/1998	0.049	jrs	368	40	SW 8082
PCB-1232	<0.49	mg/kg dw	10/20/1998	0.049	jrs	368	40	SW 8082
PCB-1242	<0.49	mg/kg dw	10/20/1998	0.049	jrs	368	40	SW 8082
PCB-1248	<0.49	mg/kg dw	10/20/1998	0.049	jrs	368	40	SW 8082
PCB-1254	<0.49	mg/kg dw	10/20/1998	0.049	jrs	368	40	SW 8082

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998
Sample No. : 496970
NET Job No.: 98.13082

Sample Description: S-14
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/07/1998
Time Taken: 15:30
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	0.17	J	mg/kg dw	10/20/1998	0.049	jrs	368	40	SW 8082
Decachlorobiphenyl (Surr)	113.0		%	10/20/1998	NA	jrs	368	40	SW 8082
2,4,5,6-TCMX (Surr)	90.0		%	10/20/1998	NA	jrs	368	40	SW 8082

J : Analyte conc. < reporting limit (RL) or the limit of quantitation (LOQ)

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496971

NET Job No.: 98.13082

Sample Description: B-13 (0-3)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 10:58
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.67	units	10/14/1998	0.10	nwg		170	SW 9045B
Solids, Total	93.4	%	10/29/1998	0.1	efw		2502	SM 2540
Arsenic, GFAA	3.1	mg/kg dw	10/25/1998	0.54	mhp	223	661	SW 7060
Barium, ICP	321	mg/kg dw	10/28/1998	1.1	kdw	1146	2159	SW 6010B
Cadmium, ICP	<0.54	mg/kg dw	10/20/1998	0.54	kdw	1146	2130	SW 6010B
Chromium, ICP	4.5	mg/kg dw	10/20/1998	2.1	kdw	1146	2116	SW 6010B
Lead, ICP	9.4	mg/kg dw	10/20/1998	4.3	kdw	1146	2352	SW 6010B
Mercury, CVAA	<0.043	mg/kg dw	10/23/1998	0.043	sep	660	764	SW 7471A
Selenium, GFAA	<0.27	mg/kg dw	10/26/1998	0.27	mhp	223	548	SW 7740
Silver, AA	<2.1	mg/kg dw	10/22/1998	2.1	sep	481	565	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	10/20/1998	0.005	jap		43	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/20/1998	0.005	jap		43	SW 8260A
Toluene	<0.005	mg/kg dw	10/20/1998	0.005	jap		43	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/20/1998	0.005	jap		43	SW 8260A
Toluene-d8 (Surr)	102.0	%	10/20/1998	74-129	jap		43	SW 8260A
4-Bromofluoromethane (Surr)	105.6	%	10/20/1998	70-130	jap		43	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/14/1998		mmv	750		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.1	mg/kg dw	10/23/1998	0.021	keh	750	1807	SW 8310
Acenaphthylene	<2.1	mg/kg dw	10/23/1998	0.021	keh	750	1807	SW 8310
Anthracene	<27	mg/kg dw	10/23/1998	0.043	keh	750	1807	SW 8310
Benzo(a)anthracene	<7.1	mg/kg dw	10/23/1998	0.0028	keh	750	1807	SW 8310
Benzo(b)fluoranthene	<3.3	mg/kg dw	10/23/1998	0.0039	keh	750	1807	SW 8310

ELV : Elevated reporting limits due to matrix interference.

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
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11/06/1998

Sample No. : 496971

NET Job No.: 98.13082

Sample Description: B-13 (0-3)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 10:58
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<3.6	mg/kg dw	10/23/1998	0.0036	keh	750	1807	SW 8310
Benzo(a)pyrene	<1.6	mg/kg dw	10/23/1998	0.0049	keh	750	1807	SW 8310
Benzo(ghi)perylene	<4.3	mg/kg dw	10/23/1998	0.043	keh	750	1807	SW 8310
Chrysene	<3	mg/kg dw	10/23/1998	0.03	keh	750	1807	SW 8310
Dibenzo(a,h)anthracene	<0.6	mg/kg dw	10/23/1998	0.006	keh	750	1807	SW 8310
Fluoranthene	<7.3	mg/kg dw	10/23/1998	0.021	keh	750	1807	SW 8310
Fluorene	3.1	mg/kg dw	10/23/1998	0.021	keh	750	1807	SW 8310
Indeno(1,2,3-cd)pyrene	<3.2	mg/kg dw	10/23/1998	0.0092	keh	750	1807	SW 8310
Naphthalene	5.8	mg/kg dw	10/23/1998	0.027	keh	750	1807	SW 8310
Phenanthrene	<4.3	mg/kg dw	10/23/1998	0.043	keh	750	1807	SW 8310
Pyrene	<3.6	mg/kg dw	10/23/1998	0.021	keh	750	1807	SW 8310
Surr: p-Terphenyl	Diluted out		10/23/1998	43-125	keh	750	1807	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/15/1998	COMPLETE	wna	368		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.043	mg/kg dw	10/20/1998	0.043	jrs	368	40	SW 8082
PCB-1221	<0.043	mg/kg dw	10/20/1998	0.043	jrs	368	40	SW 8082
PCB-1232	<0.043	mg/kg dw	10/20/1998	0.043	jrs	368	40	SW 8082
PCB-1242	<0.043	mg/kg dw	10/20/1998	0.043	jrs	368	40	SW 8082
PCB-1248	<0.043	mg/kg dw	10/20/1998	0.043	jrs	368	40	SW 8082
PCB-1254	<0.043	mg/kg dw	10/20/1998	0.043	jrs	368	40	SW 8082
PCB-1260	<0.043	mg/kg dw	10/20/1998	0.043	jrs	368	40	SW 8082
Decachlorobiphenyl (Surr)	96.0	%	10/20/1998	NA	jrs	368	40	SW 8082
2,4,5,6-TCMX (Surr)	76.0	%	10/20/1998	NA	jrs	368	40	SW 8082

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496972

NET Job No.: 98.13082

Sample Description: B-1 (0-3)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 12:30
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.56	units	10/14/1998	0.10	nwg		170	SW 9045B
Solids, Total	91.0	%	10/29/1998	0.1	efw		2502	SM 2540
Arsenic, GFAA	8.8	mg/kg dw	10/25/1998	0.55	mhp	223	661	SW 7060
Barium, ICP	242	mg/kg dw	10/28/1998	1.1	kdw	1146	2159	SW 6010B
Cadmium, ICP	8.0	mg/kg dw	10/20/1998	0.55	kdw	1146	2130	SW 6010B
Chromium, ICP	89	mg/kg dw	10/20/1998	2.2	kdw	1146	2116	SW 6010B
Lead, ICP	100	mg/kg dw	10/20/1998	4.4	kdw	1146	2352	SW 6010B
Mercury, CVAA	0.68	mg/kg dw	10/23/1998	0.044	sep	660	764	SW 7471A
Selenium, GFAA	0.31	mg/kg dw	10/26/1998	0.27	mhp	223	548	SW 7740
Silver, AA	2.6	mg/kg dw	10/22/1998	2.2	sep	481	565	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	10/19/1998	0.005	jap		40	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/19/1998	0.005	jap		40	SW 8260A
Toluene	<0.005	mg/kg dw	10/19/1998	0.005	jap		40	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/19/1998	0.005	jap		40	SW 8260A
Toluene-d8 (Surr)	106.0	%	10/19/1998	74-129	jap		40	SW 8260A
4-Bromofluoromethane (Surr)	104.0	%	10/19/1998	70-130	jap		40	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/14/1998		mmv	750		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<0.1	mg/kg dw	10/23/1998	0.022	keh	750	1808	SW 8310
Acenaphthylene	<0.1	mg/kg dw	10/23/1998	0.022	keh	750	1808	SW 8310
Anthracene	<0.2	mg/kg dw	10/23/1998	0.044	keh	750	1808	SW 8310
Benzo(a)anthracene	0.48	mg/kg dw	10/23/1998	0.0029	keh	750	1808	SW 8310
Benzo(b)fluoranthene	0.45	mg/kg dw	10/23/1998	0.0040	keh	750	1808	SW 8310

ELV : Elevated reporting limits due to matrix interference.

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496972

NET Job No.: 98.13082

Sample Description: B-1 (0-3)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 12:30
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	0.29	mg/kg dw	10/23/1998	0.0037	keh	750	1808	SW 8310
Benzo(a)pyrene	0.55	mg/kg dw	10/23/1998	0.0051	keh	750	1808	SW 8310
Benzo(ghi)perylene	0.66	mg/kg dw	10/23/1998	0.044	keh	750	1808	SW 8310
Chrysene	0.44	mg/kg dw	10/23/1998	0.03	keh	750	1808	SW 8310
Dibenzo(a,h)anthracene	0.086	mg/kg dw	10/23/1998	0.007	keh	750	1808	SW 8310
Fluoranthene	0.55	mg/kg dw	10/23/1998	0.022	keh	750	1808	SW 8310
Fluorene	<0.1	mg/kg dw	10/23/1998	0.022	keh	750	1808	SW 8310
Indeno(1,2,3-cd)pyrene	0.45	mg/kg dw	10/23/1998	0.0095	keh	750	1808	SW 8310
Naphthalene	<0.1	mg/kg dw	10/23/1998	0.027	keh	750	1808	SW 8310
Phenanthrene	0.23	mg/kg dw	10/23/1998	0.044	keh	750	1808	SW 8310
Pyrene	0.51	mg/kg dw	10/23/1998	0.022	keh	750	1808	SW 8310
Surr: p-Terphenyl	Masked		10/23/1998	43-125	keh	750	1808	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/15/1998	COMPLETE	wna	368		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.044	mg/kg dw	10/20/1998	0.044	jrs	368	40	SW 8082
PCB-1221	<0.044	mg/kg dw	10/20/1998	0.044	jrs	368	40	SW 8082
PCB-1232	<0.044	mg/kg dw	10/20/1998	0.044	jrs	368	40	SW 8082
PCB-1242	<0.044	mg/kg dw	10/20/1998	0.044	jrs	368	40	SW 8082
PCB-1248	<0.044	mg/kg dw	10/20/1998	0.044	jrs	368	40	SW 8082
PCB-1254	<0.044	mg/kg dw	10/20/1998	0.044	jrs	368	40	SW 8082
PCB-1260	0.15	mg/kg dw	10/20/1998	0.044	jrs	368	40	SW 8082
Decachlorobiphenyl (Surr)	122.0	%	10/20/1998	NA	jrs	368	40	SW 8082
2,4,5,6-TCMX (Surr)	96.0	%	10/20/1998	NA	jrs	368	40	SW 8082

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496973

NET Job No.: 98.13082

Sample Description: B-4 (0-4)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 12:50
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	7.85	units	10/14/1998	0.10	nwg		170	SW 9045B
Solids, Total	90.8	%	10/29/1998	0.1	efw		2502	SM 2540
Arsenic, GFAA	8.0	mg/kg dw	10/25/1998	0.55	mhp	223	661	SW 7060
Barium, ICP	132	mg/kg dw	10/28/1998	1.1	kdw	1146	2159	SW 6010B
Cadmium, ICP	1.4	mg/kg dw	10/20/1998	0.55	kdw	1146	2130	SW 6010B
Chromium, ICP	19	mg/kg dw	10/20/1998	2.2	kdw	1146	2116	SW 6010B
Lead, ICP	32	mg/kg dw	10/20/1998	4.4	kdw	1146	2352	SW 6010B
Mercury, CVAA	0.068	mg/kg dw	10/23/1998	0.044	sep	660	764	SW 7471A
Selenium, GFAA	0.36	mg/kg dw	10/26/1998	0.28	mhp	223	548	SW 7740
Silver, AA	<2.2	mg/kg dw	10/22/1998	2.2	sep	481	565	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/19/1998	0.006	jap		40	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/19/1998	0.006	jap		40	SW 8260A
Toluene	<0.006	mg/kg dw	10/19/1998	0.006	jap		40	SW 8260A
Xylenes, Total	0.010	mg/kg dw	10/19/1998	0.006	jap		40	SW 8260A
Toluene-d8 (Surr)	98.0	%	10/19/1998	74-129	jap		40	SW 8260A
4-Bromofluoromethane (Surr)	102.0	%	10/19/1998	70-130	jap		40	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/14/1998		mmv	750		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.2	mg/kg dw	10/22/1998	0.022	keh	750	1807	SW 8310
Acenaphthylene	<2.2	mg/kg dw	10/22/1998	0.022	keh	750	1807	SW 8310
Anthracene	<4.4	mg/kg dw	10/22/1998	0.044	keh	750	1807	SW 8310
Benzo(a)anthracene	<0.99	mg/kg dw	10/22/1998	0.0029	keh	750	1807	SW 8310
Benzo(b)fluoranthene	0.50	mg/kg dw	10/22/1998	0.0040	keh	750	1807	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23515

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496973

NET Job No.: 98.13082

Sample Description: B-4 (0-4)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 12:50
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.37	mg/kg dw	10/22/1998	0.0037	keh	750	1807	SW 8310
Benzo(a)pyrene	0.73	mg/kg dw	10/22/1998	0.0051	keh	750	1807	SW 8310
Benzo(ghi)perylene	<4.4	mg/kg dw	10/22/1998	0.044	keh	750	1807	SW 8310
Chrysene	<3	mg/kg dw	10/22/1998	0.03	keh	750	1807	SW 8310
Dibenzo(a,h)anthracene	<0.7	mg/kg dw	10/22/1998	0.007	keh	750	1807	SW 8310
Fluoranthene	<2.2	mg/kg dw	10/22/1998	0.022	keh	750	1807	SW 8310
Fluorene	<2.2	mg/kg dw	10/22/1998	0.022	keh	750	1807	SW 8310
Indeno(1,2,3-cd)pyrene	<0.95	mg/kg dw	10/22/1998	0.0095	keh	750	1807	SW 8310
Naphthalene	<2.8	mg/kg dw	10/22/1998	0.028	keh	750	1807	SW 8310
Phenanthrene	<4.4	mg/kg dw	10/22/1998	0.044	keh	750	1807	SW 8310
Pyrene	<2.2	mg/kg dw	10/22/1998	0.022	keh	750	1807	SW 8310
Surr: p-Terphenyl	Diluted out		10/22/1998	43-125	keh	750	1807	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/15/1998	COMPLETE	wna	368		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.044	mg/kg dw	10/20/1998	0.044	jrs	368	40	SW 8082
PCB-1221	<0.044	mg/kg dw	10/20/1998	0.044	jrs	368	40	SW 8082
PCB-1232	<0.044	mg/kg dw	10/20/1998	0.044	jrs	368	40	SW 8082
PCB-1242	<0.044	mg/kg dw	10/20/1998	0.044	jrs	368	40	SW 8082
PCB-1248	<0.044	mg/kg dw	10/20/1998	0.044	jrs	368	40	SW 8082
PCB-1254	<0.044	mg/kg dw	10/20/1998	0.044	jrs	368	40	SW 8082
PCB-1260	<0.044	mg/kg dw	10/20/1998	0.044	jrs	368	40	SW 8082
Decachlorobiphenyl (Surr)	102.0	%	10/20/1998	NA	jrs	368	40	SW 8082
2,4,5,6-TCMX (Surr)	97.0	%	10/20/1998	NA	jrs	368	40	SW 8082

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496974

NET Job No.: 98.13082

Sample Description: S-23
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 13:10
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.04	units	10/14/1998	0.10	nwg		170	SW 9045B
Solids, Total	52.0	%	11/02/1998	0.1	nwg		2518	SM 2540
Arsenic, GFAA	4.2	mg/kg dw	10/25/1998	0.96	mhp	223	661	SW 7060
Barium, ICP	110	mg/kg dw	10/28/1998	1.9	kdw	1146	2159	SW 6010B
Cadmium, ICP	2.3	mg/kg dw	10/20/1998	0.96	kdw	1146	2130	SW 6010B
Chromium, ICP	6.3	mg/kg dw	10/20/1998	3.8	kdw	1146	2116	SW 6010B
Lead, ICP	16	mg/kg dw	10/20/1998	7.7	kdw	1146	2352	SW 6010B
Mercury, CVAA	<0.077	mg/kg dw	10/23/1998	0.077	sep	660	764	SW 7471A
Selenium, GFAA	<0.48	mg/kg dw	10/26/1998	0.48	mhp	223	548	SW 7740
Silver, AA	<3.8	mg/kg dw	10/22/1998	3.8	sep	481	565	SW 7760
Prep, TPH 8015M - NONAQUEOUS	extracted		10/19/1998		mmv	239		SW 8015M
TPH MODIFIED 8015								
TPH as Gas	<96	mg/kg dw	11/05/1998	96	btl	239	486	SW 8015M
TPH as Diesel	<96	mg/kg dw	11/05/1998	96	btl	239	486	SW 8015M
TPH as Oil	<96	mg/kg dw	11/05/1998	96	btl	239	486	SW 8015M
N-octacosane (TPH surr)	101.0	%	11/05/1998		btl	239	486	SW 8015M
UST VOLATILES NON-AQUEOUS								
Benzene	<0.01	mg/kg dw	10/20/1998	0.01	jap		43	SW 8260A
Ethylbenzene	<0.01	mg/kg dw	10/20/1998	0.01	jap		43	SW 8260A
Toluene	<0.01	mg/kg dw	10/20/1998	0.01	jap		43	SW 8260A
Xylenes, Total	<0.01	mg/kg dw	10/20/1998	0.01	jap		43	SW 8260A
Toluene-d8 (Surr)	117.8	%	10/20/1998	74-129	jap		43	SW 8260A
4-Bromofluoromethane (Surr)	117.2	%	10/20/1998	70-130	jap		43	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/14/1998		mmv	750		SW 3540C

MWG13-15_23517

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998
Sample No. : 496974
NET Job No.: 98.13082

Sample Description: S-23
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 13:10
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.038		mg/kg dw	10/23/1998	0.038	keh	750	1808	SW 8310
Acenaphthylene	<0.038		mg/kg dw	10/23/1998	0.038	keh	750	1808	SW 8310
Anthracene	<0.077		mg/kg dw	10/23/1998	0.077	keh	750	1808	SW 8310
Benzo(a)anthracene	<0.023	MX	mg/kg dw	10/23/1998	0.0050	keh	750	1808	SW 8310
Benzo(b)fluoranthene	<0.0069		mg/kg dw	10/23/1998	0.0069	keh	750	1808	SW 8310
Benzo(k)fluoranthene	0.0067		mg/kg dw	10/23/1998	0.0065	keh	750	1808	SW 8310
Benzo(a)pyrene	<0.0088		mg/kg dw	10/23/1998	0.0088	keh	750	1808	SW 8310
Benzo(ghi)perylene	<0.077		mg/kg dw	10/23/1998	0.077	keh	750	1808	SW 8310
Chrysene	<0.06		mg/kg dw	10/23/1998	0.06	keh	750	1808	SW 8310
Dibenzo(a,h)anthracene	<0.01		mg/kg dw	10/23/1998	0.01	keh	750	1808	SW 8310
Fluoranthene	<0.038		mg/kg dw	10/23/1998	0.038	keh	750	1808	SW 8310
Fluorene	<0.038		mg/kg dw	10/23/1998	0.038	keh	750	1808	SW 8310
Indeno(1,2,3-cd)pyrene	<0.017		mg/kg dw	10/23/1998	0.017	keh	750	1808	SW 8310
Naphthalene	<0.048		mg/kg dw	10/23/1998	0.048	keh	750	1808	SW 8310
Phenanthrene	<0.077		mg/kg dw	10/23/1998	0.077	keh	750	1808	SW 8310
Pyrene	<0.038		mg/kg dw	10/23/1998	0.038	keh	750	1808	SW 8310
Surr: p-Terphenyl	68.6		%	10/23/1998	43-125	keh	750	1808	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			10/15/1998	COMPLETE	wna	368		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.077		mg/kg dw	10/20/1998	0.077	jrs	368	41	SW 8082
PCB-1221	<0.077		mg/kg dw	10/20/1998	0.077	jrs	368	41	SW 8082
PCB-1232	<0.077		mg/kg dw	10/20/1998	0.077	jrs	368	41	SW 8082
PCB-1242	<0.077		mg/kg dw	10/20/1998	0.077	jrs	368	41	SW 8082
PCB-1248	<0.077		mg/kg dw	10/20/1998	0.077	jrs	368	41	SW 8082
PCB-1254	<0.077		mg/kg dw	10/20/1998	0.077	jrs	368	41	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496974

NET Job No.: 98.13082

Sample Description: S-23
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 13:10
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
PCB-1260	<0.077	mg/kg dw	10/20/1998	0.077	jrs	368	41	SW 8082
Decachlorobiphenyl (Surr)	99.0	%	10/20/1998	NA	jrs	368	41	SW 8082
2,4,5,6-TCMX (Surr)	94.0	%	10/20/1998	NA	jrs	368	41	SW 8082

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496975

NET Job No.: 98.13082

Sample Description: B-3 (0-4)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 13:25
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.52		units	10/14/1998	0.10	nwg		171	SW 9045B
Solids, Total	88.6		%	11/02/1998	0.1	nwg		2518	SM 2540
Arsenic, GFAA	11		mg/kg dw	10/25/1998	0.56	mhp	223	661	SW 7060
Barium, ICP	169		mg/kg dw	10/28/1998	1.1	jtt	1151	2160	SW 6010B
Cadmium, ICP	1.7		mg/kg dw	10/24/1998	0.56	kdw	1151	2139	SW 6010B
Chromium, ICP	43		mg/kg dw	10/24/1998	2.3	kdw	1151	2125	SW 6010B
Lead, ICP	34		mg/kg dw	10/24/1998	4.5	kdw	1151	2361	SW 6010B
Mercury, CVAA	<0.045		mg/kg dw	10/23/1998	0.045	sep	660	764	SW 7471A
Selenium, GFAA	0.40		mg/kg dw	10/26/1998	0.28	mhp	223	548	SW 7740
Silver, AA	<2.3		mg/kg dw	10/22/1998	2.3	sep	481	565	SW 7760
UST VOLATILES NON-AQUEOUS									
Benzene	<0.006		mg/kg dw	10/20/1998	0.006	jap		43	SW 8260A
Ethylbenzene	<0.006		mg/kg dw	10/20/1998	0.006	jap		43	SW 8260A
Toluene	<0.006		mg/kg dw	10/20/1998	0.006	jap		43	SW 8260A
Xylenes, Total	<0.006		mg/kg dw	10/20/1998	0.006	jap		43	SW 8260A
Toluene-d8 (Surr)	109.8		%	10/20/1998	74-129	jap		43	SW 8260A
4-Bromofluoromethane (Surr)	114.2		%	10/20/1998	70-130	jap		43	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted			10/14/1998		mmv	750		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS									
Acenaphthene	<0.023		mg/kg dw	10/23/1998	0.023	keh	750	1808	SW 8310
Acenaphthylene	<0.023		mg/kg dw	10/23/1998	0.023	keh	750	1808	SW 8310
Anthracene	<0.045		mg/kg dw	10/23/1998	0.045	keh	750	1808	SW 8310
Benzo(a)anthracene	<0.065	MX	mg/kg dw	10/23/1998	0.0029	keh	750	1808	SW 8310
Benzo(b)fluoranthene	0.021		mg/kg dw	10/23/1998	0.0041	keh	750	1808	SW 8310

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496975

NET Job No.: 98.13082

Sample Description: B-3 (0-4)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 13:25
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.034	MX	mg/kg dw	10/23/1998	0.0038	keh	750	1808	SW 8310
Benzo(a)pyrene	<0.0052		mg/kg dw	10/23/1998	0.0052	keh	750	1808	SW 8310
Benzo(ghi)perylene	<0.045		mg/kg dw	10/23/1998	0.045	keh	750	1808	SW 8310
Chrysene	<0.03		mg/kg dw	10/24/1998	0.03	keh	750	1809	SW 8310
Dibenzo(a,h)anthracene	<0.007		mg/kg dw	10/23/1998	0.007	keh	750	1808	SW 8310
Fluoranthene	<0.11	MX	mg/kg dw	10/23/1998	0.023	keh	750	1808	SW 8310
Fluorene	<0.060	MX	mg/kg dw	10/23/1998	0.023	keh	750	1808	SW 8310
Indeno(1,2,3-cd)pyrene	<0.0097		mg/kg dw	10/23/1998	0.0097	keh	750	1808	SW 8310
Naphthalene	0.29		mg/kg dw	10/23/1998	0.028	keh	750	1808	SW 8310
Phenanthrene	0.18		mg/kg dw	10/23/1998	0.045	keh	750	1808	SW 8310
Pyrene	<0.19	MX	mg/kg dw	10/23/1998	0.023	keh	750	1808	SW 8310
Surr: p-Terphenyl	Masked			10/23/1998	43-125	keh	750	1808	SW 8310
PCB Non-Aqueous Extraction	COMPLETE			10/19/1998	COMPLETE	wna	371		SW 3540C
PCB'S NON-AQUEOUS									
PCB-1016	<0.045		mg/kg dw	10/22/1998	0.045	tls	371	42	SW 8082
PCB-1221	<0.045		mg/kg dw	10/22/1998	0.045	tls	371	42	SW 8082
PCB-1232	<0.045		mg/kg dw	10/22/1998	0.045	tls	371	42	SW 8082
PCB-1242	<0.045		mg/kg dw	10/22/1998	0.045	tls	371	42	SW 8082
PCB-1248	<0.045		mg/kg dw	10/22/1998	0.045	tls	371	42	SW 8082
PCB-1254	<0.045		mg/kg dw	10/22/1998	0.045	tls	371	42	SW 8082
PCB-1260	<0.045		mg/kg dw	10/22/1998	0.045	tls	371	42	SW 8082
Decachlorobiphenyl (Surr)	102.0		%	10/22/1998	NA	tls	371	42	SW 8082
2,4,5,6-TCMX (Surr)	79.0		%	10/22/1998	NA	tls	371	42	SW 8082

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496976

NET Job No.: 98.13082

Sample Description: B-5-S
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 13:53
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.81	units	10/14/1998	0.10	nwg		171	SW 9045B
Solids, Total	85.8	%	11/02/1998	0.1	nwg		2518	SM 2540
Arsenic, GFAA	4.4	mg/kg dw	10/25/1998	0.58	mhp	223	661	SW 7060
Barium, ICP	1,520	mg/kg dw	10/28/1998	1.2	jtt	1151	2160	SW 6010B
Cadmium, ICP	2.0	mg/kg dw	10/24/1998	0.58	kdw	1151	2139	SW 6010B
Chromium, ICP	117	mg/kg dw	10/24/1998	2.3	kdw	1151	2125	SW 6010B
Lead, ICP	100	mg/kg dw	10/24/1998	4.7	kdw	1151	2361	SW 6010B
Mercury, CVAA	0.056	mg/kg dw	10/23/1998	0.047	sep	660	764	SW 7471A
Selenium, GFAA	0.33	mg/kg dw	10/26/1998	0.29	mhp	223	548	SW 7740
Silver, AA	<2.3	mg/kg dw	10/22/1998	2.3	sep	481	565	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/20/1998	0.006	jap		43	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/20/1998	0.006	jap		43	SW 8260A
Toluene	<0.006	mg/kg dw	10/20/1998	0.006	jap		43	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/20/1998	0.006	jap		43	SW 8260A
Toluene-d8 (Surr)	109.8	%	10/20/1998	74-129	jap		43	SW 8260A
4-Bromofluoromethane (Surr)	107.2	%	10/20/1998	70-130	jap		43	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/14/1998		mmv	750		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.3	mg/kg dw	10/23/1998	0.023	keh	750	1808	SW 8310
Acenaphthylene	<2.3	mg/kg dw	10/23/1998	0.023	keh	750	1808	SW 8310
Anthracene	<4.7	mg/kg dw	10/23/1998	0.047	keh	750	1808	SW 8310
Benzo(a)anthracene	<10	mg/kg dw	10/23/1998	0.0030	keh	750	1808	SW 8310
Benzo(b)fluoranthene	7.0	mg/kg dw	10/23/1998	0.0042	keh	750	1808	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23522

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496976

NET Job No.: 98.13082

Sample Description: B-5-S
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 13:53
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	3.8	mg/kg dw	10/23/1998	0.0040	keh	750	1808	SW 8310
Benzo(a)pyrene	6.8	mg/kg dw	10/23/1998	0.0054	keh	750	1808	SW 8310
Benzo(ghi)perylene	5.8	mg/kg dw	10/23/1998	0.047	keh	750	1808	SW 8310
Chrysene	6.3	mg/kg dw	10/23/1998	0.03	keh	750	1808	SW 8310
Dibenzo(a,h)anthracene	0.90	mg/kg dw	10/23/1998	0.007	keh	750	1808	SW 8310
Fluoranthene	16	mg/kg dw	10/23/1998	0.023	keh	750	1808	SW 8310
Fluorene	<2.3	mg/kg dw	10/23/1998	0.023	keh	750	1808	SW 8310
Indeno(1,2,3-cd)pyrene	5.1	mg/kg dw	10/23/1998	0.010	keh	750	1808	SW 8310
Naphthalene	<2.9	mg/kg dw	10/23/1998	0.029	keh	750	1808	SW 8310
Phenanthrene	7.3	mg/kg dw	10/23/1998	0.047	keh	750	1808	SW 8310
Pyrene	13	mg/kg dw	10/23/1998	0.023	keh	750	1808	SW 8310
Surr: p-Terphenyl	Diluted out		10/23/1998	43-125	keh	750	1808	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/19/1998	COMPLETE	wna	371		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.047	mg/kg dw	10/27/1998	0.047	tls	371	45	SW 8082
PCB-1221	<0.047	mg/kg dw	10/27/1998	0.047	tls	371	45	SW 8082
PCB-1232	<0.047	mg/kg dw	10/27/1998	0.047	tls	371	45	SW 8082
PCB-1242	<0.047	mg/kg dw	10/27/1998	0.047	tls	371	45	SW 8082
PCB-1248	<0.047	mg/kg dw	10/27/1998	0.047	tls	371	45	SW 8082
PCB-1254	0.16	mg/kg dw	10/27/1998	0.047	tls	371	45	SW 8082
PCB-1260	<0.047	mg/kg dw	10/27/1998	0.047	tls	371	45	SW 8082
Decachlorobiphenyl (Surr)	104.0	%	10/27/1998	NA	tls	371	45	SW 8082
2,4,5,6-TCMX (Surr)	79.0	%	10/27/1998	NA	tls	371	45	SW 8082

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496977

NET Job No.: 98.13082

Sample Description: B-6 (0-2)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 14:05
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	9.57	units	10/14/1998	0.10	nwg		171	SW 9045B
Solids, Total	91.1	%	11/02/1998	0.1	nwg		2518	SM 2540
Arsenic, GFAA	7.1	mg/kg dw	10/26/1998	0.55	mhp	223	661	SW 7060
Barium, ICP	209	mg/kg dw	10/28/1998	1.1	jtt	1151	2160	SW 6010B
Cadmium, ICP	2.7	mg/kg dw	10/24/1998	0.55	kdw	1151	2139	SW 6010B
Chromium, ICP	38	mg/kg dw	10/24/1998	2.2	kdw	1151	2125	SW 6010B
Lead, ICP	54	mg/kg dw	10/24/1998	4.4	kdw	1151	2361	SW 6010B
Mercury, CVAA	0.13	mg/kg dw	10/23/1998	0.044	sep	660	764	SW 7471A
Selenium, GFAA	0.49	mg/kg dw	10/26/1998	0.27	mhp	223	548	SW 7740
Silver, AA	<2.2	mg/kg dw	10/22/1998	2.2	sep	481	565	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.005	mg/kg dw	10/20/1998	0.005	jap		43	SW 8260A
Ethylbenzene	<0.005	mg/kg dw	10/20/1998	0.005	jap		43	SW 8260A
Toluene	<0.005	mg/kg dw	10/20/1998	0.005	jap		43	SW 8260A
Xylenes, Total	<0.005	mg/kg dw	10/20/1998	0.005	jap		43	SW 8260A
Toluene-d8 (Surr)	95.2	%	10/20/1998	74-129	jap		43	SW 8260A
4-Bromofluoromethane (Surr)	99.4	%	10/20/1998	70-130	jap		43	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/14/1998		mmv	750		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS	ELV							
Acenaphthene	<2.0	mg/kg dw	10/24/1998	0.022	keh	750	1808	SW 8310
Acenaphthylene	<2.0	mg/kg dw	10/24/1998	0.022	keh	750	1808	SW 8310
Anthracene	<4.0	mg/kg dw	10/24/1998	0.044	keh	750	1808	SW 8310
Benzo(a)anthracene	<9.0	mg/kg dw	10/24/1998	0.0029	keh	750	1808	SW 8310
Benzo(b)fluoranthene	6.4	mg/kg dw	10/24/1998	0.0040	keh	750	1808	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23524

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496977

NET Job No.: 98.13082

Sample Description: B-6 (0-2)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 14:05
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	4.0	mg/kg dw	10/24/1998	0.0037	keh	750	1808	SW 8310
Benzo(a)pyrene	6.8	mg/kg dw	10/24/1998	0.0050	keh	750	1808	SW 8310
Benzo(ghi)perylene	5.8	mg/kg dw	10/24/1998	0.044	keh	750	1808	SW 8310
Chrysene	7.2	mg/kg dw	10/24/1998	0.03	keh	750	1808	SW 8310
Dibenzo(a,h)anthracene	0.80	mg/kg dw	10/24/1998	0.007	keh	750	1808	SW 8310
Fluoranthene	13	mg/kg dw	10/24/1998	0.022	keh	750	1808	SW 8310
Fluorene	<2.0	mg/kg dw	10/24/1998	0.022	keh	750	1808	SW 8310
Indeno(1,2,3-cd)pyrene	5.3	mg/kg dw	10/24/1998	0.0094	keh	750	1808	SW 8310
Naphthalene	<2.4	mg/kg dw	10/24/1998	0.027	keh	750	1808	SW 8310
Phenanthrene	5.0	mg/kg dw	10/24/1998	0.044	keh	750	1808	SW 8310
Pyrene	11	mg/kg dw	10/24/1998	0.022	keh	750	1808	SW 8310
Surr: p-Terphenyl	Diluted out		10/24/1998	43-125	keh	750	1808	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/19/1998	COMPLETE	wna	371		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.044	mg/kg dw	10/28/1998	0.044	tls	371	45	SW 8082
PCB-1221	<0.044	mg/kg dw	10/28/1998	0.044	tls	371	45	SW 8082
PCB-1232	<0.044	mg/kg dw	10/28/1998	0.044	tls	371	45	SW 8082
PCB-1242	0.14	mg/kg dw	10/28/1998	0.044	tls	371	45	SW 8082
PCB-1248	<0.044	mg/kg dw	10/28/1998	0.044	tls	371	45	SW 8082
PCB-1254	0.22	mg/kg dw	10/28/1998	0.044	tls	371	45	SW 8082
PCB-1260	<0.044	mg/kg dw	10/28/1998	0.044	tls	371	45	SW 8082
Decachlorobiphenyl (Surr)	103.0	%	10/28/1998	NA	tls	371	45	SW 8082
2,4,5,6-TCMX (Surr)	78.0	%	10/28/1998	NA	tls	371	45	SW 8082

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ANALYTICAL REPORT

Mr. Wei-lin Feng
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740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496978

NET Job No.: 98.13082

Sample Description: B-8 (0-3)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 14:25
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH, Non-Aqueous	8.37	units	10/14/1998	0.10	nwg		171	SW 9045B
Solids, Total	88.7	%	11/02/1998	0.1	nwg		2518	SM 2540
Arsenic, GFAA	2.9	mg/kg dw	10/26/1998	0.56	mhp	224	661	SW 7060
Barium, ICP	237	mg/kg dw	10/30/1998	1.1	jtt	1150	2169	SW 6010B
Cadmium, ICP	3.9	mg/kg dw	10/30/1998	0.56	jtt	1150	2154	SW 6010B
Chromium, ICP	7.4	mg/kg dw	10/30/1998	2.3	jtt	1150	2139	SW 6010B
Lead, ICP	12	mg/kg dw	10/30/1998	4.5	jtt	1150	2376	SW 6010B
Mercury, CVAA	0.16	mg/kg dw	10/23/1998	0.045	sep	660	764	SW 7471A
Selenium, GFAA	<0.28	mg/kg dw	10/27/1998	0.28	mhp	224	550	SW 7740
Silver, AA	<2.3	mg/kg dw	10/26/1998	2.3	sep	482	566	SW 7760
UST VOLATILES NON-AQUEOUS								
Benzene	<0.006	mg/kg dw	10/20/1998	0.006	jap		43	SW 8260A
Ethylbenzene	<0.006	mg/kg dw	10/20/1998	0.006	jap		43	SW 8260A
Toluene	<0.006	mg/kg dw	10/20/1998	0.006	jap		43	SW 8260A
Xylenes, Total	<0.006	mg/kg dw	10/20/1998	0.006	jap		43	SW 8260A
Toluene-d8 (Surr)	101.2	%	10/20/1998	74-129	jap		43	SW 8260A
4-Bromofluoromethane (Surr)	106.8	%	10/20/1998	70-130	jap		43	SW 8260A
Prep, 8310 PNAs NON-AQUEOUS	extracted		10/14/1998		mmv	750		SW 3540C
PNA CMPDS - 8310 NONAQUEOUS		ELV						
Acenaphthene	<0.1	mg/kg dw	10/24/1998	0.023	keh	750	1808	SW 8310
Acenaphthylene	<0.1	mg/kg dw	10/24/1998	0.023	keh	750	1808	SW 8310
Anthracene	<0.2	mg/kg dw	10/24/1998	0.045	keh	750	1808	SW 8310
Benzo(a)anthracene	<0.46	mg/kg dw	10/24/1998	0.0029	keh	750	1808	SW 8310
Benzo(b)fluoranthene	0.14	mg/kg dw	10/24/1998	0.0041	keh	750	1808	SW 8310

ELV : Elevated reporting limits due to matrix interference.

MWG13-15_23526

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ANALYTICAL REPORT

Mr. Wei-lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

Sample No. : 496978

NET Job No.: 98.13082

Sample Description: B-8 (0-3)
ComEd-Joliet #29; 1801-023-410

Date Taken: 10/08/1998
Time Taken: 14:25
IEPA Cert. No. 100221

Date Received: 10/08/1998
Time Received: 17:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Benzo(k)fluoranthene	<0.088	mg/kg dw	10/24/1998	0.0038	keh	750	1808	SW 8310
Benzo(a)pyrene	<0.11	mg/kg dw	10/24/1998	0.0052	keh	750	1808	SW 8310
Benzo(ghi)perylene	<0.2	mg/kg dw	10/24/1998	0.045	keh	750	1808	SW 8310
Chrysene	<0.2	mg/kg dw	10/24/1998	0.03	keh	750	1808	SW 8310
Dibenzo(a,h)anthracene	<0.03	mg/kg dw	10/24/1998	0.007	keh	750	1808	SW 8310
Fluoranthene	0.44	mg/kg dw	10/24/1998	0.023	keh	750	1808	SW 8310
Fluorene	<0.1	mg/kg dw	10/24/1998	0.023	keh	750	1808	SW 8310
Indeno(1,2,3-cd)pyrene	0.083	mg/kg dw	10/24/1998	0.0097	keh	750	1808	SW 8310
Naphthalene	<0.1	mg/kg dw	10/24/1998	0.028	keh	750	1808	SW 8310
Phenanthrene	0.32	mg/kg dw	10/24/1998	0.045	keh	750	1808	SW 8310
Pyrene	0.26	mg/kg dw	10/24/1998	0.023	keh	750	1808	SW 8310
Surr: p-Terphenyl	Masked		10/24/1998	43-125	keh	750	1808	SW 8310
PCB Non-Aqueous Extraction	COMPLETE		10/19/1998	COMPLETE	wna	371		SW 3540C
PCB'S NON-AQUEOUS								
PCB-1016	<0.045	mg/kg dw	10/28/1998	0.045	tls	371	45	SW 8082
PCB-1221	<0.045	mg/kg dw	10/28/1998	0.045	tls	371	45	SW 8082
PCB-1232	<0.045	mg/kg dw	10/28/1998	0.045	tls	371	45	SW 8082
PCB-1242	<0.045	mg/kg dw	10/28/1998	0.045	tls	371	45	SW 8082
PCB-1248	<0.045	mg/kg dw	10/28/1998	0.045	tls	371	45	SW 8082
PCB-1254	<0.045	mg/kg dw	10/28/1998	0.045	tls	371	45	SW 8082
PCB-1260	<0.045	mg/kg dw	10/28/1998	0.045	tls	371	45	SW 8082
Decachlorobiphenyl (Surr)	97.0	%	10/28/1998	NA	tls	371	45	SW 8082
2,4,5,6-TCMX (Surr)	80.0	%	10/28/1998	NA	tls	371	45	SW 8082

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

NET Job Number: 98.13082

Mr. Wei-lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
pH, Non-Aqueous	170	7.00	7.03	100.4
pH, Non-Aqueous	171	7.00	7.01	100.1
Arsenic, GFAA	661	0.0250	0.0257	102.8
Barium, ICP	2159	2.00	2.00	100.0
Barium, ICP	2160	2.00	2.09	104.5
Barium, ICP	2169	2.00	2.05	102.5
Cadmium, ICP	2130	1.00	0.995	99.5
Cadmium, ICP	2139	1.00	1.01	101.0
Cadmium, ICP	2154	1.00	1.05	105.0
Chromium, ICP	2116	2.00	1.96	98.0
Chromium, ICP	2125	2.00	2.04	102.0
Chromium, ICP	2139	2.00	2.06	103.0
Lead, ICP	2352	2.00	1.92	96.0
Lead, ICP	2361	2.00	2.05	102.5
Lead, ICP	2376	2.00	1.97	98.5
Mercury, CVAA	764	0.0025	0.00256	102.4
Selenium, GFAA	548	0.0500	0.0503	100.6
Selenium, GFAA	550	0.0500	0.0515	103.0
Silver, AA	564	0.50	0.497	99.4
Silver, AA	565	0.50	0.489	97.8
Silver, AA	566	0.50	0.494	98.8
TPH MODIFIED 8015				
TPH as Gas	485	2,500	2,524	101.0
TPH as Diesel	485	2,500	2,794	111.8
TPH as Oil	485	2,500	2,398	95.9
N-octacosane (TPH surr)	485	100	108	108.0
TPH MODIFIED 8015				
TPH as Gas	485	2,500	2,418	96.7
TPH as Diesel	485	2,500	2,529	101.2
TPH as Oil	485	2,500	2,289	91.6
N-octacosane (TPH surr)	485	100	107	107.0
TPH MODIFIED 8015				
TPH as Gas	485	2,500	2,639	105.6
TPH as Diesel	485	2,500	2,556	102.2

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

NET Job Number: 98.13082

Mr. Wei-lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
TPH as Oil	485	2,500	2,429	97.2
N-octacosane (TPH surr)	485	100	107	107.0
TPH MODIFIED 8015				
TPH as Gas	485	2,500	2,699	108.0
TPH as Diesel	485	2,500	2,613	104.5
TPH as Oil	485	2,500	2,531	101.2
N-octacosane (TPH surr)	485	100	110	110.0
TPH MODIFIED 8015				
TPH as Gas	485	2,500	2,726	109.0
TPH as Diesel	485	2,500	2,458	98.3
TPH as Oil	485	2,500	2,528	101.1
N-octacosane (TPH surr)	485	100	107	107.0
TPH MODIFIED 8015				
TPH as Gas	485	2,500	2,474	99.0
TPH as Diesel	485	2,500	2,480	99.2
TPH as Oil	485	2,500	2,331	93.2
N-octacosane (TPH surr)	485	100	107	107.0
TPH MODIFIED 8015				
TPH as Gas	485	2,500	2,514	100.6
TPH as Diesel	485	2,500	2,521	100.8
TPH as Oil	485	2,500	2,339	93.6
N-octacosane (TPH surr)	485	100	108	108.0
TPH MODIFIED 8015				
TPH as Gas	486	2,500	2,567	102.7
TPH as Diesel	486	2,500	2,476	99.0
TPH as Oil	486	2,500	2,357	94.3
N-octacosane (TPH surr)	486	100	106	106.0
TPH MODIFIED 8015				
TPH as Gas	486	2,500	2,683	107.3
TPH as Diesel	486	2,500	2,561	102.4
TPH as Oil	486	2,500	2,392	95.7
N-octacosane (TPH surr)	486	100	108	108.0
UST VOLATILES NON-AQUEOUS				
Benzene	40	50.0	50.0	100.0

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

NET Job Number: 98.13082

Mr. Wei-lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Ethylbenzene	40	50.0	54.0	108.0
Toluene	40	50.0	51.0	102.0
Xylenes, Total	40	150	156	104.0
UST VOLATILES NON-AQUEOUS				
Benzene	42	50.0	52.1	104.2
Ethylbenzene	42	50.0	54.8	109.6
Toluene	42	50.0	52.2	104.4
Xylenes, Total	42	150	156	104.0
UST VOLATILES NON-AQUEOUS				
Benzene	43	50.0	54.7	109.4
Ethylbenzene	43	50.0	56.4	112.8
Toluene	43	50.0	55.2	110.4
Xylenes, Total	43	150	162	108.0
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1807	5000	4,928	98.6
Acenaphthylene	1807	5000	5,161	103.2
Anthracene	1807	5000	5,126	102.5
Benzo(a)anthracene	1807	5000	5,233	104.7
Benzo(b)fluoranthene	1807	5000	4,879	97.6
Benzo(k)fluoranthene	1807	5000	4,761	95.2
Benzo(a)pyrene	1807	5000	4,892	97.8
Benzo(ghi)perylene	1807	5000	4,779	95.6
Chrysene	1807	5000	5,093	101.9
Dibenzo(a,h)anthracene	1807	5000	4,882	97.6
Fluoranthene	1807	5000	4,863	97.3
Fluorene	1807	5000	4,822	96.4
Indeno(1,2,3-cd)pyrene	1807	5000	4,833	96.7
Naphthalene	1807	5000	5,075	101.5
Phenanthrene	1807	5000	4,930	98.6
Pyrene	1807	5000	5,038	100.8
Surr: p-Terphenyl	1807	5000	5,039	100.8
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1807	5000	5,042	100.8
Acenaphthylene	1807	5000	5,192	103.8

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

NET Job Number: 98.13082

Mr. Wei-lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Anthracene	1807	5000	5,114	102.3
Benzo(a)anthracene	1807	5000	5,215	104.3
Benzo(b)fluoranthene	1807	5000	4,867	97.3
Benzo(k)fluoranthene	1807	5000	4,753	95.1
Benzo(a)pyrene	1807	5000	4,893	97.9
Benzo(ghi)perylene	1807	5000	4,706	94.1
Chrysene	1807	5000	5,133	102.7
Dibenzo(a,h)anthracene	1807	5000	4,924	98.5
Fluoranthene	1807	5000	4,818	96.4
Fluorene	1807	5000	4,827	96.5
Indeno(1,2,3-cd)pyrene	1807	5000	4,714	94.3
Naphthalene	1807	5000	5,011	100.2
Phenanthrene	1807	5000	4,908	98.2
Pyrene	1807	5000	4,943	98.9
Surr: p-Terphenyl	1807	5000	4,902	98.0
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1808	5000	4,675	93.5
Acenaphthylene	1808	5000	4,981	99.6
Anthracene	1808	5000	5,114	102.3
Benzo(a)anthracene	1808	5000	5,059	101.2
Benzo(b)fluoranthene	1808	5000	4,778	95.6
Benzo(k)fluoranthene	1808	5000	4,756	95.1
Benzo(a)pyrene	1808	5000	4,562	91.2
Benzo(ghi)perylene	1808	5000	4,906	98.1
Chrysene	1808	5000	5,024	100.5
Dibenzo(a,h)anthracene	1808	5000	4,914	98.3
Fluoranthene	1808	5000	4,944	98.9
Fluorene	1808	5000	4,881	97.6
Indeno(1,2,3-cd)pyrene	1808	5000	5,072	101.4
Naphthalene	1808	5000	4,769	95.4
Phenanthrene	1808	5000	4,966	99.3
Pyrene	1808	5000	4,867	97.3
Surr: p-Terphenyl	1808	5000	4,820	96.4
PNA CMPDS - 8310 NONAQUEOUS				

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

NET Job Number: 98.13082

Mr. Wei-lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Acenaphthene	1808	5000	4,815	96.3
Acenaphthylene	1808	5000	5,028	100.6
Anthracene	1808	5000	5,164	103.3
Benzo(a)anthracene	1808	5000	5,191	103.8
Benzo(b)fluoranthene	1808	5000	4,893	97.9
Benzo(k)fluoranthene	1808	5000	4,880	97.6
Benzo(a)pyrene	1808	5000	4,671	93.4
Benzo(ghi)perylene	1808	5000	5,070	101.4
Chrysene	1808	5000	5,093	101.9
Dibenzo(a,h)anthracene	1808	5000	4,973	99.5
Fluoranthene	1808	5000	4,971	99.4
Fluorene	1808	5000	4,951	99.0
Indeno(1,2,3-cd)pyrene	1808	5000	5,030	100.6
Naphthalene	1808	5000	4,772	95.4
Phenanthrene	1808	5000	5,041	100.8
Pyrene	1808	5000	4,888	97.8
Surr: p-Terphenyl	1808	5000	4,828	96.6
PNA CMPDS - 8310 NONAQUEOUS				
Acenaphthene	1808	5000	4,783	95.7
Acenaphthylene	1808	5000	5,060	101.2
Anthracene	1808	5000	5,128	102.6
Benzo(a)anthracene	1808	5000	5,131	102.6
Benzo(b)fluoranthene	1808	5000	4,838	96.8
Benzo(k)fluoranthene	1808	5000	4,872	97.4
Benzo(a)pyrene	1808	5000	4,587	91.7
Benzo(ghi)perylene	1808	5000	4,894	97.9
Chrysene	1808	5000	5,116	102.3
Dibenzo(a,h)anthracene	1808	5000	4,952	99.0
Fluoranthene	1808	5000	4,987	99.7
Fluorene	1808	5000	4,964	99.3
Indeno(1,2,3-cd)pyrene	1808	5000	4,983	99.7
Naphthalene	1808	5000	4,765	95.3
Phenanthrene	1808	5000	5,031	100.6
Pyrene	1808	5000	4,928	98.6

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

NET Job Number: 98.13082

Mr. Wei-lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Surr: p-Terphenyl	1808	5000	4,935	98.7
PNA CMPDS - 8310 NONAQUEOUS				
Chrysene	1809	5000	5,115	102.3
PNA CMPDS - 8310 NONAQUEOUS				
Chrysene	1809	5000	5,231	104.6
PNA CMPDS - 8310 NONAQUEOUS				
Chrysene	1809	5000	5,158	103.2
PNA CMPDS - 8310 NONAQUEOUS				
Chrysene	1809	5000	5,296	105.9
PCB'S NON-AQUEOUS				
PCB-1016	40	500	514	102.8
PCB-1260	40	500	514	102.8
PCB'S NON-AQUEOUS				
PCB-1016	40	500	530	106.0
PCB-1260	40	500	532	106.4
PCB'S NON-AQUEOUS				
PCB-1016	41	500	530	106.0
PCB-1260	41	500	532	106.4
PCB'S NON-AQUEOUS				
PCB-1016	41	500	503	100.6
PCB-1260	41	500	498	99.6
PCB'S NON-AQUEOUS				
PCB-1016	42	500	510	102.0
PCB-1260	42	500	515	103.0
PCB'S NON-AQUEOUS				
PCB-1016	42	500	484	96.8
PCB-1260	42	500	485	97.0
PCB'S NON-AQUEOUS				
PCB-1016	42	500	456	91.2
PCB-1260	42	500	455	91.0
PCB'S NON-AQUEOUS				
PCB-1016	42	500	484	96.8
PCB-1260	42	500	487	97.4
PCB'S NON-AQUEOUS				

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

NET Job Number: 98.13082

Mr. Wei-lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
PCB-1016	45	500	478	95.6
PCB-1260	45	500	476	95.2
PCB'S NON-AQUEOUS				
PCB-1016	45	500	505	101.0
PCB-1260	45	500	500	100.0

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

NET Job Number: 98.13082

Mr. Wei-lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Arsenic, GFAA	221	658	<0.50	mg/Kg	0.50	SW 7060
Arsenic, GFAA	223	661	<0.50	mg/Kg	0.50	SW 7060
Arsenic, GFAA	224	661	<0.50	mg/Kg	0.50	SW 7060
Barium, ICP	1146	2150	<1.0	mg/Kg	1.0	SW 6010B
Barium, ICP	1151	2160	<1.0	mg/Kg	1.0	SW 6010B
Barium, ICP	1150	2148	<1.0	mg/Kg	1.0	SW 6010B
Cadmium, ICP	1146	2130	<0.50	mg/Kg	0.50	SW 6010B
Cadmium, ICP	1151	2139	<0.50	mg/Kg	0.50	SW 6010B
Cadmium, ICP	1150	2135	<0.50	mg/Kg	0.50	SW 6010B
Chromium, ICP	1146	2116	<2.0	mg/Kg	2.0	SW 6010B
Chromium, ICP	1151	2125	<2.0	mg/Kg	2.0	SW 6010B
Chromium, ICP	1150	2121	<2.0	mg/Kg	2.0	SW 6010B
Lead, ICP	1146	2352	<4.0	mg/Kg	4.0	SW 6010B
Lead, ICP	1151	2361	<4.0	mg/Kg	4.0	SW 6010B
Lead, ICP	1150	2357	<4.0	mg/Kg	4.0	SW 6010B
Mercury, CVAA	660	764	<0.040	mg/Kg	0.040	SW 7471A
Selenium, GFAA	221	544	<0.25	mg/Kg	0.25	SW 7740
Selenium, GFAA	223	548	<0.25	mg/Kg	0.25	SW 7740
Selenium, GFAA	224	549	<0.25	mg/Kg	0.25	SW 7740
Silver, AA	479	564	<2.0	mg/Kg	2.0	SW 7760
Silver, AA	481	565	<2.0	mg/Kg	2.0	SW 7760
Silver, AA	482	566	<2.0	mg/Kg	2.0	SW 7760
TPH MODIFIED 8015						SW 8015M
TPH as Gas	238	479	<50.	mg/Kg	50	SW 8015M
TPH as Diesel	238	479	<50.	mg/Kg	50	SW 8015M
TPH as Oil	238	479	<50.	mg/Kg	50	SW 8015M
N-octacosane (TPH surr)	238	479	113.0	%		SW 8015M
TPH MODIFIED 8015						SW 8015M
TPH as Gas	239	481	<50.	mg/Kg	50	SW 8015M

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

NET Job Number: 98.13082

Mr. Wei-lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
TPH as Diesel	239	481	<50.	mg/Kg	50	SW 8015M
TPH as Oil	239	481	<50.	mg/Kg	50	SW 8015M
N-octacosane (TPH surr)	239	481	109.0	%		SW 8015M
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		40	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		40	<0.005	mg/Kg	0.005	SW 8260A
Toluene		40	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		40	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		40	96.0	%	80-120	SW 8260A
Toluene-d8 (Surr)		40	108.0	%	81-117	SW 8260A
4-Bromofluoromethane (Surr)		40	108.0	%	74-121	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		42	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		42	<0.005	mg/Kg	0.005	SW 8260A
Toluene		42	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		42	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		42	99.0	%	74-134	SW 8260A
Toluene-d8 (Surr)		42	107.8	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		42	110.4	%	64-131	SW 8260A
UST VOLATILES NON-AQUEOUS						SW 8260A
Benzene		43	<0.005	mg/Kg	0.005	SW 8260A
Ethylbenzene		43	<0.005	mg/Kg	0.005	SW 8260A
Toluene		43	<0.005	mg/Kg	0.005	SW 8260A
Xylenes, Total		43	<0.005	mg/Kg	0.005	SW 8260A
Dibromofluoromethane (Surr)		43	95.2	%	74-134	SW 8260A
Toluene-d8 (Surr)		43	103.2	%	90-134	SW 8260A
4-Bromofluoromethane (Surr)		43	101.6	%	64-131	SW 8260A
PNA CMPDS - 8310 NONAQUEOUS						SW 8310
Acenaphthene	750	1794	<0.020	mg/Kg	0.020	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

NET Job Number: 98.13082

Mr. Wei-lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Acenaphthylene	750	1794	<0.020	mg/Kg	0.020	SW 8310
Anthracene	750	1794	<0.040	mg/Kg	0.040	SW 8310
Benzo(a)anthracene	750	1794	<0.0026	mg/Kg	0.0026	SW 8310
Benzo(b)fluoranthene	750	1794	<0.0036	mg/Kg	0.0036	SW 8310
Benzo(k)fluoranthene	750	1794	<0.0034	mg/Kg	0.0034	SW 8310
Benzo(a)pyrene	750	1794	<0.0046	mg/Kg	0.0046	SW 8310
Benzo(ghi)perylene	750	1794	<0.040	mg/Kg	0.040	SW 8310
Chrysene	750	1794	<0.03	mg/Kg	0.03	SW 8310
Dibenzo(a,h)anthracene	750	1794	<0.006	mg/Kg	0.006	SW 8310
Fluoranthene	750	1794	<0.020	mg/Kg	0.020	SW 8310
Fluorene	750	1794	<0.020	mg/Kg	0.020	SW 8310
Indeno(1,2,3-cd)pyrene	750	1794	<0.0086	mg/Kg	0.0086	SW 8310
Naphthalene	750	1794	<0.025	mg/Kg	0.025	SW 8310
Phenanthrene	750	1794	<0.040	mg/Kg	0.040	SW 8310
Pyrene	750	1794	<0.020	mg/Kg	0.020	SW 8310
Surr: p-Terphenyl	750	1794	82.9	%	43-125	SW 8310
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	368	38	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	368	38	<0.040	mg/Kg	0.040	SW 8082
PCB-1232	368	38	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	368	38	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	368	38	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	368	38	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	368	38	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	368	38	90.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	368	38	85.0	%	NA	SW 8082
PCB'S NON-AQUEOUS						SW 8082
PCB-1016	371	42	<0.040	mg/Kg	0.040	SW 8082
PCB-1221	371	42	<0.040	mg/Kg	0.040	SW 8082

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

NET Job Number: 98.13082

Mr. Wei-lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
PCB-1232	371	42	<0.040	mg/Kg	0.040	SW 8082
PCB-1242	371	42	<0.040	mg/Kg	0.040	SW 8082
PCB-1248	371	42	<0.040	mg/Kg	0.040	SW 8082
PCB-1254	371	42	<0.040	mg/Kg	0.040	SW 8082
PCB-1260	371	42	<0.040	mg/Kg	0.040	SW 8082
Decachlorobiphenyl (Surr)	371	42	98.0	%	NA	SW 8082
2,4,5,6-TCMX (Surr)	371	42	90.0	%	NA	SW 8082

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

NET Job Number: 98.13082

Mr. Wei-lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Arsenic, GFAA	221	658	0.0100	0.0104	104.0
Arsenic, GFAA	223	661	0.0100	0.0105	105.0
Arsenic, GFAA	224	661	0.0100	0.0099	99.0
Barium, ICP	1146	2150	5.00	4.99	99.8
Barium, ICP	1151	2160	5.00	5.20	104.0
Barium, ICP	1150	2168	5.00	5.18	103.6
Cadmium, ICP	1146	2130	2.50	2.33	93.2
Cadmium, ICP	1151	2139	2.50	2.40	96.0
Cadmium, ICP	1150	2135	2.50	2.54	101.6
Chromium, ICP	1146	2116	5.00	4.75	95.0
Chromium, ICP	1151	2125	5.00	4.60	92.0
Chromium, ICP	1150	2121	5.00	5.55	111.0
Lead, ICP	1146	2352	5.00	5.45	109.0
Lead, ICP	1151	2361	5.00	5.50	110.0
Lead, ICP	1150	2357	5.00	5.8	116.0
Mercury, CVAA	660	764	0.0025	0.00267	106.8
Selenium, GFAA	221	547	0.0100	0.0083	83.0
Selenium, GFAA	223	548	0.0100	0.0085	85.0
Selenium, GFAA	224	549	0.0100	0.0090	90.0
Silver, AA	479	564	0.1	0.112	112.0
Silver, AA	481	565	0.10	0.107	107.0
Silver, AA	482	566	0.10	0.097	97.0
TPH MODIFIED 8015					
TPH as Gas	238	479	200	223	111.5
TPH as Diesel	238	479	200	211	105.5
TPH as Oil	238	479	200	203	101.5
N-octacosane (TPH surr)	238	479	100	111	111.0
TPH MODIFIED 8015					
TPH as Gas	239	481	200	217	108.5
TPH as Diesel	239	481	200	224	112.0
TPH as Oil	239	481	200	211	105.5

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
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11/06/1998

NET Job Number: 98.13082

Mr. Wei-lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
N-octacosane (TPH surr)	239	481	100	114	114.0
UST VOLATILES NON-AQUEOUS					
Benzene		40	20.0	21.0	105.0
Ethylbenzene		40	20.0	22.0	110.0
Toluene		40	20.0	21.0	105.0
Xylenes, Total		40	60.0	62.0	103.3
Dibromofluoromethane (Surr)		40	50.0	50.0	100.0
Toluene-d8 (Surr)		40	50.0	54.0	108.0
4-Bromofluoromethane (Surr)		40	50.0	55.0	110.0
UST VOLATILES NON-AQUEOUS					
Benzene		42	20.0	20.3	101.5
Ethylbenzene		42	20.0	21.8	109.0
Toluene		42	20.0	20.8	104.0
Xylenes, Total		42	60.0	62.7	104.5
Dibromofluoromethane (Surr)		42	50.0	50.3	100.6
Toluene-d8 (Surr)		42	50.0	54.7	109.4
4-Bromofluoromethane (Surr)		42	50.0	54.0	108.0
UST VOLATILES NON-AQUEOUS					
Benzene		43	20.0	21.3	106.5
Ethylbenzene		43	20.0	23.3	116.5
Toluene		43	20.0	22.2	111.0
Xylenes, Total		43	60.0	65.3	108.8
Dibromofluoromethane (Surr)		43	50.0	49.8	99.6
Toluene-d8 (Surr)		43	50.0	53.0	106.0
4-Bromofluoromethane (Surr)		43	50.0	53.5	107.0
PNA CMPDS - 8310 NONAQUEOUS					
Acenaphthene	750	1794	0.033	0.034	103.0
Acenaphthylene	750	1794	0.033	0.030	90.9
Anthracene	750	1794	0.033	0.032	97.0
Benzo(a)anthracene	750	1794	0.033	0.031	93.9
Benzo(b)fluoranthene	750	1794	0.033	0.030	90.9

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

NET Job Number: 98.13082

Mr. Wei-lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Benzo(k)fluoranthene	750	1794	0.033	0.029	87.9
Benzo(a)pyrene	750	1794	0.033	0.026	78.8
Benzo(ghi)perylene	750	1794	0.033	0.028	84.8
Chrysene	750	1794	0.033	0.033	100.0
Dibenzo(a,h)anthracene	750	1794	0.033	0.029	87.9
Fluoranthene	750	1794	0.033	0.030	90.9
Fluorene	750	1794	0.033	0.031	93.9
Indeno(1,2,3-cd)pyrene	750	1794	0.033	0.029	87.9
Naphthalene	750	1794	0.033	0.028	84.8
Phenanthrene	750	1794	0.033	0.031	93.9
Pyrene	750	1794	0.033	0.030	90.9
Surr: p-Terphenyl	750	1794	2000	1,756	87.8
PCB'S NON-AQUEOUS					
PCB-1016	368	38	500	521	104.2
PCB-1260	368	38	500	535	107.0
Decachlorobiphenyl (Surr)	368	38	100	99	99.0
2,4,5,6-TCMX (Surr)	368	38	100	90	90.0
PCB'S NON-AQUEOUS					
PCB-1016	371	42	500	510	102.0
PCB-1260	371	42	500	528	105.6
Decachlorobiphenyl (Surr)	371	42	100	105	105.0
2,4,5,6-TCMX (Surr)	371	42	100	95	95.0

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QUALITY CONTROL REPORT

DUPLICATES

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/06/1998

NET Job Number: 98.13082

Mr. Wei-lin Feng

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	RPD
pH, Non-Aqueous		170	8.13	8.08	units	0.6
pH, Non-Aqueous		171	8.52	8.62	units	1.2
Solids, Total		2502	55.4	54.2	%	2.2
Solids, Total		2502	90.8	89.3	%	1.7
Solids, Total		2518	88.6	85.7	%	3.3
Solids, Total		2518	86.9	86.3	%	0.7
Solids, Total		2518	92.3	91.6	%	0.8

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.

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NET Midwest, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

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(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY ENSR
ADDRESS 140 Pasquinelli Dr. Westmont, IL
PHONE (630) 887-1700 FAX (630) 850-5307
PROJECT NAME/LOCATION ComEd Joliet #29
PROJECT NUMBER 1801-023-440
PROJECT MANAGER Wei-Lin Feng/ Karen Dolnicks

REPORT TO: Wei-Lin Feng
INVOICE TO:
P.O. NO.
NET QUOTE NO.

SAMPLED BY

(PRINT NAME) SIGNATURE
(PRINT NAME) SIGNATURE

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: pH (9045)	PNAs (8310)	BTEX (8260)	PCBs (808)	RCRA Metals (total)	TPH (8015)	COMMENTS
10/7	15:05	S-10	S	X						2	X	X	X	X	X	X	1-4oz, 1-16oz
	15:10	S-11	S	X						2	X	X	X	X	X	X	
	15:15	S-12	S	X						2	X	X	X	X	X	X	
	15:25	S-13	S	X						2	X	X	X	X	X	X	
	15:30	S-14	S	X						2	X	X	X	X	X	X	
10/8	10:58	B-13(0-3)	S	X						2	X	X	X	X	X		2-4oz limited sample
	12:30	B-1(0-3)	S	X						2	X	X	X	X	X		2-4oz limited sample
	12:50	B-4(0-4)	S	X						2	X	X	X	X	X		1-4oz, 1-16oz
	13:10	S-23	S	X						2	X	X	X	X	X	X	1-4oz, 1-16oz
	13:25	B-3(0-4)	S	X						2	X	X	X	X	X		1-4oz, 1-16oz
	13:53	B-5-S	S	X						2	X	X	X	X	X		
	14:05	B-6(0-2)	S	X						2	X	X	X	X	X		
	14:25	B-8(0-3)	S	X						2	X	X	X	X	X		

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ___ No ___

Is this work being conducted for regulatory enforcement action? Yes ___ No ___

Which regulations apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other ___ None ___

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) / NO FIELD FILTERED? YES / (NO)
COC SEALS PRESENT AND INTACT? (YES) / NO VOLATILES FREE OF HEADSPACE? (YES) / NO
TEMPERATURE UPON RECEIPT: 3.6°C blue
Bottles supplied by NET? (YES) / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ___ DATE ___

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
Charlene Howell	10/8/98	15:00	Kelly Crockett	Kelly Crockett	10/8/98	1750	J. Dell

METHOD OF SHIPMENT: Pickup
REMARKS: 10-day Max Turnaround

MWG13-15_23545

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Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13758

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Joliet #29; 1801-023

Sample Number	Sample Description	Date Taken	Date Received
499551	MW-2	10/22/1998	10/23/1998
499552	MW-3	10/22/1998	10/23/1998
499553	MW-5	10/22/1998	10/23/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499551

NET Job No.: 98.13758

Sample Description: MW-2
ComEd-Joliet #29; 1801-023

Date Taken: 10/22/1998
Time Taken: 15:00
IEPA Cert. No. 100221

Date Received: 10/23/1998
Time Received: 16:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH	7.29	units	10/23/1998	0.10	efw	1713	EPA 150.1
Arsenic, GFAA	<0.0050	mg/L	11/07/1998	0.0050	mhp	1352 1146	SW 7060
Barium, ICP	0.057	mg/L	11/05/1998	0.020	kdw	2197 3769	SW 6010B
Cadmium, ICP	<0.010	mg/L	11/05/1998	0.010	kdw	2197 3737	SW 6010B
Chromium, ICP	<0.040	mg/L	11/05/1998	0.040	kdw	2197 3746	SW 6010B
Lead, GFAA	<0.0050	mg/L	11/06/1998	0.0050	mhp	1352 2170	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/03/1998	0.0002	sep	1185 1091	SW 7470A
Selenium, GFAA	0.0050	mg/L	11/07/1998	0.0050	mhp	1352 857	SW 7740
Silver, AA	<0.040	mg/L	11/03/1998	0.040	sep	1012 991	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		10/27/1998		wna	369	SW 3510C
PCBs 8082 Aqueous							
PCB-1016	<0.0005	mg/L	10/30/1998	0.0005	greg	369 698	SW 8082
PCB-1221	<0.0005	mg/L	10/30/1998	0.0005	greg	369 698	SW 8082
PCB-1232	<0.0005	mg/L	10/30/1998	0.0005	greg	369 698	SW 8082
PCB-1242	<0.0005	mg/L	10/30/1998	0.0005	greg	369 698	SW 8082
PCB-1248	<0.0005	mg/L	10/30/1998	0.0005	greg	369 698	SW 8082
PCB-1254	<0.0005	mg/L	10/30/1998	0.0005	greg	369 698	SW 8082
PCB-1260	<0.0005	mg/L	10/30/1998	0.0005	greg	369 698	SW 8082
Surr: Tetrachloroxylene (TCX)	84.2	%	10/30/1998	22-154	greg	369 698	SW 8082
Surr: Decachlorobiphenyl (DCB)	60.5	%	10/30/1998	23-154	greg	369 698	SW 8082

MWG13-15_23547

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499551

NET Job No.: 98.13758

Sample Description: MW-2
ComEd-Joliet #29; 1801-023

Date Taken: 10/22/1998
Time Taken: 15:00
IEPA Cert. No. 100221

Date Received: 10/23/1998
Time Received: 16:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS								
Benzene	<0.001	mg/L	11/05/1998	0.001	mjo		2636	SW 8260A
Ethyl Benzene	<0.001	mg/L	11/05/1998	0.001	mjo		2636	SW 8260A
Toluene	<0.001	mg/L	11/05/1998	0.001	mjo		2636	SW 8260A
Xylenes, Total	<0.001	mg/L	11/05/1998	0.001	mjo		2636	SW 8260A
Surr: Toluene-d8	110.6	%	11/05/1998	85-117	mjo		2636	SW 8260A
Surr: Bromofluorobenzene	95.8	%	11/05/1998	80-116	mjo		2636	SW 8260A
Surr: Dibromofluoromethane	99.8	%	11/05/1998	75-130	mjo		2636	SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted		10/28/1998		rmp	405		SW 3520C
PNA CMPDS - 8310 AQUEOUS								
Acenaphthene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Acenaphthylene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Anthracene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Benzo(a)anthracene	<0.00013	mg/L	11/02/1998	0.00013	kdw	405	1199	SW 8310
Benzo(b)fluoranthene	<0.00018	mg/L	11/02/1998	0.00018	kdw	405	1199	SW 8310
Benzo(k)fluoranthene	<0.00017	mg/L	11/02/1998	0.00017	kdw	405	1199	SW 8310
Benzo(a)pyrene	<0.00023	mg/L	11/02/1998	0.00023	kdw	405	1199	SW 8310
Benzo(ghi)perylene	<0.00076	mg/L	11/02/1998	0.00076	kdw	405	1199	SW 8310
Chrysene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Dibenzo(a,h)anthracene	<0.00030	mg/L	11/02/1998	0.00030	kdw	405	1199	SW 8310
Fluoranthene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Fluorene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043	mg/L	11/02/1998	0.00043	kdw	405	1199	SW 8310
Naphthalene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Phenanthrene	<0.0010	mg/L	11/02/1998	0.0010	kdw	405	1199	SW 8310
Pyrene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499551

NET Job No.: 98.13758

Sample Description: MW-2
ComEd-Joliet #29; 1801-023

Date Taken: 10/22/1998
Time Taken: 15:00
IEPA Cert. No. 100221

Date Received: 10/23/1998
Time Received: 16:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Surr: p-Terphenyl	89.7	%	11/02/1998	43-125	kdw	405	1199	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499552

NET Job No.: 98.13758

Sample Description: MW-3
ComEd-Joliet #29; 1801-023

Date Taken: 10/22/1998
Time Taken: 18:00
IEPA Cert. No. 100221

Date Received: 10/23/1998
Time Received: 16:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH	6.84	units	10/23/1998	0.10	efw		1713	EPA 150.1
Arsenic, GFAA	<0.0050	mg/L	11/07/1998	0.0050	mhp	1352	1146	SW 7060
Barium, ICP	0.102	mg/L	11/05/1998	0.020	kdw	2197	3769	SW 6010B
Cadmium, ICP	<0.010	mg/L	11/05/1998	0.010	kdw	2197	3737	SW 6010B
Chromium, ICP	<0.040	mg/L	11/05/1998	0.040	kdw	2197	3746	SW 6010B
Lead, GFAA	<0.0050	mg/L	11/06/1998	0.0050	mhp	1352	2170	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/03/1998	0.0002	sep	1185	1091	SW 7470A
Selenium, GFAA	<0.0050	mg/L	11/07/1998	0.0050	mhp	1352	857	SW 7740
Silver, AA	<0.040	mg/L	11/03/1998	0.040	sep	1012	991	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		10/27/1998		wna	369		SW 3510C
PCBs 8082 Aqueous								
PCB-1016	<0.0005	mg/L	10/30/1998	0.0005	greg	369	698	SW 8082
PCB-1221	<0.0005	mg/L	10/30/1998	0.0005	greg	369	698	SW 8082
PCB-1232	<0.0005	mg/L	10/30/1998	0.0005	greg	369	698	SW 8082
PCB-1242	<0.0005	mg/L	10/30/1998	0.0005	greg	369	698	SW 8082
PCB-1248	<0.0005	mg/L	10/30/1998	0.0005	greg	369	698	SW 8082
PCB-1254	<0.0005	mg/L	10/30/1998	0.0005	greg	369	698	SW 8082
PCB-1260	<0.0005	mg/L	10/30/1998	0.0005	greg	369	698	SW 8082
Surr: Tetrachloroxylene (TCX)	98.7	%	10/30/1998	22-154	greg	369	698	SW 8082
Surr: Decachlorobiphenyl (DCB)	60.6	%	10/30/1998	23-154	greg	369	698	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998
Sample No. : 499552
NET Job No.: 98.13758

Sample Description: MW-3
ComEd-Joliet #29; 1801-023

Date Taken: 10/22/1998
Time Taken: 18:00
IEPA Cert. No. 100221

Date Received: 10/23/1998
Time Received: 16:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS								
Benzene	<0.001	mg/L	11/05/1998	0.001	mjo		2636	SW 8260A
Ethyl Benzene	<0.001	mg/L	11/05/1998	0.001	mjo		2636	SW 8260A
Toluene	<0.001	mg/L	11/05/1998	0.001	mjo		2636	SW 8260A
Xylenes, Total	<0.001	mg/L	11/05/1998	0.001	mjo		2636	SW 8260A
Surr: Toluene-d8	109.8	%	11/05/1998	85-117	mjo		2636	SW 8260A
Surr: Bromofluorobenzene	100.4	%	11/05/1998	80-116	mjo		2636	SW 8260A
Surr: Dibromofluoromethane	99.4	%	11/05/1998	75-130	mjo		2636	SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted		10/28/1998		rmp	405		SW 3520C
PNA CMPDS - 8310 AQUEOUS								
Acenaphthene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Acenaphthylene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Anthracene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Benzo(a)anthracene	<0.00013	mg/L	11/02/1998	0.00013	kdw	405	1199	SW 8310
Benzo(b)fluoranthene	<0.00018	mg/L	11/02/1998	0.00018	kdw	405	1199	SW 8310
Benzo(k)fluoranthene	<0.00017	mg/L	11/02/1998	0.00017	kdw	405	1199	SW 8310
Benzo(a)pyrene	<0.00023	mg/L	11/02/1998	0.00023	kdw	405	1199	SW 8310
Benzo(ghi)perylene	<0.00076	mg/L	11/02/1998	0.00076	kdw	405	1199	SW 8310
Chrysene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Dibenzo(a,h)anthracene	<0.00030	mg/L	11/02/1998	0.00030	kdw	405	1199	SW 8310
Fluoranthene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Fluorene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043	mg/L	11/02/1998	0.00043	kdw	405	1199	SW 8310
Naphthalene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Phenanthrene	<0.0010	mg/L	11/02/1998	0.0010	kdw	405	1199	SW 8310
Pyrene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310

MWG13-15_23551

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499552

NET Job No.: 98.13758

Sample Description: MW-3
ComEd-Joliet #29; 1801-023

Date Taken: 10/22/1998
Time Taken: 18:00
IEPA Cert. No. 100221

Date Received: 10/23/1998
Time Received: 16:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Surr: p-Terphenyl	85.6	%	11/02/1998	43-125	kdw	405	1199	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998
Sample No. : 499553
NET Job No.: 98.13758

Sample Description: MW-5
ComEd-Joliet #29; 1801-023

Date Taken: 10/22/1998
Time Taken: 16:00
IEPA Cert. No. 100221

Date Received: 10/23/1998
Time Received: 16:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
pH	7.26	units	10/23/1998	0.10	efw		1713	EPA 150.1
Arsenic, GFAA	<0.0050	mg/L	11/07/1998	0.0050	mhp	1351	1146	SW 7060
Barium, ICP	0.062	mg/L	11/05/1998	0.020	kdw	2197	3769	SW 6010B
Cadmium, ICP	<0.010	mg/L	11/05/1998	0.010	kdw	2197	3737	SW 6010B
Chromium, ICP	<0.040	mg/L	11/05/1998	0.040	kdw	2197	3746	SW 6010B
Lead, GFAA	<0.0050	mg/L	11/06/1998	0.0050	mhp	1351	2170	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/03/1998	0.0002	sep	1185	1091	SW 7470A
Selenium, GFAA	<0.0050	mg/L	11/07/1998	0.0050	mhp	1351	857	SW 7740
Silver, AA	<0.040	mg/L	11/04/1998	0.040	sep	1014	992	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		10/27/1998		wna	369		SW 3510C
PCBs 8082 Aqueous								
PCB-1016	<0.0005	mg/L	10/30/1998	0.0005	greg	369	698	SW 8082
PCB-1221	<0.0005	mg/L	10/30/1998	0.0005	greg	369	698	SW 8082
PCB-1232	<0.0005	mg/L	10/30/1998	0.0005	greg	369	698	SW 8082
PCB-1242	<0.0005	mg/L	10/30/1998	0.0005	greg	369	698	SW 8082
PCB-1248	<0.0005	mg/L	10/30/1998	0.0005	greg	369	698	SW 8082
PCB-1254	<0.0005	mg/L	10/30/1998	0.0005	greg	369	698	SW 8082
PCB-1260	<0.0005	mg/L	10/30/1998	0.0005	greg	369	698	SW 8082
Surr: Tetrachloroxylene (TCX)	102.0	%	10/30/1998	22-154	greg	369	698	SW 8082
Surr: Decachlorobiphenyl (DCB)	52.2	%	10/30/1998	23-154	greg	369	698	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499553

NET Job No.: 98.13758

Sample Description: MW-5
ComEd-Joliet #29; 1801-023

Date Taken: 10/22/1998
Time Taken: 16:00
IEPA Cert. No. 100221

Date Received: 10/23/1998
Time Received: 16:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS								
Benzene	<0.001	mg/L	11/05/1998	0.001	mjo		2636	SW 8260A
Ethyl Benzene	<0.001	mg/L	11/05/1998	0.001	mjo		2636	SW 8260A
Toluene	<0.001	mg/L	11/05/1998	0.001	mjo		2636	SW 8260A
Xylenes, Total	<0.001	mg/L	11/05/1998	0.001	mjo		2636	SW 8260A
Surr: Toluene-d8	112.2	%	11/05/1998	85-117	mjo		2636	SW 8260A
Surr: Bromofluorobenzene	104.6	%	11/05/1998	80-116	mjo		2636	SW 8260A
Surr: Dibromofluoromethane	101.8	%	11/05/1998	75-130	mjo		2636	SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted		10/28/1998		rmp	405		SW 3520C
PNA CMPDS - 8310 AQUEOUS								
Acenaphthene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Acenaphthylene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Anthracene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Benzo(a)anthracene	<0.00013	mg/L	11/02/1998	0.00013	kdw	405	1199	SW 8310
Benzo(b)fluoranthene	<0.00018	mg/L	11/02/1998	0.00018	kdw	405	1199	SW 8310
Benzo(k)fluoranthene	<0.00017	mg/L	11/02/1998	0.00017	kdw	405	1199	SW 8310
Benzo(a)pyrene	<0.00023	mg/L	11/02/1998	0.00023	kdw	405	1199	SW 8310
Benzo(ghi)perylene	<0.00076	mg/L	11/02/1998	0.00076	kdw	405	1199	SW 8310
Chrysene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Dibenzo(a,h)anthracene	<0.00030	mg/L	11/02/1998	0.00030	kdw	405	1199	SW 8310
Fluoranthene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Fluorene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043	mg/L	11/02/1998	0.00043	kdw	405	1199	SW 8310
Naphthalene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310
Phenanthrene	<0.0010	mg/L	11/02/1998	0.0010	kdw	405	1199	SW 8310
Pyrene	<0.0005	mg/L	11/02/1998	0.0005	kdw	405	1199	SW 8310

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

Sample No. : 499553

NET Job No.: 98.13758

Sample Description: MW-5
ComEd-Joliet #29; 1801-023

Date Taken: 10/22/1998
Time Taken: 16:00
IEPA Cert. No. 100221

Date Received: 10/23/1998
Time Received: 16:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Surr: p-Terphenyl	88.3	%	11/02/1998	43-125	kdw	405	1199	SW 8310

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13758

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
pH	1713	7.02	7.01	99.9
Arsenic, GFAA	1146	0.0250	0.0250	100.0
Barium, ICP	3769	2.00	1.98	99.0
Cadmium, ICP	3737	1.00	0.969	96.9
Chromium, ICP	3746	2.00	1.97	98.5
Lead, GFAA	2170	0.0250	0.0253	101.2
Mercury, CVAA	1091	0.0025	0.00262	104.8
Selenium, GFAA	857	0.0500	0.0487	97.4
Silver, AA	991	0.500	0.515	103.0
Silver, AA	992	0.500	0.481	96.2
PCBs 8082 Aqueous				
PCB-1016	698	500.	502.	100.4
PCB-1260	698	500	502.	100.4
PCBs 8082 Aqueous				
PCB-1016	698	500.	513.	102.6
PCB-1260	698	500	515.	103.0
UST VOLATILES 8260 - AQUEOUS				
Benzene	2636	50.0	53.5	107.0
Ethyl Benzene	2636	50.0	52.7	105.4
Toluene	2636	50.0	55.1	110.2
Xylenes, Total	2636	150	171	114.0
PNA CMPDS - 8310 AQUEOUS				
Acenaphthene	1199	5000	4,862	97.2
Acenaphthylene	1199	5000	5,085	101.7
Anthracene	1199	5000	5,245	104.9
Benzo(a)anthracene	1199	5000	5,197	103.9
Benzo(b)fluoranthene	1199	5000	4,983	99.7
Benzo(k)fluoranthene	1199	5000	4,905	98.1
Benzo(a)pyrene	1199	5000	4,956	99.1
Benzo(ghi)perylene	1199	5000	5,097	101.9
Chrysene	1199	5000	5,159	103.2
Dibenzo(a,h)anthracene	1199	5000	5,053	101.1
Fluoranthene	1199	5000	5,054	101.1
Fluorene	1199	5000	5,033	100.7

CCV - Continuing Calibration Verification

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13758

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Indeno(1,2,3-cd)pyrene	1199	5000	5,093	101.9
Naphthalene	1199	5000	4,705	94.1
Phenanthrene	1199	5000	5,126	102.5
Pyrene	1199	5000	4,973	99.5
Surr: p-Terphenyl	1199	5000	4,985	99.7

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13758

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Arsenic, GFAA	1351	1145	<0.0050	mg/L	0.0050	SW 7060
Arsenic, GFAA	1352	1146	<0.0050	mg/L	0.0050	SW 7060
Barium, ICP	2197	3769	<0.020	mg/L	0.020	SW 6010B
Cadmium, ICP	2197	3737	<0.010	mg/L	0.010	SW 6010B
Chromium, ICP	2197	3746	<0.040	mg/L	0.040	SW 6010B
Lead, GFAA	1351	2170	<0.0050	mg/L	0.0050	SW 7421
Lead, GFAA	1352	2170	<0.0050	mg/L	0.0050	SW 7421
Mercury, CVAA	1185	1091	<0.0002	mg/L	0.0002	SW 7470A
Mercury, CVAA	1185	1091	<0.0002	mg/L	0.0002	SW 7470A
Selenium, GFAA	1351	856	<0.0050	mg/L	0.005	SW 7740
Selenium, GFAA	1352	857	<0.0050	mg/L	0.005	SW 7740
Silver, AA	1012	991	<0.040	mg/L	0.040	SW 7760
Silver, AA	1014	992	<0.040	mg/L	0.040	SW 7760
PCBs 8082 Aqueous						SW 8082
PCB-1016	369	698	<0.5	ug/L	0.5	SW 8082
PCB-1221	369	698	<0.5	ug/L	0.5	SW 8082
PCB-1232	369	698	<0.5	ug/L	0.5	SW 8082
PCB-1242	369	698	<0.5	ug/L	0.5	SW 8082
PCB-1248	369	698	<0.5	ug/L	0.5	SW 8082
PCB-1254	369	698	<0.5	ug/L	0.5	SW 8082
PCB-1260	369	698	<0.5	ug/L	0.5	SW 8082
Surr: Tetrachloroxylene (TCX)	369	698	53.0	%	22-154	SW 8082
Surr: Decachlorobiphenyl (DCB)	369	698	58.0	%	23-154	SW 8082
UST VOLATILES 8260 - AQUEOUS						SW 8260A
Benzene		2636	<1.0	ug/L	1.0	SW 8260A
Ethyl Benzene		2636	<1.0	ug/L	1.0	SW 8260A
Toluene		2636	<1.0	ug/L	1.0	SW 8260A
Xylenes, Total		2636	<1.0	ug/L	1.0	SW 8260A
Surr: Dibromofluoromethane		2636	99.2	%	75-130	SW 8260A

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13758

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Surr: Toluene-d8		2636	112.2	%	85-117	SW 8260A
Surr: Bromofluorobenzene		2636	104.0	%	80-116	SW 8260A
PNA CMPDS - 8310 AQUEOUS						SW 8310
Acenaphthene	405	1199	<0.0005	mg/L	0.0005	SW 8310
Acenaphthylene	405	1199	<0.0005	mg/L	0.0005	SW 8310
Anthracene	405	1199	<0.0005	mg/L	0.0005	SW 8310
Benzo(a)anthracene	405	1199	<0.00013	mg/L	0.00013	SW 8310
Benzo(b)fluoranthene	405	1199	<0.00018	mg/L	0.00018	SW 8310
Benzo(k)fluoranthene	405	1199	<0.00017	mg/L	0.00017	SW 8310
Benzo(a)pyrene	405	1199	<0.00023	mg/L	0.00023	SW 8310
Benzo(ghi)perylene	405	1199	<0.00076	mg/L	0.00076	SW 8310
Chrysene	405	1199	<0.0005	mg/L	0.0005	SW 8310
Dibenzo(a,h)anthracene	405	1199	<0.00030	mg/L	0.00030	SW 8310
Fluoranthene	405	1199	<0.0005	mg/L	0.0005	SW 8310
Fluorene	405	1199	<0.0005	mg/L	0.0005	SW 8310
Indeno(1,2,3-cd)pyrene	405	1199	<0.00043	mg/L	0.00043	SW 8310
Naphthalene	405	1199	<0.0005	mg/L	0.0005	SW 8310
Phenanthrene	405	1199	<0.0010	mg/L	0.0010	SW 8310
Pyrene	405	1199	<0.0005	mg/L	0.0005	SW 8310
Surr: p-Terphenyl	405	1199	90.5	%	43-125	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13758

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Arsenic, GFAA	1351	1145	0.0200	0.0191	95.5
Arsenic, GFAA	1352	1146	0.0100	0.0097	97.0
Barium, ICP	2197	3769	5.00	5.79	115.8
Cadmium, ICP	2197	3737	2.500	2.78	111.2
Chromium, ICP	2197	3746	5.00	6.08	121.6
Lead, GFAA	1351	2170	0.0100	0.0108	108.0
Lead, GFAA	1352	2170	0.0100	0.0100	100.0
Mercury, CVAA	1185	1091	0.0025	0.00251	100.4
Mercury, CVAA	1185	1091	0.0025	0.00251	100.4
Mercury, CVAA		1091	0.0020	0.00196	98.0
Selenium, GFAA	1351	856	0.0200	0.0176	88.0
Selenium, GFAA	1352	857	0.0100	0.0104	104.0
Silver, AA	1012	991	0.10	0.105	105.0
Silver, AA	1014	992	1.00	1.01	101.0
Silver, AA		992	0.10	0.094	94.0
PCBs 8082 Aqueous					
PCB-1242	369	698	500	432.	86.4
PCB-1260	369	698	500	470.	94.0
Surr: Tetrachloroxylene (TCX)	369	698	100	47.8	47.8
Surr: Decachlorobiphenyl (DCB)	369	698	100	60.8	60.8
UST VOLATILES 8260 - AQUEOUS					
Benzene		2636	20.0	21.7	108.5
Ethyl Benzene		2636	20.0	20.9	104.5
Toluene		2636	20.0	22.3	111.5
Xylenes, Total		2636	60.0	68.6	114.3
Surr: Dibromofluoromethane		2636	50.0	50.2	100.4
Surr: Toluene-d8		2636	50.0	55.9	111.8
Surr: Bromofluorobenzene		2636	50.0	54.2	108.4
PNA CMPDS - 8310 AQUEOUS					
Acenaphthene	405	1199	0.001	0.00088	88.0
Acenaphthylene	405	1199	0.001	0.00092	92.0

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13758

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Anthracene	405	1199	0.001	0.00097	97.0
Benzo(a)anthracene	405	1199	0.001	0.00102	102.0
Benzo(b)fluoranthene	405	1199	0.001	0.00097	97.0
Benzo(k)fluoranthene	405	1199	0.001	0.00095	95.0
Benzo(a)pyrene	405	1199	0.001	0.00095	95.0
Benzo(ghi)perylene	405	1199	0.001	0.00099	99.0
Chrysene	405	1199	0.001	0.00102	102.0
Dibenzo(a,h)anthracene	405	1199	0.001	0.00095	95.0
Fluoranthene	405	1199	0.001	0.00102	102.0
Fluorene	405	1199	0.001	0.00097	97.0
Indeno(1,2,3-cd)pyrene	405	1199	0.001	0.00101	101.0
Naphthalene	405	1199	0.001	0.00086	86.0
Phenanthrene	405	1199	0.001	0.00096	96.0
Pyrene	405	1199	0.001	0.00104	104.0
Surr: p-Terphenyl	405	1199	2000	1,931	96.6

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QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13758

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Barium, ICP	2197	3769	0.165	0.062	0.100	mg/L	103.0	0.163	0.100	mg/L	101.0	2.0
Cadmium, ICP	2197	3737	0.053	<0.010	0.050	mg/L	106.0	0.053	0.050	mg/L	106.0	0.0
Chromium, ICP	2197	3746	0.114	<0.040	0.100	mg/L	114.0	0.108	0.100	mg/L	108.0	5.4
Lead, GFAA	1352	2170	0.0114	<0.0050	0.0100	mg/L	114.0	0.0106	0.0100	mg/L	106.0	7.3
Mercury, CVAA	1185	1091	0.00245	<0.0002	0.0025	mg/L	98.0	0.0025	0.0025	mg/L	102.4	4.3
Mercury, CVAA	1185	1091	0.00207	<0.0002	0.0020	mg/L	103.5	0.0021	0.0020	mg/L	106.0	2.4
Mercury, CVAA	1185	1091	0.00229	<0.0002	0.0020	mg/L	114.5	0.0022	0.0020	mg/L	111.5	2.7
Selenium, GFAA	1352	857	0.0067	<0.0050	0.0100	mg/L	67.0	0.0069	0.0100	mg/L	69.0	2.9
Silver, AA	1012	991	0.093	<0.040	0.10	mg/L	93.0	0.091	0.10	mg/L	91.0	2.2
Silver, AA	1014	992	0.040	<0.040	0.10	mg/L	40.0	0.091	0.10	mg/L	91.0	77.9
UST VOLATILES 8260 - AQUEOU												
Benzene		2636	22.3	<0.001	20.0	mg/L	111.5	21.8	20.0	mg/L	109.0	2.3
Ethyl Benzene		2636	21.6	<0.001	20.0	mg/L	108.0	20.9	20.0	mg/L	104.5	3.3
Toluene		2636	23.1	<0.001	20.0	mg/L	115.5	21.3	20.0	mg/L	106.5	8.1
Xylenes, Total		2636	69.0	<0.001	60.0	mg/L	115.0	66.3	60.0	mg/L	110.5	4.0

NOTE: Matrix Spike Samples may not be samples from this job.

Advisory Control Limits for MS/MSDs:

For Inorganic Parameters and GC Volatiles, the spike recovery should be 75 - 125% if the spike added value was greater than or equal to one fourth of the sample result value. If not, the control limits are not established. The RPD for the MS/MSD pair should be less than 20.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

RPD calculations are performed on the Percent Recovery calculated from the observed Matrix spike and Matrix Spike Duplicate results.

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QUALITY CONTROL REPORT

DUPLICATES

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/08/1998

NET Job Number: 98.13758

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	RPD
pH		1713	7.26	7.27	units	0.1

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.

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NET Midwest, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

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(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY: ENSR Corp.
ADDRESS: 740 Rosemont Dr, Westmont
PHONE: (630) 887-1700 FAX: 630 850-5307
PROJECT NAME/LOCATION: ComEd / Joliet #29
PROJECT NUMBER: 1801-023
PROJECT MANAGER: Wei Lin Fang

REPORT TO: Wei Lin Fang
INVOICE TO:
P.O. NO.
NET QUOTE NO.

SAMPLED BY (PRINT NAME): Brian McReynolds
SIGNATURE: Brian McReynolds
(PRINT NAME)
SIGNATURE

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: PH	PNA	PCB	BTEX	RCRA Metals
10/22/98	15:00	MW-2	W			3		1		4	X	X	X	X	X
↓	18:00	MW-3	↓			↓		↓		↓	↓	↓	↓	↓	↓
↓	16:00	MW-5	↓			↓		↓		↓	↓	↓	↓	↓	↓

To assist us in selecting the proper method

Is this work being conducted for regulatory compliance monitoring? Yes ____ No ____

Is this work being conducted for regulatory enforcement action? Yes ____ No ____

Which regulations apply: RCRA ____ NPDES Wastewater ____ UST ____ Drinking Water ____ Other ____ None ____

COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) / NO
FIELD FILTERED? ~~YES / NO~~ N/A
COC SEALS PRESENT AND INTACT? (YES) / NO
VOLATILES FREE OF HEADSPACE? (YES) / NO
TEMPERATURE UPON RECEIPT: 2.0°C wetice
Bottles supplied by NET? (YES) / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ____
I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ____ DATE ____

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
Brian McReynolds	10/22/98	18:00	Becky Crockett		10/23/98	1600	P. Merrill

METHOD OF SHIPMENT: NET
REMARKS:

PT 1 - ORIGINAL - WHITE PT 2 - NET PROJECT MANAGER - YELLOW PT 3 - CUSTOMER COPY - PINK

MWG13-15_23566

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Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13967

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Joliet #29; 1801-230

Sample Number	Sample Description	Date Taken	Date Received
500229	MW-1	10/27/1998	10/28/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:

Mary Pearson

Mary Pearson
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
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Bartlett, IL 60103
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(800) 807-2877

ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 500229

NET Job No.: 98.13967

Sample Description: MW-1
ComEd-Joliet #29; 1801-230

Date Taken: 10/27/1998
Time Taken: 09:00
IEPA Cert. No. 100221

Date Received: 10/28/1998
Time Received: 18:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH	7.05	units	10/28/1998	0.10	efw	1717	EPA 150.1
Arsenic, GFAA	<0.0050	mg/L	11/07/1998	0.0050	mhp	1352 1146	SW 7060
Barium, ICP	0.139	mg/L	11/05/1998	0.020	kdw	2201 3769	SW 6010B
Cadmium, ICP	<0.010	mg/L	11/05/1998	0.010	kdw	2201 3737	SW 6010B
Chromium, ICP	<0.040	mg/L	11/05/1998	0.040	kdw	2201 3746	SW 6010B
Lead, GFAA	0.0124	mg/L	11/06/1998	0.0050	mhp	1352 2170	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/05/1998	0.0002	sep	1187 1093	SW 7470A
Selenium, GFAA	0.0055	mg/L	11/07/1998	0.0050	mhp	1352 857	SW 7740
Silver, AA	<0.040	mg/L	11/06/1998	0.040	sep	1016 995	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		10/30/1998		rmp	370	SW 3510C
PCBs 8082 Aqueous							
PCB-1016	<0.0005	mg/L	11/06/1998	0.0005	tls	370 702	SW 8082
PCB-1221	<0.0005	mg/L	11/06/1998	0.0005	tls	370 702	SW 8082
PCB-1232	<0.0005	mg/L	11/06/1998	0.0005	tls	370 702	SW 8082
PCB-1242	<0.0005	mg/L	11/06/1998	0.0005	tls	370 702	SW 8082
PCB-1248	<0.0005	mg/L	11/06/1998	0.0005	tls	370 702	SW 8082
PCB-1254	<0.0005	mg/L	11/06/1998	0.0005	tls	370 702	SW 8082
PCB-1260	<0.0005	mg/L	11/06/1998	0.0005	tls	370 702	SW 8082
Surr: Tetrachloroxylene (TCX)	76.0	%	11/06/1998	22-154	tls	370 702	SW 8082
Surr: Decachlorobiphenyl (DCB)	72.0	%	11/06/1998	23-154	tls	370 702	SW 8082

MWG13-15_23568

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ANALYTICAL REPORT

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11/09/1998

Sample No. : 500229

NET Job No.: 98.13967

Sample Description: MW-1
ComEd-Joliet #29; 1801-230

Date Taken: 10/27/1998
Time Taken: 09:00
IEPA Cert. No. 100221

Date Received: 10/28/1998
Time Received: 18:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS									
Benzene	<0.001		mg/L	11/05/1998	0.001	mjo		2636	SW 8260A
Ethyl Benzene	0.0018		mg/L	11/05/1998	0.001	mjo		2636	SW 8260A
Toluene	<0.001		mg/L	11/05/1998	0.001	mjo		2636	SW 8260A
Xylenes, Total	0.0029		mg/L	11/05/1998	0.001	mjo		2636	SW 8260A
Surr: Toluene-d8	110.8		%	11/05/1998	85-117	mjo		2636	SW 8260A
Surr: Bromofluorobenzene	102.4		%	11/05/1998	80-116	mjo		2636	SW 8260A
Surr: Dibromofluoromethane	99.8		%	11/05/1998	75-130	mjo		2636	SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted			10/29/1998		mmv	406		SW 3520C
PNA CMPDS - 8310 AQUEOUS									
Acenaphthene	<0.0005		mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Acenaphthylene	<0.0005		mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Anthracene	<0.0036	MX	mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Benzo(a)anthracene	<0.00013		mg/L	11/08/1998	0.00013	keh	406	1206	SW 8310
Benzo(b)fluoranthene	<0.00018		mg/L	11/08/1998	0.00018	keh	406	1206	SW 8310
Benzo(k)fluoranthene	<0.00017		mg/L	11/08/1998	0.00017	keh	406	1206	SW 8310
Benzo(a)pyrene	<0.00023		mg/L	11/08/1998	0.00023	keh	406	1206	SW 8310
Benzo(ghi)perylene	<0.00076		mg/L	11/08/1998	0.00076	keh	406	1206	SW 8310
Chrysene	<0.0005		mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Dibenzo(a,h)anthracene	<0.00030		mg/L	11/08/1998	0.00030	keh	406	1206	SW 8310
Fluoranthene	<0.0028	MX	mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Fluorene	0.0012		mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043		mg/L	11/08/1998	0.00043	keh	406	1206	SW 8310
Naphthalene	<0.0005		mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Phenanthrene	<0.0014	MX	mg/L	11/08/1998	0.0010	keh	406	1206	SW 8310
Pyrene	<0.0005		mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310

MX : Dilution required due to sample matrix; analyte is not detected.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
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Westmont, IL 60559

11/09/1998

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NET Job No.: 98.13967

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ComEd-Joliet #29; 1801-230

Date Taken: 10/27/1998
Time Taken: 09:00
IEPA Cert. No. 100221

Date Received: 10/28/1998
Time Received: 18:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Surr: p-Terphenyl	77.5	%	11/08/1998	43-125	keh	406 1206	SW 8310

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13967

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
pH	1717	7.02	6.96	99.1
Arsenic, GFAA	1146	0.0250	0.0250	100.0
Barium, ICP	3769	2.00	1.98	99.0
Cadmium, ICP	3737	1.00	0.969	96.9
Chromium, ICP	3746	2.00	1.97	98.5
Lead, GFAA	2170	0.0250	0.0253	101.2
Mercury, CVAA	1093	0.0025	0.00259	103.6
Mercury, CVAA	1093	0.0025	0.00259	103.6
Selenium, GFAA	857	0.0500	0.0487	97.4
Silver, AA	995	0.500	0.504	100.8
PCBs 8082 Aqueous				
PCB-1016	702	500.	449	89.8
PCB-1260	702	500	462	92.4
PCBs 8082 Aqueous				
PCB-1016	702	500.	467	93.4
PCB-1260	702	500	478	95.6
PCBs 8082 Aqueous				
PCB-1016	702	500.	473	94.6
PCB-1260	702	500	490	98.0
PCBs 8082 Aqueous				
PCB-1016	702	500.	486	97.2
PCB-1260	702	500	489	97.8
UST VOLATILES 8260 - AQUEOUS				
Benzene	2636	50.0	53.5	107.0
Ethyl Benzene	2636	50.0	52.7	105.4
Toluene	2636	50.0	55.1	110.2
Xylenes, Total	2636	150	171	114.0
PNA CMPDS - 8310 AQUEOUS				
Acenaphthene	1206	5000	4,696	93.9
Acenaphthylene	1206	5000	5,096	101.9
Anthracene	1206	5000	5,039	100.8
Benzo(a)anthracene	1206	5000	5,158	103.2
Benzo(b)fluoranthene	1206	5000	5,085	101.7
Benzo(k)fluoranthene	1206	5000	4,840	96.8

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13967

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Benzo(a)pyrene	1206	5000	4,881	97.6
Benzo(ghi)perylene	1206	5000	4,897	97.9
Chrysene	1206	5000	5,027	100.5
Dibenzo(a,h)anthracene	1206	5000	4,974	99.5
Fluoranthene	1206	5000	4,931	98.6
Fluorene	1206	5000	4,888	97.8
Indeno(1,2,3-cd)pyrene	1206	5000	4,557	91.1
Naphthalene	1206	5000	4,702	94.0
Phenanthrene	1206	5000	4,767	95.3
Pyrene	1206	5000	5,159	103.2
Surr: p-Terphenyl	1206	5000	4,914	98.3
PNA CMPDS - 8310 AQUEOUS				
Acenaphthene	1206	5000	4,486	89.7
Acenaphthylene	1206	5000	5,077	101.5
Anthracene	1206	5000	5,046	100.9
Benzo(a)anthracene	1206	5000	4,942	98.8
Benzo(b)fluoranthene	1206	5000	4,866	97.3
Benzo(k)fluoranthene	1206	5000	4,851	97.0
Benzo(a)pyrene	1206	5000	4,863	97.3
Benzo(ghi)perylene	1206	5000	5,141	102.8
Chrysene	1206	5000	4,978	99.6
Dibenzo(a,h)anthracene	1206	5000	5,032	100.6
Fluoranthene	1206	5000	4,912	98.2
Fluorene	1206	5000	4,925	98.5
Indeno(1,2,3-cd)pyrene	1206	5000	4,503	90.1
Naphthalene	1206	5000	4,625	92.5
Phenanthrene	1206	5000	4,650	93.0
Pyrene	1206	5000	4,998	100.0
Surr: p-Terphenyl	1206	5000	4,950	99.0

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13967

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Arsenic, GFAA	1352	1146	<0.0050	mg/L	0.0050	SW 7060
Barium, ICP	2201	3769	<0.020	mg/L	0.020	SW 6010B
Cadmium, ICP	2201	3737	<0.010	mg/L	0.010	SW 6010B
Chromium, ICP	2201	3746	<0.040	mg/L	0.040	SW 6010B
Lead, GFAA	1352	2170	<0.0050	mg/L	0.0050	SW 7421
Mercury, CVAA	1187	1093	<0.0002	mg/L	0.0002	SW 7470A
Mercury, CVAA	1187	1093	<0.0002	mg/L	0.0002	SW 7470A
Selenium, GFAA	1352	857	<0.0050	mg/L	0.005	SW 7740
Silver, AA	1016	995	<0.040	mg/L	0.040	SW 7760
PCBs 8082 Aqueous						SW 8082
PCB-1016	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1221	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1232	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1242	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1248	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1254	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1260	370	701	<0.5	ug/L	0.5	SW 8082
Surr: Tetrachloroxylene (TCX)	370	701	55.0	%	22-154	SW 8082
Surr: Decachlorobiphenyl (DCB)	370	701	63.0	%	23-154	SW 8082
UST VOLATILES 8260 - AQUEOUS						SW 8260A
Benzene		2636	<1.0	ug/L	1.0	SW 8260A
Ethyl Benzene		2636	<1.0	ug/L	1.0	SW 8260A
Toluene		2636	<1.0	ug/L	1.0	SW 8260A
Xylenes, Total		2636	<1.0	ug/L	1.0	SW 8260A
Surr: Dibromofluoromethane		2636	99.2	%	75-130	SW 8260A
Surr: Toluene-d8		2636	112.2	%	85-117	SW 8260A
Surr: Bromofluorobenzene		2636	104.0	%	80-116	SW 8260A
PNA CMPDS - 8310 AQUEOUS						SW 8310
Acenaphthene	406	1201	<0.0005	mg/L	0.0005	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13967

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Acenaphthylene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Anthracene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Benzo(a)anthracene	406	1201	<0.00013	mg/L	0.00013	SW 8310
Benzo(b)fluoranthene	406	1201	<0.00018	mg/L	0.00018	SW 8310
Benzo(k)fluoranthene	406	1201	<0.00017	mg/L	0.00017	SW 8310
Benzo(a)pyrene	406	1201	<0.00023	mg/L	0.00023	SW 8310
Benzo(ghi)perylene	406	1201	<0.00076	mg/L	0.00076	SW 8310
Chrysene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Dibenzo(a,h)anthracene	406	1201	<0.00030	mg/L	0.00030	SW 8310
Fluoranthene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Fluorene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Indeno(1,2,3-cd)pyrene	406	1201	<0.00043	mg/L	0.00043	SW 8310
Naphthalene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Phenanthrene	406	1201	<0.0010	mg/L	0.0010	SW 8310
Pyrene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Surr: p-Terphenyl	406	1201	90.1	%	43-125	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13967

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Arsenic, GFAA	1352	1146	0.0100	0.0097	97.0
Barium, ICP	2201	3769	5.00	5.44	108.8
Cadmium, ICP	2201	3737	2.50	2.57	102.8
Chromium, ICP	2201	3746	5.00	5.53	110.6
Lead, GFAA	1352	2170	0.0100	0.0100	100.0
Mercury, CVAA	1187	1093	0.0025	0.00253	101.2
Mercury, CVAA	1187	1093	0.0025	0.00253	101.2
Mercury, CVAA		1093	0.0020	0.00203	101.5
Selenium, GFAA	1352	857	0.0100	0.0104	104.0
Silver, AA	1016	995	0.10	0.091	91.0
UST VOLATILES 8260 - AQUEOUS					
Benzene		2636	20.0	21.7	108.5
Ethyl Benzene		2636	20.0	20.9	104.5
Toluene		2636	20.0	22.3	111.5
Xylenes, Total		2636	60.0	68.6	114.3
Surr: Dibromofluoromethane		2636	50.0	50.2	100.4
Surr: Toluene-d8		2636	50.0	55.9	111.8
Surr: Bromofluorobenzene		2636	50.0	54.2	108.4
PNA CMPDS - 8310 AQUEOUS					
Acenaphthene	406	1201	0.001	0.00081	81.0
Acenaphthylene	406	1201	0.001	0.00082	82.0
Anthracene	406	1201	0.001	0.00083	83.0
Benzo(a)anthracene	406	1201	0.001	0.00087	87.0
Benzo(b)fluoranthene	406	1201	0.001	0.00082	82.0
Benzo(k)fluoranthene	406	1201	0.001	0.00085	85.0
Benzo(a)pyrene	406	1201	0.001	0.00077	77.0
Benzo(ghi)perylene	406	1201	0.001	0.00085	85.0
Chrysene	406	1201	0.001	0.00087	87.0
Dibenzo(a,h)anthracene	406	1201	0.001	0.00083	83.0
Fluoranthene	406	1201	0.001	0.00083	83.0
Fluorene	406	1201	0.001	0.00082	82.0

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QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13967

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Indeno(1,2,3-cd)pyrene	406	1201	0.001	0.00084	84.0
Naphthalene	406	1201	0.001	0.00079	79.0
Phenanthrene	406	1201	0.001	0.00082	82.0
Pyrene	406	1201	0.001	0.00083	83.0
Surr: p-Terphenyl	406	1201	2000	1,625	81.3

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QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13967

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Arsenic, GFAA	1352	1147	0.0161	<0.0050	0.0100	mg/L	161.0	0.0156	0.0100	mg/L	156.0	3.2
Barium, ICP	2201	3769	0.402	0.292	0.100	mg/L	110.0	0.401	0.100	mg/L	109.0	0.9
Cadmium, ICP	2201	3737	0.053	<0.010	0.050	mg/L	106.0	0.049	0.050	mg/L	98.0	7.7
Chromium, ICP	2201	3746	0.109	<0.040	0.100	mg/L	109.0	0.109	0.100	mg/L	109.0	0.0
Lead, GFAA	1352	2170	0.0114	<0.0050	0.0100	mg/L	114.0	0.0106	0.0100	mg/L	106.0	7.3
Mercury, CVAA	1187	1093	0.00253	<0.0002	0.0025	mg/L	101.2	0.0023	0.0025	mg/L	94.8	6.4
Mercury, CVAA	1187	1093	0.00197	<0.0002	0.0020	mg/L	98.5	0.0020	0.0020	mg/L	104.5	5.8
Selenium, GFAA	1352	857	0.0067	<0.0050	0.0100	mg/L	67.0	0.0069	0.0100	mg/L	69.0	2.9
Silver, AA	1016	995	0.094	<0.040	0.10	mg/L	94.0	0.098	0.10	mg/L	98.0	4.2
UST VOLATILES 8260 - AQUEOU												
Benzene		2636	22.3	<0.001	20.0	mg/L	111.5	21.8	20.0	mg/L	109.0	2.3
Ethyl Benzene		2636	21.6	<0.001	20.0	mg/L	108.0	20.9	20.0	mg/L	104.5	3.3
Toluene		2636	23.1	<0.001	20.0	mg/L	115.5	21.3	20.0	mg/L	106.5	8.1
Xylenes, Total		2636	69.0	<0.001	60.0	mg/L	115.0	66.3	60.0	mg/L	110.5	4.0

NOTE: Matrix Spike Samples may not be samples from this job.

Advisory Control Limits for MS/MSDs:

For Inorganic Parameters and GC Volatiles, the spike recovery should be 75 - 125% if the spike added value was greater than or equal to one fourth of the sample result value. If not, the control limits are not established. The RPD for the MS/MSD pair should be less than 20.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

RPD calculations are performed on the Percent Recovery calculated from the observed Matrix spike and Matrix Spike Duplicate results.

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QUALITY CONTROL REPORT

DUPLICATES

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13967

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	RPD
pH		1717	7.33	7.32	units	0.1
pH		1717	7.05	7.07	units	0.3

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.

NET Midwest, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

NET NATIONAL ENVIRONMENTAL TESTING, INC.

CHAIN OF CUSTODY RECORD

COMPANY ENSR
ADDRESS 740 Pasquinelli Westmont
PHONE (630) 887-1700 FAX (630) 850-5307
PROJECT NAME/LOCATION ComEd / Joliet #29
PROJECT NUMBER 1801 - 230
PROJECT MANAGER Wei - Lin Feng

REPORT TO: Wei - Lin Feng
INVOICE TO:
P.O. NO.
NET QUOTE NO.

SAMPLED BY
Brian Mc Reynolds (PRINT NAME) Brian McReynolds (SIGNATURE)
(PRINT NAME) (SIGNATURE)

DATE	TIME	SAMPLE ID/DESCRIPTION	MATRIX	GRAB	COMP	# and Type of Containers: HCl	NaOH	HNO_3	H_2SO_4	OTHER	ANALYSES: pH	PNA	PCB	BTEX	RCRA Metals
10/27/98	9:00	MW-1	W			3		1		4	X	X	X	X	X

To assist us in selecting the proper method
Is this work being conducted for regulatory compliance monitoring? Yes ___ No ___
Is this work being conducted for regulatory enforcement action? Yes ___ No ___
Which regulations apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other ___ None ___

COMMENTS

CONDITION OF SAMPLE: BOTTLES INTACT? (YES) / NO FIELD FILTERED? YES / (NO) COC SEALS PRESENT AND INTACT? (YES) / NO VOLATILES FREE OF HEADSPACE? (YES) / NO TEMPERATURE UPON RECEIPT: 0.77°C Bottles supplied by NET? (YES) / NO

SAMPLE REMAINDER DISPOSAL: RETURN SAMPLE REMAINDER TO CLIENT VIA ___ I REQUEST NET TO DISPOSE OF ALL SAMPLE REMAINDERS ___ DATE ___

RELINQUISHED BY:	DATE	TIME	RECEIVED BY:	RELINQUISHED BY:	DATE	TIME	RECEIVED FOR NET BY:
Brian McReynolds	10/27/98	17:30			10/28/98	18:00	Mary Pears

METHOD OF SHIPMENT: NET
REMARKS:

MWG13-15_23581

NATIONAL ENVIRONMENTAL TESTING, INC.

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(800) 807-2877

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13967

IEPA Cert. No.: 100221
WDNR Cert. No.: 999447130
A2LA Cert. No.: 0453-01

Enclosed is the Analytical and Quality Control reports for the following samples submitted to Bartlett Division of NET, Inc. for analysis.

Project Description: ComEd-Joliet #29; 1801-~~230~~ 023-410

Sample Number	Sample Description	Date Taken	Date Received
500229	MW-1	10/27/1998	10/28/1998

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. These results apply only to the samples analyzed. Reproduction of this report only in whole is permitted. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Procedures used follow NET Standard Operating Procedures which reference the methods listed on your report. Should you have questions regarding procedures or results, please do not hesitate to call. NET has been pleased to provide these analytical services for you.

This Quality Control report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Approved by:
Mary Pearson

Mary Pearson
Project Manager

NATIONAL ENVIRONMENTAL TESTING, INC.

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 500229

NET Job No.: 98.13967

Sample Description: MW-1
ComEd-Joliet #29; 1801-230

Date Taken: 10/27/1998
Time Taken: 09:00
IEPA Cert. No. 100221

Date Received: 10/28/1998
Time Received: 18:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
pH	7.05	units	10/28/1998	0.10	efw	1717	EPA 150.1
Arsenic, GFAA	<0.0050	mg/L	11/07/1998	0.0050	mhp	1352 1146	SW 7060
Barium, ICP	0.139	mg/L	11/05/1998	0.020	kdw	2201 3769	SW 6010B
Cadmium, ICP	<0.010	mg/L	11/05/1998	0.010	kdw	2201 3737	SW 6010B
Chromium, ICP	<0.040	mg/L	11/05/1998	0.040	kdw	2201 3746	SW 6010B
Lead, GFAA	0.0124	mg/L	11/06/1998	0.0050	mhp	1352 2170	SW 7421
Mercury, CVAA	<0.0002	mg/L	11/05/1998	0.0002	sep	1187 1093	SW 7470A
Selenium, GFAA	0.0055	mg/L	11/07/1998	0.0050	mhp	1352 857	SW 7740
Silver, AA	<0.040	mg/L	11/06/1998	0.040	sep	1016 995	SW 7760
Prep, PCBs 8082 Aqueous	COMPLETE		10/30/1998		rmp	370	SW 3510C
PCBs 8082 Aqueous							
PCB-1016	<0.0005	mg/L	11/06/1998	0.0005	tls	370 702	SW 8082
PCB-1221	<0.0005	mg/L	11/06/1998	0.0005	tls	370 702	SW 8082
PCB-1232	<0.0005	mg/L	11/06/1998	0.0005	tls	370 702	SW 8082
PCB-1242	<0.0005	mg/L	11/06/1998	0.0005	tls	370 702	SW 8082
PCB-1248	<0.0005	mg/L	11/06/1998	0.0005	tls	370 702	SW 8082
PCB-1254	<0.0005	mg/L	11/06/1998	0.0005	tls	370 702	SW 8082
PCB-1260	<0.0005	mg/L	11/06/1998	0.0005	tls	370 702	SW 8082
Surr: Tetrachloroxylene (TCX)	76.0	%	11/06/1998	22-154	tls	370 702	SW 8082
Surr: Decachlorobiphenyl (DCB)	72.0	%	11/06/1998	23-154	tls	370 702	SW 8082

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 500229

NET Job No.: 98.13967

Sample Description: MW-1
ComEd-Joliet #29; 1801-230

Date Taken: 10/27/1998
Time Taken: 09:00
IEPA Cert. No. 100221

Date Received: 10/28/1998
Time Received: 18:00
WDNR Cert. No. 999447130

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
UST VOLATILES 8260 - AQUEOUS									
Benzene	<0.001		mg/L	11/05/1998	0.001	mjo	2636		SW 8260A
Ethyl Benzene	0.0018		mg/L	11/05/1998	0.001	mjo	2636		SW 8260A
Toluene	<0.001		mg/L	11/05/1998	0.001	mjo	2636		SW 8260A
Xylenes, Total	0.0029		mg/L	11/05/1998	0.001	mjo	2636		SW 8260A
Surr: Toluene-d8	110.8		%	11/05/1998	85-117	mjo	2636		SW 8260A
Surr: Bromofluorobenzene	102.4		%	11/05/1998	80-116	mjo	2636		SW 8260A
Surr: Dibromofluoromethane	99.8		%	11/05/1998	75-130	mjo	2636		SW 8260A
Prep, 8310 PNAs AQUEOUS	extracted			10/29/1998		mmv	406		SW 3520C
PNA CMPDS - 8310 AQUEOUS									
Acenaphthene	<0.0005		mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Acenaphthylene	<0.0005		mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Anthracene	<0.0036	MX	mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Benzo(a)anthracene	<0.00013		mg/L	11/08/1998	0.00013	keh	406	1206	SW 8310
Benzo(b)fluoranthene	<0.00018		mg/L	11/08/1998	0.00018	keh	406	1206	SW 8310
Benzo(k)fluoranthene	<0.00017		mg/L	11/08/1998	0.00017	keh	406	1206	SW 8310
Benzo(a)pyrene	<0.00023		mg/L	11/08/1998	0.00023	keh	406	1206	SW 8310
Benzo(ghi)perylene	<0.00076		mg/L	11/08/1998	0.00076	keh	406	1206	SW 8310
Chrysene	<0.0005		mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Dibenzo(a,h)anthracene	<0.00030		mg/L	11/08/1998	0.00030	keh	406	1206	SW 8310
Fluoranthene	<0.0028	MX	mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Fluorene	0.0012		mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Indeno(1,2,3-cd)pyrene	<0.00043		mg/L	11/08/1998	0.00043	keh	406	1206	SW 8310
Naphthalene	<0.0005		mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310
Phenanthrene	<0.0014	MX	mg/L	11/08/1998	0.0010	keh	406	1206	SW 8310
Pyrene	<0.0005		mg/L	11/08/1998	0.0005	keh	406	1206	SW 8310

MX : Dilution required due to sample matrix; analyte is not detected.

MWG13-15_23584

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ANALYTICAL REPORT

Mr. Wei-Lin Feng
ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

Sample No. : 500229

NET Job No.: 98.13967

Sample Description: MW-1
ComEd-Joliet #29; 1801-230

Date Taken: 10/27/1998
Time Taken: 09:00
IEPA Cert. No. 100221

Date Received: 10/28/1998
Time Received: 18:00
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run		Analytical Method
Surr: p-Terphenyl	77.5	%	11/08/1998	43-125	keh	406	1206	SW 8310

MWG13-15_23585

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13967

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
pH	1717	7.02	6.96	99.1
Arsenic, GFAA	1146	0.0250	0.0250	100.0
Barium, ICP	3769	2.00	1.98	99.0
Cadmium, ICP	3737	1.00	0.969	96.9
Chromium, ICP	3746	2.00	1.97	98.5
Lead, GFAA	2170	0.0250	0.0253	101.2
Mercury, CVAA	1093	0.0025	0.00259	103.6
Mercury, CVAA	1093	0.0025	0.00259	103.6
Selenium, GFAA	857	0.0500	0.0487	97.4
Silver, AA	995	0.500	0.504	100.8
PCBs 8082 Aqueous				
PCB-1016	702	500.	449	89.8
PCB-1260	702	500	462	92.4
PCBs 8082 Aqueous				
PCB-1016	702	500.	467	93.4
PCB-1260	702	500	478	95.6
PCBs 8082 Aqueous				
PCB-1016	702	500.	473	94.6
PCB-1260	702	500	490	98.0
PCBs 8082 Aqueous				
PCB-1016	702	500.	486	97.2
PCB-1260	702	500	489	97.8
UST VOLATILES 8260 - AQUEOUS				
Benzene	2636	50.0	53.5	107.0
Ethyl Benzene	2636	50.0	52.7	105.4
Toluene	2636	50.0	55.1	110.2
Xylenes, Total	2636	150	171	114.0
PNA CMPDS - 8310 AQUEOUS				
Acenaphthene	1206	5000	4,696	93.9
Acenaphthylene	1206	5000	5,096	101.9
Anthracene	1206	5000	5,039	100.8
Benzo(a)anthracene	1206	5000	5,158	103.2
Benzo(b)fluoranthene	1206	5000	5,085	101.7
Benzo(k)fluoranthene	1206	5000	4,840	96.8

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

CONTINUING CALIBRATION VERIFICATION

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13967

Mr. Wei-Lin Feng

Analyte	Run Batch Number	CCV True Conc.	Conc. Found	Percent Recovery
Benzo(a)pyrene	1206	5000	4,881	97.6
Benzo(ghi)perylene	1206	5000	4,897	97.9
Chrysene	1206	5000	5,027	100.5
Dibenzo(a,h)anthracene	1206	5000	4,974	99.5
Fluoranthene	1206	5000	4,931	98.6
Fluorene	1206	5000	4,888	97.8
Indeno(1,2,3-cd)pyrene	1206	5000	4,557	91.1
Naphthalene	1206	5000	4,702	94.0
Phenanthrene	1206	5000	4,767	95.3
Pyrene	1206	5000	5,159	103.2
Surr: p-Terphenyl	1206	5000	4,914	98.3
PNA CMPDS - 8310 AQUEOUS				
Acenaphthene	1206	5000	4,486	89.7
Acenaphthylene	1206	5000	5,077	101.5
Anthracene	1206	5000	5,046	100.9
Benzo(a)anthracene	1206	5000	4,942	98.8
Benzo(b)fluoranthene	1206	5000	4,866	97.3
Benzo(k)fluoranthene	1206	5000	4,851	97.0
Benzo(a)pyrene	1206	5000	4,863	97.3
Benzo(ghi)perylene	1206	5000	5,141	102.8
Chrysene	1206	5000	4,978	99.6
Dibenzo(a,h)anthracene	1206	5000	5,032	100.6
Fluoranthene	1206	5000	4,912	98.2
Fluorene	1206	5000	4,925	98.5
Indeno(1,2,3-cd)pyrene	1206	5000	4,503	90.1
Naphthalene	1206	5000	4,625	92.5
Phenanthrene	1206	5000	4,650	93.0
Pyrene	1206	5000	4,998	100.0
Surr: p-Terphenyl	1206	5000	4,950	99.0

CCV - Continuing Calibration Verification

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13967

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Arsenic, GFAA	1352	1146	<0.0050	mg/L	0.0050	SW 7060
Barium, ICP	2201	3769	<0.020	mg/L	0.020	SW 6010B
Cadmium, ICP	2201	3737	<0.010	mg/L	0.010	SW 6010B
Chromium, ICP	2201	3746	<0.040	mg/L	0.040	SW 6010B
Lead, GFAA	1352	2170	<0.0050	mg/L	0.0050	SW 7421
Mercury, CVAA	1187	1093	<0.0002	mg/L	0.0002	SW 7470A
Mercury, CVAA	1187	1093	<0.0002	mg/L	0.0002	SW 7470A
Selenium, GFAA	1352	857	<0.0050	mg/L	0.005	SW 7740
Silver, AA	1016	995	<0.040	mg/L	0.040	SW 7760
PCBs 8082 Aqueous						SW 8082
PCB-1016	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1221	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1232	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1242	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1248	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1254	370	701	<0.5	ug/L	0.5	SW 8082
PCB-1260	370	701	<0.5	ug/L	0.5	SW 8082
Surr: Tetrachloroxylene (TCX)	370	701	55.0	%	22-154	SW 8082
Surr: Decachlorobiphenyl (DCB)	370	701	63.0	%	23-154	SW 8082
UST VOLATILES 8260 - AQUEOUS						SW 8260A
Benzene		2636	<1.0	ug/L	1.0	SW 8260A
Ethyl Benzene		2636	<1.0	ug/L	1.0	SW 8260A
Toluene		2636	<1.0	ug/L	1.0	SW 8260A
Xylenes, Total		2636	<1.0	ug/L	1.0	SW 8260A
Surr: Dibromofluoromethane		2636	99.2	%	75-130	SW 8260A
Surr: Toluene-d8		2636	112.2	%	85-117	SW 8260A
Surr: Bromofluorobenzene		2636	104.0	%	80-116	SW 8260A
PNA CMPDS - 8310 AQUEOUS						SW 8310
Acenaphthene	406	1201	<0.0005	mg/L	0.0005	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

NATIONAL ENVIRONMENTAL TESTING, INC.

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QUALITY CONTROL REPORT

BLANK ANALYSIS

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13967

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	Blank Analysis Results	Units	Reporting Limit	Analytical Method
Acenaphthylene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Anthracene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Benzo(a)anthracene	406	1201	<0.00013	mg/L	0.00013	SW 8310
Benzo(b)fluoranthene	406	1201	<0.00018	mg/L	0.00018	SW 8310
Benzo(k)fluoranthene	406	1201	<0.00017	mg/L	0.00017	SW 8310
Benzo(a)pyrene	406	1201	<0.00023	mg/L	0.00023	SW 8310
Benzo(ghi)perylene	406	1201	<0.00076	mg/L	0.00076	SW 8310
Chrysene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Dibenzo(a,h)anthracene	406	1201	<0.00030	mg/L	0.00030	SW 8310
Fluoranthene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Fluorene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Indeno(1,2,3-cd)pyrene	406	1201	<0.00043	mg/L	0.00043	SW 8310
Naphthalene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Phenanthrene	406	1201	<0.0010	mg/L	0.0010	SW 8310
Pyrene	406	1201	<0.0005	mg/L	0.0005	SW 8310
Surr: p-Terphenyl	406	1201	90.1	%	43-125	SW 8310

Advisory Control Limits for Blanks:

All compounds should be less than the Reporting Limit, except for phthalate esters, toluene, methylene chloride, acetone and chloroform should be less than 5 times the Reporting Limit.

NATIONAL ENVIRONMENTAL TESTING, INC.

Bartlett Division
850 West Bartlett Rd.
Bartlett, IL 60103
Tel: (630) 289-3100
Fax: (630) 289-5445

Rockford Division
3548 35th Street
Rockford, IL 61109
Tel: (815) 874-2171
Fax: (815) 874-5622
(800) 807-2877

QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13967

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Arsenic, GFAA	1352	1146	0.0100	0.0097	97.0
Barium, ICP	2201	3769	5.00	5.44	108.8
Cadmium, ICP	2201	3737	2.50	2.57	102.8
Chromium, ICP	2201	3746	5.00	5.53	110.6
Lead, GFAA	1352	2170	0.0100	0.0100	100.0
Mercury, CVAA	1187	1093	0.0025	0.00253	101.2
Mercury, CVAA	1187	1093	0.0025	0.00253	101.2
Mercury, CVAA		1093	0.0020	0.00203	101.5
Selenium, GFAA	1352	857	0.0100	0.0104	104.0
Silver, AA	1016	995	0.10	0.091	91.0
UST VOLATILES 8260 - AQUEOUS					
Benzene		2636	20.0	21.7	108.5
Ethyl Benzene		2636	20.0	20.9	104.5
Toluene		2636	20.0	22.3	111.5
Xylenes, Total		2636	60.0	68.6	114.3
Surr: Dibromofluoromethane		2636	50.0	50.2	100.4
Surr: Toluene-d8		2636	50.0	55.9	111.8
Surr: Bromofluorobenzene		2636	50.0	54.2	108.4
PNA CMPDS - 8310 AQUEOUS					
Acenaphthene	406	1201	0.001	0.00081	81.0
Acenaphthylene	406	1201	0.001	0.00082	82.0
Anthracene	406	1201	0.001	0.00083	83.0
Benzo(a)anthracene	406	1201	0.001	0.00087	87.0
Benzo(b)fluoranthene	406	1201	0.001	0.00082	82.0
Benzo(k)fluoranthene	406	1201	0.001	0.00085	85.0
Benzo(a)pyrene	406	1201	0.001	0.00077	77.0
Benzo(ghi)perylene	406	1201	0.001	0.00085	85.0
Chrysene	406	1201	0.001	0.00087	87.0
Dibenzo(a,h)anthracene	406	1201	0.001	0.00083	83.0
Fluoranthene	406	1201	0.001	0.00083	83.0
Fluorene	406	1201	0.001	0.00082	82.0

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Fax: (815) 874-5622
(800) 807-2877

QUALITY CONTROL REPORT

LABORATORY CONTROL STANDARD

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

11/09/1998

NET Job Number: 98.13967

Mr. Wei-Lin Feng

Analyte	Prep Batch Number	Run Batch Number	True Conc.	Conc. Found	LCS % Recovery
Indeno(1,2,3-cd)pyrene	406	1201	0.001	0.00084	84.0
Naphthalene	406	1201	0.001	0.00079	79.0
Phenanthrene	406	1201	0.001	0.00082	82.0
Pyrene	406	1201	0.001	0.00083	83.0
Surr: p-Terphenyl	406	1201	2000	1,625	81.3

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QUALITY CONTROL REPORT

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/09/1998

NET Job Number: 98.13967

Analyte	Prep Batch Number	Run Batch Number	Matrix Spike Result	Sample Result	Spike Amount	Units	Percent Recovery	MSD Result	MSD Spike Amount	Units	Percent Recovery	MS/MSD RPD
Arsenic, GFAA	1352	1147	0.0161	<0.0050	0.0100	mg/L	161.0	0.0156	0.0100	mg/L	156.0	3.2
Barium, ICP	2201	3769	0.402	0.292	0.100	mg/L	110.0	0.401	0.100	mg/L	109.0	0.9
Cadmium, ICP	2201	3737	0.053	<0.010	0.050	mg/L	106.0	0.049	0.050	mg/L	98.0	7.7
Chromium, ICP	2201	3746	0.109	<0.040	0.100	mg/L	109.0	0.109	0.100	mg/L	109.0	0.0
Lead, GFAA	1352	2170	0.0114	<0.0050	0.0100	mg/L	114.0	0.0106	0.0100	mg/L	106.0	7.3
Mercury, CVAA	1187	1093	0.00253	<0.0002	0.0025	mg/L	101.2	0.0023	0.0025	mg/L	94.8	6.4
Mercury, CVAA	1187	1093	0.00197	<0.0002	0.0020	mg/L	98.5	0.0020	0.0020	mg/L	104.5	5.8
Selenium, GFAA	1352	857	0.0067	<0.0050	0.0100	mg/L	67.0	0.0069	0.0100	mg/L	69.0	2.9
Silver, AA	1016	995	0.094	<0.040	0.10	mg/L	94.0	0.098	0.10	mg/L	98.0	4.2
UST VOLATILES 8260 - AQUEOU												
Benzene		2636	22.3	<0.001	20.0	mg/L	111.5	21.8	20.0	mg/L	109.0	2.3
Ethyl Benzene		2636	21.6	<0.001	20.0	mg/L	108.0	20.9	20.0	mg/L	104.5	3.3
Toluene		2636	23.1	<0.001	20.0	mg/L	115.5	21.3	20.0	mg/L	106.5	8.1
Xylenes, Total		2636	69.0	<0.001	60.0	mg/L	115.0	66.3	60.0	mg/L	110.5	4.0

NOTE: Matrix Spike Samples may not be samples from this job.

Advisory Control Limits for MS/MSDs:

For Inorganic Parameters and GC Volatiles, the spike recovery should be 75 - 125% if the spike added value was greater than or equal to one fourth of the sample result value. If not, the control limits are not established. The RPD for the MS/MSD pair should be less than 20.

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

RPD calculations are performed on the Percent Recovery calculated from the observed Matrix spike and Matrix Spike Duplicate results.

NATIONAL ENVIRONMENTAL TESTING, INC.

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(800) 807-2877

QUALITY CONTROL REPORT

DUPLICATES

ENSR
740 Pasquinelli Drive
Westmont, IL 60559

Mr. Wei-Lin Feng

11/09/1998

NET Job Number: 98.13967

Analyte	Prep Batch Number	Run Batch Number	Original Analysis	Duplicate Analysis	Units	RPD
pH		1717	7.33	7.32	units	0.1
pH		1717	7.05	7.07	units	0.3

NOTE: Spikes and Duplicates may not be samples from this job.

RPD - Relative Percent Difference

Advisory Control Limits for Duplicates - RPD should be less than 20.

NET Midwest, Bartlett Division

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
ICP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

(1) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986.

(2) ASTM "American Society for Testing Materials"

(3) Methods 100 through 499: see "Methods for Chemical Analysis of Water and Wastes", USEPA, 600/4-79-020, Rev. 1983.

(4) See "Standard Methods for the Examination of Water and Wastewater", 17th Ed, APHA, 1989.

(5) Methods 600 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants", USEPA Federal Register Vol. 49 No. 209, October 1984.

(6) Methods 500 through 599: see "Methods for the Determination of Organic Compounds in Drinking Water," USEPA 600/4-88/039, Rev. 1988.

(7) See "Methods for the Determination of Metals in Environmental Samples", Supplement I EPA-600/R-94/111, May 1994.

(8) See "Standard Methods for the Examination of Water and Wastewater", 18th Ed., APHA, 1992.

(9) Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", USEPA SW-846, 3rd Edition, 1986, Including Updates I and II.

(10) This method is from the 2nd Edition of "Test Methods for Evaluating Solid Waste", USEPA SW-846. It has been dropped from the 3rd Edition, 1986.

APPENDIX C

Monitoring Well Gauging and Survey Data

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Joliet #29 Generating Station
1800 Channahon Road
Joliet, Illinois

MWG13-15_23596

Project: ComEd Joliet #29 Generating Station
Project #: 1801-023-410
Date: 10/22/98

Operator: BM
Method: IP
Equipment #: IP #

Well ID	TOC Elevation (feet)	Total Depth of Well (feet)	Depth to Water (feet)	Depth to LPHC (feet)	LPHC Thickness (feet)	LPHC Specific Gravity	Corrective Depth to Water (feet)	Corrective Water Elevation (feet)
MW-1	100.71	13.80	11.85	NA	NA	NA	11.85	88.86
MW-2	118.84	36.85	29.68	NA	NA	NA	29.68	89.16
MW-3	99.23	13.70	10.40	NA	NA	NA	10.40	88.83
MW-4	110.62	9.65	dry					
MW-5	101.86	18.10	12.95	NA	NA	NA	12.95	88.91

Note:
TOC elevation is based on an arbitrary 100 foot benchmark.

Exhibit C4

K P R G

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

INSPECTION SUMMARY LETTER

August 27, 2009

Ms. Elsie Briette
Midwest Generation, LLC
1800 Channahon Road
Joliet, IL 60436

VIA E-MAIL and U.S. MAIL KPRG Project No. 15209

Re: Joliet #29 Former Ash Burial Area Runoff Inspection 2009

Dear Ms. Briette:

KPRG and Associates, Inc. (KPRG) completed a walk-over inspection of the former ash burial area on the northeast side of the Joliet #29 property, outside the fenced boundary of the facility. The inspection was performed on August 24th and 25th, 2009. The purpose of the inspection was to identify any erosional features that may expose the underlying buried ash/slag and channel runoff toward the Des Plaines River which is immediately south of this area. It is noted that the ash burial area also extends to the west to within the fenced portion of the Joliet #29 facility. This portion of the former ash burial area was inspected by Midwest Generation and KPRG on July 14, 2009. It is our understanding that the ash burial area is included within the storm water/discharge permit for the facility and this inspection is part of permit compliance requirements.

During the inspection, KPRG identified five areas outside the fenced boundary of the Joliet #29 facility where either sheet wash erosion or rilling has exposed the underlying ash/slag and may transport the material to the Des Plaines River. These are identified as Areas 1 through 5 below. In addition, there was one erosional area identified within the fenced boundary of the Joliet #29 facility. This is identified as Area 6 below.

For each of the six areas, the following observations and recommendations for repair are forwarded:

- Area 1 – Located at coordinates N41° 30.068'/W88° 06.419'. This is an area of sheet wash which has eroded some of the gravel/rock cover and has started to expose some underlying ash/slag. The area of ash exposure is about 30 feet wide and extends from the top of the slope to the river water interface.

The recommended repair should include prepping/grading an approximate 50' x 50' surface area (this will include the subject area and a sufficient buffer around the area) and properly placing 4" to 6" of clayey top soil. The top soil should be seeded with a mix of all purpose seed and annual rye. The annual rye will accommodate germination in the later summer and fall months. This should then be covered with a green wood fiber erosion blanket. A series of straw logs should be placed along the top of the subject area to help reduce sheet runoff erosional effects.

- Area 2 – Located at N41° 29.950/W88° 06.621'. This is an area of a deeply incised, sinuous gully that breaches the existing earthen/rock berm. It is located within a heavily vegetated area. The gully is approximately 50 feet long, up to 4 feet deep and 10 feet wide. There is evidence of ash/slag in the bottom of the gully.

  The recommended repair is to construct a 3 to 4 foot clay berm topped with rip rap to mend the breach in the existing berm. The remainder of the gully will be dressed with clayey top soil and seeded with a mix of all purpose seed and annual rye. The gully will also be grubbed out to allow for sufficient sunlight penetration to accommodate seed germination.

- Area 3 – Located at N41° 29.916'/W88° 06.683'. This is an area at the top of the bank which has ash/slag exposed to sheet runoff. The area is approximately 30' x 30' in size. The side slope of bank itself appears in good condition.

  The recommended repair is to clear the area, place 4" to 6" of top soil and seed with a mix of all purpose seed and annual rye. Cover the area with hay to preclude erosion during germination.

- Area 4 – Located at N41° 29.894'/W88° 06.732'. This area has a small rill that has started to form with some evidence of ash and slag toward the bottom. The rill is about 15 feet long, 2 feet deep and 3 to 4 feet wide. The remainder of the bank side slope appears in good condition.

  The recommended repair is to fill in the rill with clayey top soil and seed with a mix of all purpose seed and annual rye. This should then be covered with an erosion mat. A straw log should be placed along the top of the subject area to help reduce runoff erosional effects.

- Area 5 – Located at N41° 29.889/W88° 06.947'. This is an area of sheet wash which has eroded most of the cover and has exposed ash/slag along the side of the bank. The area of ash exposure is about 50 feet wide and extends from the top of the slope to the river water interface. The slope is fairly steep at this location.

MWG13-15_19443

The recommended repair is to grade the area, place clayey top soil and seed with a mix of all purpose seed and annual rye. Due to the steepness of the slope, the area should then be covered with a properly anchored Eastcoast Erosion Blanket ECC-3 which is a specialty three-layer netting structure that firmly helps secure and promote vegetal growth along slopes. The matting configuration includes a layer of 100% coconut matrix material. The underlying seed will germinate and grow directly through the blanket. The length of the blanket should extend to beyond the area of exposure. The top of the blanket will be additionally anchored into a small excavated trench to preclude underwashing. The top of the area should then be lined with rip-rap to help disperse and reduce sheet runoff effects.

- Area 6 is located within the fenced boundary of the Joliet #29 facility, approximately 500 feet west of Area 5. As noted above, this area was inspected during a site meeting with Midwest Generation on July 14, 2009. Similar to Area 5, this is an area of sheet wash which has eroded most of the cover and has exposed ash/slag along the side of the bank. The area of ash exposure is about 50 feet wide and extends from the top of the slope to the river water interface. The slope is fairly steep at this location.

  The recommended repair is the same as provided for Area 5 above.

KPRG met with Allied Landscaping at the site to show the areas of required repair to facilitate a contractor cost estimate. Upon receipt of Allied's estimate, KPRG will follow-up with a separate cost estimate for implementation of the recommended repairs. The cost for each area will be itemized out in the estimate.

KPRG appreciates the continued opportunity for providing our technical services to Midwest Generation. If there are any questions, please contact me at 262-781-0475.

Sincerely,
KPRG and Associates, Inc.

Richard R. Gnat

Richard R. Gnat, P.G.
Principal

MWG13-15_19444

Exhibit C5

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

MR

RECEIVED
JUN 13 2012
ENVIRONMENTAL SERVICES
MIDWEST GENERATION EME, LLC

217/785-0561

June 11, 2012

RECEIVED
JUN 13 2012
ENVIRONMENTAL SERVICES
MIDWEST GENERATION EME, LLC

CERTIFIED MAIL # 7010 2780 0002 1163 7223
RETURN RECEIPT REQUESTED

Mr. Basil G. Constantelos: Managing Director, Environmental Services
Midwest Generation EME, LLC
2535 Remington Blvd
Suite A
Bolingbrook, IL 60440

Re: Violation Notice: Midwest Generation, LLC, Joliet #29 Generating Station
Identification No.: 6284
Violation Notice No.: W-2012-00059

Dear Mr. Constantelos:

This constitutes a Violation Notice pursuant to Section 31(a)(1) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(1), and is based upon a review of available information and an investigation by representatives of the Illinois Environmental Protection Agency ("Illinois EPA").

The Illinois EPA hereby provides notice of alleged violations of environmental laws, regulations, or permits as set forth in Attachment A to this notice. Attachment A includes an explanation of the activities that the Illinois EPA believes may resolve the specified alleged violations. Due to the nature and seriousness of the alleged violations, please be advised that resolution of the violations may also require the involvement of a prosecutorial authority for purposes that may include, among others, the imposition of statutory penalties.

A written response, which may include a request for a meeting with representatives of the Illinois EPA, must be submitted via certified mail to the Illinois EPA within 45 days of receipt of this letter. If a meeting is requested, it shall be held within 60 days of receipt of this notice. The response must include information in rebuttal, explanation, or justification of each alleged violation and a statement indicating whether or not the facility wishes to enter into a Compliance Commitment Agreement ("CCA") pursuant to Section 31(a) of the Act. If the facility wishes to enter into a CCA, the written response must also include proposed terms for the CCA that includes dates for achieving each commitment and may include a statement that compliance has been achieved for some or all of the alleged violations. The proposed terms of the CCA should contain sufficient detail and must include steps to be taken to achieve compliance and the necessary dates by which compliance will be achieved.

The Illinois EPA will review the proposed terms for a CCA provided by the facility and, within 30 days of receipt, will respond with either a proposed CCA or a notice that no CCA will be issued by the Illinois EPA. If the Illinois EPA sends a proposed CCA, the facility must respond in writing by either agreeing to and signing the proposed CCA or by notifying the Illinois EPA that the facility rejects the terms of the proposed CCA.

If a timely written response to this Violation Notice is not provided, it shall be considered a waiver of the opportunity to respond and meet, and the Illinois EPA may proceed with referral to a prosecutorial authority.

Written communications should be directed to:

Illinois EPA – Division of Public Water Supplies
Attn: Andrea Rhodes, CAS #19
P.O. BOX 19276
Springfield, IL 62794-9276

All communications must include reference to this Violation Notice number, W-2012-00059.

Questions regarding this Violation Notice should be directed to Andrea Rhodes at 217/785-0561.

Sincerely,

Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

Attachments

cc: Maria Race

CASE ID: 2012-006

ATTACHMENT A

MIDWEST GENERATION, LLC, JOLIET #29 GENERATING STATION, ID:6284
VIOLATION NOTICE NO. W-2012-00059:

A review of information available to the Illinois EPA indicates the following on-going violations of statutes, regulations, or permits. Included with each type of violation is an explanation of the activities that the Illinois EPA believes may resolve the violation.

Groundwater Quality

No person shall cause, threaten or allow the release of any contaminant to a resource groundwater such that: treatment or additional treatment is necessary to continue an existing use or to assure a potential use of such groundwater; or an existing or potential use of such groundwater is precluded. No person shall cause, threaten or allow the release of any contaminant to groundwater so as to cause a groundwater quality standard to be exceeded. Midwest Generation, LLC must take actions to mitigate existing contamination and prevent the continuing release of contaminants into the environment.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-2 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Chloride	230 mg/l	200 mg/l	06/14/2011
Antimony	0.012 mg/l	0.006 mg/l	12/06/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-3 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Chloride	250 mg/l	200 mg/l	03/15/2012
Chloride	260 mg/l	200 mg/l	12/07/2011
Chloride	300 mg/l	200 mg/l	06/14/2011
Chloride	240 mg/l	200 mg/l	03/28/2011
Chloride	260 mg/l	200 mg/l	12/07/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

ATTACHMENT A

MIDWEST GENERATION, LLC, JOLIET #29 GENERATING STATION, ID:6284
VIOLATION NOTICE NO. W-2012-00059:

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-4 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Chloride	210 mg/l	200 mg/l	03/15/2012
Chloride	250 mg/l	200 mg/l	06/14/2011
Chloride	270 mg/l	200 mg/l	03/28/2011
Chloride	270 mg/l	200 mg/l	12/07/2010
Manganese	0.33 mg/l	0.15 mg/l	12/07/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-5 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Chloride	210 mg/l	200 mg/l	03/15/2012
Chloride	220 mg/l	200 mg/l	06/14/2011
Chloride	240 mg/l	200 mg/l	03/28/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-6 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Chloride	270 mg/l	200 mg/l	03/28/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

ATTACHMENT A

MIDWEST GENERATION, LLC, JOLIET #29 GENERATING STATION, ID:6284
VIOLATION NOTICE NO. W-2012-00059:

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-7 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Chloride	320 mg/l	200 mg/l	03/28/2011
Chloride	430 mg/l	200 mg/l	12/06/2010
Manganese	0.29 mg/l	0.15 mg/l	12/07/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-8 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Chloride	410 mg/l	200 mg/l	03/15/2012
Chloride	350 mg/l	200 mg/l	03/28/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-9 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Chloride	290 mg/l	200 mg/l	06/14/2011
Iron	7.3 mg/l	5.0 mg/l	06/14/2011
Manganese	1.3 mg/l	0.15 mg/l	03/15/2012
Manganese	0.66 mg/l	0.15 mg/l	12/07/2011
Manganese	0.82 mg/l	0.15 mg/l	09/14/2011
Manganese	0.95 mg/l	0.15 mg/l	06/14/2011
Manganese	1.6 mg/l	0.15 mg/l	03/28/2011
Manganese	1.1 mg/l	0.15 mg/l	12/06/2010
Sulfate	1,600 mg/l	400 mg/l	03/15/2012
Sulfate	1,600 mg/l	400 mg/l	12/07/2011
Sulfate	750 mg/l	400 mg/l	09/14/2011
Sulfate	580 mg/l	400 mg/l	06/14/2011

ATTACHMENT A

MIDWEST GENERATION, LLC, JOLIET #29 GENERATING STATION, ID:6284
VIOLATION NOTICE NO. W-2012-00059:

Violation Description
MW-9 continued

Parameter	Sample Value	GW Standard	Collection Date
Sulfate	1,100 mg/l	400 mg/l	03/28/2011
Sulfate	1,600 mg/l	400 mg/l	12/06/2010
TDS	2,600 mg/l	1,200 mg/l	03/15/2012
TDS	2,400 mg/l	1,200 mg/l	12/07/2011
TDS	1,700 mg/l	1,200 mg/l	09/14/2011
TDS	1,500 mg/l	1,200 mg/l	06/14/2011
TDS	2,400 mg/l	1,200 mg/l	03/28/2011
TDS	2,600 mg/l	1,200 mg/l	12/06/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description
Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-10 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Chloride	300 mg/l	200 mg/l	03/28/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410

Violation Description
Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-11 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Boron	2.2 mg/l	2.0 mg/l	06/14/2011
Boron	2.6 mg/l	2.0 mg/l	03/28/2011
Chloride	240 mg/l	200 mg/l	03/15/2012
Chloride	280 mg/l	200 mg/l	06/14/2011
Chloride	270 mg/l	200 mg/l	03/28/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Exhibit C6

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

217-785-0561

October 24, 2012

CERTIFIED MAIL # 7011 1150 0001 0859 0072
RETURN RECEIPT REQUESTED

John Kennedy
Senior Vice President, Generation
235 Remington, Suite A
Bolingbrook, IL 60440

Re: Compliance Commitment Acceptance
Violation Notice: W-2012-00059
Midwest Generation, LLC, Joliet #29 Generating Station; ID Number: 6284

Dear Mr. Kennedy:

The Illinois Environmental Protection Agency ("Illinois EPA") has approved the Compliance Commitment Agreement ("CCA") for Midwest Generation, LLC, Joliet #29 Generating Station. Please find enclosed an executed copy of the CCA for your records.

Failure to fully comply with the CCA may, at the sole discretion of the Illinois EPA, result in referral of this matter to the Office of the Attorney General, the State's Attorney or the United States Environmental Protection Agency.

The CCA does not constitute a waiver or modification of the terms and conditions of any license or permit issued by the Illinois EPA or any other unit or department of local, state or federal government or of any local, state or federal statute or regulatory requirement.

Questions regarding this matter should be directed to Andrea Rhodes at 217/785-0561. Written communications should be directed to the Illinois Environmental Protection Agency, Bureau of Water, CAS #19, P.O. Box 19276, Springfield, IL 62794-9276, and all communications shall include reference to your Violation Notice Number W-2012-00059.

Sincerely,

Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

Attachments

cc: Basil G. Constantelos
Maria Race
Susan M. Franzetti

RECEIVED
OCT 29 2012

BOW ID: W1970450047 CASE ID: 2012-006

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

RECEIVED
OCT 17 2012
IEPA/CAS

IN THE MATTER OF:

MIDWEST GENERATION, LLC,
JOLIET #29 GENERATING STATION
JOLIET, WILL COUNTY, IL
ID NUMBER: 6284

ILLINOIS EPA VN W-2012-00059
BUREAU OF WATER

COMPLIANCE COMMITMENT AGREEMENT

I. Jurisdiction

1. This Compliance Commitment Agreement ("CCA") is entered into voluntarily by the Illinois Environmental Protection Agency ("Illinois EPA") and Midwest Generation, LLC, Joliet Generating Station ("Respondent") (collectively, the "Parties") under the authority vested in the Illinois EPA pursuant to Section 31(a)(7)(i) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(7)(i).

II. Allegation of Violations

2. Respondent owns and operates Joliet #29 a power generating station in Joliet, Will County, Illinois ("Joliet #29").

3. Pursuant to Violation Notice ("VN") W-2012-00059 issued on June 11, 2012, the Illinois EPA contends that Respondent has violated the following provisions of the Act and Illinois Pollution Control Board ("Board") Regulations:

   a) Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring wells MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, and MW-11.
   Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

III. Compliance Activities

4. On August 31, 2012, the Illinois EPA received Respondent's response to VN W-2012-00059, which included proposed terms for a CCA. The Illinois EPA has reviewed Respondent's proposed CCA terms, as well as considered whether any additional terms and conditions are necessary to attain compliance with the alleged violations cited in the VN.

5. Respondent agrees to undertake and complete the following actions, which the Illinois EPA has determined are necessary to attain compliance with the allegations contained in VN W-2012-00059:

   a) The ash ponds at Joliet #29 shall not be used as permanent disposal sites and shall continue to function as treatment ponds to precipitate ash. Ash shall continue to be removed from the ponds on a periodic basis.

   b) The ash treatment ponds shall be maintained and operated in a manner which protects the integrity of the existing liners. During the removal of ash from the ponds, appropriate procedures shall be followed to protect the integrity of the existing liners, including operating the ash removal equipment in a manner which minimizes the risk of any damage to the liner.

   c) During the ash removal process, visual inspections of the ponds shall be conducted to identify any signs of a breach in the integrity of the pond liners. In the event that a breach of the pond liners is detected, Midwest Generation shall promptly notify the Illinois EPA and shall implement a corrective action plan for repair or replacement as necessary, of the liner. Upon the Illinois EPA's approval, and the issuance of any necessary construction permit, Midwest Generation will implement the corrective action plan.

   d) Midwest Generation shall continue quarterly monitoring of the existing eleven groundwater monitoring wells for constituents in 35 Ill. Adm. Code 620.410(a), with the exception of radium 226 and 228, and report its findings to the Illinois EPA within 30 days of the end of each quarter. In addition, Midwest Generation shall record and report groundwater elevation and submit a potentiometric surface map with the above quarterly groundwater monitoring report.

   e) Midwest Generation shall submit an application for a construction permit to re-line Pond #3 with a high density polyethylene ("HDPE") liner within 90 days of the effective date of the CCA. A groundwater monitoring schedule shall be included in the construction permit.

   f) Midwest Generation shall submit an application to establish a Groundwater Management Zone ("GMZ") pursuant to 35 Ill. Adm. Code Part 620.250 within 90 days of the effective date of the CCA.

g) Midwest Generation shall establish a GMZ pursuant to 35 Ill. Adm. Code Part 620.250 within one year of the effective date of the CCA.

h) Once Pond #3 has been re-lined with a HDPE liner and a GMZ has been established, Midwest Generation, shall submit a certification (or a statement) of compliance. Midwest Generation may submit either the attached "Illinois EPA Compliance Statement" or another similar writing to satisfy the statement of compliance within one year of the effective date of the CCA.

IV. Terms and Conditions

6. Respondent shall comply with all provisions of this CCA, including, but not limited to, any appendices to this CCA and all documents incorporated by reference into this CCA. Pursuant to Section 31(a)(10) of the Act, 415 ILCS 5/31(a)(10), if Respondent complies with the terms of this CCA, the Illinois EPA shall not refer the alleged violations that are the subject of this CCA, as described in Section II above, to the Office of the Illinois Attorney General or the State's Attorney of the county in which the alleged violations occurred. Successful completion of this CCA or an amended CCA shall be a factor to be weighed, in favor of the Respondent, by the Office of the Illinois Attorney General in determining whether to file a complaint on its own motion for the violations cited in VN W-2012-00059.

7. This CCA is solely intended to address the violations alleged in Illinois EPA VN W-2012-00059. The Illinois EPA reserves and this CCA is without prejudice to, all rights of the Illinois EPA against Respondent with respect to noncompliance with any term of this CCA, as well as to all other matters. Nothing in this CCA is intended as a waiver, discharge, release, or covenant not to sue for any claim or cause of action, administrative or judicial, civil or criminal, past or future, in law or in equity, which the Illinois EPA may have against Respondent, or any other person as defined by Section 3.315 of the Act, 415 ILCS 5/3.315. This CCA in no way affects the responsibilities of Respondent to comply with any other federal, state or local laws or regulations, including but not limited to the Act, and the Board Regulations [and Permit, if applicable].

8. Pursuant to Section 42(k) of the Act, 415 ILCS 5/42(k), in addition to any other remedy or penalty that may apply, whether civil or criminal, Respondent shall be liable for an additional civil penalty of $2,000 for violation of any of the terms or conditions of this CCA.

9. This CCA shall apply to and be binding upon the Illinois EPA, and on Respondent and Respondent's officers, directors, employees, agents, successors, assigns, heirs, trustees, receivers, and upon all persons, including but not limited to contractors and consultants, acting on behalf of Respondent, as well as upon subsequent purchasers of Respondent's Joliet #29 in Joliet, Will County, Illinois.

10. In any action by the Illinois EPA to enforce the terms of this CCA, Respondent consents to and agrees not to contest the authority or jurisdiction of the Illinois EPA to enter into or enforce this CCA, and agrees not to contest the validity of this CCA or its terms and conditions.

11. This CCA shall only become effective:

    a) If, within 30 days of receipt, Respondent executes this CCA and submits it, via certified mail, to Illinois EPA, Bureau of Water, Andrea Rhodes, MC #19, 1021 North Grand Ave East, Springfield, IL 62702. If Respondent fails to execute and submit this CCA within 30 days of receipt, via certified mail, this CCA shall be deemed rejected by operation of law; and

    b) Upon execution by all Parties.

12. Pursuant to Section 31(a)(7.5) of the Act, 415 ILCS 5/31(a)(7.5), this CCA shall not be amended or modified prior to execution by the Parties. Any amendment or modification to this CCA by Respondent prior to execution by all Parties shall be considered a rejection of the CCA by operation of law. This CCA may only be amended subsequent to its effective date, in writing, and by mutual agreement between the Illinois EPA and Respondent's signatory to this CCA, Respondent's legal representative, or Respondent's agent.

AGREED:
FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY:

BY: _____ DATE: 10/24/12
Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

FOR RESPONDENT:

BY: _____ DATE: Oct 15, 2012
John Kennedy
Senior Vice President, Generation
Midwest Generation, LLC

Illinois EPA Compliance Statement

The owner of the facility must acknowledge that all compliance commitment agreement (CCA) measures have been successfully completed.

Please complete, sign, and return.

I _____ *(print name)*, hereby certify that all violations addressed in Violation Notice (VN) number _____ have been addressed and that all CCA measures were completed on _____ *(date)*.

_____
Signature

_____
Title

_____
Telephone Number

_____
Date

Be sure to retain copies of this document for your files. Should you need additional notification forms, please contact this office at (217)785-0561. Return this completed form to:

Illinois Environmental Protection Agency
Compliance Assurance Section #19
Bureau of Water
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

"Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Agency,.....related to or required by this Act, a regulation adopted under this Act, any federal law or regulation for which the Agency has responsibility, or any permit, term, or condition thereof, commits a Class 4 felony..." (415 ILCS 5/44(h) (8))

Exhibit C7

MIDWEST GENERATION EME, LLC
An EDISON INTERNATIONAL® Company

Amy L. Hanrahan
Senior Environmental Engineer
Environmental Services

January 18, 2013

Ms. Andrea Rhodes
Illinois Environmental Protection Agency – DPWS
MC #19
1021 North Grand Avenue East
Springfield, IL 62702

VIA FEDERAL EXPRESS

Re:

Compliance Commitment Agreement – Groundwater Management Zone Application
Midwest Generation, LLC, Joliet #29 Generating Station; ID No. 6284
Violation Notice W-2012-00059

Dear Ms. Rhodes:

The Compliance Commitment Agreement (CCA) for the above referenced site relative to Violation Notice W-2012-00059 was signed by Midwest Generation on October 15, 2012 and executed by Illinois Environmental Protection Agency (IEPA) signature on October 24, 2012 (effective date). Item 5 (f) of the CCA requires Midwest Generation to submit an application to establish a Groundwater Management Zone (GMZ) pursuant to 35 Ill. Adm. Code Part 620.250 within 90 days of the effective date of the CCA.

Based on previous discussions with IEPA, the proposed areal extent of the GMZ is shown on Figure 1 in Attachment 1. The GMZ Application Forms (Parts I through III) and supporting information/data are provided in Attachment 2. As discussed in the Application Forms support documentation, groundwater flow in the vicinity of the subject ash ponds is in a southerly direction with discharge to the adjoining station water intake channel off of the Des Plaines River. The southern (downgradient) extent of the proposed GMZ corresponds with this hydraulic boundary. The northern (upgradient) boundary is defined by the placement of the three upgradient monitoring wells (MW-8, MW-10 and MW-11). The east and west sides of the proposed GMZ are based on the flow system and location of the three ash ponds. The vertical extent of the GMZ would be the first underlying aquitard/confining unit identified as the Maquoketa Shale, approximate 180 to 200 feet below ground surface. The GMZ would therefore vertically include the unconsolidated overburden and the Silurian dolomite, both of which are hydraulically connected and overlie the Maquoketa Shale.

235 Remington Blvd.
Suite A
Bolingbrook, IL 60440
Tel: 630 771 7863
Fax: 949 225 9815
ahanrahan@mwgen.com

MWG13-15_17185

This submittal fulfills the requirements set forth under Item 5 (f) of the signed CCA. Once the application is approved by IEPA and the proposed extent of the GMZ is agreed upon, a formal surveying of the area will be performed and legal description generated. Please call me at 630-771-7863 if there are any questions.

Sincerely,
Midwest Generation, LLC

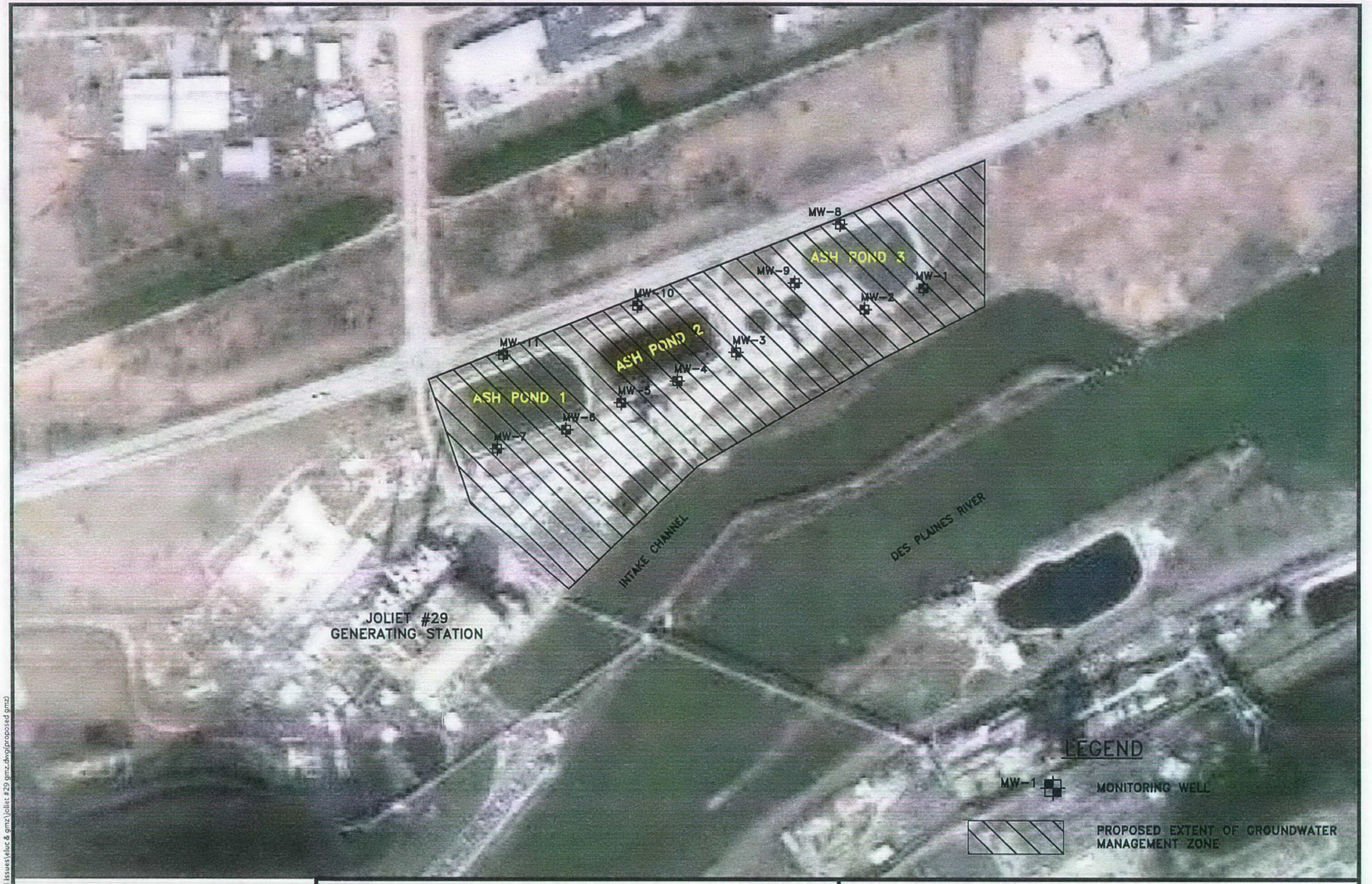
Amy Hanrahan
Senior Environmental Engineer

Attachments: *1 – Proposed Areal Extent of GMZ*
2 – Completed GMZ Application Forms (Parts I through III)

cc: Ms. Maria Race, Midwest Generation EME, LLC
Mr. Basil Constantelos, Midwest Generation EME, LLC
Mr. James DiCola, Midwest Generation, LLC
Mr. Christopher Foley, Midwest Generation EME, LLC
Ms. Susan Franzetti, Nijman Franzetti, LLP
Mr. Richard Gnat, KPRG and Associates, Inc.
Mr. Bill Buscher, IEPA

MWG13-15_17186

ATTACHMENT 1
Proposed Areal Extent of GMZ



0 500'

APPROXIMATE SCALE

N

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

PROPOSED GROUNDWATER MANAGEMENT ZONE

JOLIET #29 GENERATING STATION
JOLIET, ILLINOIS

Scale: 1" = 500' | Date: January 11, 2013

KPRG Project No. 18311.11 | FIGURE 1

W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\joliet #29 gmz.dwg\proposed gmz

MWG13-15_17188

ATTACHMENT 2
Completed GMZ Application Forms (Parts I through III)

Section 620.APPENDIX D Confirmation of an Adequate Corrective Action Pursuant to 35 Ill. Adm. Code 620.250(a)(2)

Pursuant to 35 Ill. Adm. Code 620.250(a) if an owner or operator provides a written confirmation to the Agency that an adequate corrective action, equivalent to a corrective action process approved by the Agency, is being undertaken in a timely and appropriate manner, then a groundwater management zone may be established as a three-dimensional region containing groundwater being managed to mitigate impairment caused by the release of contaminants from a site. This document provides the form in which the written confirmation is to be submitted to the Agency.

Note 1. Parts I and II are to be submitted to IEPA at the time that the facility claims the alternative groundwater standards. Part III is to be submitted at the completion of the site investigation. At the completion of the corrective process, a final report is to be filed which includes the confirmation statement included in Part IV.

Note 2. The issuance of a permit by IEPA's Division of Air Pollution Control or Water Pollution Control for a treatment system does not imply that the Agency has approved the corrective action process.

Note 3. If the facility is conducting a cleanup of a unit which is subject to the requirements of the Resource Conservation and Recovery Act (RCRA) or the 35 Ill. Adm. Code 731 regulations for Underground Storage Tanks, this confirmation process is not applicable and cannot be used.

Note 4. If the answers to any of these questions require explanation or clarification, provide such in an attachment to this document.

Part I. Facility Information

Facility Name Joliet #29 Generating Station

Facility Address 1800 Channahon Road
Joliet, IL 60436

County Will County

Standard Industrial Code (SIC) 4911

1. Provide a general description of the type of industry, products manufactured, raw materials used, location and size of the facility.

The Midwest Generation Joliet #29 Station is a coal-fired electrical power generating station in operation since the mid-1960s. The facility is located at 1800 Channahon Road in Joliet, Illinois. The generating station property covers an area of approximately 297 acres.

2. What specific units (operating or closed) are present at the facility which are or were used to manage waste, hazardous waste, hazardous substances or petroleum?

	YES	NO
Landfill		X
Surface Impoundment	X	
Land Treatment		X
Spray Irrigation		X
Waste Pile		X
Incinerator		X
Storage Tank (above ground)	X	
Storage Tank (underground)	X	
Container Storage Area	X	
Injection Well		X
Water Treatment Units	X	
Septic Tanks		X
French Drains		X
Transfer Station		X
Other Units (please describe)		

3. Provide an extract from a USGS topographic or county map showing the location of the site and a more detailed scaled map of the facility with each waste management unit identified in Question 2 or known/suspected source clearly identified. Map scale must be specified and the location of the facility must be provided with respect to Township, Range and Section.

Please see Figures 1 and 2 in Attachment 2A.

4. Has the facility ever conducted operations which involved the generation, manufacture, processing, transportation, treatment, storage or handling of "hazardous substances" as defined by the Illinois Environmental Protection Act? Yes _X_ No ___ If the answer to this question is "yes" generally describe these operations.

Hazardous substances such as mercury debris and debris contaminated with lead are properly labeled and stored at this facility until they are removed for proper transport and disposal.

5. Has the facility generated, stored or treated hazardous waste as defined by the Resource Conservation and Recovery Act? Yes_X__ No ___If the answer to this question is "yes" generally describe these operations.

Hazardous substances such as mercury debris and debris contaminated with lead are properly labeled and stored at this facility until they are removed for proper transport and disposal.

6. Has the facility conducted operations which involved the processing, storage or handling of petroleum? Yes _X__ No ____If the answer to this question is "yes" generally describe these operations.

The facility stores oil for operations in above ground storage tanks and drums. Gasoline is stored in an underground storage tank.

7. Has the facility ever held any of the following permits?

   a. Permits for any waste storage, waste treatment or waste disposal operation. Yes _X__ No ___ If the answer to this question is "yes", identify the IEPA permit numbers.

   The facility utilizes a sewerage treatment system that discharges to the Des Plaines River under NPDES Permit No. IL0064254. The facility also disposes of bottom ash via sluice lines to the Lincoln Stone Quarry which is an IEPA permitted ash landfill (Permit No. 1994-241-LFM, Modification No. 17).

   b. Interim Status under the Resources Conservation and Recovery Act (filing of a RCRA Part A application). Yes ___ No _X__ If the answer to this question is "yes", attach a copy of the last approved Part A application.

   c. RCRA Part B Permits. Yes ___ No _X__ If the answer to this question is "yes", identify the permit log number.

8. Has the facility ever conducted the closure of a RCRA hazardous waste management unit? Yes ___ No _X__

9. Have any of the following State or federal government actions taken place for a release at the facility?

a. Written notification regarding known, suspected or alleged contamination on or emanating from the property (e.g., a Notice pursuant to Section 4(q) of the Environment Protection Act)? Yes _X_ No ___ If the to this question is "yes", identify the caption and date of issuance.

A Violation Notice was issued by IEPA on June 11, 2012 relative to the three ash impoundments alleging a potential release of coal ash constituents to groundwater (Violation Notice No. W-2012-00059). This was resolved through a Compliance Commitment Agreement (CCA) dated September 28, 2012 and formally executed on October 24, 2012.

There was also a spill of turbine oil at the facility on December 7, 2012 which entered a surface water way. The spill was addressed properly on conjunction with State and Federal oversight. To date no formal violation notice has been issued.

b. Consent Decree or Order under RCRA, CERCLA, EPAct Section 22.2 (State Superfund), or EPAct Section 21(f) (State RCRA). Yes ___ No _X_

c. If either of Items a or b were answered by checking "yes", is the notice, order or decree still in effect? Yes _X_ No ___

10. What groundwater classification will the facility be subject to at the completion of the remediation?

Class I _X_ Class II ___ Class III ___ Class IV ___
If more than one Class applies, please explain.

11. Describe the circumstances which the release to groundwater was identified.

As requested by Illinois Environmental Protection Agency (IEPA), a groundwater monitoring plan was developed and implemented for Ash Ponds 1 through 3 located on the east side of the facility. A total of eleven monitoring wells were installed around the three ash ponds. Quarterly sampling was initiated in December 2010 and has been ongoing since. The data were provided to IEPA on a quarterly basis. Based on the monitoring data, on June 11, 2012, IEPA issued a Violation Notice (W-2012-00059) to Midwest Generation alleging that potential leakage from the ponds has resulted in a violation of Class I groundwater standards for antimony, boron, chloride, iron, manganese, sulfate and total dissolved solids.

Based on my inquiry of those persons directly responsible for gathering the information, I

certify that the information submitted is, to the best of my knowledge and belief, true and accurate.

Joliet #29 Generating Station	
Facility Name	Signature of Owner/Operator
Joliet, IL	Midwest Generation, LLC
Location of Facility	Name of Owner/Operator
ID No. 6284	January 17, 2013
EPA Identification Number	Date

PART II: Release Information

1. Identify the chemical constituents release to the groundwater. Attach additional documents as necessary.

Chemical Description	Chemical Abstract No.
Antimony	7440-36-0
Boron	7440-42-8
Chloride	16887-00-6
Iron	7439-89-6
Manganese	7439-96-5
Sulfate	18785-72-3
Total Dissolved Solids	C-010

2. Describe how the site will be investigated to determine the source or sources of the release.

This work has already been performed. As requested by Illinois Environmental Protection Agency (IEPA), Midwest Generation, LLC (Midwest Generation) prepared and submitted on September 3, 2010 a Hydrogeologic Assessment Plan for three ash ponds located at the Joliet No. 29 Generating Station. The purpose of the hydrogeologic assessment was to: (i) evaluate the potential, if any, for migration of ash related constituents from the ash ponds and conduct monitoring for groundwater constituents regulated by Illinois Part 620 groundwater standards; (ii) characterize the subsurface hydrogeology: and (iii) identify potable well use within 2,500 feet of the ash ponds.

Upon IEPA approval of the Hydrogeologic Assessment Plan, a total of eleven monitoring wells (MW-1 through MW-11) were installed around the three ash ponds identified as Ash Pond 1 through Ash Pond 3 (see Figure 3 in Attachment 2A). The wells were drilled and constructed in October/November 2010 after which point quarterly monitoring was initiated in accordance with approved, low-flow and/or disposable polyethylene bailer sampling procedures. A Hydrogeologic Assessment Report for Joliet Generating Station No. 29 was prepared by Patrick Engineering, Inc. and submitted by Midwest Generation, LLC to IEPA in February 2011. The results of the Hydrogeologic Assessment Report are incorporated into this application submittal by reference.

Since the submittal of the Hydrogeologic Assessment Report in February 2011, quarterly monitoring of the wells has been ongoing. The most recent round of sampling was performed in December 2012. A complete updated data summary is provided in Tables 1 and 2 in Attachment 2B. An updated groundwater flow map using the water level measurements from the most recent round of sampling is provided as Figure 4 in Attachment 2A.

3. Describe how groundwater will be monitored to determine the rate and extent of the release.

As part of the hydrogeologic assessment already performed (see discussion for item 2 above), in-situ hydraulic conductivity tests were performed on four of the monitoring wells (MW-4, MW-6, MW-9 and MW-11) installed around the ash ponds. Based on the results of the testing, hydraulic conductivity values in the vicinity of the well screens were found to range from 1.948×10^{-3} to 6.949×10^{-3} ft/sec with an average hydraulic conductivity of 3.896×10^{-3} ft/sec. Using the average hydraulic conductivity value, an estimated hydraulic gradient of 0.0005 ft/ft based on the most recent groundwater contour map (Figure 4 in Attachment 2A) and an estimated effective porosity of 0.35 yields an estimated groundwater seepage velocity of approximately 0.48 ft/day.

Relative to the extent of impacts, a box-plot map of detections of the constituents identified in Part II - Item 1 above is provided as Figure 5 in Attachment 2A.

4. Has the release been contained on-site at the facility?

Yes. All groundwater monitoring data indicates that the impacts are limited to within the property boundary. Natural groundwater flow is in a southerly direction with discharge to the adjoining plant surface water intake channel off of the Des Plaines River.

5. Describe the groundwater monitoring network and groundwater and soil sampling protocols in place at the facility.

The IEPA approved groundwater monitoring network at the site consists of eleven monitoring wells (MW-1 through MW-11) located around the three existing ash ponds (see Figure 1 in Attachment 2A). Wells MW-8, MW-10 and MW-11 are upgradient monitoring wells. The remaining wells are considered downgradient monitoring points. The well borings were advanced using hollow-stem augers to depths ranging from 27.5 to 42 feet below ground surface (bgs). The depth of a specific boring was terminated approximately 10 feet below the encountered water table. The wells were subsequently constructed using standard, 2-inch diameter PVC casing with 10-feet of 0.010 slot PVC screens. The wells were completed approximately three feet above grade with locking protective steel casings and bumper posts. The boring logs and well construction summaries are included in the above referenced Hydrogeologic Assessment Report (see discussion for item 2 above). The monitoring wells are sampled on a quarterly basis using either low-flow sampling with a peristaltic pump or with disposable polyethylene bailers. Field measurements of pH, specific conductivity, temperature, dissolved oxygen (DO) and oxidation-reduction potential (ORP) are recorded. Once collected, the samples are placed on ice and transported under a completed chain-of-custody to

TestAmerica, Inc. which is an Illinois accredited analytical laboratory. The samples are analyzed for the inorganic compounds listed in 35 IAC 620.410(a) and (d), excluding radium 226/228.

There is no soil sampling that is performed as part of the approved site monitoring program.

6. Provide the schedule for investigation and monitoring.

Groundwater sampling of all existing monitoring wells is performed on a quarterly basis. The general sampling schedule is as follows:

Event	Sampling Schedule
1st Quarter	March
2nd Quarter	June
3rd Quarter	September
4th Quarter	December

7. Describe the laboratory quality assurance program utilized for the investigation.

TestAmerica's Quality Assurance Manual (QAM) is a document prepared to define the overall policies, organization objectives and functional responsibilities for achieving the laboratory's data quality goals. The laboratory maintains a local perspective in its scope of services and client relations and maintains a national perspective in terms of quality.

The QAM has been prepared to assure compliance with the NELAC Institute (TNI) Standard, dated 2009, Volume 1 Modules 2 and 4, and ISO/IEC Guide 17025:2005(E). In addition, the policies and procedures outlined in this manual are compliant with TestAmerica's Corporate Quality Management Plan (CQMP) and the various accreditation and certification programs. The CQMP provides a summary of TestAmerica's quality and data integrity system. It contains requirements and general guidelines under which all TestAmerica facilities shall conduct their operations.

The QAM has been prepared to be consistent with the requirements of the following documents:

- EPA 600/4-88/039, *Methods for the Determination of Organic Compounds in Drinking Water,* EPA, Revised July 1991.
- EPA 600/R-95/131, *Methods for the Determination of Organic Compounds in Drinking Water,* Supplement III, EPA, August 1995.
- EPA 600/4-79-019, *Handbook for Analytical Quality Control in Water and Wastewater Laboratories,* EPA, March 1979.

- Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846), Third Edition, September 1986, Final Update I, July 1992, Final Update IIA, August 1993, Final Update II, September 1994; Final Update IIB, January 1995; Final Update III, December 1996; Final Update IV, January 2008.
- Federal Register, 40 CFR Parts 136, 141, 172, 173, 178, 179 and 261.
- Statement of Work for Inorganics Analysis, SOM and ISM, current versions, USEPA Contract Laboratory Program Multi-media, Multi-concentration.
- APHA, *Standard Methods for the Examination of Water and Wastewater,* 18th Edition, 19th, 20th, 21st and on-line Editions.
- U.S. Department of Energy Order 414.1C, Quality Assurance, June 17, 2005.
- *U.S. Department of Energy, Quality Systems for Analytical Services*, Revision 3.6, November 2010.
- U.S. Department of Defense, *Quality Systems Manual for Environmental Laboratories*, Final Version 4.2, October 2010.
- U.S. Department of Defense, *Air Force Center for Environmental Excellence Quality Assurance Project Plan (QAPP),* Version 4.0.02, May 2006.
- National Environmental Laboratory Accreditation Conference, Constitution, Bylaws, and Standards, EPA 600/R-04/003, US EPA Office of Research and Development, June 2003
- Toxic Substances Control Act (TSCA).

Copies of TestAmerica's QAM and CQMP can be provided upon request.

8. Provide a summary of the results of available soil testing and groundwater monitoring associated with the release at the facility. The summary or results should provide the following information: dates of sampling; types of samples taken (soil or water); locations and depths of samples; sampling and analytical methods; analytical laboratories used; chemical constituents for which analyses were performed; analytical detection limits; and concentrations of chemical constituents in ppm (levels below detection should be identified as "ND").

The data summary for all groundwater sampling performed to date is provided in Tables 1 and 2 in Attachment 2B.

Based on my inquiry of those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of knowledge and belief, true and accurate and confirm that the actions identified herein will be undertaken in accordance

with the schedule set forth herein.

Joliet #29 Generating Station	
Facility Name	Signature of Owner/Operator
Joliet, IL	Midwest Generation, LLC
Location of Facility	Name of Owner/Operator
ID No. 6284	January 17, 2013
EPA Identification Number	Date

Part III: Remedy Selection Information

1. Describe the selected remedy.

Ash Ponds 1 and 2 were already lined with high density polyethylene (HDPE) and Ash Pond 3 currently has a Poz-o-Pac liner. The agreed upon remedy is specified in Item 5 (a) through (h) of the executed Compliance Commitment Agreement (CCA) which is provided in Attachment 2C. The remedy includes lining of Ash Pond 3 with HDPE. This Groundwater Management Zone (GMZ) application fulfills requirements set forth under Item 5 (f) of the CCA.

2. Describe other remedies which were considered and why they were rejected.

The primary alternate remedy discussed during negotiations with IEPA was to ensure that the ash ponds will not be used as permanent disposal sites, maintain the ash ponds in a manner that will be protective of the integrity of the existing liners, include visual inspections of the liners during ash removal events, implement repairs or replacement of the liners as necessary, establish a GMZ and to continue with the existing quarterly groundwater monitoring program until the federal ash regulation revisions are established. Upon the finalization of the new federal ash storage regulations, retrofit the impoundments, as necessary, to meet the new technical requirements for ash storage impoundments or re-engineer plant processes to maintain compliance and take the impoundments out of service.

This remedy was rejected by IEPA due to the uncertainty of the timeframe within which the new federal regulations will be issued.

3. Will waste, contaminated soil or contaminated groundwater be removed from the site in the course of this remediation? Yes _X_ No ___ If the answer to this question is "yes", where will the contaminated material be taken?

The ash that will be removed from Ash Pond 3 to facilitate new liner construction will be taken to the Lincoln Stone Quarry which is an IEPA permitted ash landfill (Permit No. 1994-241-LFM, Modification No. 17).

4. Describe how the selected remedy will accomplish the maximum practical restoration of beneficial use of groundwater.

Once Ash Pond 3 is relined with a HDPE liner, all three ponds will have been constructed and operated to minimize potential release of ash pond fluids to groundwater. Any residual groundwater impacts potentially associated with prior ash pond leakage will naturally attenuate through the groundwater system under monitored conditions within the established GMZ with discharge to the water intake

channel immediately south of the units.

5. Describe how the selected remedy will minimize any threat to public health or the environment.

The existing conditions do not pose a threat to public health since the impacts are limited to within the property boundary, there are no groundwater use receptors and the ponds are located within a fenced property with 24-hour security controlled access. Any potential impacts to the environment will be minimized and managed as discussed under item 4 above.

6. Describe how the selected remedy will result in compliance with the applicable groundwater standards.

Once Ash Pond 3 is relined with an HDPE liner, all three ponds will have been constructed and operated to minimize potential release of ash pond fluids to groundwater (i.e, the ash ponds as a potential source of groundwater impacts will be eliminated). Any residual groundwater impacts potentially associated with prior ash pond leakage will naturally attenuate through the groundwater system under monitored conditions within the established GMZ and/or discharge to the river water intake channel located immediately north of the ash ponds.

7. Provide a schedule for design, construction and operation of the remedy, including dates for the start and completion.

The construction window for relining Ash Pond 3 is from May 6, 2013 through September 26, 2013. Dredging of the ash will occur between May 6, 2013 and July 25, 2013. At this time liner installation is anticipated to occur in August 2013.

A more detailed schedule is being provided under separate cover with the Application for Construction Permit to reline the two ponds.

8. Describe how the remedy will be operated and maintained.

Upon completion of construction activities, Midwest Generation will develop and submit an Operation and Maintenance (O&M) Plan to the IEPA. The O&M Plan will be based on manufacturer and installer recommendations. It will include procedures for liner system inspections, inspection frequency, documentation requirements and what corrective measure procedures are to be implemented, if necessary.

9. Have any of the following permits been issued for the remediation?

   a. Construction or Operating permit from the Division of Water Pollution Control. Yes _X_ No ___

This permit submittal is currently under review by IEPA.

b. Land treatment permit from the Division of Water Pollution Control. Yes ___ No _X__ If the answer to this question is "yes", identify the permit number.

c. Construction or Operating permit from the Division of Air Pollution Control. Yes ___ No _X__ If the answer to this question is "yes", identify the permit number.

10. How will groundwater at the facility be monitored following completion of the remedy to ensure that the groundwater standards have been attained?

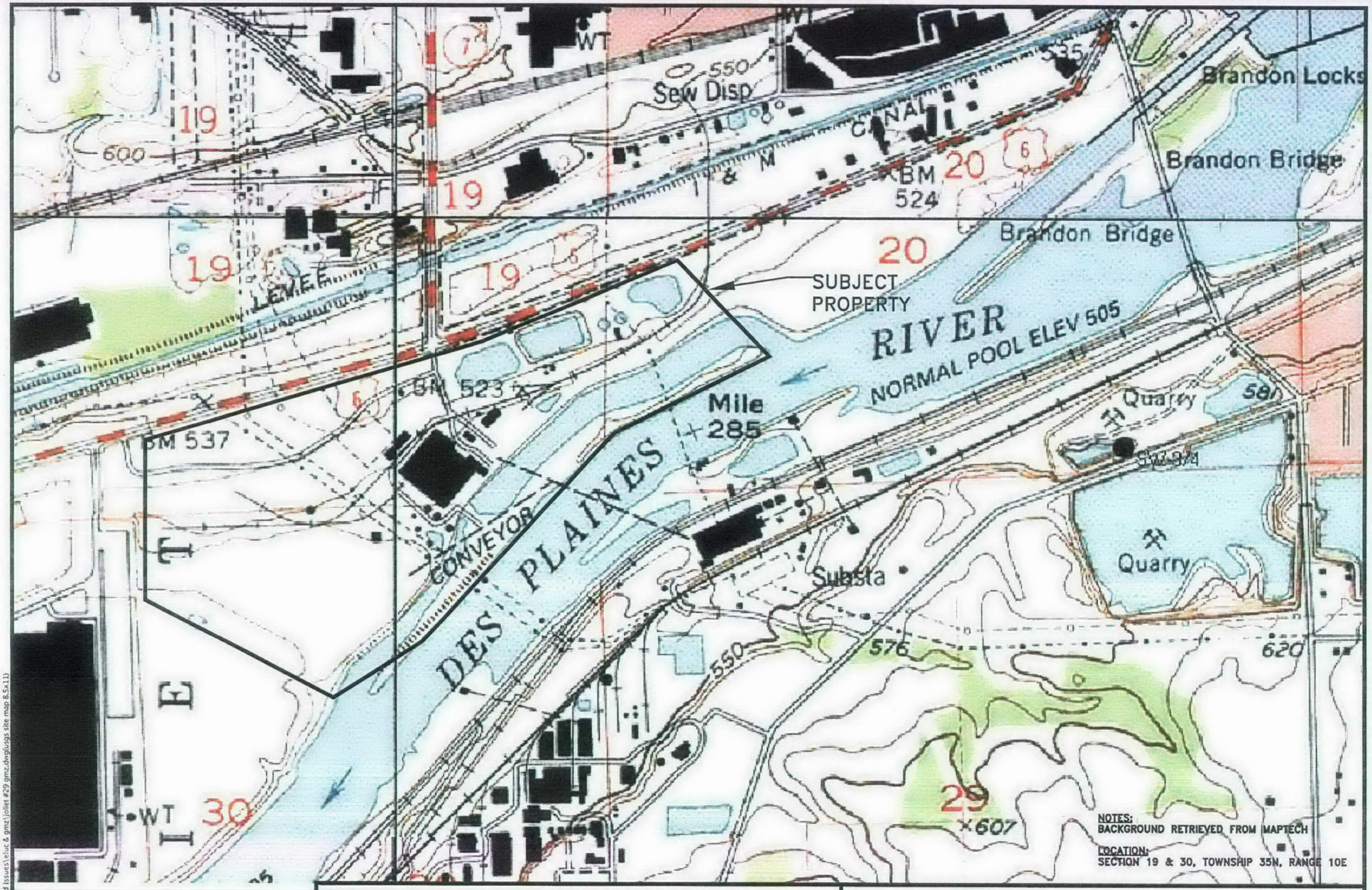
There are currently 11 monitoring wells surrounding Ash Ponds 1 through 3 (see Figure 3 in Attachment 2A). As required under Item 5 (d) of the CCA, these wells will continue to be monitored on a quarterly basis for constituents listed in 35 IAC 620.410(a), with the exception of radium 226/228. The monitoring data will be reported to IEPA within 30 days of the end of each quarter. In addition, an updated groundwater potentiometric surface map will be provided with each quarterly submittal. IEPA, upon written request, may approve a reduction in the frequency and scope of the sampling program in the future. Upon the IEPA's approval, the approved changes in the frequency and scope of the monitoring program shall be implemented.

Based on my inquiry of those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true and accurate and confirm that the actions identified herein will be undertaken in accordance with the schedule set forth herein.

Joliet #29 Generating Station	
Facility Name	Signature of Owner/Operator
Joliet, IL	Midwest Generation, LLC
Location of Facility	Name of Owner/Operator
ID No. 6284	January 17, 2013
EPA Identification Number	Date

(Source: Amended at 36 Ill. Reg. 15206, effective October 5, 2012)

ATTACHMENT 2A
Figures



0 1,000'
APPROXIMATE SCALE

N

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

USGS TOPOGRAPHIC SITE MAP

JOLIET #29 GENERATNG STATION
JOLIET, ILLINOIS

Scale: 1" = 1,000' | Date: January 4, 2013

KPRG Project No. 18311.11 | FIGURE 1

W:\C-p&p\projects\midwest generation\ash pond issues\eluc & gmz\joliet #29 gmz.dwg\usgs site map 8.5x11)

MWG13-15_17204



NOTE:
BACKGROUND RETRIEVED FROM GOOGLE MAPS 2012

LOCATION:
SECTION 19 & 30, TOWNSHIP 35 N, RANGE 10 E

0 500'
APPROXIMATE SCALE

N

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 28 Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

JOLIET #29 STATION SITE MAP

JOLIET #29 GENERATING STATION
JOLIET, ILLINOIS

Scale: 1" = 500' | Date: January 7, 2013

KPRG Project No. 18311.11 | FIGURE 2

MWG13-15_17205



0 500'

APPROXIMATE SCALE

N

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

MONITORING WELLS LOCATION SITE MAP

JOLIET #29 GENERATING STATION
JOLIET, ILLINOIS

Scale: 1" = 500' | Date: January 7, 2013

KPRG Project No. 18311.11 | FIGURE 3

W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\joliet #29 gmz.dwg(mw wells map)

MWG13-15_17206



W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\joliet #29 gmz.dwg(groundwater map)

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

GROUNDWATER CONTOUR MAP 12/20/12

JOLIET #29 GENERATING STATION
JOLIET, ILLINOIS

Scale: 1" = 250' | Date: January 11, 2013

KPRG Project No. 18311.11 | FIGURE 4

MWG13-15_17207



GROUNDWATER RESULTS NOTES:
ALL VALUES ARE MILLIGRAMS PER LITER (mg/L)
TDS = TOTAL DISSOLVED SOLIDS
BOLD = BOLD VALUES EXCEED 35 IAC PART 620

0 500'
APPROXIMATE SCALE

N

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

AREAL DISTRIBUTION OF GROUNDWATER IMPACTS

JOLIET #29 GENERATING STATION
JOLIET, ILLINOIS

Scale: 1" = 500' | Date: January 17, 2013

KPRG Project No. 18311.11 | FIGURE 5

W:\c-p&o projects\midwest generation\ash pond issues\elec & gmz\joliet #29 gmz.dwg(box plot map)

MWG13-15_17208

ATTACHMENT 2B
Summary Data Table

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-01	Date	12/6/2010		3/23/2011		6/14/2011		9/14/2011		12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	0.0043	NS	NS	0.0030	ND	NS	NS	NS	NS	NS	NS	NS	NS	0.0030	ND	NS	NS
Arsenic	6020	0.0010	0.0011	NS	NS	0.0010	0.0014	NS	NS	NS	NS	NS	NS	NS	NS	0.0010	0.0012	NS	NS
Barium	6020	0.0025	0.13	NS	NS	0.0025	0.14	NS	NS	NS	NS	NS	NS	NS	NS	0.0025	0.16	NS	NS
Beryllium	6020	0.0010	ND	NS	NS	0.0010	ND	NS	NS	NS	NS	NS	NS	NS	NS	0.0010	ND	NS	NS
Boron	6020	0.050	0.31	NS	NS	0.050	0.29	NS	NS	NS	NS	NS	NS	NS	NS	0.050	0.38^	NS	NS
Cadmium	6020	0.00050	ND	NS	NS	0.00050	ND	NS	NS	NS	NS	NS	NS	NS	NS	0.00050	ND	NS	NS
Chloride	9251	10	140	NS	NS	10	170	NS	NS	NS	NS	NS	NS	NS	NS	10	120	NS	NS
Chromium	6020	0.0050	ND	NS	NS	0.0050	ND	NS	NS	NS	NS	NS	NS	NS	NS	0.0050	ND	NS	NS
Cobalt	6020	0.0010	ND	NS	NS	0.0010	0.0010	NS	NS	NS	NS	NS	NS	NS	NS	0.0010	ND	NS	NS
Copper	6020	0.0020	0.0032	NS	NS	0.0020	0.0025	NS	NS	NS	NS	NS	NS	NS	NS	0.0020	0.0021	NS	NS
Cyanide	9014	0.010	ND	NS	NS	0.010	ND	NS	NS	NS	NS	NS	NS	NS	NS	0.010	ND	NS	NS
Fluoride	SM 4500 F C	0.10	0.45	NS	NS	0.10	0.43	NS	NS	NS	NS	NS	NS	NS	NS	0.10	0.59	NS	NS
Iron	6020	0.10	ND	NS	NS	0.10	ND	NS	NS	NS	NS	NS	NS	NS	NS	0.10	ND	NS	NS
Lead	6020	0.00050	ND	NS	NS	0.00050	ND	NS	NS	NS	NS	NS	NS	NS	NS	0.00050	ND	NS	NS
Manganese	6020	0.0025	ND	NS	NS	0.0025	ND	NS	NS	NS	NS	NS	NS	NS	NS	0.0025	ND	NS	NS
Mercury	7470A	0.00020	ND	NS	NS	0.00020	ND^	NS	NS	NS	NS	NS	NS	NS	NS	0.00020	ND	NS	NS
Nickel	6020	0.0020	0.0034	NS	NS	0.0020	0.0029	NS	NS	NS	NS	NS	NS	NS	NS	0.0020	0.0029	NS	NS
Nitrogen/Nitrate	Nitrogen Calc	0.10	1.9	NS	NS	0.10	2.9	NS	NS	NS	NS	NS	NS	NS	NS	0.10	4.2	NS	NS
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.20	1.9	NS	NS	0.20	2.9	NS	NS	NS	NS	NS	NS	NS	NS	0.50	4.2	NS	NS
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	NS	NS	0.020	ND	NS	NS	NS	NS	NS	NS	NS	NS	0.020	ND	NS	NS
pH	Obtained in field	NA	7.82	NS	NS	NA	7.25	NS	NS	NS	NS	NS	NS	NS	NS	NA	7.46	NS	NS
Selenium	6020	0.0025	ND	NS	NS	0.0025	ND	NS	NS	NS	NS	NS	NS	NS	NS	0.0025	ND	NS	NS
Silver	6020	0.00050	ND	NS	NS	0.00050	ND	NS	NS	NS	NS	NS	NS	NS	NS	0.00050	ND	NS	NS
Sulfate	9038	50	180	NS	NS	25	81	NS	NS	NS	NS	NS	NS	NS	NS	50	240	NS	NS
Thallium	6020	0.0020	ND	NS	NS	0.0020	ND	NS	NS	NS	NS	NS	NS	NS	NS	0.0020	ND	NS	NS
Total Dissolved Solids	SM 2540C	10	590	NS	NS	10	670	NS	NS	NS	NS	NS	NS	NS	NS	10	630	NS	NS
Zinc	6020	0.020	ND	NS	NS	0.020	ND	NS	NS	NS	NS	NS	NS	NS	NS	0.020	ND	NS	NS

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 8.8 to 18.8 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-02	Date	12/6/2010		3/23/2011		6/14/2011		9/14/2011		12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	0.012	NS	NS	0.0030	0.0042	0.0030	0.0032	0.0030	ND	0.0030	ND	NS	NS	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	ND	NS	NS	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	NS	NS	0.0010	0.0015	0.0010	ND
Barium	6020	0.0025	0.082	NS	NS	0.0025	0.081	0.0025	0.10	0.0025	0.12	0.0025	0.12	NS	NS	0.0025	0.12	0.0025	0.13
Beryllium	6020	0.0010	ND	NS	NS	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	NS	NS	0.0010	ND	0.0010	ND
Boron	6020	0.050	0.31	NS	NS	0.050	0.35	0.050	0.44	0.050	0.74	0.050	0.22	NS	NS	0.050	0.35^	0.050	0.42
Cadmium	6020	0.00050	ND	NS	NS	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	NS	NS	0.00050	ND	0.00050	ND
Chloride	9251	10	140	NS	NS	10	230	10	140	10	140	2.0	280	NS	NS	10	120	10	150
Chromium	6020	0.0050	ND	NS	NS	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	NS	NS	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	ND	NS	NS	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	NS	NS	0.0010	ND	0.0010	ND
Copper	6020	0.0020	0.0032	NS	NS	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	NS	NS	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	NS	NS	0.010	ND	0.010	ND	0.010	ND	0.010	ND	NS	NS	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.62	NS	NS	0.10	0.58	0.10	0.54	0.10	0.51	0.10	0.53	NS	NS	0.10	0.64	0.10	0.59
Iron	6020	0.10	ND	NS	NS	0.50	ND	0.10	ND	0.10	ND	0.10	ND	NS	NS	0.10	ND	0.10	ND
Lead	6020	0.00050	ND	NS	NS	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	NS	NS	0.00050	ND	0.00050	ND
Manganese	6020	0.0025	ND	NS	NS	0.013	ND	0.0025	0.0025	0.0025	ND	0.0025	ND^	NS	NS	0.0025	ND	0.0025	ND
Mercury	7470A	0.00020	ND	NS	NS	0.00020	ND^	0.00020	ND	0.00020	ND	0.00020	ND	NS	NS	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	0.0033	NS	NS	0.010	ND	0.0020	0.0027	0.0020	0.0023	0.0020	ND	NS	NS	0.0020	0.0024	0.0020	0.0029
Nitrogen/Nitrate	Nitrogen Calc	0.10	3.1	NS	NS	0.10	1.8	0.10	2.2	0.10	2.9	0.10	6.4	NS	NS	0.10	4.7	0.10	7.5
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.20	3.1	NS	NS	0.10	1.8	0.20	2.2	0.10	2.9	0.50	6.4	NS	NS	0.50	4.7	0.50	7.5
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	NS	NS	0.020	ND	0.020	ND	0.020	ND	0.020	ND	NS	NS	0.020	ND	0.020	ND
pH	Obtained in field	NA	7.85	NS	NS	NA	7.30	NA	7.37	NA	7.37	NA		NS	NS	NA	7.39	NA	7.39
Selenium	6020	0.0025	ND	NS	NS	0.013	ND	0.0025	0.0038	0.0025	0.0055	0.0025	0.0048	NS	NS	0.0025	ND	0.0025	ND
Silver	6020	0.00050	ND	NS	NS	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	NS	NS	0.00050	ND	0.00050	ND
Sulfate	9038	50	190	NS	NS	25	67	25	110	50	150	50	110	NS	NS	50	190	50	140
Thallium	6020	0.0020	ND	NS	NS	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	NS	NS	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	600	NS	NS	10	720	10	690	10	750	10	800	NS	NS	10	580	10	720
Zinc	6020	0.020	ND	NS	NS	0.10	ND	0.020	ND	0.020	ND	0.020	ND	NS	NS	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 10.0 to 20.0 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-03	Date	12/7/2010		3/23/2011		6/14/2011		9/14/2011		12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	0.0040	0.0030	ND	0.0030	ND	0.0030	0.0065	0.0030	0.016	0.0030	0.013	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	ND	0.0010	0.0011	0.0050	ND	0.0010	0.0012	0.0010	0.0016	0.0010	0.0014	0.0010	0.0011	0.0010	0.0012	0.0010	0.0012
Barium	6020	0.0025	0.089	0.0025	0.085	0.0025	0.092	0.0025	0.081	0.0025	0.084	0.0025	0.081	0.0025	0.088	0.0025	0.097	0.0025	0.09
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.050	0.24	0.050	0.36	0.050	0.46	0.050	0.24	0.050	0.23	0.050	0.26	0.050	0.31	0.050	0.22^	0.050	0.28
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	0.00074	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	9251	10	260	10	240	10	300	50	160	10	260	2.0	250	10	260	10	330	10	290
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	0.0013	0.0010	0.0013	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND*	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.43	0.10	0.40	0.10	0.41	0.10	0.31	0.10	0.40	0.10	0.39	0.10	0.43	0.10	0.43	0.10	0.38
Iron	6020	0.10	ND	0.10	ND	0.50	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	6020	0.0025	0.10	0.0025	0.048	0.013	ND	0.0025	0.0076	0.0025	0.0080	0.0025	0.0095^	0.0025	0.014	0.0025	0.011	0.0025	0.0076
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND^	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	0.011	0.0020	0.0065	0.010	ND	0.0020	0.0041	0.0020	0.0060	0.0020	0.0046	0.0020	0.0044	0.0020	0.0059	0.0020	0.0063
Nitrogen/Nitrate	Nitrogen Calc	0.10	ND	0.10	1.0	0.10	2.1	0.10	1.1	0.10	0.79	0.10	ND	0.10	1.3	0.10	0.88	0.10	0.77
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	ND	0.10	1.0	0.20	2.1	0.10	1.1	0.10	0.79	0.10	ND	0.10	1.3	0.10	0.88	0.10	0.77
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	Obtained in field	NA	7.84	NA	7.26	NA	7.41	NA	7.37	NA	7.48	NA	7.34	NA	7.21	NA	7.40	NA	7.42
Selenium	6020	0.0025	ND	0.0025	0.0050	0.013	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0043	0.0025	ND	0.0025	ND
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	0.00091	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	50	120	50	160	50	120	25	120	50	160	50	190	25	160	50	150	50	110
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	930	10	1100	10	1000	10	930	10	1100	10	1000	10	1100	10	1000	10	1100
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 6.8 to 16.8 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-04	Date	12/7/2010		3/23/2011		6/14/2011		9/14/2011		12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	0.0067	0.0030	0.0057	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	6020	0.0025	0.065	0.0025	0.067	0.0025	0.059	0.0025	0.060	0.0025	0.069	0.0025	0.070	0.0025	0.068	0.0025	0.092	0.0025	0.87
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.050	0.46	0.050	0.37	0.050	0.38	0.050	0.25	0.050	0.34	0.050	0.29	0.050	0.48	0.050	0.34^	0.050	0.38
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	9251	10	270	10	270	10	250	10	150	10	200	2.0	210	10	270	10	260	10	250
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	0.0018	0.0010	0.0028	0.0010	0.0026	0.0010	0.0042	0.0010	0.0059	0.0010	0.0049
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND*	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.49	0.10	0.38	0.10	0.44	0.10	0.37	0.10	0.44	0.10	0.41	0.10	0.46	0.10	0.47	0.10	0.41
Iron	6020	0.10	ND	0.10	ND	0.50	ND	0.10	0.22	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	6020	0.0025	0.33	0.0025	0.048	0.013	0.018	0.0025	0.066	0.0025	0.029	0.0025	0.038^	0.0025	0.082	0.0025	0.043	0.0025	0.029
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	0.0067	0.0020	0.0037	0.010	ND	0.0020	0.0029	0.0020	0.0038	0.0020	0.0037	0.0020	0.0036	0.0020	0.0043	0.0020	0.0042
Nitrogen/Nitrate	Nitrogen Calc	0.10	0.81	0.10	1.6	0.10	2.7	0.10	1.6	0.10	1.4	0.10	0.62	0.10	1.4	0.10	1.3	0.10	0.91
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	0.81	0.10	1.6	0.20	2.7	0.10	1.6	0.10	1.4	0.10	0.62	0.10	1.4	0.10	1.3	0.10	0.91
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	Obtained in field	NA	7.71	NA	7.15	NA	7.48	NA	7.42	NA	7.56	NA	7.40	NA	7.31	NA	7.37	NA	7.38
Selenium	6020	0.0025	0.0025	0.0025	ND	0.013	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0047	0.0025	0.0033
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	50	300	25	140	25	84	25	74	50	170	50	210	25	110	50	180	50	130
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	1100	10	1000	10	890	10	770	10	970	10	930	10	1100	10	980	10	1000
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 9.4 to 19.4 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

MWG13-15_17213

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-05	Date	12/7/2010		3/23/2011		6/14/2011		9/14/2011		12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	0.0040	0.0030	0.0035	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	0.0011	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0010	0.0011	0.0010	ND
Barium	6020	0.0025	0.061	0.0025	0.092	0.0025	0.053	0.0025	0.053	0.0025	0.062	0.0025	0.069	0.0025	0.056	0.0025	0.071	0.0025	0.078
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.050	0.42	0.050	0.52	0.050	0.47	0.050	0.57	0.050	0.49	0.050	0.54	0.050	0.44	0.050	0.55^	0.050	0.65
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	0.0016	0.00050	ND	0.00050	0.00091	0.00050	0.00076
Chloride	9251	10	150	10	240	10	220	10	120	10	190	2.0	210	10	220	10	240	10	210
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0040	0.0010	0.006
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.019	0.0020	0.017
Cyanide	9014	0.010	ND	0.010	ND*	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.40	0.10	0.34	0.10	0.39	0.10	0.28	0.10	0.34	0.10	0.32	0.10	0.38	0.10	0.39	0.10	0.35
Iron	6020	0.10	ND	0.10	ND	0.50	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00062	0.00050	ND
Manganese	6020	0.0025	0.0065	0.0025	ND	0.013	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0040	0.0025	0.081	0.0025	ND
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	0.0021	0.0020	ND	0.0020	ND	0.0020	0.0025	0.0020	0.0080	0.0020	0.02
Nitrogen/Nitrate	Nitrogen Calc	0.10	ND	0.10	1.2	0.10	1.3	0.10	1.1	0.10	1.5	0.10	0.33	0.10	1.0	0.10	ND	0.10	0.21
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	ND	0.10	1.2	0.10	1.3	0.10	1.1	0.10	1.5	0.10	0.33	0.10	1.0	0.10	ND	0.10	0.21
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	Obtained in field	NA	7.82	NA	7.19	NA	7.44	NA	7.25	NA	7.44	NA	7.30	NA	7.18	NA	7.32	NA	7.36
Selenium	6020	0.0025	ND	0.0025	0.0072	0.013	ND	0.0025	ND	0.0025	0.0050	0.0025	ND	0.0025	0.0057	0.0025	ND	0.0025	0.0034
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	25	110	50	160	25	100	50	140	50	140	50	190	25	130	50	210	50	210
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	750	10	990	10	850	10	800	10	900	10	930	10	1000	10	990	10	1000
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 8.8 to 18.8 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-06 Date		12/7/2010		3/23/2011		6/14/2011		9/14/2011		12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	ND	0.0010	0.0015	0.0050	ND	0.0010	ND	0.0010	0.0018	0.0010	0.0016	0.0010	0.0014	0.0010	0.0015	0.0010	0.0014
Barium	6020	0.0025	0.075	0.0025	0.12	0.0025	0.082	0.0025	0.094	0.0025	0.11	0.0025	0.13	0.0025	0.11	0.0025	0.14	0.0025	0.12
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.050	0.32	0.050	0.44	0.050	0.32	0.050	0.27	0.050	0.30	0.050	0.25	0.050	0.26	0.050	0.25^	0.050	0.31
Cadmium	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	9251	10	130	10	270	10	140	10	140	10	130	2.0	240	10	210	10	190	10	150
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	ND	0.0010	0.0019	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.40	0.10	0.36	0.10	0.44	0.10	0.29	0.10	0.44	0.10	0.36	0.10	0.36	0.10	0.36	0.10	0.38
Iron	6020	0.10	ND	0.10	ND	0.50	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	6020	0.0025	0.14	0.0025	0.033	0.013	ND	0.0025	0.036	0.0025	0.024	0.0025	0.015	0.0025	0.0080	0.0025	0.0087	0.0025	0.0076
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	0.0056	0.0020	0.0025	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	Nitrogen Calc	0.10	ND	0.10	1.3	0.10	0.91	0.10	0.31	0.10	0.36	0.10	ND	0.10	0.65	0.10	0.55	0.10	0.47
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	ND^	0.10	1.3	0.10	0.91	0.10	0.31	0.10	0.36	0.10	ND	0.10	0.65	0.10	0.55	0.10	0.47
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	Obtained in field	NA	8.04	NA	7.51	NA	7.71	NA	7.53	NA	7.71	NA	7.57	NA	7.42	NA	7.46	NA	7.66
Selenium	6020	0.0025	0.0029	0.0025	0.0034	0.013	ND	0.0025	ND	0.0025	0.0054	0.0025	0.0051	0.0025	0.0069	0.0025	0.0073	0.0025	0.0059
Silver	6020	0.00050	ND	0.00050	0.00077	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	50	140	50	140	25	87	25	100	50	130	50	110	25	91	25	85	25	120
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	650	10	1000	10	650	10	620	10	710	10	800	10	860	10	760	10	710
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 8.0 to 18.0 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-07	Date	12/7/2010		3/23/2011		6/14/2011		9/14/2011		12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	0.0010	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	0.0014	0.0010	0.0010	0.0010	ND	0.0010	0.0013	0.0010	ND
Barium	6020	0.0025	0.13	0.0025	0.11	0.0025	0.072	0.0025	0.092	0.0025	0.11	0.0025	0.13	0.0025	0.092	0.0025	0.12	0.0025	0.11
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	*0.050*	*0.51*	*0.050*	*0.39*	*0.050*	*0.25*	*0.050*	0.29	*0.050*	0.35	0.050	0.30	0.050	0.25	0.050	0.31^	0.050	0.41
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	9251	50	430	10	320	10	140	10	99	10	140	2.0	300	10	170	10	170	10	140
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	0.011	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	0.0025	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.36	0.10	0.31	0.10	0.35	0.10	0.27	0.10	0.35	0.10	0.31	0.10	0.37	0.10	0.32	0.10	0.31
Iron	6020	0.10	ND	0.10	ND	0.50	ND	0.10	3.8	0.10	ND	0.10	ND	0.10	0.13	0.10	ND	0.10	ND
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	6020	0.0025	0.29	0.0025	0.014	0.013	ND	0.0025	0.080	0.0025	0.0073	0.0025	0.015	0.0025	0.069	0.0025	0.0041	0.0025	0.0063
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	0.0045	0.0020	ND	0.010	ND	0.0020	0.014	0.0020	ND	0.0020	ND	0.0020	0.0032	0.0020	ND	0.0020	0.0024
Nitrogen/Nitrate	Nitrogen Calc	0.10	ND	0.10	1.2	0.10	0.76	0.10	0.27	0.10	0.60	0.10	ND	0.10	0.65	0.10	0.61	0.10	0.73
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	ND^	0.10	1.2	0.10	0.76	0.10	0.27	0.10	0.60	0.10	ND	0.10	0.65	0.10	0.61	0.10	0.73
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	Obtained in field	NA	8.08	NA	7.50	NA	7.61	NA	7.65	NA	7.63	NA	7.53	NA	7.59	NA	7.45	NA	7.52
Selenium	6020	0.0025	ND	0.0025	ND	0.013	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0031
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	50	250	50	120	25	85	25	110	50	160	50	140	50	190	50	130	25	90
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	1200	10	970	10	580	10	650	10	780	10	870	10	760	10	760	10	760
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 7.5 to 17.5 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-08	Date	12/6/2010		3/23/2011		6/14/2011		9/14/2011		12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	6020	0.0025	0.054	0.0025	0.055	0.0025	0.026	0.0025	0.048	0.0025	0.057	0.0025	0.049	0.0025	0.029	0.0025	0.059	0.0025	0.58
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.050	0.29	0.050	0.16	0.050	0.12	0.050	0.20	0.050	0.16	0.050	0.13	0.050	0.20	0.050	0.46^	0.050	0.33
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	9251	10	130	10	350	10	150	10	79	10	120	50	410	10	190	10	130	10	130
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.51	0.10	0.36	0.10	0.45	0.10	0.25	0.10	0.31	0.10	0.38	0.10	0.41	0.10	0.40	0.10	0.33
Iron	6020	0.10	ND	0.10	ND	0.50	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.24	0.10	ND
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	6020	0.0025	0.0051	0.0025	0.0026	0.013	0.017	0.0025	ND	0.0025	ND	0.0025	0.0042	0.0025	0.016	0.0025	0.023	0.0025	0.0044
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	0.0025	0.0020	ND	0.010	ND	0.0020	0.012	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0021	0.0020	ND
Nitrogen/Nitrate	Nitrogen Calc	0.10	0.33	0.10	2.2	0.10	1.9	0.10	0.95	0.10	0.86	0.10	ND	0.10	0.44	0.10	4.0	0.10	2.0
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	0.33	0.20	2.2	0.10	1.9	0.10	0.95	0.10	0.86	0.10	ND	0.10	0.44	0.50	4.0	0.50	2.0
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	Obtained in field	NA	7.75	NA	7.29	NA	7.70	NA	7.32	NA	7.38	NA	7.49	NA	7.64	NA	6.80	NA	7.40
Selenium	6020	0.0025	ND	0.0025	ND	0.013	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0079	0.0025	ND
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	50	210	25	87	10	52	50	120	50	170	25	130	20	110	50	180	50	130
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	670	10	990	10	580	10	690	10	800	10	1000	10	740	10	710	10	730
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 7.1 to 17.1 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-09	Date	12/6/2010		3/23/2011		6/14/2011		9/14/2011		12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0010	0.0010	ND	0.0010	ND
Barium	6020	0.0025	0.031	0.0025	0.029	0.0025	0.032	0.0025	0.029	0.0025	0.030	0.0025	0.021	0.0025	0.021	0.0025	0.022	0.0025	0.021
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.050	0.36	0.050	0.32	0.050	0.29	0.050	0.35	0.050	0.31	0.050	0.38	0.050	0.34	0.050	0.59^	0.050	0.44
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	0.00059	0.00050	ND	0.00050	0.00065	0.00050	ND
Chloride	9251	10	140	10	230	10	290	10	190	10	190	10	170	10	250	10	160	10	150
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	0.0047	0.0010	0.0034	0.0050	0.0062	0.0010	0.011	0.0010	0.0075	0.0010	0.0021	0.0010	0.0021	0.0010	0.0022	0.0010	0.002
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	0.0026	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	*SM 4500 F C*	0.10	0.61	0.10	0.52	0.10	0.47	0.10	0.39	0.10	0.50	0.10	0.45	0.10	0.48	0.10	0.48	0.10	0.45
Iron	6020	0.10	ND	0.10	0.18	0.50	7.3	0.10	3.8	0.10	1.5	0.10	5.5	0.10	8.0	0.10	4.7	0.10	13
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	6020	0.0025	1.1	0.0025	1.6	0.013	0.95	0.0025	0.82	0.0025	0.66	0.0025	1.3	0.0025	1.2	0.0025	0.68	0.0025	0.44
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	0.0094	0.0020	0.0072	0.010	0.013	0.0020	0.014	0.0020	0.011	0.0020	0.0054	0.0020	0.0070	0.0020	0.010	0.0020	0.0059
Nitrogen/Nitrate	Nitrogen Calc	0.10	ND	0.10	ND	0.10	0.97	0.10	0.36	0.10	0.22	0.10	ND	0.10	ND	0.10	0.22	0.10	0.22
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	ND^	0.10	ND	0.10	0.97	0.10	0.36	0.10	0.22	0.10	ND	0.10	ND	0.10	0.22	0.10	0.22
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	Obtained in field	NA	7.03	NA	7.19	NA	7.01	NA	6.90	NA	7.19	NA	6.86	NA	6.85	NA	6.82	NA	6.80
Selenium	6020	0.0025	ND	0.0025	ND	0.013	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	250	1600	250	1100	100	580	130	750	50	130	500	1600	500	1500	250	1600	250	1100
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	2600	10	2400	10	1500	10	1700	10	2400	10	2600	10	2800	10	2900	10	2000
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 9.1 to 19.1 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-10	Date	12/6/2010		3/23/2011		6/14/2011		9/14/2011		12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	0.0012	0.0010	ND	0.0010	ND	0.0010	0.0012	0.0010	0.001
Barium	6020	0.0025	0.050	0.0025	0.051	0.0025	0.039	0.0025	0.039	0.0025	0.036	0.0025	0.040	0.0025	0.043	0.0025	0.040	0.0025	0.041
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.050	0.50	0.050	0.54	0.050	0.54	0.050	0.41	0.050	0.52	0.25	0.52	0.050	0.53	0.050	0.43^	0.050	0.49
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	9251	10	200	10	300	2.0	7.1	10	170	10	180	10	180	10	290	10	230	10	200
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.43	0.10	0.39	0.10	0.42	0.10	0.41	0.10	0.45	0.10	0.41	0.10	0.46	0.10	0.50	0.10	0.47
Iron	6020	0.10	ND	0.10	ND	0.50	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	6020	0.0025	0.12	0.0025	0.0076	0.013	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	0.0052	0.0020	0.0029	0.010	ND	0.0020	0.0087	0.0020	0.0024	0.0020	ND	0.0020	ND	0.0020	0.0021	0.0020	0.0024
Nitrogen/Nitrate	Nitrogen Calc	0.10	0.39	0.10	2.3	0.10	2.7	0.10	2.6	0.10	1.4	0.10	ND	0.10	1.8	0.10	1.5	0.10	1.5
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	0.39	0.20	2.3	0.20	2.7	0.20	2.6	0.10	1.4	0.10	ND	0.10	1.8	0.10	1.5	0.10	1.5
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	Obtained in field	NA	7.65	NA	7.20	NA	7.40	NA	7.34	NA	7.51	NA	7.35	NA	7.20	NA	7.38	NA	7.38
Selenium	6020	0.0025	ND	0.0025	ND	0.013	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	50	130	50	130	25	89	25	100	50	190	50	250	50	170	50	110	25	120
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	860	10	1100	10	980	10	730	10	890	10	890	10	1100	10	870	10	860
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 9.8 to 19.8 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

MWG13-15_17219

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-11	Date	12/6/2010		3/23/2011		6/14/2011		9/14/2011		12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	0.0030	ND	0.0030	ND	0.015	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	6020	0.0010	0.0013	0.0010	0.0016	0.0050	ND	0.0010	0.0016	0.0010	0.0019	0.0010	0.0017	0.0010	0.0017	0.0010	0.0018	0.0010	0.0018
Barium	6020	0.0025	0.064	0.0025	0.076	0.013	0.051	0.0025	0.054	0.0025	0.057	0.0025	0.067	0.0025	0.046	0.0025	0.060	0.0025	0.063
Beryllium	6020	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	6020	0.050	0.47	0.050	2.6	0.050	2.2	0.050	1.1	0.050	1.2	0.25	1.4	0.050	0.85	0.050	0.68^	0.050	0.57
Cadmium	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	9251	10	160	10	270	10	280	10	86	10	140	10	240	10	150	10	150	10	140
Chromium	6020	0.0050	ND	0.0050	ND	0.025	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	6020	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	6020	0.0020	ND	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	9014	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	SM 4500 F C	0.10	0.34	0.10	0.31	0.10	0.36	0.10	0.32	0.10	0.31	0.10	0.30	0.10	0.37	0.10	0.32	0.10	0.34
Iron	6020	0.10	ND	0.10	ND	0.50	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.23	0.10	ND	0.10	0.42
Lead	6020	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0008
Manganese	6020	0.0025	0.052	0.0025	0.0047	0.013	ND	0.0025	0.0053	0.0025	0.0047	0.0025	ND	0.0025	0.014	0.0025	ND	0.0025	0.042
Mercury	7470A	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	6020	0.0020	0.0022	0.0020	ND	0.010	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0025
Nitrogen/Nitrate	Nitrogen Calc	0.10	0.39	0.10	1.1	0.10	0.92	0.10	0.31	0.10	0.60	0.10	0.30	0.10	ND	0.10	0.36	0.10	0.46
Nitrogen/Nitrate, Nitrite	SM 4500 NO3 F	0.10	0.39	0.10	1.1	0.10	0.92	0.10	0.31	0.10	0.60	0.10	0.30	0.10	ND	0.10	0.36	0.10	0.46
Nitrogen/Nitrite	SM 4500 NO2 B	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
pH	Obtained in field	NA	7.72	NA	7.23	NA	7.60	NA	7.38	NA	7.46	NA	7.38	NA	7.37	NA	7.36	NA	7.36
Selenium	6020	0.0025	ND	0.0025	0.0054	0.013	ND	0.0025	0.0026	0.0025	0.0033	0.0025	0.0043	0.0025	0.0028	0.0025	ND	0.0025	ND
Silver	6020	0.00050	ND	0.00050	ND	0.0025	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	9038	50	140	50	150	25	110	25	110	50	160	25	140	50	150	50	100	50	150
Thallium	6020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	SM 2540C	10	770	10	1000	10	710	10	590	10	790	10	850	10	760	10	740	10	730
Zinc	6020	0.020	ND	0.020	ND	0.10	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Well screen depth is from 9.8 to 19.8 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable

^ - Denotes instrument related QC exceeds the control limits

MWG13-15_17220

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

12/20/2012	Sample	MW-01		MW-02		MW-03		MW-04		MW-05		MW-06		MW-07		MW-08		MW-09		MW-10		MW-11	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Benzene	8260B	0.0005	NS	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Ethylbenzene	8260B	0.0005	NS	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Toluene	8260B	0.0005	NS	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
Xylenes, Total	8260B	0.0010	NS	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Vanadium, Dissolved	6020	0.0050	NS	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.0052	0.0050	0.0051	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.0050

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Sample collected using low-flow technique.
Please see Table 1 for sample depths.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect

MWG13-15_17221

ATTACHMENT 2C
Compliance Commitment Agreement

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

217-785-0561

September 28, 2012

CERTIFIED MAIL # 7010 2780 0002 1163 4888
RETURN RECEIPT REQUESTED

RECEIVED
OCT 0 5 2012
ENVIRONMENTAL SERVICES
MIDWEST GENERATION EME, LLC

John Kennedy
Senior Vice President, Generation
235 Remington, Suite A
Bolingbrook, IL 60440

Re: Proposed Compliance Commitment Agreement
Violation Notice: W-2012-00059
Midwest Generation, LLC, Joliet #29 Generating Station; ID Number: 6284

Dear Mr. Kennedy:

The Illinois Environmental Protection Agency ("Illinois EPA") has reviewed the proposed Compliance Commitment Agreement ("CCA") terms submitted by Midwest Generation, LLC, Joliet #29 Generating Station in a letter dated August 31, 2012, in response to the Violation Notice dated June 11, 2012. Pursuant to the authority vested in the Illinois EPA under Section 31(a)(7)(i) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(7)(i), attached to this letter is a proposed CCA, which contains terms and conditions that the Illinois EPA has determined are necessary in order for you to attain compliance with the Act and Illinois Pollution Control Board Regulations [and conditions of Permit, if applicable].

Pursuant to Section 31(a)(7.5) of the Act, 415, ILCS 5/31(a)(7.5), **within 30 days of your receipt of this proposed CCA,** Midwest Generation, LLC, Joliet #29 Generating Station or its duly authorized representative must either (1) agree to and sign the proposed CCA, and submit the signed and dated CCA by certified mail to Illinois EPA Bureau of Water, Andrea Rhodes, MC #19, 1021 North Grand Ave East, Springfield, IL 62702; or (2) notify the Illinois EPA by certified mail that you reject the proposed CCA.

The proposed CCA shall only become effective upon your timely submittal of the signed CCA as discussed above, and upon final execution by the Illinois EPA. Failure by you to execute and submit the proposed CCA within 30 days of receipt shall be deemed a rejection of the CCA by operation of law. Upon timely receipt of the signed CCA, the Illinois EPA will send you a fully executed copy of the CCA for your records.

In addition, the proposed CCA is not subject to amendment or modification prior to execution by you and the Illinois EPA. Any amendment or modification to the proposed CCA by Respondent prior to execution by you and the Illinois EPA shall be deemed a rejection of the proposed CCA by operation of law. The proposed CCA may only be amended subsequent to its effective date, in writing, and by mutual agreement between the Illinois EPA and you.

MWG13-15_17223

Questions regarding this matter should be directed to Illinois EPA, Bureau of Water, Andrea Rhodes at 217/785-0561. Written communications should be directed to Illinois EPA – DPWS, Attn: Andrea Rhodes, MC #19, 1021 North Grand Ave East, Springfield, IL 62702.

Sincerely,

Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

Attachments

cc: Basil G. Constantelos
Maria Race
Susan M. Franzetti

BOW ID: W1970450047 CASE ID: 2012-006

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF:	)	
	)	
MIDWEST GENERATION, LLC,	)	
JOLIET #29 GENERATING STATION	)	
JOLIET, WILL COUNTY, IL	)	
ID NUMBER: 6284	)	
	)	
	)	ILLINOIS EPA VN W-2012-00059
	)	BUREAU OF WATER
	)	

COMPLIANCE COMMITMENT AGREEMENT

I. Jurisdiction

1. This Compliance Commitment Agreement ("CCA") is entered into voluntarily by the Illinois Environmental Protection Agency ("Illinois EPA") and Midwest Generation, LLC, Joliet Generating Station ("Respondent") (collectively, the "Parties") under the authority vested in the Illinois EPA pursuant to Section 31(a)(7)(i) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(7)(i).

II. Allegation of Violations

2. Respondent owns and operates Joliet #29 a power generating station in Joliet, Will County, Illinois ("Joliet #29").

3. Pursuant to Violation Notice ("VN") W-2012-00059 issued on June 11, 2012, the Illinois EPA contends that Respondent has violated the following provisions of the Act and Illinois Pollution Control Board ("Board") Regulations:

   a) Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring wells MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, and MW-11.
   Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

III. Compliance Activities

4. On August 31, 2012, the Illinois EPA received Respondent's response to VN W-2012-00059, which included proposed terms for a CCA. The Illinois EPA has reviewed Respondent's proposed CCA terms, as well as considered whether any additional terms and conditions are necessary to attain compliance with the alleged violations cited in the VN.

5. Respondent agrees to undertake and complete the following actions, which the Illinois EPA has determined are necessary to attain compliance with the allegations contained in VN W-2012-00059:

   a) The ash ponds at Joliet #29 shall not be used as permanent disposal sites and shall continue to function as treatment ponds to precipitate ash. Ash shall continue to be removed from the ponds on a periodic basis.

   b) The ash treatment ponds shall be maintained and operated in a manner which protects the integrity of the existing liners. During the removal of ash from the ponds, appropriate procedures shall be followed to protect the integrity of the existing liners, including operating the ash removal equipment in a manner which minimizes the risk of any damage to the liner.

   c) During the ash removal process, visual inspections of the ponds shall be conducted to identify any signs of a breach in the integrity of the pond liners. In the event that a breach of the pond liners is detected, Midwest Generation shall promptly notify the Illinois EPA and shall implement a corrective action plan for repair or replacement as necessary, of the liner. Upon the Illinois EPA's approval, and the issuance of any necessary construction permit, Midwest Generation will implement the corrective action plan.

   d) Midwest Generation shall continue quarterly monitoring of the existing eleven groundwater monitoring wells for constituents in 35 Ill. Adm. Code 620.410(a), with the exception of radium 226 and 228, and report its findings to the Illinois EPA within 30 days of the end of each quarter. In addition, Midwest Generation shall record and report groundwater elevation and submit a potentiometric surface map with the above quarterly groundwater monitoring report.

   e) Midwest Generation shall submit an application for a construction permit to re-line Pond #3 with a high density polyethylene ("HDPE") liner within 90 days of the effective date of the CCA. A groundwater monitoring schedule shall be included in the construction permit.

   f) Midwest Generation shall submit an application to establish a Groundwater Management Zone ("GMZ") pursuant to 35 Ill. Adm. Code Part 620.250 within 90 days of the effective date of the CCA.

g) Midwest Generation shall establish a GMZ pursuant to 35 Ill. Adm. Code Part 620.250 within one year of the effective date of the CCA.

h) Once Pond #3 has been re-lined with a HDPE liner and a GMZ has been established, Midwest Generation, shall submit a certification (or a statement) of compliance. Midwest Generation may submit either the attached "Illinois EPA Compliance Statement" or another similar writing to satisfy the statement of compliance within one year of the effective date of the CCA.

IV. Terms and Conditions

6. Respondent shall comply with all provisions of this CCA, including, but not limited to, any appendices to this CCA and all documents incorporated by reference into this CCA. Pursuant to Section 31(a)(10) of the Act, 415 ILCS 5/31(a)(10), if Respondent complies with the terms of this CCA, the Illinois EPA shall not refer the alleged violations that are the subject of this CCA, as described in Section II above, to the Office of the Illinois Attorney General or the State's Attorney of the county in which the alleged violations occurred. Successful completion of this CCA or an amended CCA shall be a factor to be weighed, in favor of the Respondent, by the Office of the Illinois Attorney General in determining whether to file a complaint on its own motion for the violations cited in VN W-2012-00059.

7. This CCA is solely intended to address the violations alleged in Illinois EPA VN W-2012-00059. The Illinois EPA reserves and this CCA is without prejudice to, all rights of the Illinois EPA against Respondent with respect to noncompliance with any term of this CCA, as well as to all other matters. Nothing in this CCA is intended as a waiver, discharge, release, or covenant not to sue for any claim or cause of action, administrative or judicial, civil or criminal, past or future, in law or in equity, which the Illinois EPA may have against Respondent, or any other person as defined by Section 3.315 of the Act, 415 ILCS 5/3.315. This CCA in no way affects the responsibilities of Respondent to comply with any other federal, state or local laws or regulations, including but not limited to the Act, and the Board Regulations [and Permit, if applicable].

8. Pursuant to Section 42(k) of the Act, 415 ILCS 5/42(k), in addition to any other remedy or penalty that may apply, whether civil or criminal, Respondent shall be liable for an additional civil penalty of $2,000 for violation of any of the terms or conditions of this CCA.

9. This CCA shall apply to and be binding upon the Illinois EPA, and on Respondent and Respondent's officers, directors, employees, agents, successors, assigns, heirs, trustees, receivers, and upon all persons, including but not limited to contractors and consultants, acting on behalf of Respondent, as well as upon subsequent purchasers of Respondent's Joliet #29 in Joliet, Will County, Illinois.

10. In any action by the Illinois EPA to enforce the terms of this CCA, Respondent consents to and agrees not to contest the authority or jurisdiction of the Illinois EPA to enter into or enforce this CCA, and agrees not to contest the validity of this CCA or its terms and conditions.

11. This CCA shall only become effective:

    a) If, within 30 days of receipt, Respondent executes this CCA and submits it, via certified mail, to Illinois EPA, Bureau of Water, Andrea Rhodes, MC #19, 1021 North Grand Ave East, Springfield, IL 62702. If Respondent fails to execute and submit this CCA within 30 days of receipt, via certified mail, this CCA shall be deemed rejected by operation of law; and

    b) Upon execution by all Parties.

12. Pursuant to Section 31(a)(7.5) of the Act, 415 ILCS 5/31(a)(7.5), this CCA shall not be amended or modified prior to execution by the Parties. Any amendment or modification to this CCA by Respondent prior to execution by all Parties shall be considered a rejection of the CCA by operation of law. This CCA may only be amended subsequent to its effective date, in writing, and by mutual agreement between the Illinois EPA and Respondent's signatory to this CCA, Respondent's legal representative, or Respondent's agent.

AGREED:
FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY:

BY: _____ DATE: _____

Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

FOR RESPONDENT:

BY: _____ DATE: Oct 15, 2013

John Kennedy
Senior Vice President, Generation
Midwest Generation, LLC

Illinois EPA Compliance Statement

The owner of the facility must acknowledge that all compliance commitment agreement (CCA) measures have been successfully completed.

Please complete, sign, and return.

I _____ *(print name)*, hereby certify that all violations addressed in Violation Notice (VN) number _____ have been addressed and that all CCA measures were completed on _____ *(date)*.

_____
Signature

_____
Title

_____
Telephone Number

_____
Date

Be sure to retain copies of this document for your files. Should you need additional notification forms, please contact this office at (217)785-0561. Return this completed form to:

Illinois Environmental Protection Agency
Compliance Assurance Section #19
Bureau of Water
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

"Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Agency,.....related to or required by this Act, a regulation adopted under this Act, any federal law or regulation for which the Agency has responsibility, or any permit, term, or condition thereof, commits a Class 4 felony..." (415 ILCS 5/44(h) (8))

Exhibit C8

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217)782-2829
PAT QUINN, GOVERNOR LISA BONNETT, DIRECTOR

August 8, 2013

Midwest Generation EME, LLC
235 Remington Blvd., Suite A
Bolingbrook, IL 60440

RECEIVED
AUG 12 2013
ENVIRONMENTAL SERVICES
MIDWEST GENERATION EME, LLC

Attn: Amy Hanrahan
Senior Environmental Engineer

Dear Ms. Hanrahan,

The Agency is in receipt of the January 18, 2013 submittal containing the Groundwater Management Zone application for Joliet #29 Generating Station. The submission of the application is a requirement of the Compliance Commitment Agreement executed on October 24, 2012. After review of the application, the Agency hereby gives approval of the Groundwater Management Zone for the facility. If you have further questions, please do not hesitate to call me.

Sincerely,

William E. Buscher, P.G.
Manager, Hydrogeology and Compliance Unit
Groundwater Section
Bureau of Water

CC: Andrea Rhodes
Amy Zimmer
Bill Buscher
Maria Race
Susan Franzetti
Basil Constantelos

4302 N. Main St., Rockford, IL 61103 (815)987-7760
595 S. State, Elgin, IL 60123 (847)608-3131
2125 S. First St., Champaign, IL 61820 (217)278-5800
2009 Mall St., Collinsville, IL 62234 (618)346-5120

9511 Harrison St., Des Plaines, IL 60016 (847)294-4000
5407 N. University St., Arbor 113, Peoria, IL 61614 (309)693-5462
2309 W. Main St., Suite 116, Marion, IL 62959 (618)993-7200
100 W. Randolph, Suite 10-300, Chicago, IL 60601 (312)814-6026

PLEASE PRINT ON RECYCLED PAPER

Exhibit C9

PATRICK
ENGINEERING

March 5, 2012

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Subject: Quarterly Groundwater Monitoring Results – Annual Report 2011
Joliet #29 Generating Station- Ash Impoundment

Reference: Patrick Project No. 21153.034

To Whom It May Concern:

Patrick Engineering Inc. (Patrick) has prepared this letter report, on behalf of Midwest Generation, LLC, to provide groundwater monitoring results associated with the on-site ash ponds at the Joliet #29 Generating Station (the Site) located at 1800 Channahon Rd. in Joliet, Illinois (Figure 1). The Site is located along the Des Plaines River just to the south of the city of Joliet and includes three active ash ponds.

Eleven monitoring wells have been installed (MW-1 through MW-a) surrounding the ash impoundments at the Joliet #29 facility. The well locations were selected so that both upgradient and downgradient wells were represented, based upon available data regarding the expected groundwater flow direction. Monitoring wells MW-8, MW-10 and MW-11 are installed upgradient of the ash ponds. Monitoring wells M-1 through MW-7 and MW-9 are considered to be downgradient wells. The well locations are shown on Figure 2.

This groundwater monitoring is being performed as part of the long-term monitoring plan described in the Hydrogeologic Assessment Report submitted to the Illinois Environmental Protection Agency (Illinois EPA) in February 2011. Groundwater data has been collected on a quarterly basis starting in December of 2010 is continuing into 2012.

GROUNDWATER ELEVATIONS

Water levels in the monitoring wells are taken quarterly prior to sampling. The groundwater levels were compared to levels collected by the USGS stream flow data at Station Number 05539780 located where Route 53 crosses the Des Plaines River in Joliet, IL. Patrick's conceptual model of groundwater flow at the Site shows the groundwater flowing from northwest to southeast towards the Des Plaines River. The fluctuations in the groundwater elevations were compared to the fluctuations in the river levels for each monitoring event; there does not appear to be a correlation between the River levels and groundwater elevations at the site. The monitoring well elevations have seasonal variations which are not seen in the river

MWG13-15_38524

elevation data. Groundwater elevation data is summarized in Table 1 and shown on Figure 3. A chart depicting the groundwater elevations on site as compared to the Des Plaines River is included in Attachment A.

SAMPLING METHODOLOGY

In accordance with the long-term monitoring plan referenced above, water samples are collected quarterly from eleven monitoring wells (MW-1 through MW-11) surrounding the ash impoundments at the Joliet #29 facility. These wells were most recently sampled on December 7, 2011.

Samples were collected using disposable polyethylene bailers or by using established low-flow sampling techniques with a peristaltic pump. Groundwater samples could not be collected from monitoring well MW-1 in the third or fourth quarter. This well did not contain enough groundwater to collect samples.

Field parameters including, temperature, turbidity, conductivity, dissolved oxygen (DO), oxygen reduction potential (ORP), and pH measurements were taken at each of the wells using a portable meter with a flow through cell. All groundwater samples were filtered in the field using a disposable, 0.45µm, in-line filter to allow for the analytical testing of dissolved compounds. Field parameter data is provided in Table 2.

After collection, all samples were immediately placed on ice in a cooler and kept at a temperature no higher than 4° F. The samples were transported to TestAmerica Laboratories, an Illinois-EPA accredited analytical laboratory, in accordance with chain-of-custody procedures to maintain sample integrity. Analytes tested included the inorganic compounds listed in 35 Illinois Administrative Code (IAC) 620.410(a), excluding both radium and the poly-aromatic hydrocarbons (PAHs) listed in 35 IAC 620.410(b). Analytical laboratory results are presented in Table 3 (both current and historical). The laboratory analytical reports provided by TestAmerica Laboratories are provided as Attachment C.

ANALYTICAL RESULTS

Groundwater samples were collected quarterly beginning in March 2011. Both upgradient and downgradient wells indicated Class I Groundwater Quality Standard exceedances. The following compounds exceeded their respective Class I standards: antimony, manganese, boron, sulfate, chloride, and total dissolved solids.

Patrick compared upgradient well concentrations with downgradient well concentrations. Overall the downgradient wells have higher concentrations in compounds with exceedances than the upgradient wells. The compounds in the downgradient wells include, manganese, chloride sulfate. The upgradient wells have higher concentrations in boron and total dissolved solids.

Patrick performed trend analyses on the following parameters (each of these parameters was detected during at least once during each sampling event): antimony, arsenic, barium, cobalt, copper, iron, manganese, nickel, selenium, boron, sulfate, chloride, nitrogen-nitrate, total dissolved solids, fluoride, and nitrogen-nitrate-nitrite. Analytical parameters without any detections were not included in the analysis. There were no statistically significant (at the 95%

confidence level) increasing or decreasing trends for any of the remaining analyzed compounds. Trend analysis charts are included in Attachment B of this report.

In accordance with the long-term monitoring plan, groundwater samples from the ash pond wells at the Joliet #29 facility will continue to be collected, analyzed, and reported to Illinois EPA on a quarterly basis until sufficient statistically-significant data is available to properly assess the groundwater data.

If you have any questions, please contact me at 630-795-7464.

Sincerely,

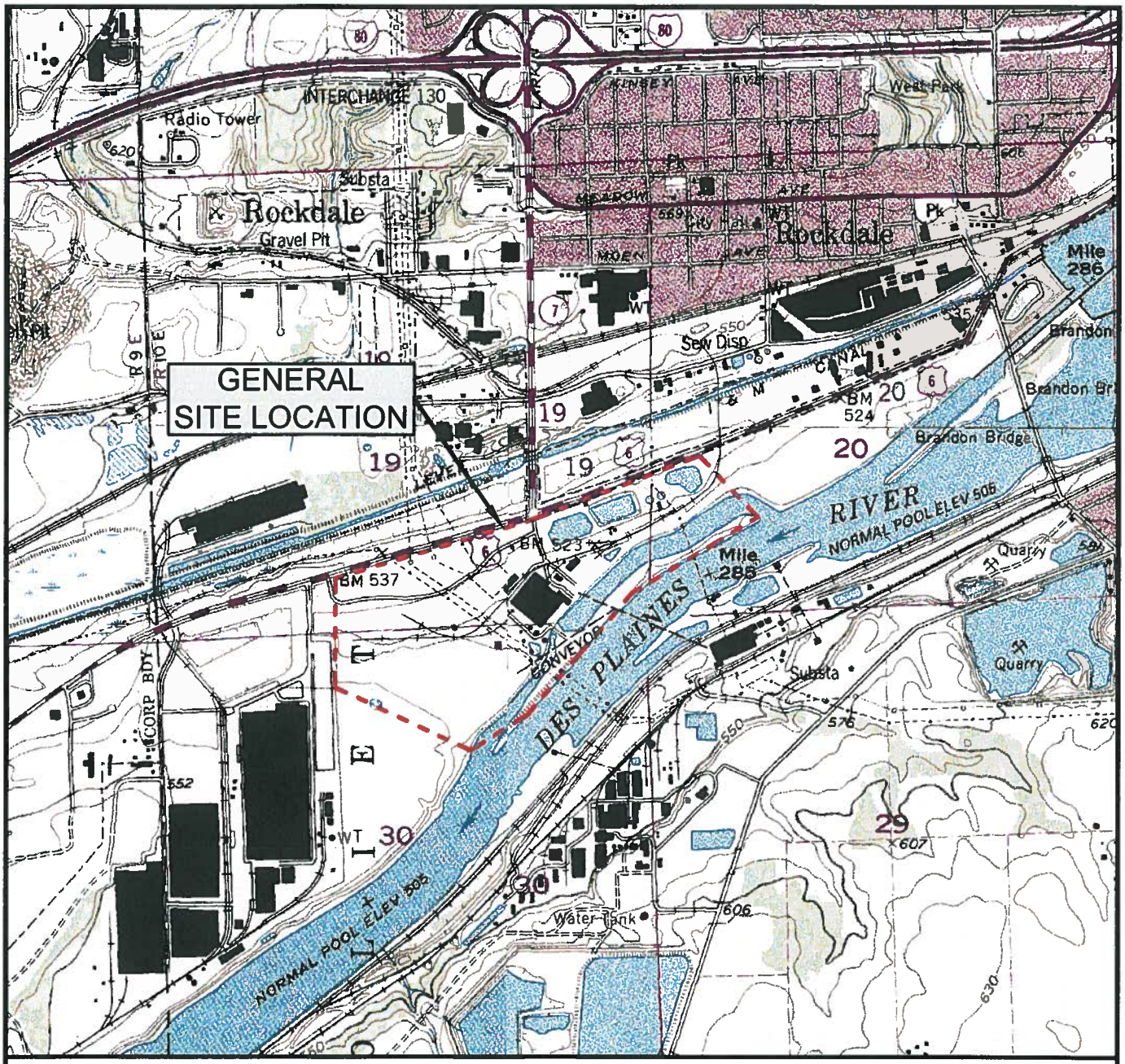
PATRICK ENGINEERING INC.

Richard M. Frendt, P.E
Senior Project Manager

RMF/dcm
Enclosures: Figure 1: Site Location Map
Figure 2: Monitoring Well Location Map
Figure 3: Groundwater Elevation Map
Table 1: Groundwater Elevation Survey Data
Table 2: Field Parameter Data
Table 3: Groundwater Analytical Results
Attachment A: Groundwater and Des Plaines River Elevations Chart
Attachment B: Trend Analysis Charts
Attachment C: Laboratory Data

FIGURE 1

SITE LOCATION MAP



LEGEND

SITE BOUNDARY

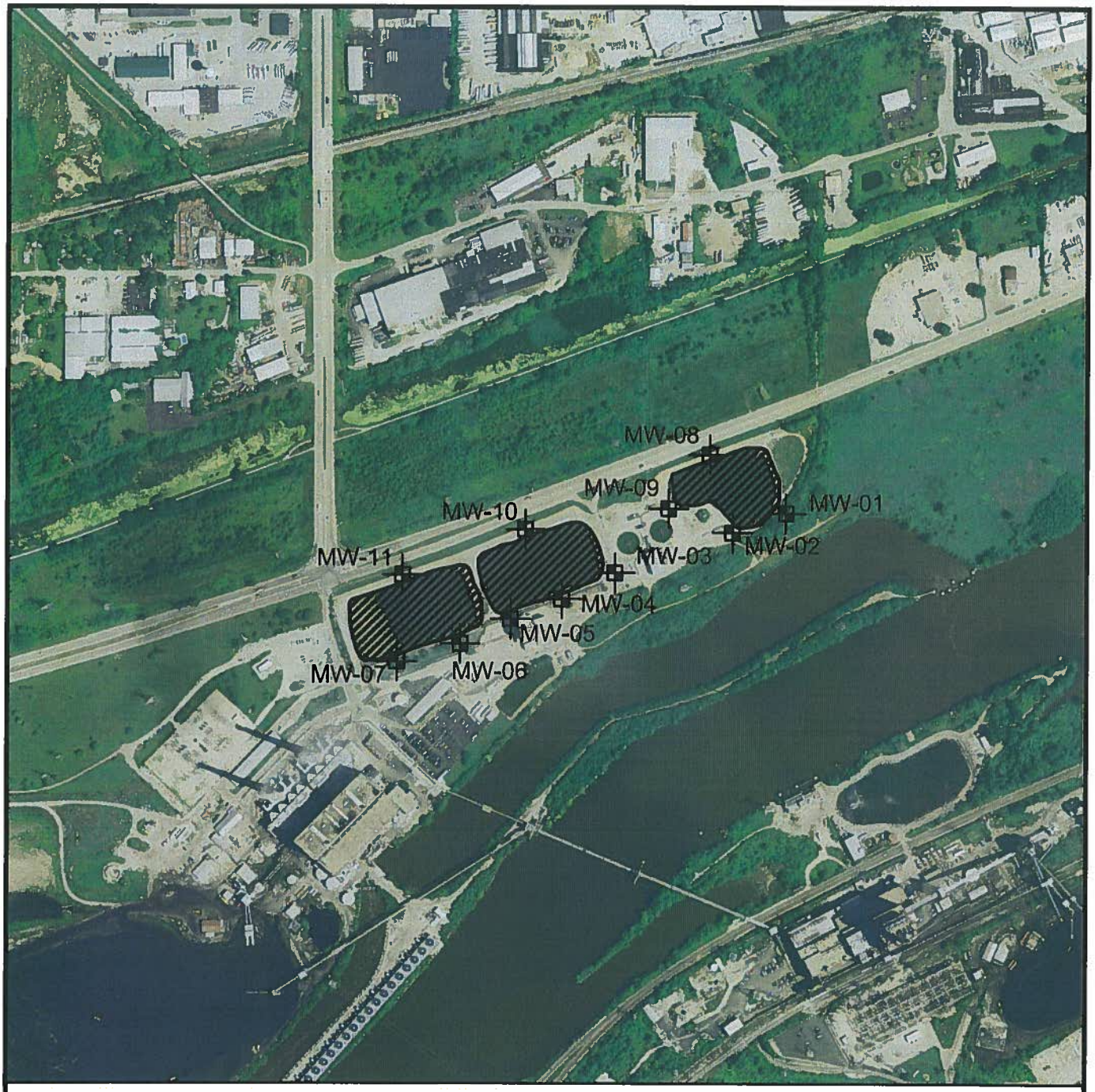
NOTE:
THIS DRAWING WAS PREPARED USING ILLINOIS' PLAINFIELD (1993), JOLIET (1993), CHANNAHON (1993), AND ELWOOD (1993) 7.5 MINUTE-SERIES TOPOGRAPHIC QUADRANGLE MAP.

Date: DEC. 2011	FIGURE 1 SITE LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21153.034	JOLIET STATION NO. 29 JOLIET, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_38528

FIGURE 2

MONITORING WELL LOCATION MAP



LEGEND

MW-01 Monitoring Well Location

Ash Ponds

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

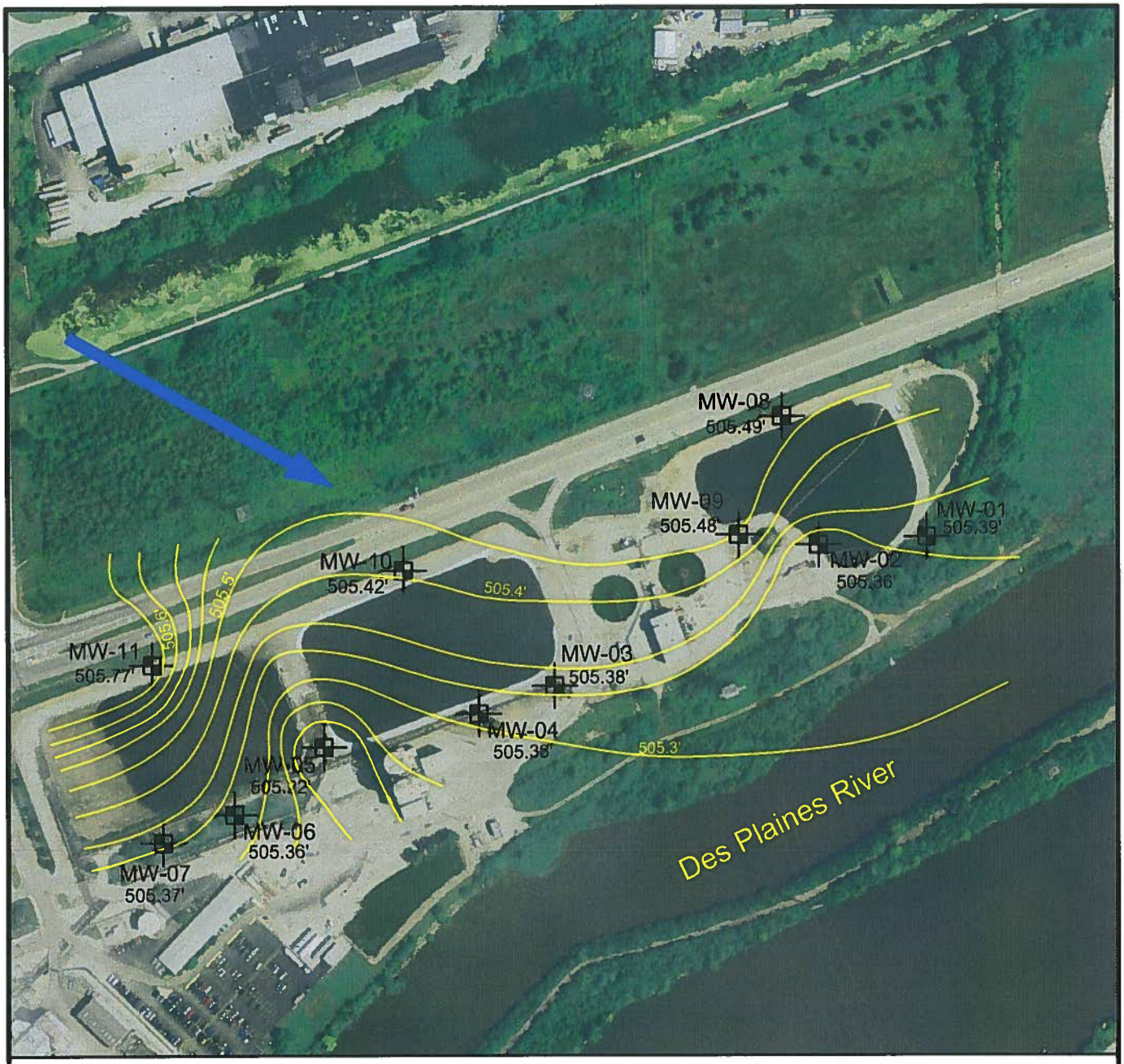
N

1" = 600'

Date: DEC. 2011	FIGURE 2 MONITORING WELL LOCATION MAP	PATRICK ENGINEERING INC. 4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
Proj No.: 21153.034	JOLIET STATION NO. 29 JOLIET, ILLINOIS	
App. By: RMF		

FIGURE 3

GROUNDWATER ELEVATION MAP



LEGEND

MW-01 505.3' — MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION (FT. / MSL)

GROUNDWATER ELEVATION CONTOUR (FT. / MSL)

GROUNDWATER FLOW DIRECTION

N

1" = 300'

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

Date: DEC. 2011	FIGURE 3 GROUNDWATER ELEVATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21153.034	JOLIET STATION NO. 29 JOLIET, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_38532

TABLE 1

GROUNDWATER ELEVATION DATA

Table 1
Groundwater Elevation Data
Joliet # 29, Joliet, Illinois
Midwest Generation
21153.034

PATRICK ENGINEERING	Date	Water Elevation	Depth to Water Pre-Purge	Depth to Water Pre-Sampling	Water Elevation Pre-Sampling	Depth to Bottom of Well	Bottom of Well Elevation	Ground Elevation	Top of Riser Elevation
MONITORING WELLS									
MW-1	3/23/2011	505.860	28.90	--	--	29.85	504.910	531.464	534.760
	6/14/2011	507.690	27.07	27.37	507.390	29.85	504.910	531.464	534.760
	9/14/2011	505.210	29.55	--	--	29.85	504.910	531.464	534.760
	12/7/2011	505.390	29.37	--	--	29.85	504.910	531.464	534.760
MW-2	3/23/2011	505.823	28.46	--	--	30.22	504.063	531.186	534.283
	6/14/2011	507.623	26.66	26.66	507.623	30.22	504.063	531.186	534.283
	9/14/2011	505.133	29.15	29.11	505.173	30.22	504.063	531.186	534.283
	12/7/2011	505.363	28.92	28.94	505.343	30.22	504.063	531.186	534.283
MW-3	3/23/2011	505.952	32.83	32.86	505.922	44.10	494.682	535.540	538.782
	6/14/2011	507.972	30.81	31.89	506.892	44.10	494.682	535.540	538.782
	9/14/2011	505.172	33.61	33.63	505.152	44.10	494.682	535.540	538.782
	12/7/2011	505.382	33.40	33.43	505.352	44.10	494.682	535.540	538.782
MW-4	3/23/2011	505.956	33.07	33.07	505.956	42.90	496.126	535.800	539.026
	6/14/2011	507.926	31.10	31.10	507.926	42.90	496.126	535.800	539.026
	9/14/2011	505.146	33.88	33.88	505.146	42.90	496.126	535.800	539.026
	12/7/2011	505.336	33.69	33.69	505.336	42.90	496.126	535.800	539.026
MW-5	3/23/2011	505.837	33.85	33.85	505.837	45.05	494.637	536.428	539.687
	6/14/2011	507.867	31.82	31.83	507.857	45.05	494.637	536.428	539.687
	9/14/2011	505.047	34.64	34.63	505.057	45.05	494.637	536.428	539.687
	12/7/2011	505.227	34.46	34.46	505.227	45.05	494.637	536.428	539.687
MW-6	3/23/2011	505.941	33.12	33.17	505.891	42.20	496.861	535.858	539.061
	6/14/2011	507.831	31.23	31.23	507.831	42.20	496.861	535.858	539.061
	9/14/2011	505.191	33.87	33.82	505.241	42.20	496.861	535.858	539.061
	12/7/2011	505.361	33.70	33.73	505.331	42.20	496.861	535.858	539.061
MW-7	3/23/2011	505.960	33.39	33.40	505.950	43.24	496.110	535.862	539.350
	6/14/2011	507.830	31.52	31.52	507.830	43.24	496.110	535.862	539.350
	9/14/2011	505.210	34.14	34.14	505.210	43.24	496.110	535.862	539.350
	12/7/2011	505.370	33.98	33.98	505.370	43.24	496.110	535.862	539.350
MW-8	3/23/2011	505.973	30.90	30.91	505.963	38.06	498.813	533.720	536.873
	6/14/2011	507.913	28.96	28.98	507.893	38.06	498.813	533.720	536.873
	9/14/2011	505.253	31.62	31.62	505.253	38.06	498.813	533.720	536.873
	12/7/2011	505.493	31.38	31.38	505.493	38.06	498.813	533.720	536.873
MW-9	3/23/2011	505.948	28.49	32.84	501.598	38.15	496.288	531.126	534.438
	6/14/2011	507.878	26.56	28.60	505.838	38.15	496.288	531.126	534.438
	9/14/2011	505.218	29.22	29.63	504.808	38.15	496.288	531.126	534.438
	12/7/2011	505.458	28.98	29.41	505.028	38.15	496.288	531.126	534.438
MW-10	3/23/2011	506.127	33.90	34.01	506.017	43.93	496.097	536.949	540.027
	6/14/2011	508.187	31.84	31.86	508.167	43.93	496.097	536.949	540.027
	9/14/2011	505.227	34.80	34.80	505.227	43.93	496.097	536.949	540.027
	12/7/2011	505.427	34.60	34.60	505.427	43.93	496.097	536.949	540.027
MW-11	3/23/2011	506.343	33.13	33.12	506.353	42.33	497.143	536.521	539.473
	6/14/2011	509.293	30.18	30.17	509.303	42.33	497.143	536.521	539.473
	9/14/2011	505.493	33.98	33.98	505.493	42.33	497.143	536.521	539.473
	12/7/2011	505.773	33.70	33.70	505.773	42.33	497.143	536.521	539.473

Notes - Elevations are leveled from site control points per Commonwealth Edison Drawing
"Coordinates & Elevations for Coal Monuments & Test Borings-Joliet Station 29" revised 12/6/1999
-Elevations are shown in feet

TABLE 2

GROUNDWATER FIELD PARAMETER DATA

Table 2
Field Parameter Data
Joliet #29 Station, Joliet, Illinois
Midwest Generation
21153.034

PATRICK ENGINEERING	Field Parameter Data - Joliet #29 Station							
Monitoring Well	**Date**	**Time**	**Temperature (°C)**	**Conductivity (ms/cm^c)**	**Turbidity (NTU)**	**pH**	**DO (mg/L)**	**ORP (mV)**
MW-01	3/23/2011	--	--	--	--	--	--	--
MW-01	6/14/2011	12:08	14.71	1.36	13.26	7.80	6.61	190.0
	6/14/2011	12:10	14.26	1.33	13.33	7.42	3.95	186.1
	6/14/2011	12:12	14.02	1.31	13.12	7.35	3.89	201.1
	6/14/2011	12:14	13.96	1.29	13.29	7.32	3.88	208.8
	6/14/2011	12:16	13.83	1.29	13.24	7.28	3.89	210.7
	6/14/2011	12:18	13.92	1.28	13.11	7.25	4.19	210.6
MW-01	9/14/2011	--	--	--	--	--	--	--
MW-01	12/7/2011	--	--	--	--	--	--	--
MW-02	3/23/2011	--	--	--	--	--	--	--
MW-02	6/14/2011	11:32	16.11	1.35	8.31	7.57	6.75	157.7
	6/14/2011	11:34	15.75	1.31	8.40	7.35	6.44	187.9
	6/14/2011	11:36	15.55	1.30	8.26	7.25	6.45	208.1
	6/14/2011	11:38	15.68	1.30	8.17	7.25	6.42	218.0
	6/14/2011	11:40	15.63	1.30	8.12	7.29	6.43	222.6
	6/14/2011	11:42	15.57	1.30	8.99	7.30	6.45	2227.3
MW-02	9/14/2011	11:20	18.87	0.97	9.24	7.41	5.25	-38.0
	9/14/2011	11:22	18.83	0.98	5.90	7.39	5.20	-36.0
	9/14/2011	11:24	18.83	0.98	3.38	7.39	5.25	-37.0
	9/14/2011	11:26	18.81	0.98	2.37	7.37	5.20	-36.0
	9/14/2011	11:28	18.78	0.98	3.51	7.38	5.19	-37.0
	9/14/2011	11:30	18.72	0.98	2.53	7.37	5.21	-36.0
MW-02	12/7/2011	11:16	12.81	0.91	111.70	7.42	6.11	55.0
	12/7/2011	11:18	13.06	0.91	144.10	7.41	5.76	63.0
	12/7/2011	11:20	13.41	0.91	240.50	7.38	5.74	69.0
	12/7/2011	11:22	13.30	0.91	32.78	7.39	5.85	74.0
	12/7/2011	11:24	13.11	0.90	30.67	7.37	5.86	78.0
	12/7/2011	11:26	13.04	0.90	27.41	7.37	5.91	81.0
MW-03	3/23/2011	12:30	12.73	1.76	1283.80	7.26	4.73	179.1
MW-03	6/14/2011	9:50	13.04	1.74	1534.29	7.41	7.78	223.5
MW-03	9/14/2011	9:54	11.90	1.15	1884.00	7.37	6.03	-51.0
MW-03	12/7/2011	9:48	10.94	1.19	1276.00	7.48	6.07	145.0
MW-04	3/23/2011	11:55	12.13	1.76	1277.40	7.15	6.80	196.1
MW-04	6/14/2011	9:20	12.59	1.50	1104.60	7.48	8.20	217.5
MW-04	9/14/2011	9:22	11.78	0.94	2892.00	7.42	7.17	-43.0
MW-04	12/7/2011	9:09	9.67	1.04	1131.00	7.56	6.95	135.0
MW-05	3/23/2011	13:05	13.41	1.65	514.90	7.19	6.96	197.8
MW-05	6/14/2011	8:03	13.37	1.38	707.90	7.44	7.16	210.0
MW-05	9/14/2011	8:18	12.15	0.92	125.20	7.25	6.43	-26.0
MW-05	12/7/2011	8:08	11.23	1.02	862.10	7.44	6.07	125.0
MW-06	3/23/2011	13:38	12.90	1.65	1284.40	7.51	7.44	183.7
MW-06	6/14/2011	13:25	14.26	1.05	431.20	7.71	6.82	203.8
MW-06	9/14/2011	12:33	12.73	0.77	2785.00	7.53	6.74	-65.0
MW-06	12/7/2011	12:40	13.70	0.87	1700.00	7.71	7.05	113.0
MW-07	3/23/2011	14:10	13.58	1.78	1292.20	7.50	7.02	183.2
MW-07	6/14/2011	13:50	12.92	1.02	1892.35	7.61	8.10	202.8
MW-07	9/14/2011	13:04	12.50	0.78	15.33	7.65	7.70	-82.0
MW-07	12/7/2011	13:08	13.07	0.89	1813.00	7.63	6.74	113.0
MW-08	3/23/2011	9:55	13.06	1.80	1287.50	7.29	7.82	192.6
MW-08	6/14/2011	12:50	13.15	0.99	437.99	7.70	8.00	196.0
MW-08	9/14/2011	12:03	12.20	0.80	1485.00	7.32	6.06	-47.0
MW-08	12/7/2011	12:10	12.71	0.88	861.90	7.38	6.57	119.0

Table 2
Field Parameter Data
Joliet #29 Station, Joliet, Illinois
Midwest Generation
21153.034

PATRICK ENGINEERING	Field Parameter Data - Joliet #29 Station							
Monitoring Well	**Date**	**Time**	**Temperature (°C)**	**Conductivity (ms/cm^c)**	**Turbidity (NTU)**	**pH**	**DO (mg/L)**	**ORP (mV)**
MW-09	3/23/2011	11:10	12.78	3.30	214.00	7.19	7.49	102.2
MW-09	6/14/2011	10:55	16.53	2.57	14.22	7.15	1.12	-40.6
	6/14/2011	10:57	16.04	2.39	14.28	7.07	0.51	-42.3
	6/14/2011	10:59	16.00	2.32	14.14	7.03	0.49	-42.3
	6/14/2011	11:01	15.76	2.30	14.09	7.01	0.49	-29.3
	6/14/2011	11:03	15.78	2.28	13.73	7.01	0.47	-35.7
	6/14/2011	11:05	15.68	2.25	13.28	7.01	0.49	-43.5
MW-09	9/14/2011	10:42	16.36	1.99	46.97	6.87	0.34	-103.0
	9/14/2011	10:44	16.15	1.96	41.89	6.87	0.34	-108.0
	9/14/2011	10:46	16.06	1.94	46.33	6.87	0.34	-111.0
	9/14/2011	10:48	15.99	1.92	34.58	6.89	0.34	-111.0
	9/14/2011	10:50	15.96	1.90	40.02	6.89	0.34	-113.0
	9/14/2011	10:52	15.90	1.88	40.23	6.90	0.33	-114.0
MW-09	12/7/2011	10:30	11.66	1.62	200.50	7.29	1.14	-52.0
	12/7/2011	10:32	11.77	1.61	47.44	7.22	1.61	-43.0
	12/7/2011	10:34	12.35	1.60	96.37	7.21	0.38	-40.0
	12/7/2011	10:36	10.54	1.62	44.06	7.17	1.09	-36.0
	12/7/2011	10:38	11.49	1.58	36.28	7.16	0.72	-38.0
	12/7/2011	10:40	11.94	1.54	76.67	7.19	0.43	-40.0
MW-10	3/23/2011	9:20	12.40	1.88	23.50	7.20	7.18	191.6
MW-10	6/14/2011	8:40	12.05	1.58	2312.96	7.40	8.70	210.0
MW-10	9/14/2011	8:48	11.23	0.98	2892.00	7.34	7.42	-37.0
MW-10	12/7/2011	8:40	11.26	0.99	1421.00	7.51	7.12	143.0
MW-11	3/23/2011	8:46	13.49	1.69	1293.70	7.23	7.23	194.3
MW-11	6/14/2011	9:31	11.69	1.14	600.28	7.60	8.65	200.8
MW-11	9/14/2011	7:43	12.18	0.79	2426.00	7.38	6.28	-31.0
MW-11	12/7/2011	7:34	13.15	0.92	1751.00	7.46	6.74	136.0

Notes:

°C	degrees Celcius
ms/cm^c	Microsiemens/Centimeters
NTU	Nephelometric Turbidity Units
mg/L	milligrams/Liter
mV	milliVolts

TABLE 3

GROUNDWATER ANALYTICAL DATA

Table 3
Groundwater Analytical Results
Joliet Station #29, Illinois
Midwest Generation
21153.034

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L) Class I*	MW-1 (mg/L) 12/6/10	MW-1 (mg/L) 3/28/11	MW-1 (mg/L) 6/14/11	MW-1 (mg/L) 9/14/11	MW-1 (mg/L) 12/7/11	MW-2 (mg/L) 12/6/10	MW-2 (mg/L) 3/28/11	MW-2 (mg/L) 6/14/11	MW-2 (mg/L) 9/14/11	MW-2 (mg/L) 12/7/11
Antimony	Metals 6020	0.006	0.0043	NS	ND	NS	NS	**0.012**	NS	0.0042	0.0032	ND
Arsenic	Metals 6020	0.05	0.0011	NS	0.0014	NS	NS	ND	NS	ND	ND	ND
Barium	Metals 6020	2.0	0.13	NS	0.14	NS	NS	0.82	NS	0.081	0.1	0.12
Beryllium	Metals 6020	0.004	ND	NS	ND	NS	NS	ND	NS	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	NS	ND	NS	NS	ND	NS	ND	ND	ND
Chromium	Metals 6020	0.1	ND	NS	ND	NS	NS	ND	NS	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	NS	0.001	NS	NS	ND	NS	ND	ND	ND
Copper	Metals 6020	0.65	0.0032	NS	0.0025	NS	NS	0.0032	NS	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	NS	ND	NS	NS	ND	NS	ND	ND	ND
Iron	Metals 6020	5.0	ND	NS	ND	NS	NS	ND	NS	ND	ND	ND
Lead	Metals 6020	0.0075	ND	NS	ND	NS	NS	ND	NS	ND	ND	ND
Manganese	Metals 6020	0.15	ND	NS	ND	NS	NS	ND	NS	ND	0.0025	ND
Mercury	Mercury 7470A	0.002	ND	NS	ND	NS	NS	ND	NS	ND	ND	ND
Nickel	Metals 6020	0.1	0.0034	NS	0.0029	NS	NS	0.0033	NS	ND	0.0027	0.0023
Selenium	Metals 6020	0.05	ND	NS	ND	NS	NS	ND	NS	ND	0.0038	0.0055
Silver	Metals 6020	0.05	ND	NS	ND	NS	NS	ND	NS	ND	ND	ND
Thallium	Metals 6020	0.002	ND	NS	ND	NS	NS	ND	NS	ND	ND	ND
Zinc	Metals 6020	5.0	ND	NS	ND	NS	NS	ND	NS	ND	ND	ND
Boron	Metals 6020	2	0.31	NS	0.29	NS	NS	0.31	NS	0.35	0.44	0.74
Sulfate	Dissolved 9038	400	180	NS	81	NS	NS	190	NS	67	110	150
Chloride	Dissolved 9251	200	140	NS	170	NS	NS	140	NS	**230**	140	140
Nitrogen/Nitrate	Nitrogen By calc	10	ND	NS	2.9	NS	NS	3.1	NS	1.8	2.2	2.9
Total Dissolved Solids	Dissolved 2540C	1,200	590	NS	670	NS	NS	600	NS	720	690	750
Flouride	Dissolved 4500 FC	4	0.45	NS	0.43	NS	NS	0.62	NS	0.58	0.54	0.51
Nitrogen/Nitrite	Dissolved 4500 NO2	NA	ND	NS	ND	NS	NS	ND	NS	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	NA	1.9	NS	2.9	NS	NS	3.1	NS	1.8	2.2	2.9

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
NS- not sampled
mg/L- milligrams per liter

Table 3
Groundwater Analytical Results
Joliet Station #29, Illinois
Midwest Generation
21153.034

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)
Chemical Name		**Class I***	**12/7/10**	**3/28/11**	**6/14/11**	**9/14/11**	**12/7/11**	**12/7/10**	**3/28/11**	**6/14/11**	**9/14/11**	**12/7/11**
Antimony	Metals 6020	0.006	0.004	ND	ND	0.0065	**0.016**	ND	ND	ND	ND	0.0067
Arsenic	Metals 6020	0.05	ND	0.0011	ND	0.0012	0.0016	ND	ND	ND	ND	0.0011
Barium	Metals 6020	2.0	0.089	0.085	0.092	0.081	0.084	0.065	0.067	0.059	0.06	0.069
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	0.0013	0.0013	ND	ND	ND	ND	ND	ND	0.0018	0.0028
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	0.22	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	0.1	0.048	ND	0.0076	0.008	**0.33**	0.048	0.018	0.066	0.029
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.011	0.0065	ND	0.0041	0.006	0.0067	0.0037	ND	0.0029	0.0038
Selenium	Metals 6020	0.05	ND	0.005	ND	ND	ND	0.0025	ND	ND	ND	ND
Silver	Metals 6020	0.05	ND	ND	ND	ND	0.00091	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	0.24	0.36	0.46	0.24	0.23	0.46	0.37	0.38	0.25	0.34
Sulfate	Dissolved 9038	400	120	160	120	120	160	300	140	84	74	170
Chloride	Dissolved 9251	200	**260**	**240**	**300**	160	**260**	**270**	**270**	**250**	150	**200**
Nitrogen/Nitrate	Nitrogen By calc	10	ND	1	2.1	1.1	0.79	0.81	1.6	2.7	1.6	1.4
Total Dissolved Solids	Dissolved 2540C	1,200	930	1,100	1,000	930	1,100	1,100	1,000	890	770	970
Flouride	Dissolved 4500 FC	4	0.43	0.4	0.41	0.31	0.4	0.49	0.38	0.44	0.37	0.44
Nitrogen/Nitrite	Dissolved 4500 NO2	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	NA	ND	1	2.1	1.1	0.79	0.81	1.6	2.7	1.6	1.4

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
NS- not sampled
mg/L- milligrams per liter

Table 3
Groundwater Analytical Results
Joliet Station #29, Illinois
Midwest Generation
21153.034

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-5 (mg/L)	MW-5 (mg/L)	MW-5 (mg/L)	MW-5 (mg/L)	MW-5 (mg/L)	MW-6 (mg/L)	MW-6 (mg/L)	MW-6 (mg/L)	MW-6 (mg/L)	MW-6 (mg/L)
Chemical Name		**Class I***	**12/7/10**	**3/28/11**	**6/14/11**	**9/14/11**	**12/7/11**	**12/7/10**	**3/28/11**	**6/14/11**	**9/14/11**	**12/7/11**
Antimony	Metals 6020	0.006	ND	ND	ND	ND	0.004	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	ND	ND	ND	0.0011	0.0011	ND	0.0015	ND	ND	0.0018
Barium	Metals 6020	2.0	0.061	0.092	0.053	0.053	0.062	0.075	0.12	0.082	0.094	0.11
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND	ND	0.0019	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	0.0065	ND	ND	ND	ND	0.14	0.033	ND	0.036	0.024
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	ND	ND	ND	0.0021	ND	0.0056	0.0025	ND	ND	ND
Selenium	Metals 6020	0.05	ND	0.0072	ND	ND	0.005	0.0029	0.0034	ND	ND	0.0054
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	0.00077	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	0.42	0.52	0.47	0.57	0.49	0.32	0.44	0.32	0.27	0.3
Sulfate	Dissolved 9038	400	110	160	100	140	140	140	140	87	100	130
Chloride	Dissolved 9251	200	150	**240**	**220**	**120**	190	130	**270**	140	140	130
Nitrogen/Nitrate	Nitrogen By calc	10	ND	1.2	1.3	1.1	1.5	ND	1.3	0.91	0.31	0.36
Total Dissolved Solids	Dissolved 2540C	1,200	750	990	850	800	900	650	1,000	650	620	710
Flouride	Dissolved 4500 FC	4	0.4	0.34	0.39	0.28	0.34	0.4	0.36	0.44	0.29	0.44
Nitrogen/Nitrite	Dissolved 4500 NO2	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	NA	ND	1.2	1.3	1.1	1.5	ND	1.3	0.91	0.31	3.4

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
NS- not sampled
mg/L- milligrams per liter

Table 3
Groundwater Analytical Results
Joliet Station #29, Illinois
Midwest Generation
21153.034

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)
Chemical Name		**Class I***	**12/7/10**	**3/28/11**	**6/14/11**	**9/14/11**	**12/7/11**	**12/6/10**	**3/28/11**	**6/14/11**	**9/14/11**	**12/7/11**
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.001	ND	ND	ND	0.0014	ND	ND	ND	ND	ND
Barium	Metals 6020	2.0	0.13	0.11	0.072	0.092	0.11	0.0054	0.055	0.026	0.048	0.057
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	0.011	ND	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	0.0025	ND	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	ND	ND	3.8	ND	ND	ND	ND	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**0.29**	0.014	ND	0.08	0.0073	0.0051	0.0026	0.017	ND	ND
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.0045	ND	ND	0.014	ND	0.0025	ND	ND	0.012	ND
Selenium	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	0.51	0.39	0.25	0.29	0.35	0.29	0.16	0.12	0.2	0.16
Sulfate	Dissolved 9038	400	250	120	85	110	160	210	87	52	120	170
Chloride	Dissolved 9251	200	**430**	**320**	140	99	140	130	**350**	150	79	120
Nitrogen/Nitrate	Nitrogen By calc	10	ND	1.2	0.76	0.27	0.6	0.33	2.2	1.9	0.95	0.86
Total Dissolved Solids	Dissolved 2540C	1,200	**1,200**	970	580	650	780	670	990	580	690	800
Flouride	Dissolved 4500 FC	4	0.36	0.31	0.35	0.27	0.35	0.51	0.36	0.45	0.25	0.31
Nitrogen/Nitrite	Dissolved 4500 NO2	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	NA	ND	1.2	0.76	0.27	0.6	0.33	2.2	1.9	0.95	0.86

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
NS- not sampled
mg/L- milligrams per liter

Table 3
Groundwater Analytical Results
Joliet Station #29, Illinois
Midwest Generation
21153.034

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-9 (mg/L)	MW-9 (mg/L)	MW-9 (mg/L)	MW-9 (mg/L)	MW-9 (mg/L)	MW-10 (mg/L)	MW-10 (mg/L)	MW-10 (mg/L)	MW-10 (mg/L)	MW-10 (mg/L)
Chemical Name		**Class I***	**12/6/10**	**3/28/11**	**6/14/11**	**9/14/11**	**12/7/11**	**12/6/10**	**3/28/11**	**6/14/11**	**9/14/11**	**12/7/11**
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0012
Barium	Metals 6020	2.0	0.031	0.029	0.032	0.029	0.03	0.05	0.051	0.039	0.039	0.036
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	0.0047	0.0034	0.0062	0.011	0.0075	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	0.0026	ND	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	0.18	**7.3**	3.8	1.5	ND	ND	ND	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**1.1**	**1.6**	**0.95**	**0.82**	**0.66**	0.12	0.0076	ND	ND	ND
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.0094	0.0072	0.013	0.014	0.011	0.0052	0.0029	ND	0.0087	0.0024
Selenium	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	0.36	0.32	0.29	0.35	0.31	0.5	0.54	0.54	0.41	0.52
Sulfate	Dissolved 9038	400	**1,600**	**1,100**	**580**	**750**	**130**	130	130	89	100	190
Chloride	Dissolved 9251	200	140	**230**	**290**	190	190	**200**	**300**	7.1	170	180
Nitrogen/Nitrate	Nitrogen By calc	10	ND	ND	0.97	0.36	0.22	0.39	2.3	2.7	2.6	1.4
Total Dissolved Solids	Dissolved 2540C	1,200	**2,600**	**2,400**	**1,500**	**1,700**	**2,400**	860	1,100	980	730	890
Flouride	Dissolved 4500 FC	4	0.61	0.52	0.47	0.39	0.5	0.43	0.39	0.42	0.41	0.45
Nitrogen/Nitrite	Dissolved 4500 NO2	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	NA	ND	ND	0.97	0.36	0.22	0.39	2.3	2.7	2.6	1.4

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
NS- not sampled
mg/L- milligrams per liter

Table 3
Groundwater Analytical Results
Joliet Station #29, Illinois
Midwest Generation
21153.034

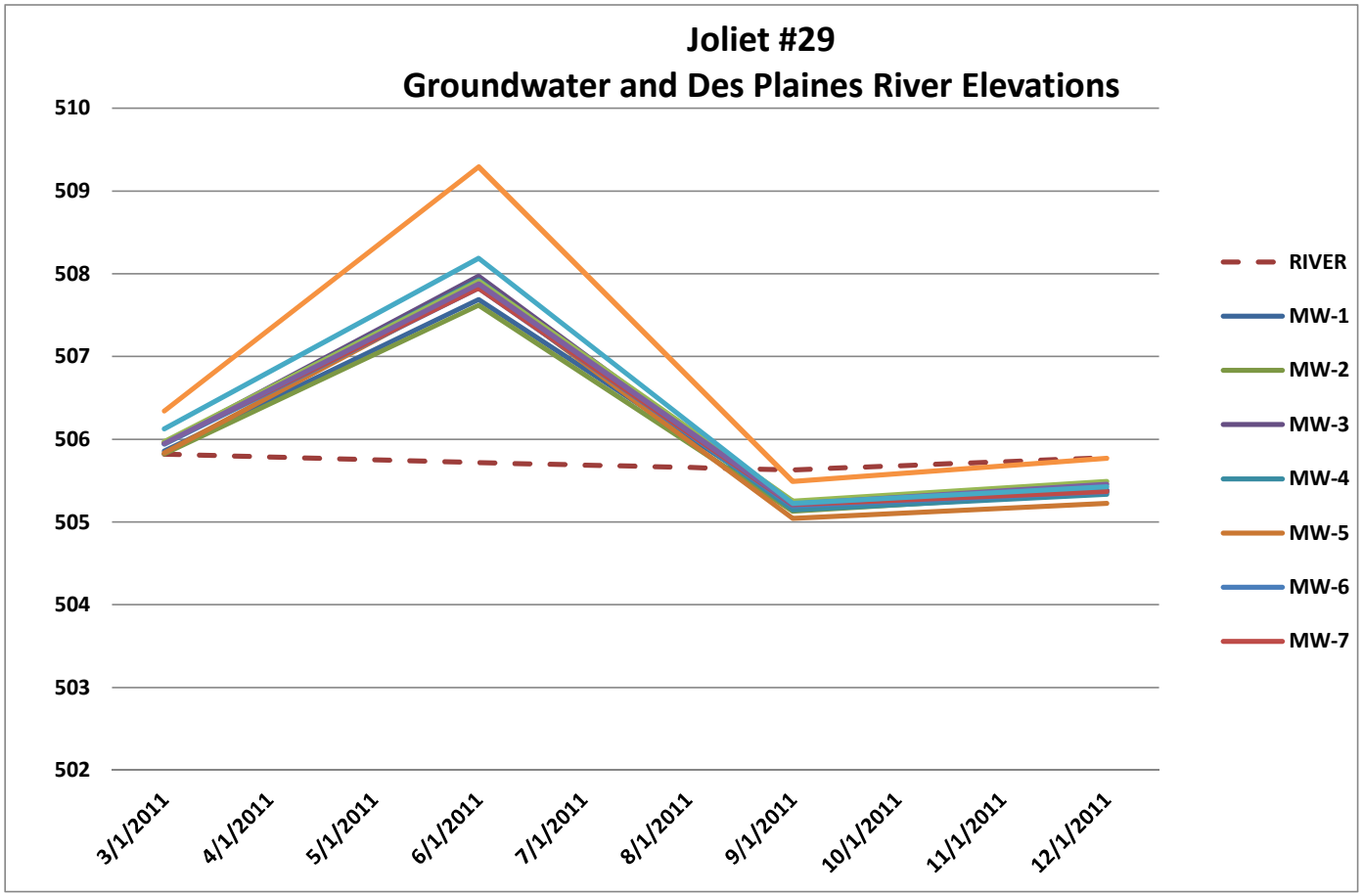
PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-11 (mg/L)	MW-11 (mg/L)	MW-11 (mg/L)	MW-11 (mg/L)	MW-11 (mg/L)
Chemical Name		Class I*	12/6/10	3/28/11	6/14/11	9/14/11	12/7/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.0013	0.0016	ND	0.0016	0.0019
Barium	Metals 6020	2.0	0.064	0.076	0.051	0.054	0.057
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	ND	ND	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	0.052	0.0047	ND	0.0053	0.0047
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.0022	ND	ND	ND	ND
Selenium	Metals 6020	0.05	ND	0.0054	ND	0.0026	0.0033
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND
Boron	Metals 6020	2	0.47	**2.6**	**2.2**	1.1	1.2
Sulfate	Dissolved 9038	400	140	150	110	110	160
Chloride	Dissolved 9251	200	ND	**270**	**280**	86	140
Nitrogen/Nitrate	Nitrogen By calc	10	0.39	1.1	0.92	0.31	0.6
Total Dissolved Solids	Dissolved 2540C	1,200	770	1,000	710	590	790
Flouride	Dissolved 4500 FC	4	0.34	0.31	0.36	0.32	0.31
Nitrogen/Nitrite	Dissolved 4500 NO2	NA	ND	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	NA	0.39	1.1	0.92	0.31	0.6

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
NS- not sampled
mg/L- milligrams per liter

ATTACHMENT A

GROUNDWATER AND DES PLAINES RIVER ELEVATIONS CHART

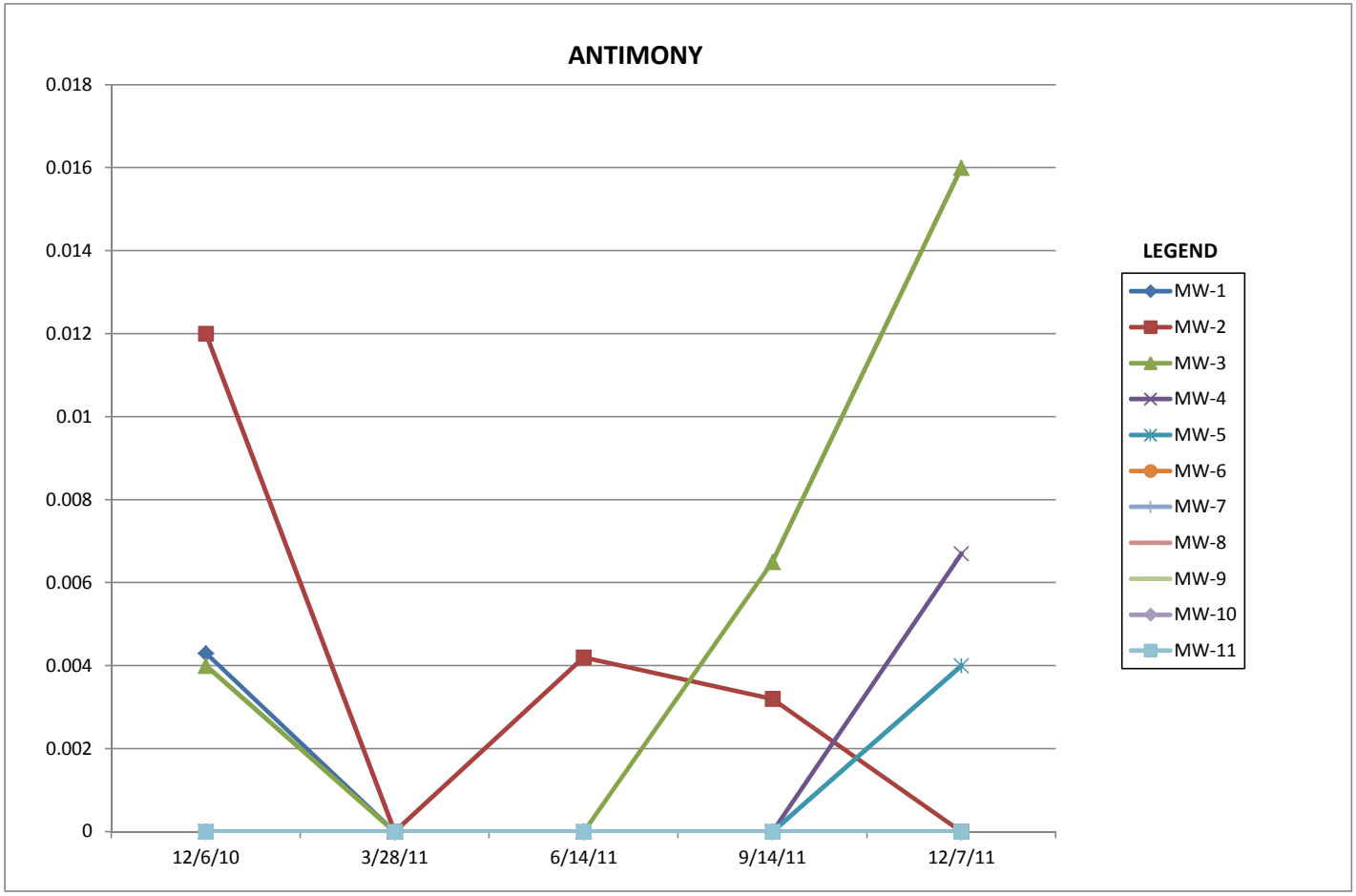
Joliet # 29
GROUNDWATER AND DES PLAINES RIVER ELEVATIONS
Joliet #29 Station, Joliet, Illinois
Midwest Generation
21153.034



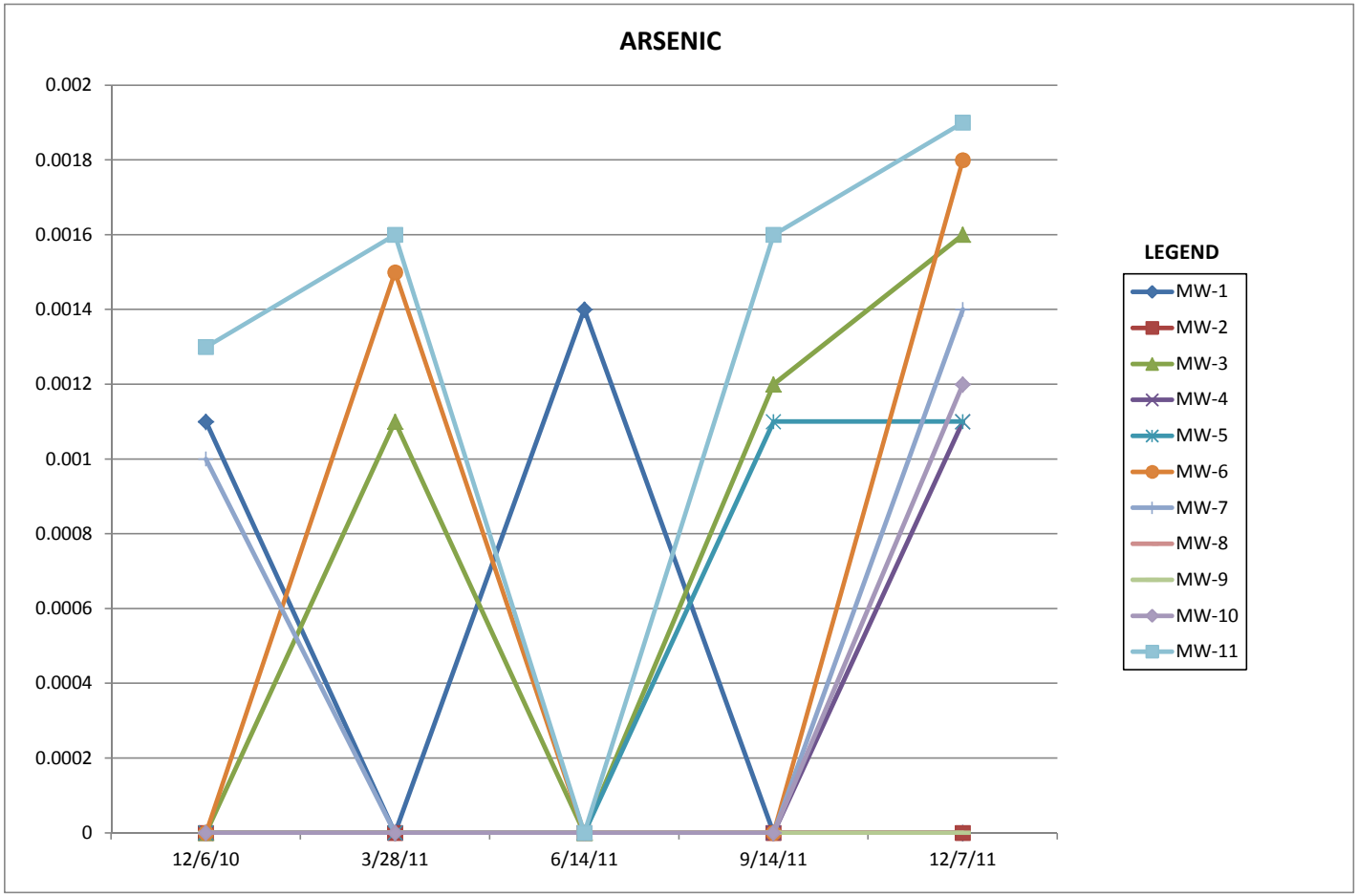
ATTACHMENT B

TREND ANALYSIS CHARTS

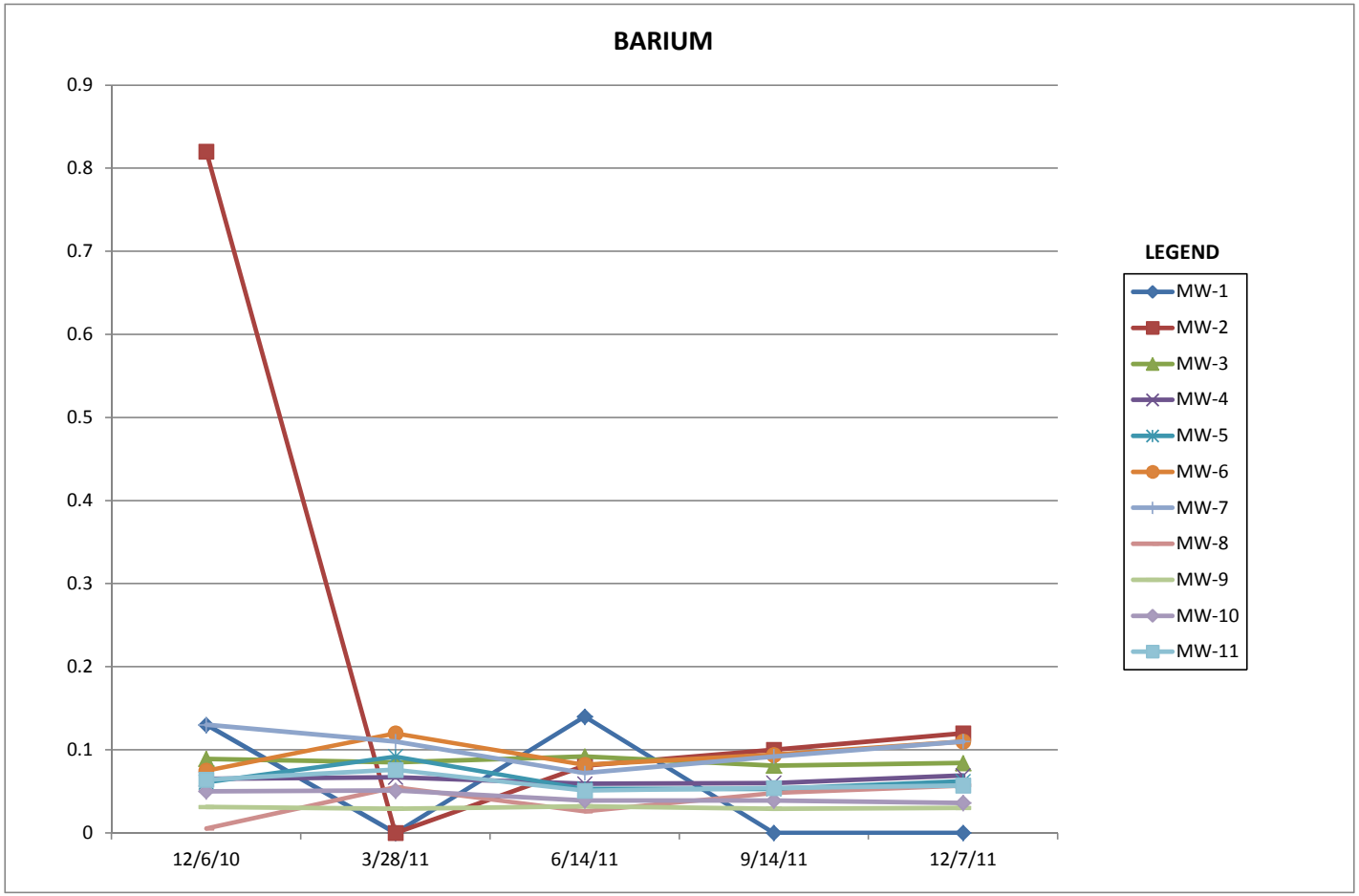
ANTIMONY
TREND ANALYSIS CHART
Joliet #29, Joliet, Illinois
Midwest Generation
21153.034



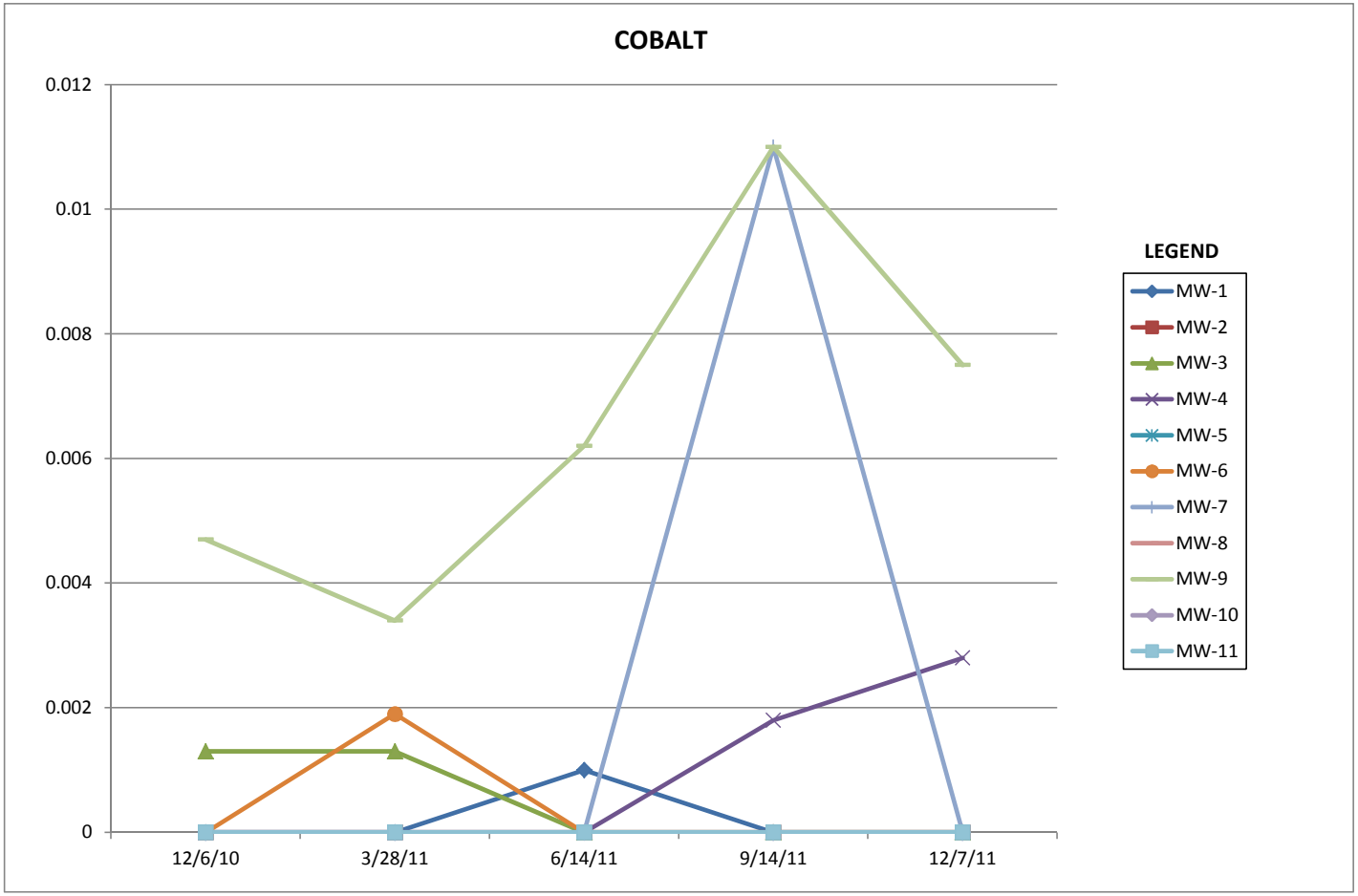
ARSENIC
TREND ANALYSIS CHART
Joliet #29, Joliet, Illinois
Midwest Generation
21153.034



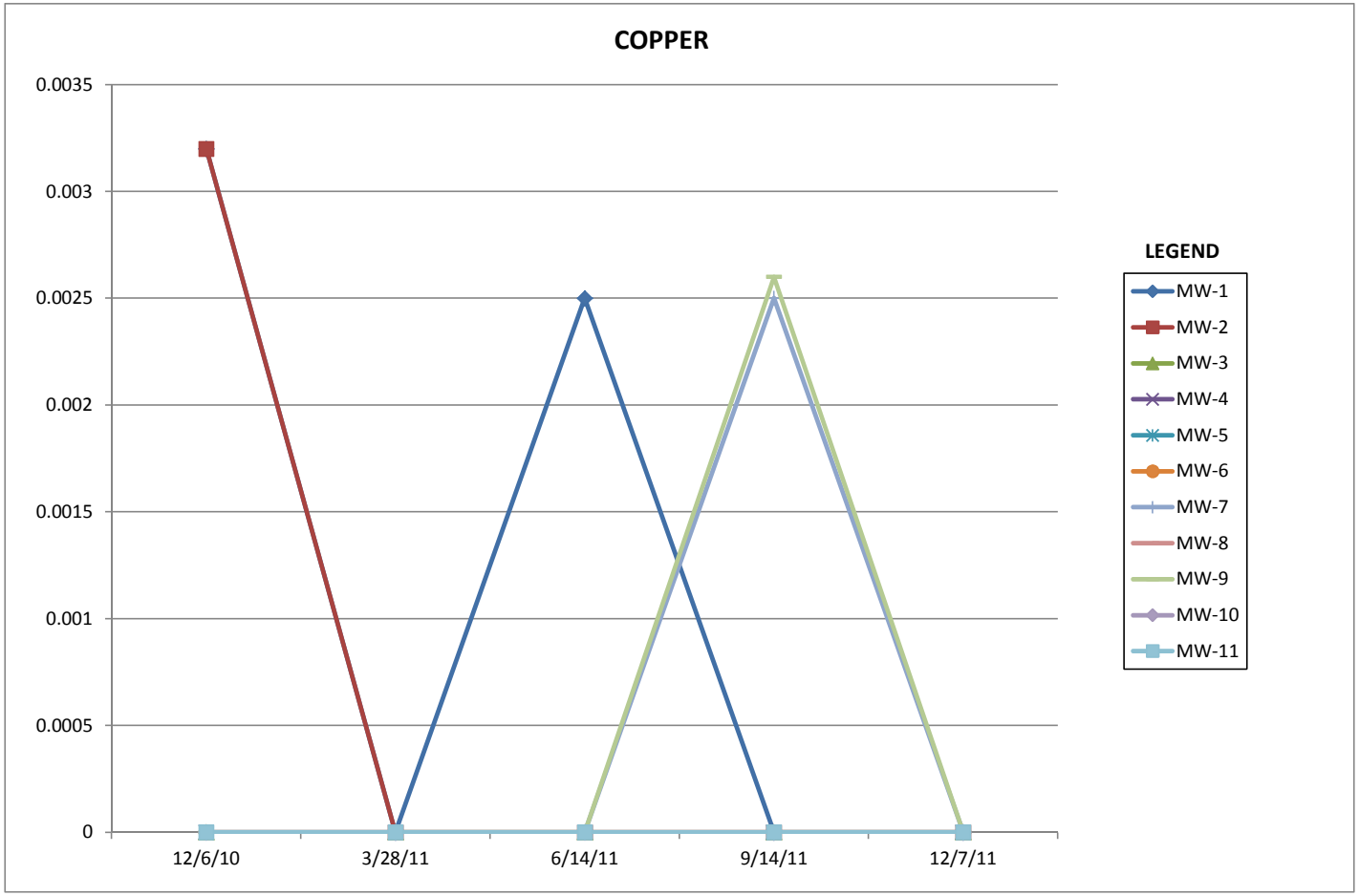
BARIUM
TREND ANALYSIS CHART
Joliet 29, Joliet, Illinois
Midwest Generation
21153.034



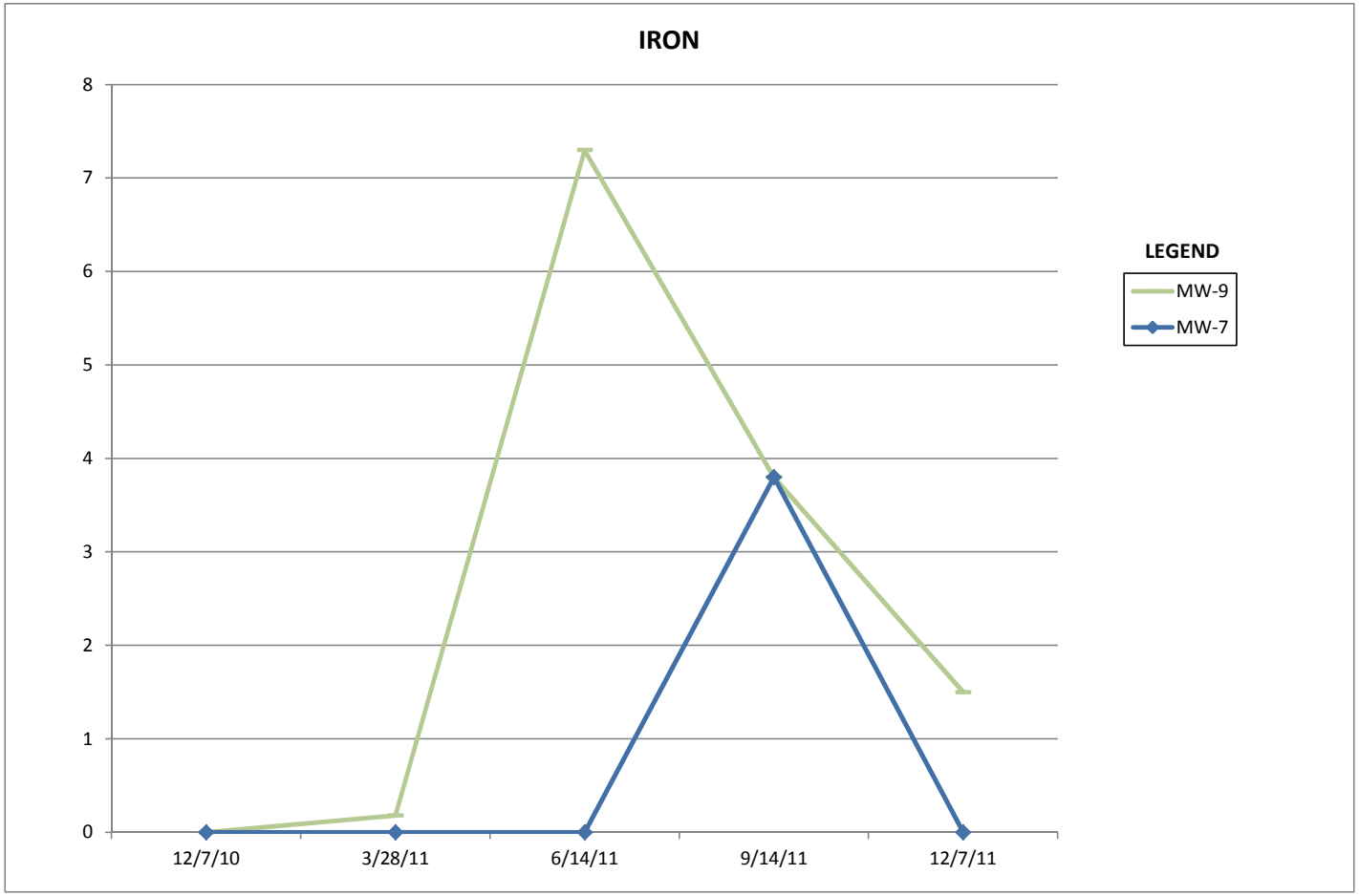
COBALT
TREND ANALYSIS CHART
Joliet 29, Joliet, Illinois
Midwest Generation
21153.034



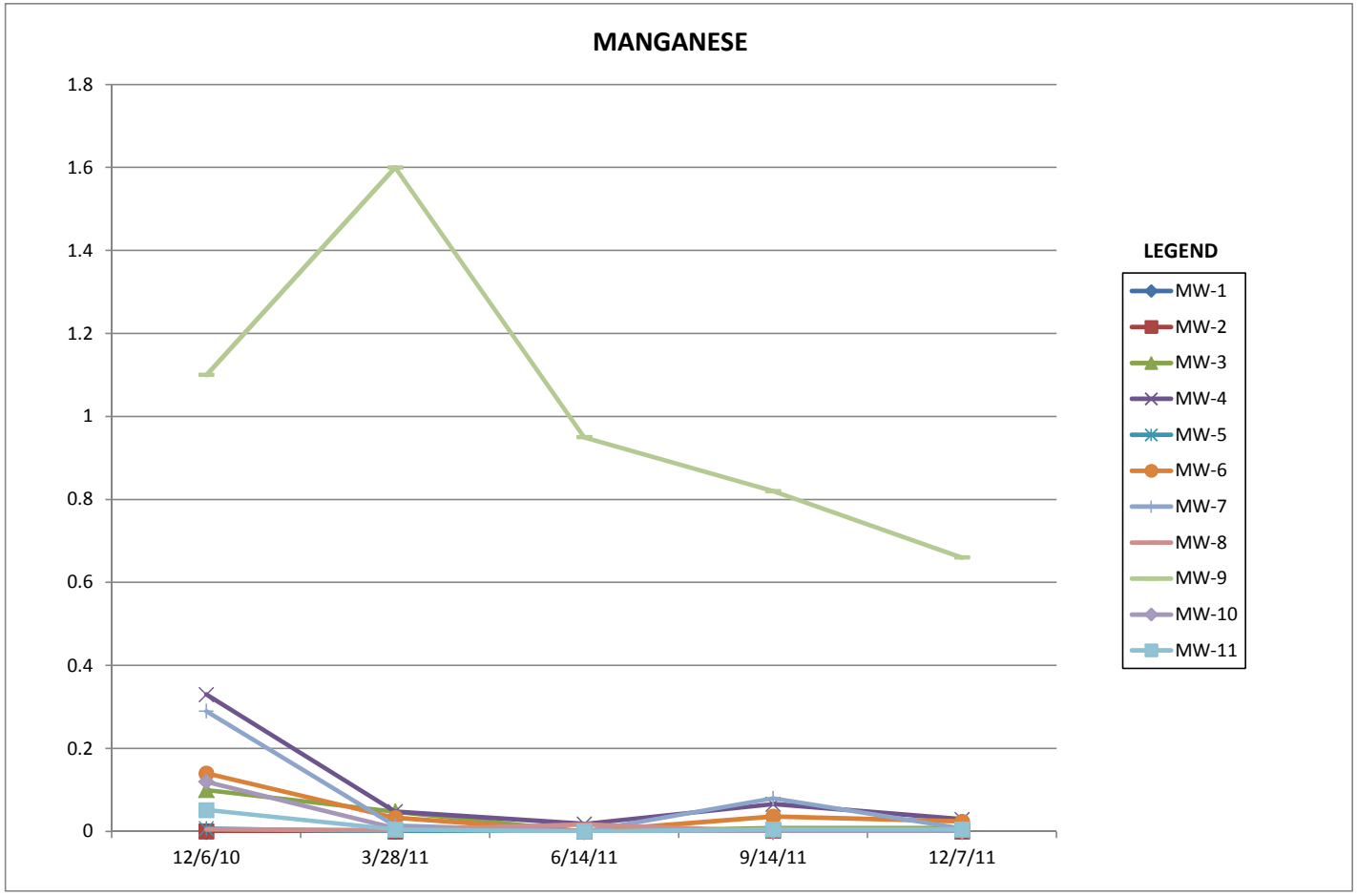
COPPER
TREND ANALYSIS CHART
Joliet 29, Joliet, Illinois
Midwest Generation
21153.034



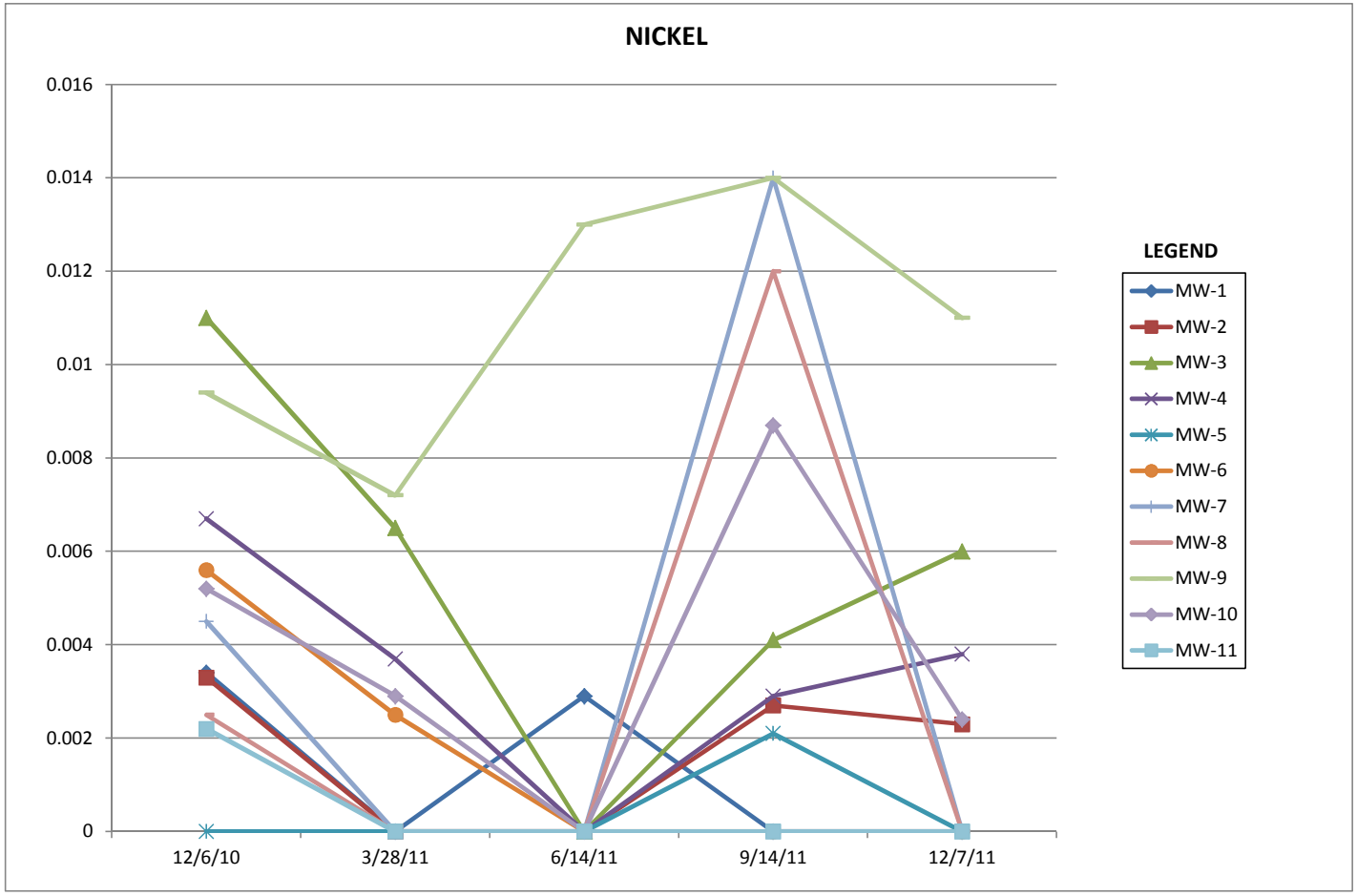
IRON
TREND ANALYSIS CHART
Joliet 29, Joliet, Illinois
Midwest Generation
21153.034



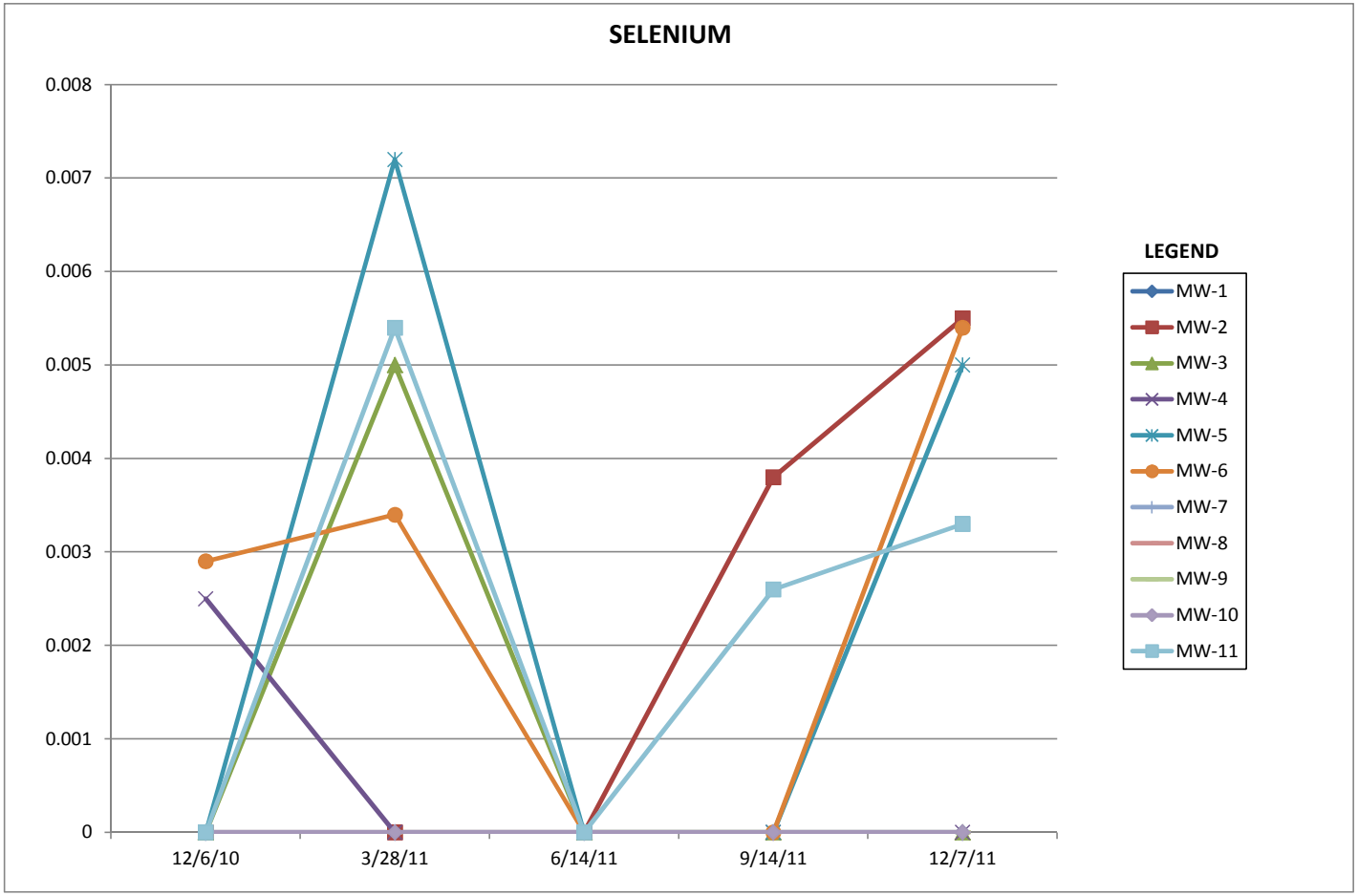
MANGANESE
TREND ANALYSIS CHART
Joliet 29, Joliet, Illinois
Midwest Generation
21153.034



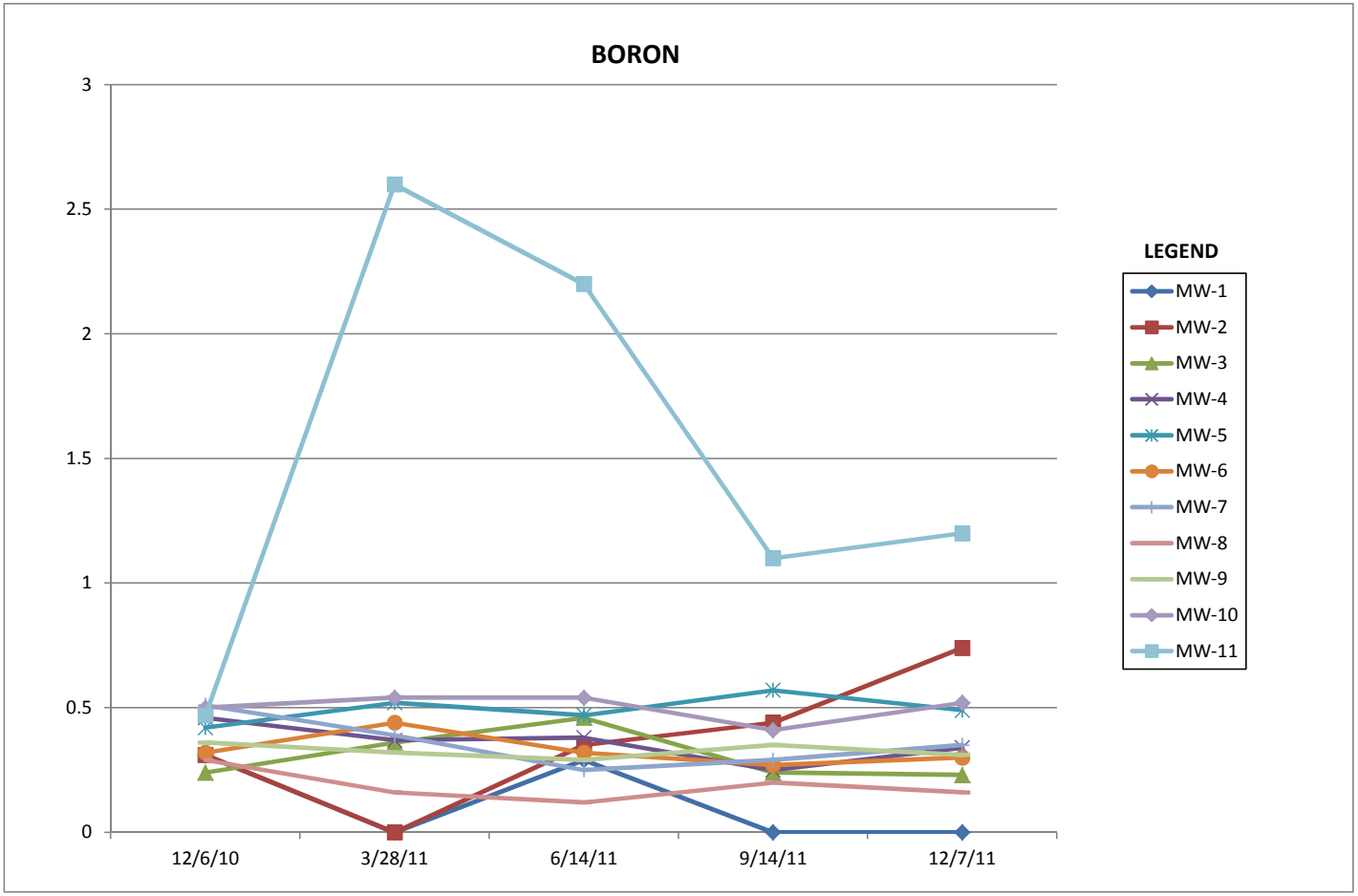
NICKEL
TREND ANALYSIS CHART
Joliet 29, Joliet, Illinois
Midwest Generation
21153.034



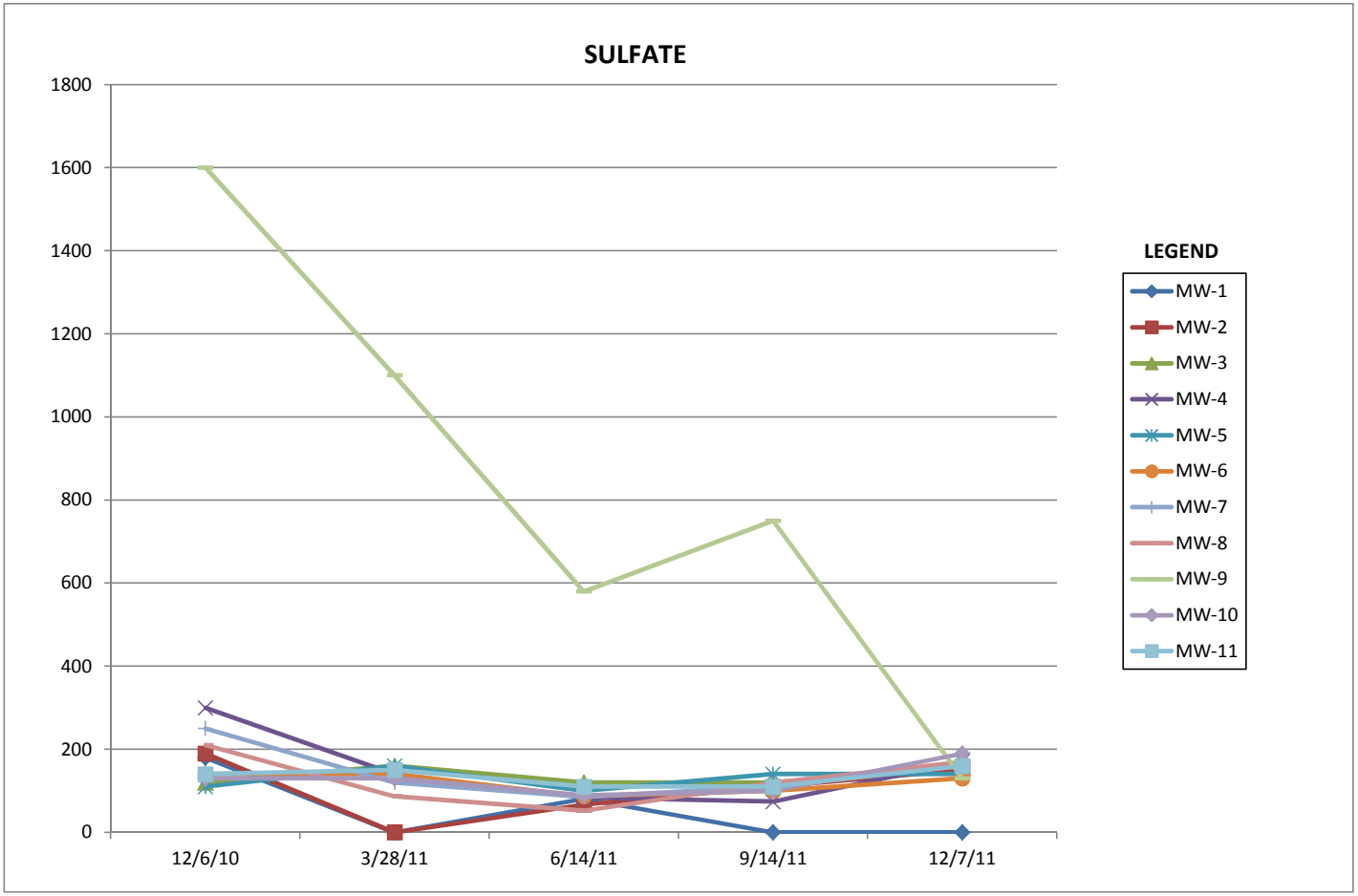
SELENIUM
TREND ANALYSIS CHART
Joliet 29, Joliet, Illinois
Midwest Generation
21153.034



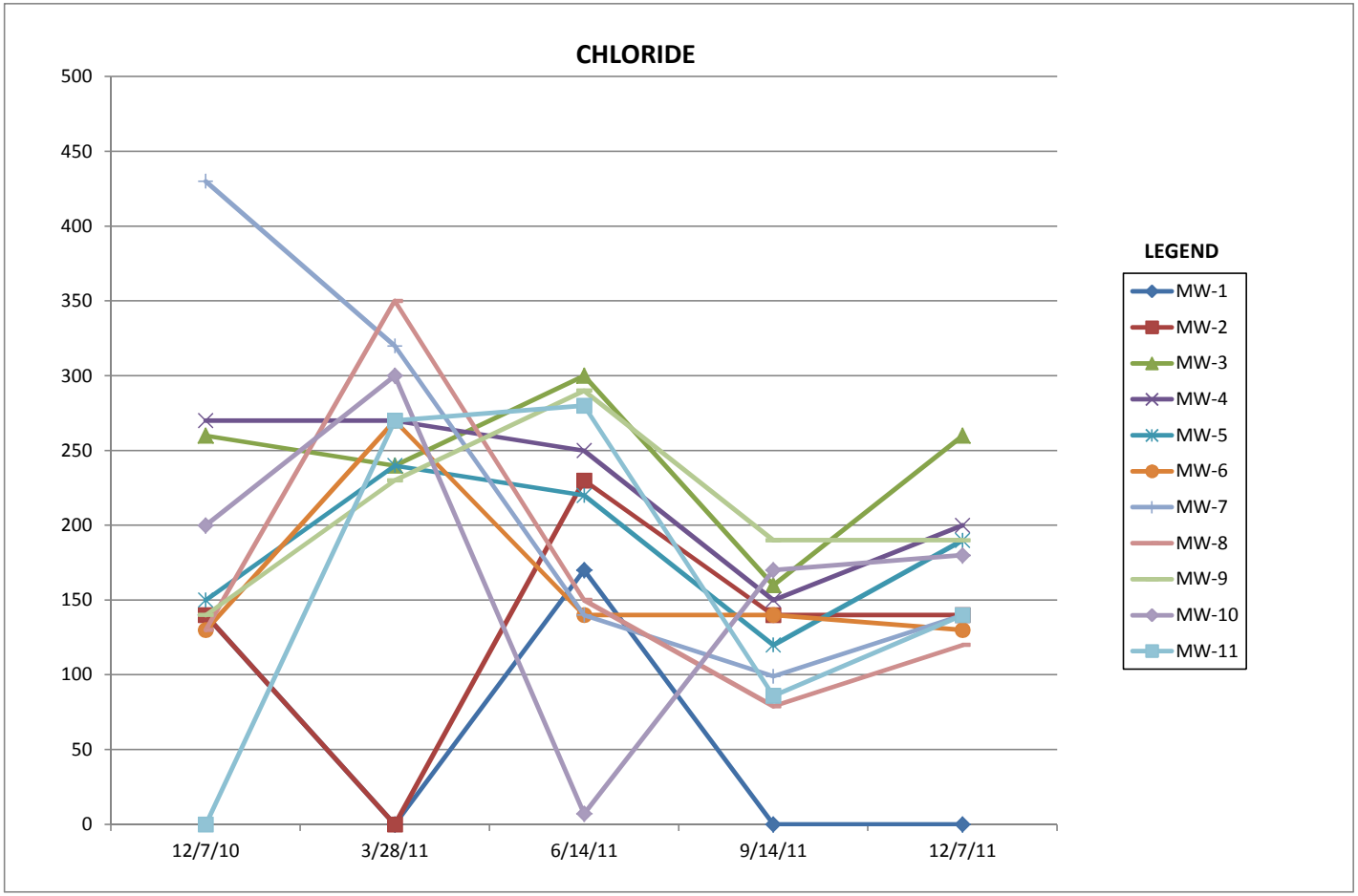
BORON
TREND ANALYSIS CHART
Joliet 29, Joliet, Illinois
Midwest Generation
21153.034



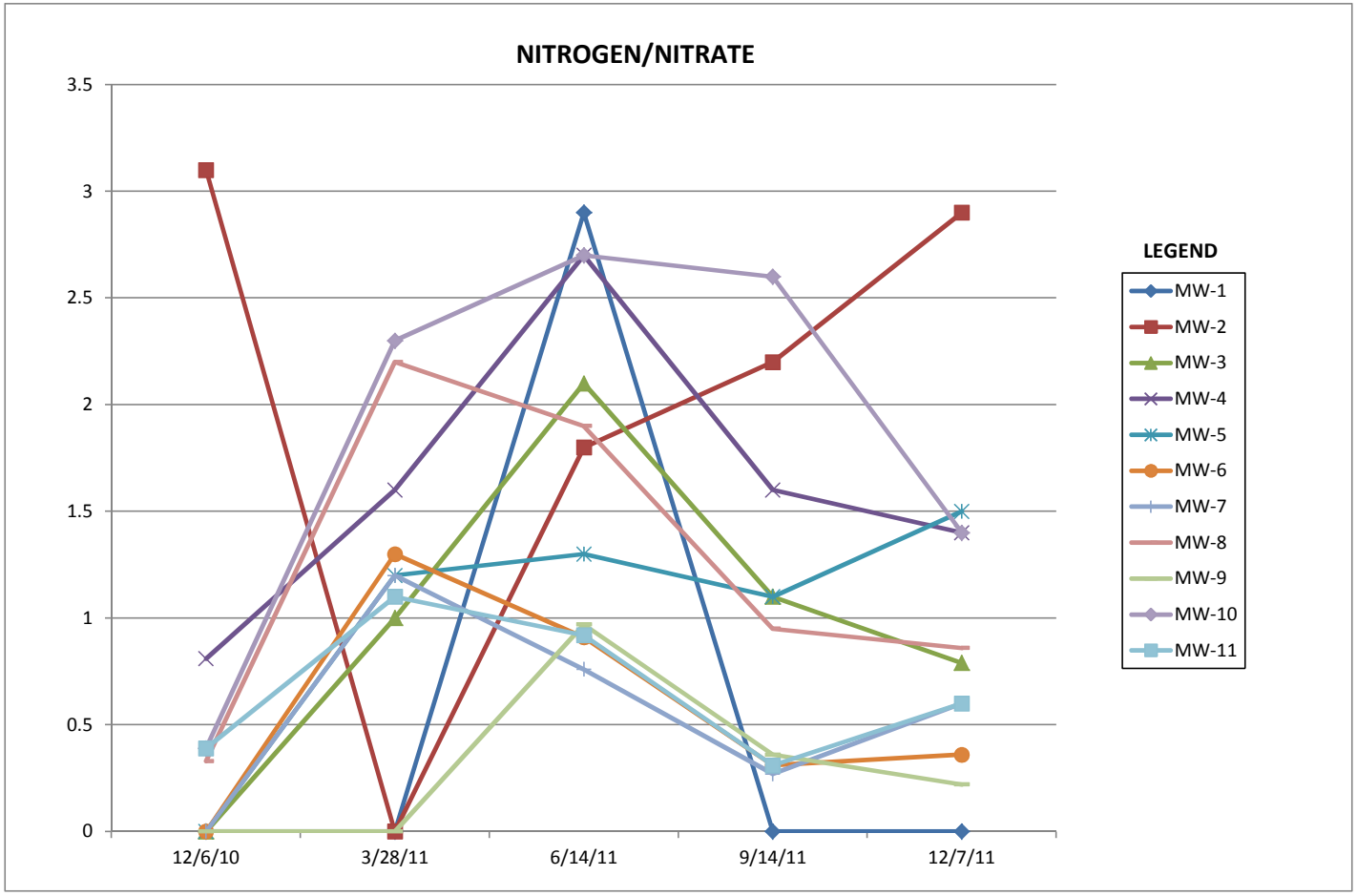
SULFATE
TREND ANALYSIS CHART
Joliet 29, Joliet, Illinois
Midwest Generation
21153.034



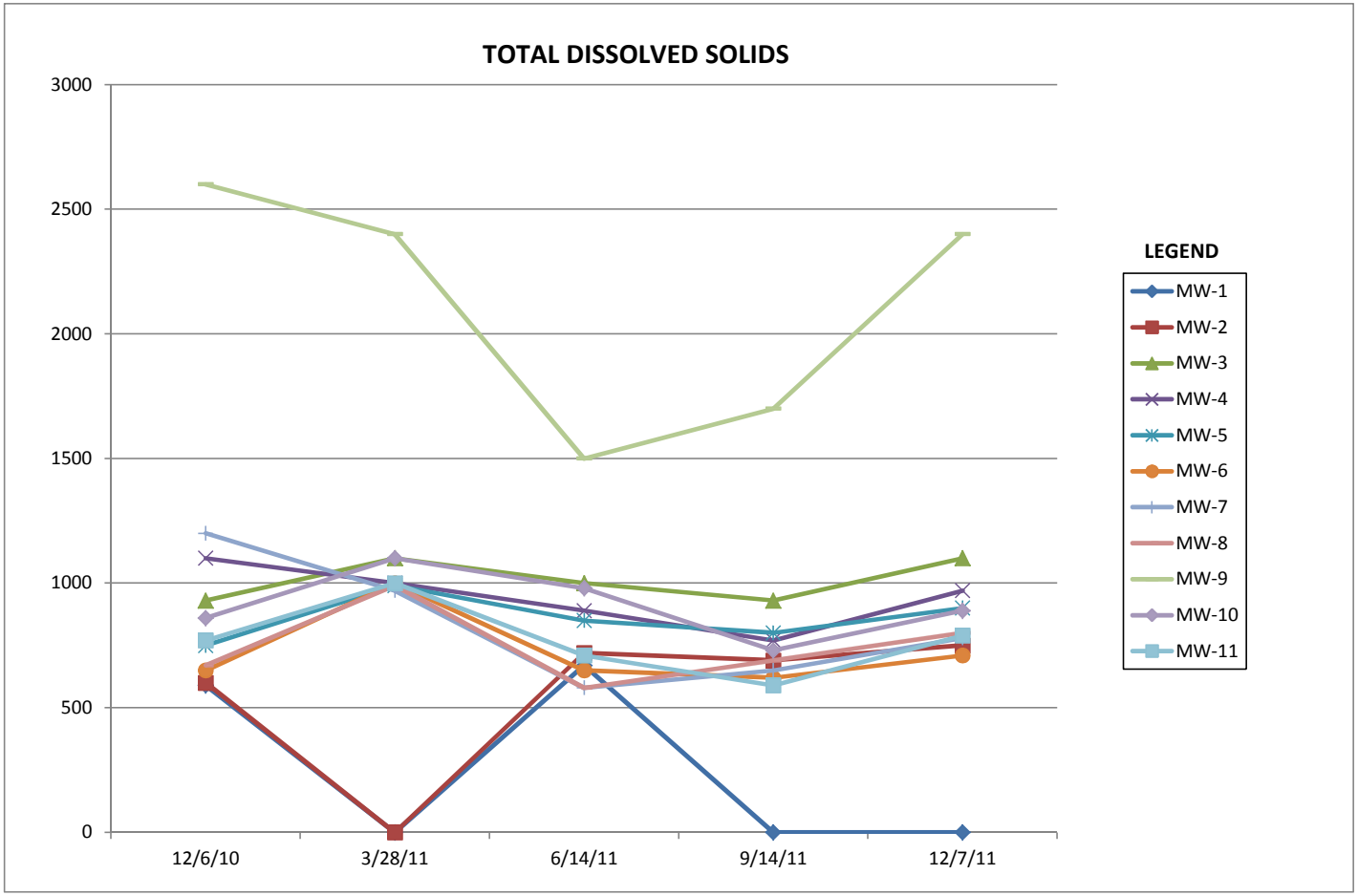
CHLORIDE
TREND ANALYSIS CHART
Joliet 29, Joliet, Illinois
Midwest Generation
21153.034



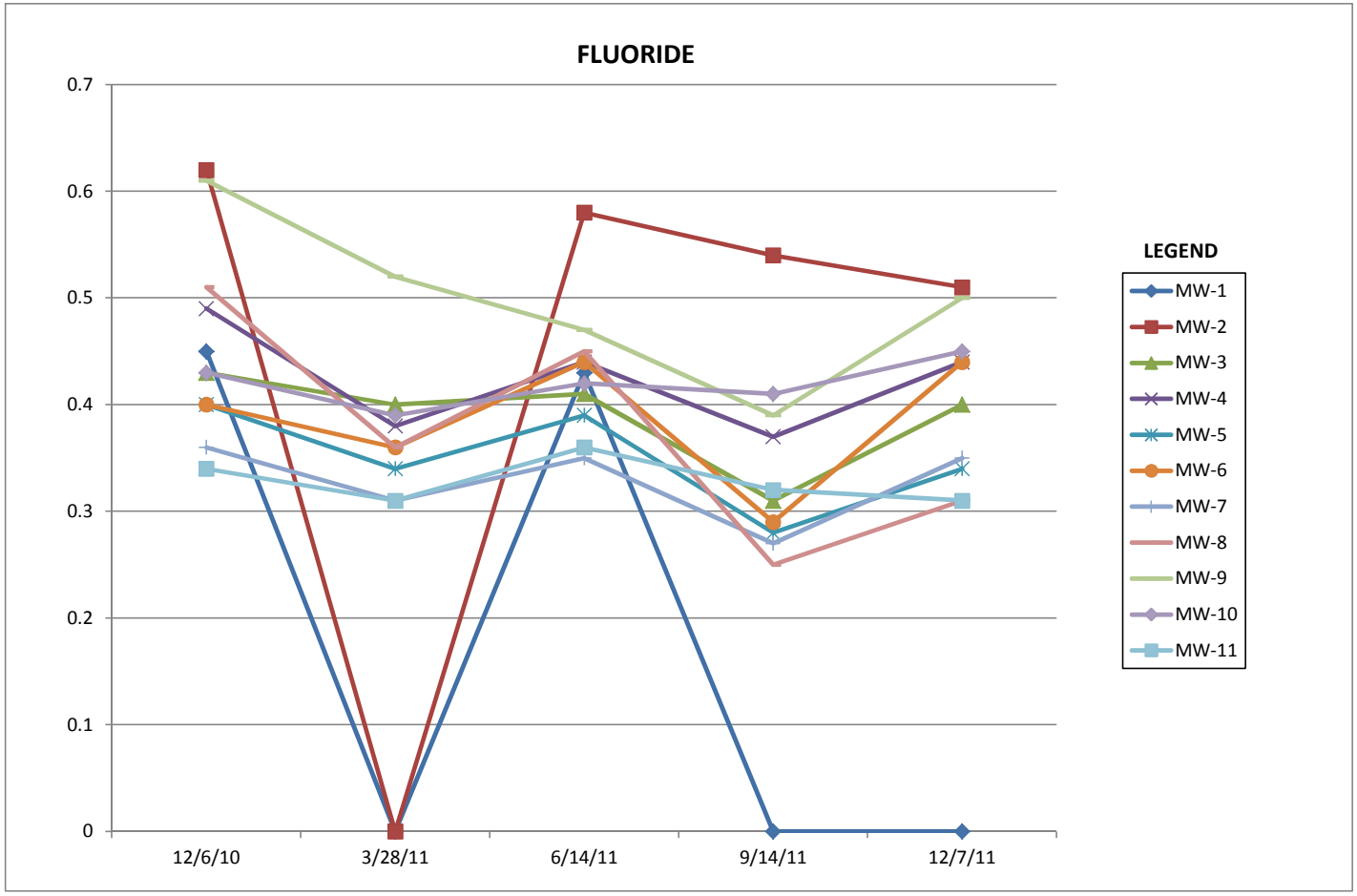
NITROGEN/NITRATE
TREND ANALYSIS CHART
Joliet 29, Joliet, Illinois
Midwest Generation
21153.034



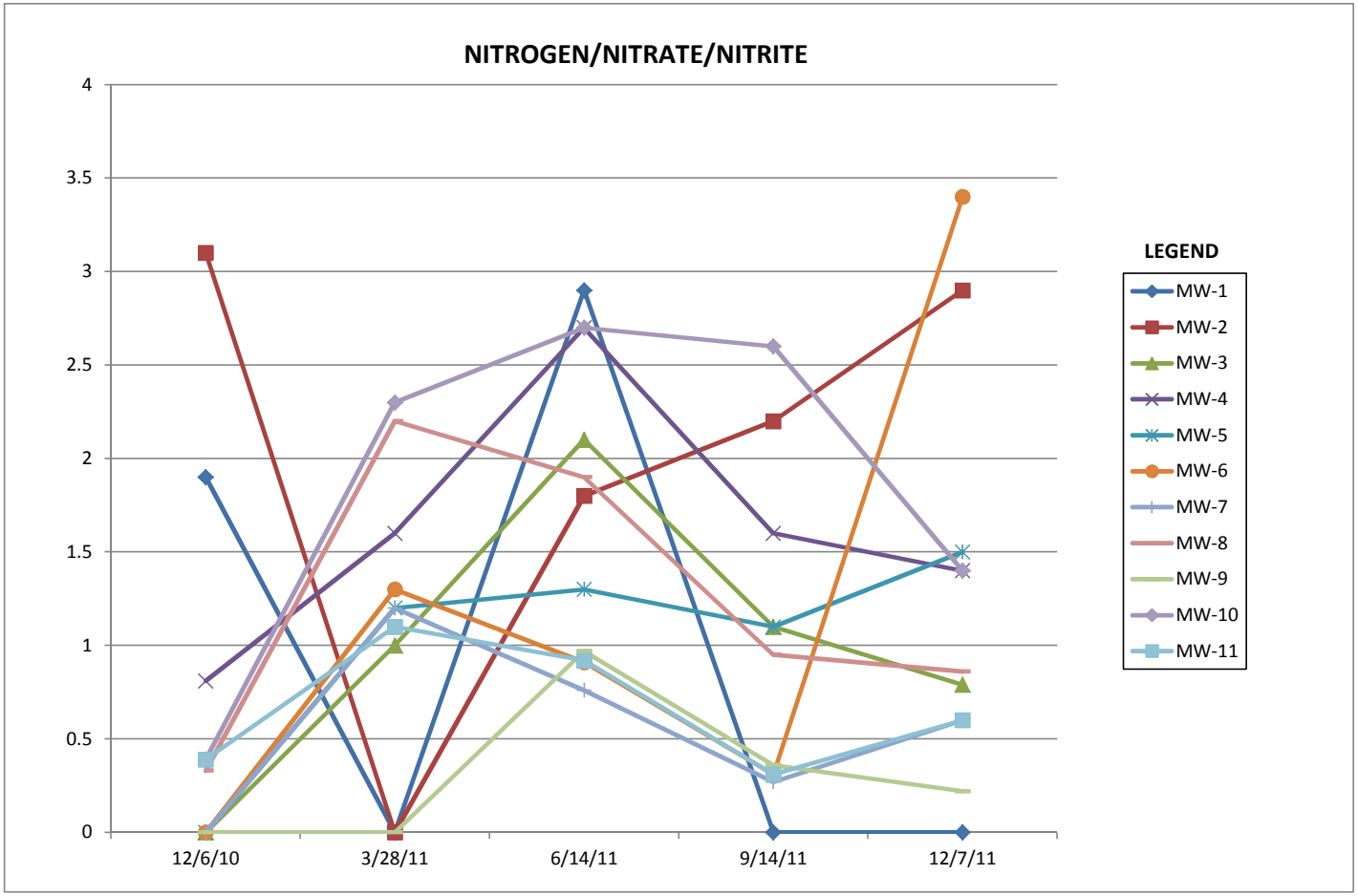
TOTAL DISSOLVED SOLIDS
TREND ANALYSIS CHART
Joliet 29, Joliet, Illinois
Midwest Generation
21153.034



FLUORIDE
TREND ANALYSIS CHART
Joliet 29, Joliet, Illinois
Midwest Generation
21153.034



NITROGEN/NITRATE/NITRITE
TREND ANALYSIS CHART
Joliet 29, Joliet, Illinois
Midwest Generation
21153.034



ATTACHMENT C

LABORATORY ANALYTICAL REPORT



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-43001-1
Client Project/Site: Midwest Generation Joliet Groundwater

For:
Midwest Generation EME LLC
1800 Channahon Road
Joliet, Illinois 60436

Attn: James DiCola

Authorized for release by:
12/21/2011 4:53:32 PM

Bonnie Stadelmann
Project Manager II
bonnie.stadelmann@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 500-43001-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-43001-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

Metals
Method(s) 6020: The matrix spike and matrix spike duplicate (MS/MSD) recoveries for sample 500-43001-1 were outside control limits for As and Se. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 6020: The matrix duplicate %RPD sample 500-43001-1 was outside the control limits for B.

Method(s) 6020: The matrix spike and matrix spike duplicate (MS/MSD) recoveries for sample 500-43001-1 were outside control limits for B. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Field Service / Mobile Lab
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

Method Summary

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Joliet Groundwater

TestAmerica Job ID: 500-43001-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL WAT
9014	Cyanide	SW846	TAL CHI
9038	Sulfate, Turbidimetric	SW846	TAL CHI
9251	Chloride	SW846	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL WAT = TestAmerica Watertown, 1101 Industrial Drive, Watertown, WI 53094, TEL (920)261-1660

Sample Summary

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Joliet Groundwater

TestAmerica Job ID: 500-43001-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-43001-1	MW-2	Water	12/07/11 11:30	12/07/11 14:02
500-43001-2	MW-3	Water	12/07/11 09:48	12/07/11 14:02
500-43001-3	MW-4	Water	12/07/11 09:10	12/07/11 14:02
500-43001-4	MW-5	Water	12/07/11 08:10	12/07/11 14:02
500-43001-5	MW-6	Water	12/07/11 12:40	12/07/11 14:02
500-43001-6	MW-7	Water	12/07/11 13:10	12/07/11 14:02
500-43001-7	MW-8	Water	12/07/11 12:10	12/07/11 14:02
500-43001-8	MW-9	Water	12/07/11 10:40	12/07/11 14:02
500-43001-9	MW-10	Water	12/07/11 08:40	12/07/11 14:02
500-43001-10	MW-11	Water	12/07/11 07:35	12/07/11 14:02

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Joliet Groundwater

TestAmerica Job ID: 500-43001-1

Client Sample ID: MW-2
Date Collected: 12/07/11 11:30
Date Received: 12/07/11 14:02

Lab Sample ID: 500-43001-1
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:26	12/14/11 15:26	1
Arsenic	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 15:26	1
Barium	**0.12**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:26	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/16/11 09:29	1
Boron	**0.74**		0.050		mg/L		12/14/11 12:26	12/16/11 09:29	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:26	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 15:26	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 15:26	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:26	1
Iron	<0.10		0.10		mg/L		12/14/11 12:26	12/14/11 15:26	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:26	1
Manganese	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 15:26	1
Nickel	**0.0023**		0.0020		mg/L		12/14/11 12:26	12/14/11 15:26	1
Selenium	**0.0055**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:26	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:26	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:26	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 15:26	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/15/11 16:50	12/16/11 13:32	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**2.9**		0.10		mg/L			12/19/11 11:08	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 09:35	12/14/11 20:25	1
Sulfate	**150**		50		mg/L			12/20/11 00:05	10
Chloride	**140**		10		mg/L			12/17/11 12:31	5
Nitrogen, Nitrate	**2.9**		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**750**		10		mg/L			12/09/11 03:30	1
Fluoride	**0.51**		0.10		mg/L			12/13/11 13:24	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/07/11 16:19	1

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Joliet Groundwater

TestAmerica Job ID: 500-43001-1

Client Sample ID: MW-3
Date Collected: 12/07/11 09:48
Date Received: 12/07/11 14:02

Lab Sample ID: 500-43001-2
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.016		0.0030		mg/L		12/14/11 12:26	12/14/11 15:44	1
Arsenic	0.0016		0.0010		mg/L		12/14/11 12:26	12/14/11 15:44	1
Barium	0.084		0.0025		mg/L		12/14/11 12:26	12/14/11 15:44	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/16/11 10:03	1
Boron	0.23		0.050		mg/L		12/14/11 12:26	12/16/11 10:03	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:44	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 15:44	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 15:44	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:44	1
Iron	<0.10		0.10		mg/L		12/14/11 12:26	12/14/11 15:44	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:44	1
Manganese	0.0080		0.0025		mg/L		12/14/11 12:26	12/14/11 15:44	1
Nickel	0.0060		0.0020		mg/L		12/14/11 12:26	12/14/11 15:44	1
Selenium	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 15:44	1
Silver	0.00091		0.00050		mg/L		12/14/11 12:26	12/14/11 15:44	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:44	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 15:44	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/15/11 16:50	12/16/11 13:35	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	0.79		0.10		mg/L			12/19/11 11:09	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 09:35	12/14/11 20:26	1
Sulfate	160		50		mg/L			12/20/11 00:06	10
Chloride	260		10		mg/L			12/17/11 12:31	5
Nitrogen, Nitrate	0.79		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	1100		10		mg/L			12/09/11 03:33	1
Fluoride	0.40		0.10		mg/L			12/13/11 13:27	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/07/11 16:20	1

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Joliet Groundwater

TestAmerica Job ID: 500-43001-1

Client Sample ID: MW-4
Date Collected: 12/07/11 09:10
Date Received: 12/07/11 14:02

Lab Sample ID: 500-43001-3
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0067		0.0030		mg/L		12/14/11 12:26	12/14/11 15:47	1
Arsenic	0.0011		0.0010		mg/L		12/14/11 12:26	12/14/11 15:47	1
Barium	0.069		0.0025		mg/L		12/14/11 12:26	12/14/11 15:47	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/16/11 10:04	1
Boron	0.34		0.050		mg/L		12/14/11 12:26	12/16/11 10:04	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:47	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 15:47	1
Cobalt	0.0028		0.0010		mg/L		12/14/11 12:26	12/14/11 15:47	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:47	1
Iron	<0.10		0.10		mg/L		12/14/11 12:26	12/14/11 15:47	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:47	1
Manganese	0.029		0.0025		mg/L		12/14/11 12:26	12/14/11 15:47	1
Nickel	0.0038		0.0020		mg/L		12/14/11 12:26	12/14/11 15:47	1
Selenium	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 15:47	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:47	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:47	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 15:47	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/15/11 16:50	12/16/11 13:36	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	1.4		0.10		mg/L			12/19/11 11:12	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 09:35	12/14/11 20:26	1
Sulfate	170		50		mg/L			12/20/11 00:07	10
Chloride	200		10		mg/L			12/17/11 12:32	5
Nitrogen, Nitrate	1.4		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	970		10		mg/L			12/09/11 03:36	1
Fluoride	0.44		0.10		mg/L			12/13/11 13:31	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/07/11 16:21	1

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Joliet Groundwater

TestAmerica Job ID: 500-43001-1

Client Sample ID: MW-5
Date Collected: 12/07/11 08:10
Date Received: 12/07/11 14:02

Lab Sample ID: 500-43001-4
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0040		0.0030		mg/L		12/14/11 12:26	12/14/11 15:49	1
Arsenic	0.0011		0.0010		mg/L		12/14/11 12:26	12/14/11 15:49	1
Barium	0.062		0.0025		mg/L		12/14/11 12:26	12/14/11 15:49	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/16/11 10:06	1
Boron	0.49		0.050		mg/L		12/14/11 12:26	12/16/11 10:06	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:49	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 15:49	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 15:49	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:49	1
Iron	<0.10		0.10		mg/L		12/14/11 12:26	12/14/11 15:49	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:49	1
Manganese	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 15:49	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:49	1
Selenium	0.0050		0.0025		mg/L		12/14/11 12:26	12/14/11 15:49	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:49	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:49	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 15:49	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/15/11 16:50	12/16/11 13:38	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	1.5		0.10		mg/L			12/19/11 11:14	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 09:35	12/14/11 20:27	1
Sulfate	140		50		mg/L			12/20/11 00:08	10
Chloride	190		10		mg/L			12/17/11 12:32	5
Nitrogen, Nitrate	1.5		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	900		10		mg/L			12/09/11 03:39	1
Fluoride	0.34		0.10		mg/L			12/13/11 13:34	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/07/11 16:21	1

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Joliet Groundwater

TestAmerica Job ID: 500-43001-1

Client Sample ID: MW-6
Date Collected: 12/07/11 12:40
Date Received: 12/07/11 14:02

Lab Sample ID: 500-43001-5
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:26	12/14/11 15:52	1
Arsenic	**0.0018**		0.0010		mg/L		12/14/11 12:26	12/14/11 15:52	1
Barium	**0.11**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:52	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/16/11 10:07	1
Boron	**0.30**		0.050		mg/L		12/14/11 12:26	12/16/11 10:07	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:52	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 15:52	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 15:52	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:52	1
Iron	<0.10		0.10		mg/L		12/14/11 12:26	12/14/11 15:52	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:52	1
Manganese	**0.024**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:52	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:52	1
Selenium	**0.0054**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:52	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:52	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:52	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 15:52	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/15/11 16:50	12/16/11 13:40	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**0.36**		0.10		mg/L			12/19/11 11:15	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 09:35	12/14/11 20:27	1
Sulfate	**130**		50		mg/L			12/20/11 00:09	10
Chloride	**130**		10		mg/L			12/17/11 12:33	5
Nitrogen, Nitrate	**0.36**		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**710**		10		mg/L			12/09/11 03:41	1
Fluoride	**0.44**		0.10		mg/L			12/14/11 12:52	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/07/11 16:21	1

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Joliet Groundwater

TestAmerica Job ID: 500-43001-1

Client Sample ID: MW-7
Date Collected: 12/07/11 13:10
Date Received: 12/07/11 14:02

Lab Sample ID: 500-43001-6
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:26	12/14/11 15:55	1
Arsenic	**0.0014**		0.0010		mg/L		12/14/11 12:26	12/14/11 15:55	1
Barium	**0.11**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:55	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/16/11 10:08	1
Boron	**0.35**		0.050		mg/L		12/14/11 12:26	12/16/11 10:08	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:55	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 15:55	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 15:55	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:55	1
Iron	<0.10		0.10		mg/L		12/14/11 12:26	12/14/11 15:55	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:55	1
Manganese	**0.0073**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:55	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:55	1
Selenium	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 15:55	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:55	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:55	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 15:55	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/15/11 16:50	12/16/11 13:46	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**0.60**		0.10		mg/L			12/19/11 11:16	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 09:35	12/14/11 20:28	1
Sulfate	**160**		50		mg/L			12/20/11 00:12	10
Chloride	**140**		10		mg/L			12/17/11 12:34	5
Nitrogen, Nitrate	**0.60**		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**780**		10		mg/L			12/09/11 03:44	1
Fluoride	**0.35**		0.10		mg/L			12/14/11 13:01	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/07/11 16:22	1

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Joliet Groundwater

TestAmerica Job ID: 500-43001-1

Client Sample ID: MW-8
Date Collected: 12/07/11 12:10
Date Received: 12/07/11 14:02

Lab Sample ID: 500-43001-7
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:26	12/14/11 15:57	1
Arsenic	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 15:57	1
Barium	**0.057**		0.0025		mg/L		12/14/11 12:26	12/14/11 15:57	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/16/11 10:09	1
Boron	**0.16**		0.050		mg/L		12/14/11 12:26	12/16/11 10:09	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:57	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 15:57	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 15:57	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:57	1
Iron	<0.10		0.10		mg/L		12/14/11 12:26	12/14/11 15:57	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:57	1
Manganese	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 15:57	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:57	1
Selenium	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 15:57	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 15:57	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 15:57	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 15:57	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/15/11 16:50	12/16/11 13:47	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**0.86**		0.10		mg/L			12/19/11 11:17	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 09:35	12/14/11 20:30	1
Sulfate	**170**		50		mg/L			12/20/11 00:13	10
Chloride	**120**		10		mg/L			12/17/11 12:35	5
Nitrogen, Nitrate	**0.86**		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**800**		10		mg/L			12/09/11 03:47	1
Fluoride	**0.31**		0.10		mg/L			12/14/11 13:04	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/07/11 16:22	1

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Joliet Groundwater

TestAmerica Job ID: 500-43001-1

Client Sample ID: MW-9
Date Collected: 12/07/11 10:40
Date Received: 12/07/11 14:02

Lab Sample ID: 500-43001-8
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:26	12/14/11 16:00	1
Arsenic	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 16:00	1
Barium	**0.030**		0.0025		mg/L		12/14/11 12:26	12/14/11 16:00	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/16/11 10:10	1
Boron	**0.31**		0.050		mg/L		12/14/11 12:26	12/16/11 10:10	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 16:00	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 16:00	1
Cobalt	**0.0075**		0.0010		mg/L		12/14/11 12:26	12/14/11 16:00	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 16:00	1
Iron	**1.5**		0.10		mg/L		12/14/11 12:26	12/14/11 16:00	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 16:00	1
Manganese	**0.66**		0.0025		mg/L		12/14/11 12:26	12/14/11 16:00	1
Nickel	**0.011**		0.0020		mg/L		12/14/11 12:26	12/14/11 16:00	1
Selenium	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 16:00	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 16:00	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 16:00	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 16:00	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/15/11 16:50	12/16/11 13:49	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**0.22**		0.10		mg/L			12/19/11 11:18	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 09:35	12/14/11 20:30	1
Sulfate	**130**		50		mg/L			12/20/11 00:14	10
Chloride	**190**		10		mg/L			12/17/11 12:35	5
Nitrogen, Nitrate	**0.22**		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**2400**		10		mg/L			12/09/11 03:50	1
Fluoride	**0.50**		0.10		mg/L			12/14/11 13:07	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/07/11 16:23	1

Client Sample Results

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Joliet Groundwater

TestAmerica Job ID: 500-43001-1

Client Sample ID: MW-10
Date Collected: 12/07/11 08:40
Date Received: 12/07/11 14:02

Lab Sample ID: 500-43001-9
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:26	12/14/11 16:02	1
Arsenic	**0.0012**		0.0010		mg/L		12/14/11 12:26	12/14/11 16:02	1
Barium	**0.036**		0.0025		mg/L		12/14/11 12:26	12/14/11 16:02	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/19/11 08:46	1
Boron	**0.52**		0.050		mg/L		12/14/11 12:26	12/19/11 08:46	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 16:02	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 16:02	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 16:02	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 16:02	1
Iron	<0.10		0.10		mg/L		12/14/11 12:26	12/14/11 16:02	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 16:02	1
Manganese	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 16:02	1
Nickel	**0.0024**		0.0020		mg/L		12/14/11 12:26	12/14/11 16:02	1
Selenium	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 16:02	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 16:02	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 16:02	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 16:02	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/15/11 16:50	12/16/11 13:51	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**1.4**		0.10		mg/L			12/19/11 11:19	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 09:35	12/14/11 20:31	1
Sulfate	**190**		50		mg/L			12/20/11 00:15	10
Chloride	**180**		10		mg/L			12/17/11 12:36	5
Nitrogen, Nitrate	**1.4**		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**890**		10		mg/L			12/09/11 03:53	1
Fluoride	**0.45**		0.10		mg/L			12/14/11 13:10	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/07/11 16:23	1

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Joliet Groundwater

TestAmerica Job ID: 500-43001-1

Client Sample ID: MW-11
Date Collected: 12/07/11 07:35
Date Received: 12/07/11 14:02

Lab Sample ID: 500-43001-10
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:26	12/14/11 16:10	1
Arsenic	**0.0019**		0.0010		mg/L		12/14/11 12:26	12/14/11 16:10	1
Barium	**0.057**		0.0025		mg/L		12/14/11 12:26	12/14/11 16:10	1
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/16/11 10:12	1
Boron	**1.2**		0.050		mg/L		12/14/11 12:26	12/16/11 10:12	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 16:10	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 16:10	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 16:10	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 16:10	1
Iron	<0.10		0.10		mg/L		12/14/11 12:26	12/14/11 16:10	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 16:10	1
Manganese	**0.0047**		0.0025		mg/L		12/14/11 12:26	12/14/11 16:10	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 16:10	1
Selenium	**0.0033**		0.0025		mg/L		12/14/11 12:26	12/14/11 16:10	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 16:10	1
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 16:10	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 16:10	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/15/11 16:50	12/16/11 13:53	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**0.60**		0.10		mg/L			12/19/11 11:21	1
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 09:35	12/14/11 20:32	1
Sulfate	**160**		50		mg/L			12/20/11 00:16	10
Chloride	**140**		10		mg/L			12/20/11 10:45	5
Nitrogen, Nitrate	**0.60**		0.10		mg/L			12/20/11 16:50	1
Total Dissolved Solids	**790**		10		mg/L			12/09/11 03:55	1
Fluoride	**0.31**		0.10		mg/L			12/14/11 13:13	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/07/11 16:23	1

Definitions/Glossary

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Joliet Groundwater

TestAmerica Job ID: 500-43001-1

Qualifiers

Metals

Qualifier	Qualifier Description
F	Duplicate RPD exceeds the control limit
F	MS or MSD exceeds the control limits

General Chemistry

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Metals

Prep Batch: 135684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-1	MW-2	Dissolved	Water	Soluble Metals	
500-43001-1 DU	MW-2	Dissolved	Water	Soluble Metals	
500-43001-1 MS	MW-2	Dissolved	Water	Soluble Metals	
500-43001-1 MSD	MW-2	Dissolved	Water	Soluble Metals	
500-43001-2	MW-3	Dissolved	Water	Soluble Metals	
500-43001-3	MW-4	Dissolved	Water	Soluble Metals	
500-43001-4	MW-5	Dissolved	Water	Soluble Metals	
500-43001-5	MW-6	Dissolved	Water	Soluble Metals	
500-43001-6	MW-7	Dissolved	Water	Soluble Metals	
500-43001-7	MW-8	Dissolved	Water	Soluble Metals	
500-43001-8	MW-9	Dissolved	Water	Soluble Metals	
500-43001-9	MW-10	Dissolved	Water	Soluble Metals	
500-43001-10	MW-11	Dissolved	Water	Soluble Metals	
LCS 500-135684/2-A	Lab Control Sample	Soluble	Water	Soluble Metals	
MB 500-135684/1-A	Method Blank	Soluble	Water	Soluble Metals	

Analysis Batch: 135736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-1	MW-2	Dissolved	Water	6020	135684
500-43001-1 DU	MW-2	Dissolved	Water	6020	135684
500-43001-1 MS	MW-2	Dissolved	Water	6020	135684
500-43001-1 MSD	MW-2	Dissolved	Water	6020	135684
500-43001-2	MW-3	Dissolved	Water	6020	135684
500-43001-3	MW-4	Dissolved	Water	6020	135684
500-43001-4	MW-5	Dissolved	Water	6020	135684
500-43001-5	MW-6	Dissolved	Water	6020	135684
500-43001-6	MW-7	Dissolved	Water	6020	135684
500-43001-7	MW-8	Dissolved	Water	6020	135684
500-43001-8	MW-9	Dissolved	Water	6020	135684
500-43001-9	MW-10	Dissolved	Water	6020	135684
500-43001-10	MW-11	Dissolved	Water	6020	135684
LCS 500-135684/2-A	Lab Control Sample	Soluble	Water	6020	135684
MB 500-135684/1-A	Method Blank	Soluble	Water	6020	135684

Prep Batch: 135878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-1	MW-2	Dissolved	Water	7470A	
500-43001-2	MW-3	Dissolved	Water	7470A	
500-43001-3	MW-4	Dissolved	Water	7470A	
500-43001-4	MW-5	Dissolved	Water	7470A	
500-43001-5	MW-6	Dissolved	Water	7470A	
500-43001-6	MW-7	Dissolved	Water	7470A	
500-43001-7	MW-8	Dissolved	Water	7470A	
500-43001-8	MW-9	Dissolved	Water	7470A	
500-43001-9	MW-10	Dissolved	Water	7470A	
500-43001-10	MW-11	Dissolved	Water	7470A	
LCS 500-135878/8-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-135878/7-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 135985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-1	MW-2	Dissolved	Water	6020	135684

Metals (Continued)

Analysis Batch: 135985 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-1 DU	MW-2	Dissolved	Water	6020	135684
500-43001-1 MS	MW-2	Dissolved	Water	6020	135684
500-43001-1 MSD	MW-2	Dissolved	Water	6020	135684
500-43001-2	MW-3	Dissolved	Water	6020	135684
500-43001-3	MW-4	Dissolved	Water	6020	135684
500-43001-4	MW-5	Dissolved	Water	6020	135684
500-43001-5	MW-6	Dissolved	Water	6020	135684
500-43001-6	MW-7	Dissolved	Water	6020	135684
500-43001-7	MW-8	Dissolved	Water	6020	135684
500-43001-8	MW-9	Dissolved	Water	6020	135684
500-43001-10	MW-11	Dissolved	Water	6020	135684
LCS 500-135684/2-A	Lab Control Sample	Soluble	Water	6020	135684
MB 500-135684/1-A	Method Blank	Soluble	Water	6020	135684

Analysis Batch: 136009

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-1	MW-2	Dissolved	Water	7470A	135878
500-43001-2	MW-3	Dissolved	Water	7470A	135878
500-43001-3	MW-4	Dissolved	Water	7470A	135878
500-43001-4	MW-5	Dissolved	Water	7470A	135878
500-43001-5	MW-6	Dissolved	Water	7470A	135878
500-43001-6	MW-7	Dissolved	Water	7470A	135878
500-43001-7	MW-8	Dissolved	Water	7470A	135878
500-43001-8	MW-9	Dissolved	Water	7470A	135878
500-43001-9	MW-10	Dissolved	Water	7470A	135878
500-43001-10	MW-11	Dissolved	Water	7470A	135878
LCS 500-135878/8-A	Lab Control Sample	Total/NA	Water	7470A	135878
MB 500-135878/7-A	Method Blank	Total/NA	Water	7470A	135878

Analysis Batch: 136145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-9	MW-10	Dissolved	Water	6020	135684

General Chemistry

Analysis Batch: 1002

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-1	MW-2	Dissolved	Water	353.2	
500-43001-2	MW-3	Dissolved	Water	353.2	
500-43001-3	MW-4	Dissolved	Water	353.2	
500-43001-4	MW-5	Dissolved	Water	353.2	
500-43001-5	MW-6	Dissolved	Water	353.2	
500-43001-6	MW-7	Dissolved	Water	353.2	
500-43001-7	MW-8	Dissolved	Water	353.2	
500-43001-8	MW-9	Dissolved	Water	353.2	
500-43001-9	MW-10	Dissolved	Water	353.2	
500-43001-10	MW-11	Dissolved	Water	353.2	
LCS 610-1002/41	Lab Control Sample	Total/NA	Water	353.2	
LCS 610-1002/69	Lab Control Sample	Total/NA	Water	353.2	
LCS 610-1002/9	Lab Control Sample	Total/NA	Water	353.2	
MB 610-1002/11	Method Blank	Total/NA	Water	353.2	
MB 610-1002/40	Method Blank	Total/NA	Water	353.2	

General Chemistry (Continued)

Analysis Batch: 1002 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 610-1002/68	Method Blank	Total/NA	Water	353.2	
MB 610-1002/98	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 135013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-1	MW-2	Dissolved	Water	SM 4500 NO2 B	
500-43001-2	MW-3	Dissolved	Water	SM 4500 NO2 B	
500-43001-3	MW-4	Dissolved	Water	SM 4500 NO2 B	
500-43001-4	MW-5	Dissolved	Water	SM 4500 NO2 B	
500-43001-5	MW-6	Dissolved	Water	SM 4500 NO2 B	
500-43001-6	MW-7	Dissolved	Water	SM 4500 NO2 B	
500-43001-7	MW-8	Dissolved	Water	SM 4500 NO2 B	
500-43001-8	MW-9	Dissolved	Water	SM 4500 NO2 B	
500-43001-9	MW-10	Dissolved	Water	SM 4500 NO2 B	
500-43001-10	MW-11	Dissolved	Water	SM 4500 NO2 B	
LCS 500-135013/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-135013/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 135139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-1	MW-2	Dissolved	Water	SM 2540C	
500-43001-2	MW-3	Dissolved	Water	SM 2540C	
500-43001-3	MW-4	Dissolved	Water	SM 2540C	
500-43001-4	MW-5	Dissolved	Water	SM 2540C	
500-43001-5	MW-6	Dissolved	Water	SM 2540C	
500-43001-6	MW-7	Dissolved	Water	SM 2540C	
500-43001-7	MW-8	Dissolved	Water	SM 2540C	
500-43001-8	MW-9	Dissolved	Water	SM 2540C	
500-43001-9	MW-10	Dissolved	Water	SM 2540C	
500-43001-10	MW-11	Dissolved	Water	SM 2540C	
LCS 500-135139/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-135139/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 135548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-1	MW-2	Dissolved	Water	SM 4500 F C	
500-43001-2	MW-3	Dissolved	Water	SM 4500 F C	
500-43001-3	MW-4	Dissolved	Water	SM 4500 F C	
500-43001-4	MW-5	Dissolved	Water	SM 4500 F C	
LCS 500-135548/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-135548/3	Method Blank	Total/NA	Water	SM 4500 F C	

Prep Batch: 135582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-1	MW-2	Dissolved	Water	9010B	
500-43001-2	MW-3	Dissolved	Water	9010B	
500-43001-3	MW-4	Dissolved	Water	9010B	
500-43001-4	MW-5	Dissolved	Water	9010B	
500-43001-5	MW-6	Dissolved	Water	9010B	
500-43001-6	MW-7	Dissolved	Water	9010B	
500-43001-7	MW-8	Dissolved	Water	9010B	
500-43001-8	MW-9	Dissolved	Water	9010B	

General Chemistry (Continued)

Prep Batch: 135582 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-9	MW-10	Dissolved	Water	9010B	
500-43001-10	MW-11	Dissolved	Water	9010B	
500-43001-10 MS	MW-11	Dissolved	Water	9010B	
500-43001-10 MSD	MW-11	Dissolved	Water	9010B	
LCS 500-135582/12-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-135582/11-A	Method Blank	Total/NA	Water	9010B	

Analysis Batch: 135706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-5	MW-6	Dissolved	Water	SM 4500 F C	
500-43001-5 MS	MW-6	Dissolved	Water	SM 4500 F C	
500-43001-5 MSD	MW-6	Dissolved	Water	SM 4500 F C	
500-43001-6	MW-7	Dissolved	Water	SM 4500 F C	
500-43001-7	MW-8	Dissolved	Water	SM 4500 F C	
500-43001-8	MW-9	Dissolved	Water	SM 4500 F C	
500-43001-9	MW-10	Dissolved	Water	SM 4500 F C	
500-43001-10	MW-11	Dissolved	Water	SM 4500 F C	
LCS 500-135706/5	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-135706/4	Method Blank	Total/NA	Water	SM 4500 F C	

Analysis Batch: 135858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-1	MW-2	Dissolved	Water	9014	135582
500-43001-2	MW-3	Dissolved	Water	9014	135582
500-43001-3	MW-4	Dissolved	Water	9014	135582
500-43001-4	MW-5	Dissolved	Water	9014	135582
500-43001-5	MW-6	Dissolved	Water	9014	135582
500-43001-6	MW-7	Dissolved	Water	9014	135582
500-43001-7	MW-8	Dissolved	Water	9014	135582
500-43001-8	MW-9	Dissolved	Water	9014	135582
500-43001-9	MW-10	Dissolved	Water	9014	135582
500-43001-10	MW-11	Dissolved	Water	9014	135582
500-43001-10 MS	MW-11	Dissolved	Water	9014	135582
500-43001-10 MSD	MW-11	Dissolved	Water	9014	135582
LCS 500-135582/12-A	Lab Control Sample	Total/NA	Water	9014	135582
MB 500-135582/11-A	Method Blank	Total/NA	Water	9014	135582

Analysis Batch: 136079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-1	MW-2	Dissolved	Water	9251	
500-43001-2	MW-3	Dissolved	Water	9251	
500-43001-3	MW-4	Dissolved	Water	9251	
500-43001-4	MW-5	Dissolved	Water	9251	
500-43001-5	MW-6	Dissolved	Water	9251	
500-43001-6	MW-7	Dissolved	Water	9251	
500-43001-7	MW-8	Dissolved	Water	9251	
500-43001-8	MW-9	Dissolved	Water	9251	
500-43001-9	MW-10	Dissolved	Water	9251	
500-43001-9 MS	MW-10	Dissolved	Water	9251	
500-43001-9 MSD	MW-10	Dissolved	Water	9251	
LCS 500-136079/12	Lab Control Sample	Total/NA	Water	9251	
MB 500-136079/11	Method Blank	Total/NA	Water	9251	

General Chemistry (Continued)

Analysis Batch: 136298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-10	MW-11	Dissolved	Water	9251	
LCS 500-136298/60	Lab Control Sample	Total/NA	Water	9251	
MB 500-136298/59	Method Blank	Total/NA	Water	9251	

Analysis Batch: 136345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-1	MW-2	Dissolved	Water	Nitrate by calc	
500-43001-2	MW-3	Dissolved	Water	Nitrate by calc	
500-43001-3	MW-4	Dissolved	Water	Nitrate by calc	
500-43001-4	MW-5	Dissolved	Water	Nitrate by calc	
500-43001-5	MW-6	Dissolved	Water	Nitrate by calc	
500-43001-6	MW-7	Dissolved	Water	Nitrate by calc	
500-43001-7	MW-8	Dissolved	Water	Nitrate by calc	
500-43001-8	MW-9	Dissolved	Water	Nitrate by calc	
500-43001-9	MW-10	Dissolved	Water	Nitrate by calc	
500-43001-10	MW-11	Dissolved	Water	Nitrate by calc	

Analysis Batch: 136371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-43001-1	MW-2	Dissolved	Water	9038	
500-43001-2	MW-3	Dissolved	Water	9038	
500-43001-3	MW-4	Dissolved	Water	9038	
500-43001-4	MW-5	Dissolved	Water	9038	
500-43001-5	MW-6	Dissolved	Water	9038	
500-43001-6	MW-7	Dissolved	Water	9038	
500-43001-7	MW-8	Dissolved	Water	9038	
500-43001-8	MW-9	Dissolved	Water	9038	
500-43001-9	MW-10	Dissolved	Water	9038	
500-43001-10	MW-11	Dissolved	Water	9038	
LCS 500-136371/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-136371/3	Method Blank	Total/NA	Water	9038	

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: 500-43001-1 MS
Matrix: Water
Analysis Batch: 135736

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 135684

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.471		mg/L		94	75 - 125
Arsenic	<0.0010		0.100	0.133	F	mg/L		133	75 - 125
Barium	0.12		0.500	0.621		mg/L		101	75 - 125
Cadmium	<0.00050		0.0500	0.0548		mg/L		110	75 - 125
Chromium	<0.0050		0.200	0.200		mg/L		99	75 - 125
Cobalt	<0.0010		0.500	0.493		mg/L		99	75 - 125
Copper	<0.0020		0.250	0.240		mg/L		96	75 - 125
Iron	<0.10		1.00	0.940		mg/L		92	75 - 125
Lead	<0.00050		0.100	0.109		mg/L		109	75 - 125
Manganese	<0.0025		0.500	0.504		mg/L		101	75 - 125
Nickel	0.0023		0.500	0.502		mg/L		100	75 - 125
Selenium	0.0055		0.100	0.166	F	mg/L		161	75 - 125
Silver	<0.00050		0.0500	0.0377		mg/L		75	75 - 125
Thallium	<0.0020		0.100	0.0962		mg/L		96	75 - 125
Zinc	<0.020		0.500	0.561		mg/L		112	75 - 125

Lab Sample ID: 500-43001-1 MS
Matrix: Water
Analysis Batch: 135985

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 135684

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	<0.0010		0.0500	0.0472		mg/L		94	75 - 125
Boron	0.74		1.00	1.42	F	mg/L		67	75 - 125

Lab Sample ID: 500-43001-1 MSD
Matrix: Water
Analysis Batch: 135736

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 135684

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.514		mg/L		103	75 - 125	9	20
Arsenic	<0.0010		0.100	0.140	F	mg/L		139	75 - 125	4	20
Barium	0.12		0.500	0.643		mg/L		106	75 - 125	4	20
Cadmium	<0.00050		0.0500	0.0568		mg/L		114	75 - 125	4	20
Chromium	<0.0050		0.200	0.211		mg/L		105	75 - 125	6	20
Cobalt	<0.0010		0.500	0.522		mg/L		104	75 - 125	6	20
Copper	<0.0020		0.250	0.252		mg/L		101	75 - 125	5	20
Iron	<0.10		1.00	1.02		mg/L		100	75 - 125	8	20
Lead	<0.00050		0.100	0.112		mg/L		112	75 - 125	3	20
Manganese	<0.0025		0.500	0.534		mg/L		107	75 - 125	6	20
Nickel	0.0023		0.500	0.532		mg/L		106	75 - 125	6	20
Selenium	0.0055		0.100	0.174	F	mg/L		169	75 - 125	5	20
Silver	<0.00050		0.0500	0.0419		mg/L		84	75 - 125	11	20
Thallium	<0.0020		0.100	0.0986		mg/L		99	75 - 125	2	20
Zinc	<0.020		0.500	0.584		mg/L		117	75 - 125	4	20

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-43001-1 MSD
Matrix: Water
Analysis Batch: 135985

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 135684

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	<0.0010		0.0500	0.0483		mg/L		97	75 - 125	2	20
Boron	0.74		1.00	1.43	F	mg/L		68	75 - 125	1	20

Lab Sample ID: 500-43001-1 DU
Matrix: Water
Analysis Batch: 135736

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 135684

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0030		<0.0030		mg/L		NC	20
Arsenic	<0.0010		<0.0010		mg/L		NC	20
Barium	0.12		0.117		mg/L		1	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Chromium	<0.0050		<0.0050		mg/L		NC	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20
Copper	<0.0020		<0.0020		mg/L		NC	20
Iron	<0.10		<0.10		mg/L		NC	20
Lead	<0.00050		<0.00050		mg/L		NC	20
Manganese	<0.0025		<0.0025		mg/L		NC	20
Nickel	0.0023		0.00231		mg/L		0.7	20
Selenium	0.0055		0.00515		mg/L		6	20
Silver	<0.00050		<0.00050		mg/L		NC	20
Thallium	<0.0020		<0.0020		mg/L		NC	20
Zinc	<0.020		<0.020		mg/L		NC	20

Lab Sample ID: 500-43001-1 DU
Matrix: Water
Analysis Batch: 135985

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 135684

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Boron	0.74		0.527	F	mg/L		34	20

Lab Sample ID: MB 500-135684/1-A
Matrix: Water
Analysis Batch: 135736

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 135684

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/14/11 12:26	12/14/11 14:45	1
Arsenic	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 14:45	1
Barium	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 14:45	1
Cadmium	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 14:45	1
Chromium	<0.0050		0.0050		mg/L		12/14/11 12:26	12/14/11 14:45	1
Cobalt	<0.0010		0.0010		mg/L		12/14/11 12:26	12/14/11 14:45	1
Copper	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 14:45	1
Iron	<0.10		0.10		mg/L		12/14/11 12:26	12/14/11 14:45	1
Lead	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 14:45	1
Manganese	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 14:45	1
Nickel	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 14:45	1
Selenium	<0.0025		0.0025		mg/L		12/14/11 12:26	12/14/11 14:45	1
Silver	<0.00050		0.00050		mg/L		12/14/11 12:26	12/14/11 14:45	1

Method: 6020 - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 500-135684/1-A
Matrix: Water
Analysis Batch: 135736

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 135684

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	<0.0020		0.0020		mg/L		12/14/11 12:26	12/14/11 14:45	1
Zinc	<0.020		0.020		mg/L		12/14/11 12:26	12/14/11 14:45	1

Lab Sample ID: MB 500-135684/1-A
Matrix: Water
Analysis Batch: 135985

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 135684

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		12/14/11 12:26	12/16/11 09:20	1
Boron	<0.050		0.050		mg/L		12/14/11 12:26	12/16/11 09:20	1

Lab Sample ID: LCS 500-135684/2-A
Matrix: Water
Analysis Batch: 135736

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 135684

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.485		mg/L		97	80 - 120
Arsenic	0.100	0.104		mg/L		104	80 - 120
Barium	0.500	0.513		mg/L		103	80 - 120
Cadmium	0.0500	0.0575		mg/L		115	80 - 120
Chromium	0.200	0.213		mg/L		106	80 - 120
Cobalt	0.500	0.539		mg/L		108	80 - 120
Copper	0.250	0.258		mg/L		103	80 - 120
Iron	1.00	1.02		mg/L		102	80 - 120
Lead	0.100	0.110		mg/L		110	80 - 120
Manganese	0.500	0.530		mg/L		106	80 - 120
Nickel	0.500	0.563		mg/L		113	80 - 120
Selenium	0.100	0.110		mg/L		110	80 - 120
Silver	0.0500	0.0471		mg/L		94	80 - 120
Thallium	0.100	0.103		mg/L		103	80 - 120
Zinc	0.500	0.549		mg/L		110	80 - 120

Lab Sample ID: LCS 500-135684/2-A
Matrix: Water
Analysis Batch: 135985

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 135684

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.0500	0.0583		mg/L		117	80 - 120
Boron	1.00	1.20		mg/L		120	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-135878/7-A
Matrix: Water
Analysis Batch: 136009

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 135878

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		12/15/11 16:50	12/16/11 13:28	1

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 500-135878/8-A
Matrix: Water
Analysis Batch: 136009

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 135878

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00199		mg/L		100	80 - 120

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 610-1002/11
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10		0.10		mg/L			12/19/11 10:55	1

Lab Sample ID: MB 610-1002/40
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10		0.10		mg/L			12/19/11 11:29	1

Lab Sample ID: MB 610-1002/68
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10	^	0.10		mg/L			12/19/11 12:02	1

Lab Sample ID: MB 610-1002/98
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	<0.10	^	0.10		mg/L			12/19/11 12:37	1

Lab Sample ID: LCS 610-1002/41
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	5.00	5.41		mg/L		108	77 - 131

Lab Sample ID: LCS 610-1002/69
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	5.00	5.39	^	mg/L		108	77 - 131

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 610-1002/9
Matrix: Water
Analysis Batch: 1002

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	5.00	5.23		mg/L		105	77 - 131

Method: 9014 - Cyanide

Lab Sample ID: MB 500-135582/11-A
Matrix: Water
Analysis Batch: 135858

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 135582

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		12/14/11 09:35	12/14/11 20:23	1

Lab Sample ID: LCS 500-135582/12-A
Matrix: Water
Analysis Batch: 135858

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 135582

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.0951		mg/L		95	80 - 120

Lab Sample ID: 500-43001-10 MS
Matrix: Water
Analysis Batch: 135858

Client Sample ID: MW-11
Prep Type: Dissolved
Prep Batch: 135582

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	<0.010		0.0400	0.0409		mg/L		95	75 - 125

Lab Sample ID: 500-43001-10 MSD
Matrix: Water
Analysis Batch: 135858

Client Sample ID: MW-11
Prep Type: Dissolved
Prep Batch: 135582

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	<0.010		0.0400	0.0437		mg/L		102	75 - 125	7	20

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 500-136371/3
Matrix: Water
Analysis Batch: 136371

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			12/20/11 00:00	1

Lab Sample ID: LCS 500-136371/4
Matrix: Water
Analysis Batch: 136371

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	18.5		mg/L		92	80 - 120

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Joliet Groundwater

TestAmerica Job ID: 500-43001-1

Method: 9251 - Chloride

Lab Sample ID: MB 500-136079/11
Matrix: Water
Analysis Batch: 136079

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			12/17/11 11:53	1

Lab Sample ID: LCS 500-136079/12
Matrix: Water
Analysis Batch: 136079

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	41.2		mg/L		82	80 - 120

Lab Sample ID: MB 500-136298/59
Matrix: Water
Analysis Batch: 136298

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			12/20/11 10:40	1

Lab Sample ID: LCS 500-136298/60
Matrix: Water
Analysis Batch: 136298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.1		mg/L		100	80 - 120

Lab Sample ID: 500-43001-9 MS
Matrix: Water
Analysis Batch: 136079

Client Sample ID: MW-10
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	180		50.0	216		mg/L		82	75 - 125

Lab Sample ID: 500-43001-9 MSD
Matrix: Water
Analysis Batch: 136079

Client Sample ID: MW-10
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	180		50.0	222		mg/L		94	75 - 125	3	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-135139/1
Matrix: Water
Analysis Batch: 135139

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			12/09/11 03:00	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 500-135139/2
Matrix: Water
Analysis Batch: 135139

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	266		mg/L		106	80 - 120

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-135548/3
Matrix: Water
Analysis Batch: 135548

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			12/13/11 12:29	1

Lab Sample ID: LCS 500-135548/4
Matrix: Water
Analysis Batch: 135548

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.4		mg/L		104	80 - 120

Lab Sample ID: MB 500-135706/4
Matrix: Water
Analysis Batch: 135706

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			12/14/11 12:47	1

Lab Sample ID: LCS 500-135706/5
Matrix: Water
Analysis Batch: 135706

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.1		mg/L		101	80 - 120

Lab Sample ID: 500-43001-5 MS
Matrix: Water
Analysis Batch: 135706

Client Sample ID: MW-6
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.44		5.00	5.58		mg/L		103	75 - 125

Lab Sample ID: 500-43001-5 MSD
Matrix: Water
Analysis Batch: 135706

Client Sample ID: MW-6
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.44		5.00	5.61		mg/L		103	75 - 125	1	20

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Joliet Groundwater

TestAmerica Job ID: 500-43001-1

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-135013/3
Matrix: Water
Analysis Batch: 135013

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			12/07/11 16:15	1

Lab Sample ID: LCS 500-135013/4
Matrix: Water
Analysis Batch: 135013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.102		mg/L		102	80 - 120

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

Chain of Custody Record

Lab Job #: 500-43001

Chain of Custody Number:

Page ___ of ___

Temperature °C of Cooler: (2.6)(3.2)

Report To (optional)		Bill To (optional)	
Contact:	Dave McCoy	Contact:	
Company:	Patrick Engineering	Company:	
Address:	4985 Varsity Dr.	Address:	
Address:	Lisle, IL 60532	Address:	
Phone:	(630) 427-7400	Phone:	
Fax:	(630) 434-8300	Fax:	
E-Mail:		PO#/Reference#	

Client	Patrick Engineering
Client Project #	21153.034
Project Name	MWG - Joliet
Project Location/State	Joliet, IL
Lab Project #	
Sampler	JLT
Lab PM	

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	7470A - Mercury 6020 - (MOD) PP Metals Hg	9251 - Chloride 2540C - Total Diss. solids 9038 - Sulfate 4500 - F.C. - Fluoride	NO2 - B - Nitrogen, Nitrite	NO3 - F - Nitrogen, Nitrate, Nitrite	9014 - Cyanide					Comments
1		MW-2	12/7/11	1130			X	X	X	X	X					
2		MW-3		0948												
3		MW-4		0910												
4		MW-5		0810												
5		MW-6		1240												
6		MW-7		1310												
7		MW-8		1210												
8		MW-9		1040												
9		MW-10		0840												
10		MW-11		0735			X	X	X	X	X					

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ✓ 10 Days ___ 15 Days ___ Other
Requested Due Date ___

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ___ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	Patrick Eng	12/7/11	1402	[signature]	TestAmerica	12/7/11	1402

Lab Courier
Shipped
Hand Delivered

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

12/21/2011

MWG13-15_38594

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Stadelmann, Bonnie M	Carrier Tracking No(s):	COC No: 500-12507.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc				Job #: 500-43001-1
Address: 1101 Industrial Drive, ,	Due Date Requested: 12/19/2011			
City: Watertown	TAT Requested (days):			
State, Zip: WI, 53094				
Phone: 920-261-1660(Tel)	PO #:			
Email:	WO #:			
Project Name: Midwest Generation Joliet Groundwater	Project #: 50005078			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	353.2_Prep/FIELD_FLTRD	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2 (500-43001-1)	12/7/11	11:30 Central		Water			X	1	
MW-3 (500-43001-2)	12/7/11	09:48 Central		Water			X	1	
MW-4 (500-43001-3)	12/7/11	09:10 Central		Water			X	1	
MW-5 (500-43001-4)	12/7/11	08:10 Central		Water			X	1	
MW-6 (500-43001-5)	12/7/11	12:40 Central		Water			X	1	
MW-7 (500-43001-6)	12/7/11	13:10 Central		Water			X	1	
MW-8 (500-43001-7)	12/7/11	12:10 Central		Water			X	1	
MW-9 (500-43001-8)	12/7/11	10:40 Central		Water			X	1	
MW-10 (500-43001-9)	12/7/11	08:40 Central		Water			X	1	
MW-11 (500-43001-10)	12/7/11	07:35 Central		Water			X	1	

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment: Fed Ex

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
		12/15/11 1640	TA		12/16/11 1706	TA
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: Ice

Login Sample Receipt Checklist

Client: Midwest Generation EME LLC

Job Number: 500-43001-1

Login Number: 43001
List Number: 1
Creator: Kelsey, Shawn M

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.60 C, 3.20 C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Login Sample Receipt Checklist

Client: Midwest Generation EME LLC

Job Number: 500-43001-1

Login Number: 43001
List Number: 1
Creator: Herritz, Danica

List Source: TestAmerica Watertown
List Creation: 12/16/11 05:39 PM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	Received as a subcontract.
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: Midwest Generation EME LLC
Project/Site: Midwest Generation Joliet Groundwater

TestAmerica Job ID: 500-43001-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Chicago	ACLASS	DoD ELAP		ADE-1429
TestAmerica Chicago	ACLASS	ISO/IEC 17025		AT-1428
TestAmerica Chicago	Alabama	State Program	4	40461
TestAmerica Chicago	California	NELAC	9	01132CA
TestAmerica Chicago	Florida	NELAC	4	E871072
TestAmerica Chicago	Georgia	Georgia EPD	4	N/A
TestAmerica Chicago	Georgia	State Program	4	939
TestAmerica Chicago	Hawaii	State Program	9	N/A
TestAmerica Chicago	Illinois	NELAC	5	100201
TestAmerica Chicago	Indiana	State Program	5	C-IL-02
TestAmerica Chicago	Iowa	State Program	7	82
TestAmerica Chicago	Kansas	NELAC	7	E-10161
TestAmerica Chicago	Kentucky	Kentucky UST	4	66
TestAmerica Chicago	Kentucky	State Program	4	90023
TestAmerica Chicago	Louisiana	NELAC	6	30720
TestAmerica Chicago	Massachusetts	State Program	1	M-IL035
TestAmerica Chicago	Mississippi	State Program	4	N/A
TestAmerica Chicago	North Carolina	North Carolina DENR	4	291
TestAmerica Chicago	Oklahoma	State Program	6	8908
TestAmerica Chicago	South Carolina	State Program	4	77001
TestAmerica Chicago	Texas	NELAC	6	T104704252-09-TX
TestAmerica Chicago	USDA	USDA		P330-09-00027
TestAmerica Chicago	Virginia	NELAC Secondary AB	3	460142
TestAmerica Chicago	Wisconsin	State Program	5	999580010
TestAmerica Chicago	Wyoming	State Program	8	8TMS-Q
TestAmerica Watertown		WI Dept of Agriculture (Micro)		105-266
TestAmerica Watertown	Illinois	NELAC	5	100453
TestAmerica Watertown	Minnesota	NELAC	5	055-999-366
TestAmerica Watertown	Wisconsin	State Program	5	128053530

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

Exhibit C10

KPRG and Associates, Inc.

FOURTH QUARTER and ANNUAL GROUNDWATER MONITORING REPORT
JOLIET #29 GENERATING STATION

January 21, 2014

Ms. Andrea Rhodes
Illinois Environmental Protection Agency
Division of Public Water Supplies
MC#19
1021 North Grand Avenue East
Springfield, IL 62794-9276

VIA FEDERAL EXPRESS

KPRG Project No. 12313.0

Re: Quarterly Groundwater Monitoring Results – Fourth Quarter 2013 and Annual
Joliet #29 Generating Station – Ash Impoundments
Compliance Commitment Agreement VN W-2012-00059; ID# 6284

Dear Ms. Rhodes:

The fourth quarterly groundwater sampling for 2013 has been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Joliet #29 Generating Station in accordance with the signed Compliance Commitment Agreement (CCA) with Illinois Environmental Protection Agency (IEPA) dated October 24, 2012. This quarterly monitoring report is being submitted by KPRG and Associates, Inc. (KPRG), on behalf of Midwest Generation, summarizing the results of the monitoring event. This report is also intended to serve as the Annual Report and includes historical data analysis/summaries.

Well Inspection and Sampling Procedures

The groundwater monitoring network around the ash ponds at this facility consists of eleven wells (MW-1 through MW-11) as shown on Figure 1. As part of sampling procedures, the integrity of all monitoring wells was inspected and water levels obtained using an electronic water level meter (see summary of water level discussion below). All wells were in good condition with locked protector casings and the concrete surface seals were intact with the exception of well MW-11 which was noted to have a cracked hinge on the protector casing which will be scheduled for repair. Otherwise the well is intact and not compromised.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

MWG13-15_17348

Groundwater samples at well locations MW-3 through MW-11 were collected using the low-flow sampling technique. Based on an evaluation of historical water levels at monitoring well locations MW-1 and MW-2, it was determined that there was not enough water column within these wells (generally less than two feet of water column within each well) to allow for the placement of dedicated pumping systems. Instead, at these two locations, dedicated PVC bailers were used to collect groundwater samples. During this round of sampling, there was insufficient water within well MW-1 to collect a sample.

One duplicate sample was collected at well MW-9. In addition, a deionized water trip blank accompanied the groundwater samples bottles from and back to the laboratory. The groundwater monitoring samples and the duplicate sample were analyzed for the compounds listed in Illinois Administrative Code (IAC) 620.410(a), 620.410(d) and 620.410(e), excluding radium 226/228. The trip blank was analyzed for the volatile organic compounds (VOCs) listed in IAC 620.410(d).

Groundwater Flow Evaluation

Water level data from the most recent round of sampling along with historical water levels obtained from each well are summarized in Table 1. The water levels were used to generate a groundwater flow map which is provided on Figure 2. The water elevation data indicates a general southerly flow. The flow conditions observed during this sampling are consistent with historical conditions reported for the site.

Relative to an annual evaluation of groundwater levels, a historical hydrograph is presented in Attachment 1. The hydrograph indicates generally stable groundwater elevations since the Fall of 2011 with the exception of several spikes of elevated groundwater levels. In 2013, overall water levels in the Spring (2nd Quarter) were elevated due to flooding conditions at that time. The only exception was the water level at well MW-4 which was over a foot lower than would be normally expected. This was either associated with dewatering for liner construction activities in the area which were being initiated or a recording error. Otherwise, the 2013 water level data was very consistent with that previously recorded.

Summary of Analytical Data

A copy of the analytical data package is provided in Attachment 2. The field parameter and analytical data from the most recent sampling, along with the previous eight quarters of data, are summarized in Table 2. The duplicate sample was collected from MW-9. The data are generally consistent with previous data generated for the site. All wells for which the sampling data reports a value above one or more groundwater standards are located within the area of the approved Groundwater Management Zone (GMZ).

At this time a statistical evaluation of background water quality for comparing against downgradient wells has not been completed. The initial anticipated background well installation (MW-11) indicates impacts that are not associated with the ash ponds at the

MWG13-15_17349

site and therefore, IEPA does not recognize the water quality data from this well as representative of background. Relative to an annual evaluation of the water chemistry data, time versus concentration curves are provided for each parameter analyzed in Attachment 3. The curves include the Class I drinking water standard for reference, where appropriate. For 2013, overall, detected concentrations of the monitored parameters are generally stable/consistent relative to historical data with the only exception being at well MW-09 for several parameters (see discussions below) that spiked during the flooding event in the 2nd quarter and have since been decreasing again in concentration. The following noteworthy observations are made for 2013:

- Antimony detections were noted in wells MW-01, MW-04 and MW-06 during the 2nd quarter sampling. These detections were not reproducible during subsequent sampling events and are not believed to be representative of water quality impacts associated with the ash ponds.

- Boron concentrations at all wells are overall decreasing or generally stable. The boron concentrations at well MW-11 have decreased from a maximum concentration of 2.6 mg/l in the 2nd quarter 2011 to 0.490 mg/l in the 4th quarter 2013. There were no detections of boron in any of the wells in 2013 that resulted in an exceedance of the Class I groundwater standard.

- Chloride concentration curves show some scatter. Overall chloride concentrations in the wells have a seasonal/temporal variation, with the highest concentrations usually being detected during the 2nd quarter (Spring) sampling events and the lowest concentrations being recorded in the 3rd or 4th quarter sampling events. This seasonal/temporal variation may be reflective of the impact of road salt spreading which occurs during the winter months.

- There was a spike of dissolved iron at well MW-09 during the 2nd quarter sampling and the concentrations have subsequently shown a decrease to near normal levels based on the historic data for the well.

- Well MW-09 was the only well with detections of dissolved manganese above the groundwater standard since the 1st quarter 2011 sampling. The distribution of the manganese detections indicates seasonal/temporal variation with the highest detections generally occurring the late Winter/Spring sampling events with subsequent sampling quarters showing decreases in manganese concentration. It is noted that overall, the manganese concentration has been decreasing over time since the initial installation and sampling of the well in December 2010.

- Well MW-09 is the only well historically with detections of dissolved sulfate above the groundwater standard. The distribution of the sulfate detections indicates potential seasonal/temporal variation with the highest detections generally occurring in the late Winter/Spring sampling events with subsequent sampling quarters generally showing decreases in sulfate concentration. It is

MWG13-15_17350

noted that overall, the sulfate concentration has been decreasing over time since the initial installation and sampling of the well in December 2010.

- Well MW-09 is the only well historically with detections of Total Dissolved Solids (TDS) above the groundwater standard. The distribution of the TDS detections may indicate potential seasonal/temporal variation generally with the highest detections generally occurring the late Winter/Spring sampling events with subsequent sampling quarters generally showing decreases in TDS concentration. It is noted that this trend was not seen in 2012 which showed the highest TDS concentration in the 3rd quarter sampling event.

As noted previously, all wells for which the sampling data reports a value above one or more applicable groundwater standards are located within the area of the approved GMZ.

If there are any questions, please contact either Maria Race of Midwest Generation at 630-771-7862 or Richard Gnat of KPRG at 262-781-0475.

Sincerely,
KPRG and Associates, Inc.

Richard R Gnat

Richard R. Gnat, P.G.
Principal

cc: William Buscher, IEPA
Maria Race, Midwest Generation
Susan Franzetti, Nijman Franzetti, LLP

MWG13-15_17351

FIGURES



0 500'

APPROXIMATE SCALE

N

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

SITE MAP

JOLIET #29 GENERATING STATION
JOLIET, ILLINOIS

Scale: 1" = 500'	Date: June 28, 2013
KPRG Project No. 12313.0	FIGURE 1

MWG13-15_17353



0 250'
APPROXIMATE SCALE

N

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

GROUNDWATER CONTOUR MAP–OCTOBER 2013

JOLIET #29 GENERATING STATION
JOLIET, ILLINOIS

Scale: 1" = 250' | Date: January 13, 2014

KPRG Project No. 12313.0 | FIGURE 2

MWG13-15_17354

TABLES

Table 1. Groundwater Elevations - Midwest Generation, LLC, Joliet Station #29, Joliet, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-01	06/14/11	534.76	531.46	507.69	507.39	504.91	27.07	27.37	29.85
	09/14/11	534.76	531.46	505.21	NM	504.91	29.55	NM	29.85
	12/07/11	534.76	531.46	505.39	NM	504.91	29.37	NM	29.85
	03/15/12	534.76	531.46	505.47	NM	504.91	29.29	NM	29.85
	06/19/12	534.76	531.46	505.23	NM	504.91	29.53	NM	29.85
	09/19/12	534.76	531.46	510.52	510.52	504.91	24.24	24.24	29.85
	12/20/12	534.76	531.46	505.42	NM	504.91	29.34	NM	29.85
	03/05/13	534.76	531.46	505.30	NM	504.91	29.46	NM	29.85
	05/23/13	534.76	531.46	505.81	505.25	504.91	28.95	29.51	29.85
	07/22/13	534.76	531.46	504.94	504.94	504.91	29.82	29.82	29.90
	10/15/13	534.76	531.46	504.93	NM	504.88	29.83	NM	29.88
MW-02	06/14/11	534.28	531.19	507.62	507.62	504.06	26.66	26.66	30.22
	09/14/11	534.28	531.19	505.13	505.17	504.06	29.15	29.11	30.22
	12/07/11	534.28	531.19	505.36	505.34	504.06	28.92	28.94	30.22
	03/15/12	534.28	531.19	505.43	505.43	504.06	28.85	28.85	30.22
	06/19/12	534.28	531.19	505.18	NM	504.06	29.10	NM	30.22
	09/19/12	534.28	531.19	512.33	505.31	504.06	21.95	28.97	30.22
	12/20/12	534.28	531.19	505.33	505.33	504.06	28.95	28.95	30.22
	03/05/13	534.28	531.19	505.31	505.31	504.06	28.97	28.97	30.22
	05/23/13	534.28	531.19	505.82	504.28	504.06	28.46	30.00	30.22
	07/22/13	534.28	531.19	505.10	505.18	504.04	29.18	29.10	30.24
	10/15/13	534.28	531.19	505.05	NM	504.05	29.23	NM	30.23
MW-03	06/14/11	538.78	535.54	507.97	506.89	494.68	30.81	31.89	44.10
	09/14/11	538.78	535.54	505.17	505.15	494.68	33.61	33.63	44.10
	12/07/11	538.78	535.54	505.38	505.35	494.68	33.40	33.43	44.10
	03/15/12	538.78	535.54	505.45	505.45	494.68	33.33	33.33	44.10
	06/19/12	538.78	535.54	505.23	505.23	494.68	33.55	33.55	44.10
	09/19/12	538.78	535.54	505.12	505.12	494.68	33.66	33.66	44.10
	12/20/12	538.78	535.54	505.25	505.25	494.68	33.53	33.53	44.10
	03/05/13	538.78	535.54	505.38	505.38	494.68	33.40	33.40	44.10
	05/22/13	538.78	535.54	505.87	506.03	494.68	32.91	32.75	44.10
	07/22/13	538.78	535.54	505.16	505.20	494.68	33.62	33.58	44.10
	10/15/13	538.78	535.54	505.04	505.05	494.68	33.74	33.73	44.10
MW-04	06/14/11	539.03	535.80	507.93	507.93	496.13	31.10	31.10	42.90
	09/14/11	539.03	535.80	505.15	505.15	496.13	33.88	33.88	42.90
	12/07/11	539.03	535.80	505.34	505.34	496.13	33.69	33.69	42.90
	03/15/12	539.03	535.80	505.43	505.43	496.13	33.60	33.60	42.90
	06/19/12	539.03	535.80	505.21	505.21	496.13	33.82	33.82	42.90
	09/19/12	539.03	535.80	505.11	505.11	496.13	33.92	33.92	42.90
	12/20/12	539.03	535.80	505.25	505.25	496.13	33.78	33.78	42.90
	03/05/13	539.03	535.80	505.39	505.39	496.13	33.64	33.64	42.90
	05/22/13	539.03	535.80	503.94	505.93	496.13	35.09	33.10	42.90
	07/22/13	539.03	535.80	505.13	505.21	496.13	33.90	33.82	42.90
	10/16/13	539.03	535.80	505.07	505.09	496.13	33.96	33.94	42.90
MW-05	06/14/11	539.69	536.43	507.87	507.86	494.64	31.82	31.83	45.05
	09/14/11	539.69	536.43	505.05	505.06	494.64	34.64	34.63	45.05
	12/07/11	539.69	536.43	505.23	505.23	494.64	34.46	34.46	45.05
	03/15/12	539.69	536.43	505.32	505.32	494.64	34.37	34.37	45.05
	06/19/12	539.69	536.43	505.11	505.11	494.64	34.58	34.58	45.05
	09/19/12	539.69	536.43	505.06	505.05	494.64	34.63	34.64	45.05
	12/20/12	539.69	536.43	505.22	505.22	494.64	34.47	34.47	45.05
	03/05/13	539.69	536.43	505.24	505.24	494.64	34.45	34.45	45.05
	06/05/13	539.69	536.43	506.03	506.06	494.64	33.66	33.63	45.05
	07/23/13	539.69	536.43	505.09	505.13	494.64	34.60	34.56	45.05
	10/15/13	539.69	536.43	504.99	504.99	494.64	34.70	34.70	45.05
MW-06	06/14/11	539.06	535.86	507.83	507.83	496.86	31.23	31.23	42.20
	09/14/11	539.06	535.86	505.19	505.24	496.86	33.87	33.82	42.20
	12/07/11	539.06	535.86	505.36	505.33	496.86	33.70	33.73	42.20
	03/15/12	539.06	535.86	505.45	505.46	496.86	33.61	33.60	42.20
	06/19/12	539.06	535.86	505.26	505.26	496.86	33.80	33.80	42.20
	09/19/12	539.06	535.86	505.26	505.24	496.86	33.80	33.82	42.20
	12/20/12	539.06	535.86	505.25	505.25	496.86	33.81	33.81	42.20
	03/05/13	539.06	535.86	505.37	505.37	496.86	33.69	33.69	42.20
	05/22/13	539.06	535.86	506.06	506.06	496.86	33.00	33.00	42.20
	07/23/13	539.06	535.86	505.28	505.26	496.86	33.78	33.80	42.20
	10/16/13	539.06	535.86	505.12	505.13	496.86	33.94	33.93	42.20
MW-07	06/14/11	539.35	535.86	507.83	507.83	496.11	31.52	31.52	43.24
	09/14/11	539.35	535.86	505.21	505.21	496.11	34.14	34.14	43.24
	12/07/11	539.35	535.86	505.37	505.37	496.11	33.98	33.98	43.24
	03/15/12	539.35	535.86	505.46	505.46	496.11	33.89	33.89	43.24
	06/19/12	539.35	535.86	505.28	500.70	496.11	34.07	38.65	43.24
	09/19/12	539.35	535.86	505.26	505.26	496.11	34.09	34.09	43.24
	12/20/12	539.35	535.86	505.24	505.24	496.11	34.11	34.11	43.24
	03/05/13	539.35	535.86	505.40	505.40	496.11	33.95	33.95	43.24
	05/22/13	539.35	535.86	506.17	506.17	496.11	33.18	33.18	43.24
	07/23/13	539.35	535.86	505.27	505.27	496.11	34.08	34.08	43.24
	10/16/13	539.35	535.86	505.13	505.14	496.12	34.22	34.21	43.23

MWG13-15_17356

Table 1. Groundwater Elevations - Midwest Generation, LLC, Joliet Station #29, Joliet, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-08	06/14/11	536.87	533.72	507.91	507.89	498.81	28.96	28.98	38.06
	09/14/11	536.87	533.72	505.25	505.25	498.81	31.62	31.62	38.06
	12/07/11	536.87	533.72	505.49	505.49	498.81	31.38	31.38	38.06
	03/15/12	536.87	533.72	505.57	505.57	498.81	31.30	31.30	38.06
	06/19/12	536.87	533.72	505.32	505.32	498.81	31.55	31.55	38.06
	09/19/12	536.87	533.72	505.22	505.22	498.81	31.65	31.65	38.06
	12/20/12	536.87	533.72	505.40	505.40	498.81	31.47	31.47	38.06
	03/05/13	536.87	533.72	505.45	505.45	498.81	31.42	31.42	38.06
	05/23/13	536.87	533.72	505.91	505.91	498.81	30.96	30.96	38.06
	07/22/13	536.87	533.72	505.17	505.19	498.81	31.70	31.68	38.06
	10/15/13	536.87	533.72	505.13	505.13	498.81	31.74	31.74	38.06
MW-09	06/14/11	534.44	531.13	507.88	505.84	496.29	26.56	28.60	38.15
	09/14/11	534.44	531.13	505.22	504.81	496.29	29.22	29.63	38.15
	12/07/11	534.44	531.13	505.46	505.03	496.29	28.98	29.41	38.15
	03/15/12	534.44	531.13	505.53	500.37	496.29	28.91	34.07	38.15
	06/19/12	534.44	531.13	505.29	501.20	496.29	29.15	33.24	38.15
	09/19/12	534.44	531.13	505.66	504.91	496.29	28.78	29.53	38.15
	12/20/12	534.44	531.13	505.36	505.36	496.29	29.08	29.08	38.15
	03/05/13	534.44	531.13	505.50	505.50	496.29	28.94	28.94	38.15
	05/23/13	534.44	531.13	505.91	505.63	496.29	28.53	28.81	38.15
	07/22/13	534.44	531.13	505.22	505.11	496.29	29.22	29.33	38.15
	10/15/13	534.44	531.13	505.10	504.96	496.29	29.34	29.48	38.15
MW-10	06/14/11	540.03	536.95	508.19	508.17	496.10	31.84	31.86	43.93
	09/14/11	540.03	536.95	505.23	505.23	496.10	34.80	34.80	43.93
	12/07/11	540.03	536.95	505.43	505.43	496.10	34.60	34.60	43.93
	03/15/12	540.03	536.95	505.51	505.51	496.10	34.52	34.52	43.93
	06/19/12	540.03	536.95	505.28	505.28	496.10	34.75	34.75	43.93
	09/19/12	540.03	536.95	505.16	505.19	496.10	34.87	34.84	43.93
	12/20/12	540.03	536.95	505.30	505.30	496.10	34.73	34.73	43.93
	03/05/13	540.03	536.95	505.41	505.41	496.10	34.62	34.62	43.93
	05/22/13	540.03	536.95	505.99	505.99	496.10	34.04	34.04	43.93
	07/23/13	540.03	536.95	505.28	505.29	496.10	34.75	34.74	43.93
	10/15/13	540.03	536.95	505.10	505.10	496.10	34.93	34.93	43.93
MW-11	06/14/11	539.47	536.52	509.29	509.30	497.14	30.18	30.17	42.33
	09/14/11	539.47	536.52	505.49	505.49	497.14	33.98	33.98	42.33
	12/07/11	539.47	536.52	505.77	505.77	497.14	33.70	33.70	42.33
	03/15/12	539.47	536.52	505.80	505.80	497.14	33.67	33.67	42.33
	06/19/12	539.47	536.52	505.51	505.51	497.14	33.96	33.96	42.33
	09/19/12	539.47	536.52	505.35	505.35	497.14	34.12	34.12	42.33
	12/20/12	539.47	536.52	505.44	505.44	497.14	34.03	34.03	42.33
	03/05/13	539.47	536.52	505.66	505.66	497.14	33.81	33.81	42.33
	05/23/13	539.47	536.52	506.46	506.37	497.14	33.01	33.10	42.33
	07/23/13	539.47	536.52	505.44	505.50	497.14	34.03	33.97	42.33
	10/15/13	539.47	536.52	505.32	505.32	497.14	34.15	34.15	42.33

MWG13-15_17357

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-01	Date	12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012		3/5/2013		5/23/2013		7/22/2013		10/15/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	NS	NS	NS	NS	NS	NS	0.0030	ND	NS	NS	NS	NS	0.0030	0.0052	NS	NS	NS	NS
Arsenic	0.010	NS	NS	NS	NS	NS	NS	0.0010	0.0012	NS	NS	NS	NS	0.0010	0.0011	NS	NS	NS	NS
Barium	2.0	NS	NS	NS	NS	NS	NS	0.0025	0.16	NS	NS	NS	NS	0.0025	0.15	NS	NS	NS	NS
Beryllium	0.004	NS	NS	NS	NS	NS	NS	0.0010	ND	NS	NS	NS	NS	0.0010	ND	NS	NS	NS	NS
Boron	2.0	NS	NS	NS	NS	NS	NS	0.050	0.38^	NS	NS	NS	NS	0.050	0.33	NS	NS	NS	NS
Cadmium	0.005	NS	NS	NS	NS	NS	NS	0.00050	ND	NS	NS	NS	NS	0.00050	ND	NS	NS	NS	NS
Chloride	200.0	NS	NS	NS	NS	NS	NS	10	120	NS	NS	NS	NS	10	210	NS	NS	NS	NS
Chromium	0.1	NS	NS	NS	NS	NS	NS	0.0050	ND	NS	NS	NS	NS	0.0050	ND	NS	NS	NS	NS
Cobalt	1.0	NS	NS	NS	NS	NS	NS	0.0010	ND	NS	NS	NS	NS	0.0010	ND	NS	NS	NS	NS
Copper	0.65	NS	NS	NS	NS	NS	NS	0.0020	0.0021	NS	NS	NS	NS	0.0020	ND	NS	NS	NS	NS
Cyanide	0.2	NS	NS	NS	NS	NS	NS	0.010	ND	NS	NS	NS	NS	0.010	ND	NS	NS	NS	NS
Fluoride	4.0	NS	NS	NS	NS	NS	NS	0.10	0.59	NS	NS	NS	NS	0.10	0.42	NS	NS	NS	NS
Iron	5.0	NS	NS	NS	NS	NS	NS	0.10	ND	NS	NS	NS	NS	0.10	ND	NS	NS	NS	NS
Lead	0.0075	NS	NS	NS	NS	NS	NS	0.00050	ND	NS	NS	NS	NS	0.00050	ND	NS	NS	NS	NS
Manganese	0.15	NS	NS	NS	NS	NS	NS	0.0025	ND	NS	NS	NS	NS	0.0025	ND	NS	NS	NS	NS
Mercury	0.002	NS	NS	NS	NS	NS	NS	0.00020	ND	NS	NS	NS	NS	0.00020	ND	NS	NS	NS	NS
Nickel	0.1	NS	NS	NS	NS	NS	NS	0.0020	0.0029	NS	NS	NS	NS	0.0020	ND	NS	NS	NS	NS
Nitrogen/Nitrate	10.0	NS	NS	NS	NS	NS	NS	0.10	4.2	NS	NS	NS	NS	0.10	3.7	NS	NS	NS	NS
Nitrogen/Nitrate, Nitrite	NA	NS	NS	NS	NS	NS	NS	0.50	4.2	NS	NS	NS	NS	0.50	3.7	NS	NS	NS	NS
Nitrogen/Nitrite	NA	NS	NS	NS	NS	NS	NS	0.020	ND	NS	NS	NS	NS	0.020	ND	NS	NS	NS	NS
Perchlorate	0.0049	NS	NS	NS	NS	NS	NS	NR	NR	NS	NS	NS	NS	0.0040	ND	NS	NS	NS	NS
pH	6.5 - 9.0	NS	NS	NS	NS	NS	NS	NA	7.46	NS	NS	NS	NS	NM	NM	NS	NS	NS	NS
Selenium	0.05	NS	NS	NS	NS	NS	NS	0.0025	ND	NS	NS	NS	NS	0.0025	0.0040	NS	NS	NS	NS
Silver	0.05	NS	NS	NS	NS	NS	NS	0.00050	ND	NS	NS	NS	NS	0.00050	ND	NS	NS	NS	NS
Sulfate	400.0	NS	NS	NS	NS	NS	NS	50	240	NS	NS	NS	NS	25	140	NS	NS	NS	NS
Thallium	0.002	NS	NS	NS	NS	NS	NS	0.0020	ND	NS	NS	NS	NS	0.0020	ND	NS	NS	NS	NS
Total Dissolved Solids	1,200	NS	NS	NS	NS	NS	NS	10	630	NS	NS	NS	NS	10	700	NS	NS	NS	NS
Vanadium	0.049	NS	NS	NS	NS	NS	NS	NR	NR	NS	NS	NS	NS	0.0050	0.0081	NS	NS	NS	NS
Zinc	5.0	NS	NS	NS	NS	NS	NS	0.020	ND	NS	NS	NS	NS	0.020	ND	NS	NS	NS	NS
Benzene	0.005	NS	NS	NS	NS	NS	NS	NR	NR	NS	NS	NS	NS	0.00050	ND	NS	NS	NS	NS
BETX	11.705	NS	NS	NS	NS	NS	NS	NR	NR	NS	NS	NS	NS	0.0025	ND	NS	NS	NS	NS
Temperature	NA	NS	NS	NS	NS	NS	NS	NA	22.01	NS	NS	NS	NS	NA	NM	NS	NS	NS	NS
Conductivity	NA	NS	NS	NS	NS	NS	NS	NA	0.97	NS	NS	NS	NS	NA	NM	NS	NS	NS	NS
Dissolved Oxygen	NA	NS	NS	NS	NS	NS	NS	NA	7.68	NS	NS	NS	NS	NA	NM	NS	NS	NS	NS
ORP	NA	NS	NS	NS	NS	NS	NS	NA	155.0	NS	NS	NS	NS	NA	NM	NS	NS	NS	NS

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature in °C degrees Celcius
Conductivity in ms/cm^c millisiemens/centimeters
Dissolved Oxygen in mg/L milligrams/liter
Oxygen Reduction Potential (ORP) in mV millivolts

MWG13-15_17358

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-02	Date	12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012		3/5/2013		5/23/2013		7/22/2013		10/15/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	NS	NS	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	ND	NS	NS	0.0010	0.0015	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.12	0.0025	0.12	NS	NS	0.0025	0.12	0.0025	0.13	0.0025	0.12	0.0025	0.11	0.0025	0.12	0.0025	0.093
Beryllium	0.004	0.0010	ND	0.0010	ND	NS	NS	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.74	0.050	0.22	NS	NS	0.050	0.35^	0.050	0.42	0.050	0.41	0.050	0.35	0.050	0.29	0.050	0.41
Cadmium	0.005	0.00050	ND	0.00050	ND	NS	NS	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	140	2.0	280	NS	NS	10	120	10	150	10	260	10	250	10	310	10	180
Chromium	0.1	0.0050	ND	0.0050	ND	NS	NS	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	NS	NS	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	NS	NS	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	NS	NS	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.51	0.10	0.53	NS	NS	0.10	0.64	0.10	0.59	0.10	0.59^	0.10	0.54	0.10	0.51	0.10	0.56
Iron	5.0	0.10	ND	0.10	ND	NS	NS	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	NS	NS	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	ND^	NS	NS	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0036	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	NS	NS	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0023	0.0020	ND	NS	NS	0.0020	0.0024	0.0020	0.0029	0.0020	0.0027	0.0020	0.0022	0.0020	0.0061	0.0020	0.0039
Nitrogen/Nitrate	10.0	0.10	2.9	0.10	6.4	NS	NS	0.10	4.7	0.10	7.5	0.10	4.4	0.10	3.7	0.10	1.8	0.10	1.6
Nitrogen/Nitrate, Nitrite	NA	0.10	2.9	0.50	6.4	NS	NS	0.50	4.7	0.50	7.5	0.50	4.4	0.50	3.7	0.10	1.8	0.10	1.6
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	NS	NS	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NS	NS	NR	NR	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.37	NA	NM	NS	NS	NA	7.39	NA	7.39	NA	7.52	NA	7.44	NA	7.08	NA	7.20
Selenium	0.05	0.0025	0.0055	0.0025	0.0048	NS	NS	0.0025	ND	0.0025	ND	0.0025	0.0034	0.0025	0.0027	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	NS	NS	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	150	50	110	NS	NS	50	190	50	140	50	130	25	150	50	140	25	130
Thallium	0.002	0.0020	ND	0.0020	ND	NS	NS	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	750	10	800	NS	NS	10	580	10	720	10	840	10	860	10	980	10	660
Vanadium	0.049	NR	NR	NR	NR	NS	NS	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	NS	NS	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NS	NS	NR	NR	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NS	NS	NR	NR	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	13.04	NA	NM	NS	NS	NA	22.02	NA	14.4	NA	9.5	NA	12.82	NA	16.25	NA	15.37
Conductivity	NA	NA	0.90	NA	NM	NS	NS	NA	0.90	NA	0.91	NA	1.02	NA	1.008	NA	1.785	NA	1.02
Dissolved Oxygen	NA	NA	5.91	NA	NM	NS	NS	NA	6.02	NA	9.91	NA	7.79	NA	7.65	NA	14.83	NA	5.81
ORP	NA	NA	81.0	NA	NM	NS	NS	NA	158.0	NA	41.0	NA	58.1	NA	178.0	NA	138.5	NA	-40.3

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature in °C degrees Celcius
Conductivity in ms/cm millisiemens/centimeters
Dissolved Oxygen in mg/L milligrams/liter
Oxygen Reduction Potential (ORP) in mV millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-03	Date	12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012		3/5/2013		5/22/2013		7/22/2013		10/15/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	0.016	0.0030	0.013	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0016	0.0010	0.0014	0.0010	0.0011	0.0010	0.0012	0.0010	0.0012	0.0010	0.0014	0.0010	0.0013	0.0010	0.0012	0.0010	0.0014
Barium	2.0	0.0025	0.084	0.0025	0.081	0.0025	0.088	0.0025	0.097	0.0025	0.09	0.0025	0.089	0.0025	0.13	0.0025	0.10	0.0025	0.099
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.23	0.050	0.26	0.050	0.31	0.050	0.22^	0.050	0.28	0.050	0.29	0.050	0.74 V	0.050	0.67	0.050	0.27
Cadmium	0.005	0.00050	ND	0.00050	0.00074	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	260	2.0	250	10	260	10	330	10	290	10	260	50	380	10	210	10	250
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.40	0.10	0.39	0.10	0.43	0.10	0.43	0.10	0.38	0.10	0.42^	0.10	0.44	0.10	0.45	0.10	0.47
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.0080	0.0025	0.0095^	0.0025	0.014	0.0025	0.011	0.0025	0.0076	0.0025	0.0068	0.0025	ND	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0060	0.0020	0.0046	0.0020	0.0044	0.0020	0.0059	0.0020	0.0063	0.0020	0.0051	0.0020	0.0042	0.0020	0.0043	0.0020	0.0046
Nitrogen/Nitrate	10.0	0.10	0.79	0.10	ND	0.10	1.3	0.10	0.88	0.10	0.77	0.10	0.86	0.10	3.6	0.10	3.1	0.10	1.9
Nitrogen/Nitrate, Nitrite	NA	0.10	0.79	0.10	ND	0.10	1.3	0.10	0.88	0.10	0.77	0.10	0.86	0.50	3.6	0.50	3.1	0.10	1.9
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.48	NA	7.34	NA	7.21	NA	7.40	NA	7.42	NA	7.66	NA	7.00	NA	7.26	NA	7.22
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	0.0043	0.0025	ND	0.0025	ND	0.0025	0.0031	0.0025	0.022	0.0025	0.012	0.0025	ND
Silver	0.05	0.00050	0.00091	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	160	50	190	25	160	50	150	50	110	50	140	50	250	50	260	50	210
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1100	10	1000	10	1100	10	1000	10	1100	10	950	10	1300	10	1000	10	910
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	NS	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	10.94	NA	13.73	NA	14.01	NA	13.35	NA	12.40	NA	11.20	NA	13.45	NA	17.29	NA	13.91
Conductivity	NA	NA	1.19	NA	1.21	NA	1.33	NA	1.41	NA	1.28	NA	1.18	NA	1.55	NA	1.33	NA	0.99
Dissolved Oxygen	NA	NA	6.07	NA	6.07	NA	6.47	NA	6.35	NA	6.30	NA	7.03	NA	5.31	NA	3.47	NA	2.78
ORP	NA	NA	145.0	NA	193.0	NA	114.0	NA	134.0	NA	130.0	NA	196.6	NA	-20.4	NA	32.2	NA	-79.8

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature in °C degrees Celcius
Conductivity in ms/cm^c millisiemens/centimeters
Dissolved Oxygen in mg/L milligrams/liter
Oxygen Reduction Potential (ORP) in mV millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-04	Date	12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012		3/5/2013		5/22/2013		7/22/2013		10/16/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	0.0067	0.0030	0.0057	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	0.012	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0013	0.0010	0.0014	0.0010	0.0013	0.0010	0.0012
Barium	2.0	0.0025	0.069	0.0025	0.070	0.0025	0.068	0.0025	0.092	0.0025	0.87	0.0025	0.080	0.0025	0.084	0.0025	0.078	0.0025	0.089
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.34	0.050	0.29	0.050	0.48	0.050	0.34^	0.050	0.38	0.050	0.40	0.050	0.40	0.050	0.50	0.050	0.45
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	200	2.0	210	10	270	10	260	10	250	10	230	10	270	10	200	10	210
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0028	0.0010	0.0026	0.0010	0.0042	0.0010	0.0059	0.0010	0.0049	0.0010	0.0057	0.0010	0.0012	0.0010	0.014	0.0010	0.0048
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0041	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.44	0.10	0.41	0.10	0.46	0.10	0.47	0.10	0.41	0.10	0.47^	0.10	0.49	0.10	0.50	0.10	0.53
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.46	0.10	0.17	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00077	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.029	0.0025	0.038^	0.0025	0.082	0.0025	0.043	0.0025	0.029	0.0025	0.067	0.0025	0.0081	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0038	0.0020	0.0037	0.0020	0.0036	0.0020	0.0043	0.0020	0.0042	0.0020	0.0051	0.0020	0.0034	0.0020	0.0037	0.0020	0.0033
Nitrogen/Nitrate	10.0	0.10	1.4	0.10	0.62	0.10	1.4	0.10	1.3	0.10	0.91	0.10	1.3	0.10	2.9	0.10	2.4	0.10	2.5
Nitrogen/Nitrate, Nitrite	NA	0.10	1.4	0.10	0.62	0.10	1.4	0.10	1.3	0.10	0.91	0.10	1.3	0.20	2.9	0.50	2.4	0.20	2.5
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.56	NA	7.40	NA	7.31	NA	7.37	NA	7.38	NA	7.44	NA	7.18	NA	7.25	NA	7.24
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0047	0.0025	0.0033	0.0025	ND	0.0025	0.0025	0.0025	ND	0.0025	0.0037
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	170	50	210	25	110	50	180	50	130	50	110	25	120	50	170	50	230
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	970	10	930	10	1100	10	980	10	1000	10	880	10	900	10	840	10	860
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	NS	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	9.67	NA	12.52	NA	13.59	NA	14.52	NA	12.98	NA	9.90	NA	14.25	NA	14.76	NA	13.91
Conductivity	NA	NA	1.04	NA	1.06	NA	1.28	NA	1.33	NA	1.24	NA	1.05	NA	1.106	NA	1.07	NA	1.19
Dissolved Oxygen	NA	NA	6.95	NA	6.95	NA	6.51	NA	6.26	NA	8.19	NA	7.60	NA	6.47	NA	4.40	NA	3.13
ORP	NA	NA	135.0	NA	177.0	NA	86.0	NA	155.0	NA	132.0	NA	140.9	NA	-6.4	NA	27.6	NA	-80.9

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature in °C degrees Celcius
Conductivity in ms/cm[c] millisiemens/centimeters
Dissolved Oxygen in mg/L milligrams/liter
Oxygen Reduction Potential (ORP) in mV millivolts

MWG13-15_17361

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-05	Date	12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012		3/5/2013		6/5/2013		7/23/2013		10/15/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	0.0040	0.0030	0.0035	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0010
Barium	2.0	0.0025	0.062	0.0025	0.069	0.0025	0.056	0.0025	0.071	0.0025	0.078	0.0025	0.076	0.0025	0.060	0.0025	0.050	0.0025	0.056
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.49	0.050	0.54	0.050	0.44	0.050	0.55^	0.050	0.65	0.050	0.59	0.050	0.69	0.050	0.81	0.050	0.55
Cadmium	0.005	0.00050	ND	0.00050	0.0016	0.00050	ND	0.00050	0.00091	0.00050	0.00076	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	190	2.0	210	10	220	10	240	10	210	10	230	10	180	10	110	10	140
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0040	0.0010	0.006	0.0010	0.0019	0.0010	ND	0.0010	ND	0.0010	0.0014
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.019	0.0020	0.017	0.0020	0.0065	0.0020	ND	0.0020	0.0020	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.34	0.10	0.32	0.10	0.38	0.10	0.39	0.10	0.35	0.10	0.35^	0.10	0.39	0.10	0.38	0.10	0.41
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00062	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	ND	0.0025	0.0040	0.0025	0.081	0.0025	ND	0.0025	0.0037	0.0025	ND	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	0.0025	0.0020	0.0080	0.0020	0.02	0.0020	0.0072	0.0020	0.0029	0.0020	0.0058	0.0020	0.0030
Nitrogen/Nitrate	10.0	0.10	1.5	0.10	0.33	0.10	1.0	0.10	ND	0.10	0.21	0.10	0.16	0.10	1.7	0.10	1.0	0.10	1.0
Nitrogen/Nitrate, Nitrite	NA	0.10	1.5	0.10	0.33	0.10	1.0	0.10	ND	0.10	0.21	0.10	0.16	0.10	1.7	0.10	1.0	0.10	1.0
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.44	NA	7.30	NA	7.18	NA	7.32	NA	7.36	NA	7.34	NA	6.92	NA	6.71	NA	7.21
Selenium	0.05	0.0025	0.0050	0.0025	ND	0.0025	0.0057	0.0025	ND	0.0025	0.0034	0.0025	ND	0.0025	0.025	0.0025	0.016	0.0025	0.0026
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	140	50	190	25	130	50	210	50	210	50	150	50	200	50	290	50	180
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	900	10	930	10	1000	10	990	10	1000	10	960	10	1,100	10	910	10	680
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	NS	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	11.23	NA	13.52	NA	16.19	NA	14.23	NA	13.64	NA	10.90	NA	14.95	NA	14.65	NA	14.16
Conductivity	NA	NA	1.02	NA	1.19	NA	1.56	NA	1.29	NA	1.25	NA	1.08	NA	1.067	NA	1.01	NA	0.93
Dissolved Oxygen	NA	NA	6.07	NA	6.24	NA	6.56	NA	3.68	NA	4.27	NA	4.49	NA	4.01	NA	3.50	NA	1.17
ORP	NA	NA	125.0	NA	228.0	NA	176.0	NA	155.0	NA	112.0	NA	160.5	NA	-1.7	NA	82.5	NA	-98.4

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature in °C degrees Celcius
Conductivity in ms/cm^c millisiemens/centimeters
Dissolved Oxygen in mg/L milligrams/liter
Oxygen Reduction Potential (ORP) in mV millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-06	Date	12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012		3/5/2013		5/22/2013		7/23/2013		10/16/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	0.0045	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0018	0.0010	0.0016	0.0010	0.0014	0.0010	0.0015	0.0010	0.0014	0.0010	0.0018	0.0010	0.0018	0.0010	0.0017	0.0010	0.0016
Barium	2.0	0.0025	0.11	0.0025	0.13	0.0025	0.11	0.0025	0.14	0.0025	0.12	0.0025	0.12	0.0025	0.097	0.0025	0.096	0.0025	0.11
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.30	0.050	0.25	0.050	0.26	0.050	0.25^	0.050	0.31	0.050	0.33	0.050	0.23	0.050	0.23	0.050	0.22
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	130	2.0	240	10	210	10	190	10	150	10	160	10	170	10	120	10	120
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0025
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.44	0.10	0.36	0.10	0.36	0.10	0.36	0.10	0.38	0.10	0.40^	0.10	0.43	0.10	0.37	0.10	0.35
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.024	0.0025	0.015	0.0025	0.0080	0.0025	0.0087	0.0025	0.0076	0.0025	0.0047	0.0025	ND	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0021	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	0.36	0.10	ND	0.10	0.65	0.10	0.55	0.10	0.47	0.10	1.0	0.10	1.7	0.10	0.46	0.10	0.49
Nitrogen/Nitrate, Nitrite	NA	0.10	0.36	0.10	ND	0.10	0.65	0.10	0.55	0.10	0.47	0.10	1.0	0.10	1.7	0.10	0.46	0.10	0.49
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.71	NA	7.57	NA	7.42	NA	7.46	NA	7.66	NA	8.05	NA	7.35	NA	7.42	NA	7.31
Selenium	0.05	0.0025	0.0054	0.0025	0.0051	0.0025	0.0069	0.0025	0.0073	0.0025	0.0059	0.0025	0.013	0.0025	0.0032	0.0025	0.0027	0.0025	0.0035
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	130	50	110	25	91	25	85	25	120	25	120	25	96	25	110	25	150
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	710	10	800	10	860	10	760	10	710	10	690	10	690	10	350	10	570
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	0.0052	0.0050	0.0050	0.0050	0.0056	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	NS	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	13.70	NA	14.45	NA	19.31	NA	14.51	NA	13.45	NA	12.20	NA	14.48	NA	15.22	NA	13.50
Conductivity	NA	NA	0.87	NA	1.06	NA	1.23	NA	1.02	NA	0.93	NA	0.94	NA	0.855	NA	0.76	NA	0.80
Dissolved Oxygen	NA	NA	7.05	NA	7.47	NA	7.21	NA	6.27	NA	7.20	NA	8.70	NA	4.77	NA	2.44	NA	3.73
ORP	NA	NA	113.0	NA	210.0	NA	153.0	NA	162.0	NA	125.0	NA	186.4	NA	18.1	NA	22.7	NA	-86.3

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature in °C degrees Celcius
Conductivity in ms/cm^c millisiemens/centimeters
Dissolved Oxygen in mg/L milligrams/liter
Oxygen Reduction Potential (ORP) in mV millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-07	Date	12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012		3/5/2013		5/22/2013		7/23/2013		10/16/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0014	0.0010	0.0010	0.0010	ND	0.0010	0.0013	0.0010	ND	0.0010	0.0011	0.0010	0.0015	0.0010	0.0011	0.0010	0.0013
Barium	2.0	0.0025	0.11	0.0025	0.13	0.0025	0.092	0.0025	0.12	0.0025	0.11	0.0025	0.12	0.0025	0.11	0.0025	0.082	0.0025	0.13
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.35	0.050	0.30	0.050	0.25	0.050	0.31^	0.050	0.41	0.050	0.39	0.050	0.21	0.050	0.21	0.050	0.24
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	140	2.0	300	10	170	10	170	10	140	10	190	10	170	10	95	10	130
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.35	0.10	0.31	0.10	0.37	0.10	0.32	0.10	0.31	0.10	0.30^	0.10	0.38	0.10	0.37	0.10	0.32
Iron	5.0	0.10	ND	0.10	ND	0.10	0.13	0.10	ND	0.10	ND	0.10	ND	0.10	0.41	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.0073	0.0025	0.015	0.0025	0.069	0.0025	0.0041	0.0025	0.0063	0.0025	0.0044	0.0025	0.012	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	0.0032	0.0020	ND	0.0020	0.0024	0.0020	0.0024	0.0020	0.0020	0.0020	ND	0.0020	0.0021
Nitrogen/Nitrate	10.0	0.10	0.60	0.10	ND	0.10	0.65	0.10	0.61	0.10	0.73	0.10	1.4	0.10	1.7	0.10	0.34	0.10	0.65
Nitrogen/Nitrate, Nitrite	NA	0.10	0.60	0.10	ND	0.10	0.65	0.10	0.61	0.10	0.73	0.10	1.4	0.10	1.7	0.10	0.34	0.10	0.65
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.63	NA	7.53	NA	7.59	NA	7.45	NA	7.52	NA	7.99	NA	7.34	NA	7.42	NA	7.33
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0031	0.0025	0.0041	0.0025	0.0026	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	160	50	140	50	190	50	130	25	90	25	150	50	150	25	74	50	190
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	780	10	870	10	760	10	760	10	760	10	720	10	740	10	540	10	650
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	0.0051	0.0050	ND	0.0050	0.0053	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	NS	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	13.07	NA	15.40	NA	16.33	NA	13.97	NA	12.88	NA	12.30	NA	14.15	NA	15.44	NA	13.06
Conductivity	NA	NA	0.89	NA	1.18	NA	0.99	NA	1.00	NA	0.91	NA	0.99	NA	0.818	NA	0.72	NA	0.89
Dissolved Oxygen	NA	NA	6.74	NA	7.23	NA	7.29	NA	7.16	NA	8.51	NA	8.38	NA	4.29	NA	3.52	NA	2.52
ORP	NA	NA	113.0	NA	175.0	NA	148.0	NA	199.0	NA	152.0	NA	154.3	NA	17.0	NA	23.7	NA	-81.7

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature in °C degrees Celcius
Conductivity in ms/cm^c millisiemens/centimeters
Dissolved Oxygen in mg/L milligrams/liter
Oxygen Reduction Potential (ORP) in mV millivolts

MWG13-15_17364

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-08	Date	12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012		3/5/2013		5/23/2013		7/22/2013		10/15/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.057	0.0025	0.049	0.0025	0.029	0.0025	0.059	0.0025	0.058	0.0025	0.069	0.0025	0.057	0.0025	0.046	0.0025	0.045
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.16	0.050	0.13	0.050	0.20	0.050	0.46^	0.050	0.33	0.050	0.25	0.050	0.16	0.050	0.18	0.050	0.19
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	120	50	410	10	190	10	130	10	130	10	200	10	300	10	210	10	110
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.31	0.10	0.38	0.10	0.41	0.10	0.40	0.10	0.33	0.10	0.29^	0.10	0.34	0.10	0.34	0.10	0.36
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	0.24	0.10	ND	0.10	ND	0.10	0.23	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	0.0042	0.0025	0.016	0.0025	0.023	0.0025	0.0044	0.0025	ND	0.0025	0.0065	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0021	0.0020	ND	0.0020	ND	0.0020	0.0034	0.0020	0.0040	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	0.86	0.10	ND	0.10	0.44	0.10	4.0	0.10	2.0	0.10	2.2	0.10	2.8	0.10	1.2	0.10	1.2
Nitrogen/Nitrate, Nitrite	NA	0.10	0.86	0.10	ND	0.10	0.44	0.50	4.0	0.50	2.0	0.20	2.2	0.20	2.8	0.10	1.2	0.10	1.2
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.38	NA	7.49	NA	7.64	NA	6.80	NA	7.40	NA	7.46	NA	7.17	NA	7.28	NA	7.22
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0079	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	170	25	130	20	110	50	180	50	130	50	150	25	99	25	72	20	74
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	800	10	1000	10	740	10	710	10	730	10	830	10	860	10	740	10	560
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	NS	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	12.71	NA	14.64	NA	16.68	NA	15.09	NA	12.82	NA	11.10	NA	11.95	NA	13.86	NA	13.43
Conductivity	NA	NA	0.88	NA	1.40	NA	1.05	NA	0.95	NA	0.91	NA	1.05	NA	1.031	NA	0.97	NA	0.83
Dissolved Oxygen	NA	NA	6.57	NA	7.68	NA	7.22	NA	8.19	NA	9.83	NA	7.73	NA	5.33	NA	4.75	NA	3.69
ORP	NA	NA	119.0	NA	130.0	NA	132.0	NA	211.0	NA	101.0	NA	136.1	NA	6.2	NA	30.5	NA	-49.3

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature in °C degrees Celcius
Conductivity in ms/cm millisiemens/centimeters
Dissolved Oxygen in mg/L milligrams/liter
Oxygen Reduction Potential (ORP) in mV millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-09	Date	12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012		3/5/2013		5/23/2013		7/22/2013		10/15/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	ND	0.0010	0.0010	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.030	0.0025	0.021	0.0025	0.021	0.0025	0.022	0.0025	0.021	0.0025	0.016	0.0025	0.017	0.0025	0.017	0.0025	0.019
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.31	0.050	0.38	0.050	0.34	0.050	0.59^	0.050	0.44	0.050	0.36	0.050	0.30	0.050	0.29	0.050	0.29
Cadmium	0.005	0.00050	ND	0.00050	0.00059	0.00050	ND	0.00050	0.00065	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	190	10	170	10	250	10	160	10	150	10	190	10	290	10	280	10	280
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0075	0.0010	0.0021	0.0010	0.0021	0.0010	0.0022	0.0010	0.002	0.0010	0.0024	0.0010	0.0076	0.0010	0.0063	0.0010	0.0056
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0025	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.50	0.10	0.45	0.10	0.48	0.10	0.48	0.10	0.45	0.10	0.46^	0.10	0.40	0.10	0.47	0.10	0.53
Iron	5.0	0.10	1.5	0.10	5.5	0.10	8.0	0.10	4.7	0.10	13	0.10	15	0.10	160	0.10	50	0.10	25
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.66	0.0025	1.3	0.0025	1.2	0.0025	0.68	0.0025	0.44	0.0025	0.43	0.0025	1.6	0.0025	0.81	0.0025	0.52
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.011	0.0020	0.0054	0.0020	0.0070	0.0020	0.010	0.0020	0.0059	0.0020	0.0065	0.0020	0.014	0.0020	0.012	0.0020	0.0090
Nitrogen/Nitrate	10.0	0.10	0.22	0.10	ND	0.10	ND	0.10	0.22	0.10	0.22	0.10	0.75	0.10	ND	0.10	0.24	0.10	0.11
Nitrogen/Nitrate, Nitrite	NA	0.10	0.22	0.10	ND	0.10	ND	0.10	0.22	0.10	0.22	0.10	0.75	0.10	ND	0.10	0.24	0.10	0.11
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.020	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.19	NA	6.86	NA	6.85	NA	6.82	NA	6.80	NA	7.05	NA	6.34	NA	6.60	NA	6.69
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	130	500	1600	500	1500	250	1600	250	1100	250	700	500	1300	250	1000	130	680
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	2400	10	2600	10	2800	10	2900	10	2000	10	1700	13	3000	10	2300	10	1700
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	0.023	0.020	0.049	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	NS	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	11.94	NA	14.29	NA	15.10	NA	16.23	NA	15.41	NA	12.20	NA	12.19	NA	14.92	NA	15.21
Conductivity	NA	NA	1.54	NA	2.31	NA	2.50	NA	2.56	NA	1.93	NA	1.59	NA	2.522	NA	2.17	NA	1.81
Dissolved Oxygen	NA	NA	0.43	NA	2.22	NA	1.71	NA	6.15	NA	4.26	NA	4.86	NA	0.40	NA	1.22	NA	1.81
ORP	NA	NA	-40.0	NA	2.0	NA	-32.0	NA	-22.0	NA	-39.0	NA	-30.3	NA	-85.9	NA	-61.5	NA	-78.4

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature in °C degrees Celcius
Conductivity in ms/cm° millisiemens/centimeters
Dissolved Oxygen in mg/L milligrams/liter
Oxygen Reduction Potential (ORP) in mV millivolts

MWG13-15_17366

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-10	Date	12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012		3/5/2013		5/22/2013		7/23/2013		10/15/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0012	0.0010	ND	0.0010	ND	0.0010	0.0012	0.0010	0.001	0.0010	0.0012	0.0010	0.0011	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.036	0.0025	0.040	0.0025	0.043	0.0025	0.040	0.0025	0.041	0.0025	0.040	0.0025	0.041	0.0025	0.042	0.0025	0.044
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.52	0.25	0.52	0.050	0.53	0.050	0.43^	0.050	0.49	0.050	0.49	0.050	0.25	0.050	0.30	0.050	0.42
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	180	10	180	10	290	10	230	10	200	10	210	10	240	10	210	10	220
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.45	0.10	0.41	0.10	0.46	0.10	0.50	0.10	0.47	0.10	0.49^	0.10	0.50	0.10	0.48	0.10	0.50
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.32	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.010	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0024	0.0020	ND	0.0020	ND	0.0020	0.0021	0.0020	0.0024	0.0020	0.0022	0.0020	ND	0.0020	0.0027	0.0020	0.0024
Nitrogen/Nitrate	10.0	0.10	1.4	0.10	ND	0.10	1.8	0.10	1.5	0.10	1.5	0.10	1.6	0.10	2.8	0.10	3.0	0.10	2.3
Nitrogen/Nitrate, Nitrite	NA	0.10	1.4	0.10	ND	0.10	1.8	0.10	1.5	0.10	1.5	0.10	1.6	0.20	2.8	0.50	3.0	0.50	2.3
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.51	NA	7.35	NA	7.20	NA	7.38	NA	7.38	NA	7.55	NA	7.11	NA	7.26	NA	7.11
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	190	50	250	50	170	50	110	25	120	25	84	25	120	50	130	50	140
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	890	10	890	10	1100	10	870	10	860	10	830	10	850	10	910	10	880
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	NS	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	11.26	NA	13.08	NA	14.44	NA	13.53	NA	12.60	NA	10.40	NA	12.70	NA	14.21	NA	13.04
Conductivity	NA	NA	0.99	NA	1.04	NA	1.35	NA	1.13	NA	1.07	NA	1.04	NA	0.964	NA	1.10	NA	1.09
Dissolved Oxygen	NA	NA	7.12	NA	7.08	NA	7.13	NA	6.93	NA	8.74	NA	9.16	NA	6.14	NA	4.59	NA	4.27
ORP	NA	NA	143.0	NA	210.0	NA	147.0	NA	146.0	NA	112.0	NA	129.5	NA	35.6	NA	30.2	NA	-48.9

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

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NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature in °C degrees Celcius
Conductivity in ms/cm^c millisiemens/centimeters
Dissolved Oxygen in mg/L milligrams/liter
Oxygen Reduction Potential (ORP) in mV millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-11	Date	12/7/2011		3/15/2012		6/19/2012		9/19/2012		12/20/2012		3/5/2013		5/23/2013		7/23/2013		10/15/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0019	0.0010	0.0017	0.0010	0.0017	0.0010	0.0018	0.0010	0.0018	0.0010	0.0018	0.0010	0.0017	0.0010	0.0014	0.0010	0.0015
Barium	2.0	0.0025	0.057	0.0025	0.067	0.0025	0.046	0.0025	0.060	0.0025	0.063	0.0025	0.060	0.0025	0.045	0.0025	0.040	0.0025	0.060
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	1.2	0.25	1.4	0.050	0.85	0.050	0.68^	0.050	0.57	0.50	1.1	0.050	0.34	0.050	0.88	0.050	0.49
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	140	10	240	10	150	10	150	10	140	10	190	10	160	10	91	10	140
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.017	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.31	0.10	0.30	0.10	0.37	0.10	0.32	0.10	0.34	0.10	0.29^	0.10	0.38	0.10	0.37	0.10	0.31
Iron	5.0	0.10	ND	0.10	ND	0.10	0.23	0.10	ND	0.10	0.42	0.10	0.15	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0008	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.0047	0.0025	ND	0.0025	0.014	0.0025	ND	0.0025	0.042	0.0025	0.016	0.0025	ND	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0025	0.0020	0.0020	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	0.60	0.10	0.30	0.10	ND	0.10	0.36	0.10	0.46	0.10	1.1	0.10	1.4	0.10	0.28	0.10	0.79
Nitrogen/Nitrate, Nitrite	NA	0.10	0.60	0.10	0.30	0.10	ND	0.10	0.36	0.10	0.46	0.10	1.1	0.10	1.4	0.10	0.28	0.10	0.79
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	0.004	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.46	NA	7.38	NA	7.37	NA	7.36	NA	7.36	NA	7.60	NA	7.11	NA	7.33	NA	7.16
Selenium	0.05	0.0025	0.0033	0.0025	0.0043	0.0025	0.0028	0.0025	ND	0.0025	ND	0.0025	0.0043	0.0025	0.0034	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	160	25	140	50	150	50	100	50	150	50	110	25	100	25	100	25	110
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	790	10	850	10	760	10	740	10	730	10	770	10	670	10	570	10	690
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0050	0.0050	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.0005	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.0025	NS	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	13.15	NA	14.22	NA	15.30	NA	13.23	NA	12.83	NA	10.60	NA	12.10	NA	14.41	NA	15.41
Conductivity	NA	NA	0.92	NA	1.12	NA	0.97	NA	0.97	NA	0.89	NA	0.96	NA	0.774	NA	0.68	NA	0.95
Dissolved Oxygen	NA	NA	6.74	NA	7.37	NA	7.09	NA	6.71	NA	8.66	NA	7.99	NA	5.38	NA	5.69	NA	3.26
ORP	NA	NA	136.0	NA	208.0	NA	172.0	NA	172.0	NA	113.0	NA	167.1	NA	2.4	NA	26.5	NA	-58.4

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater.
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

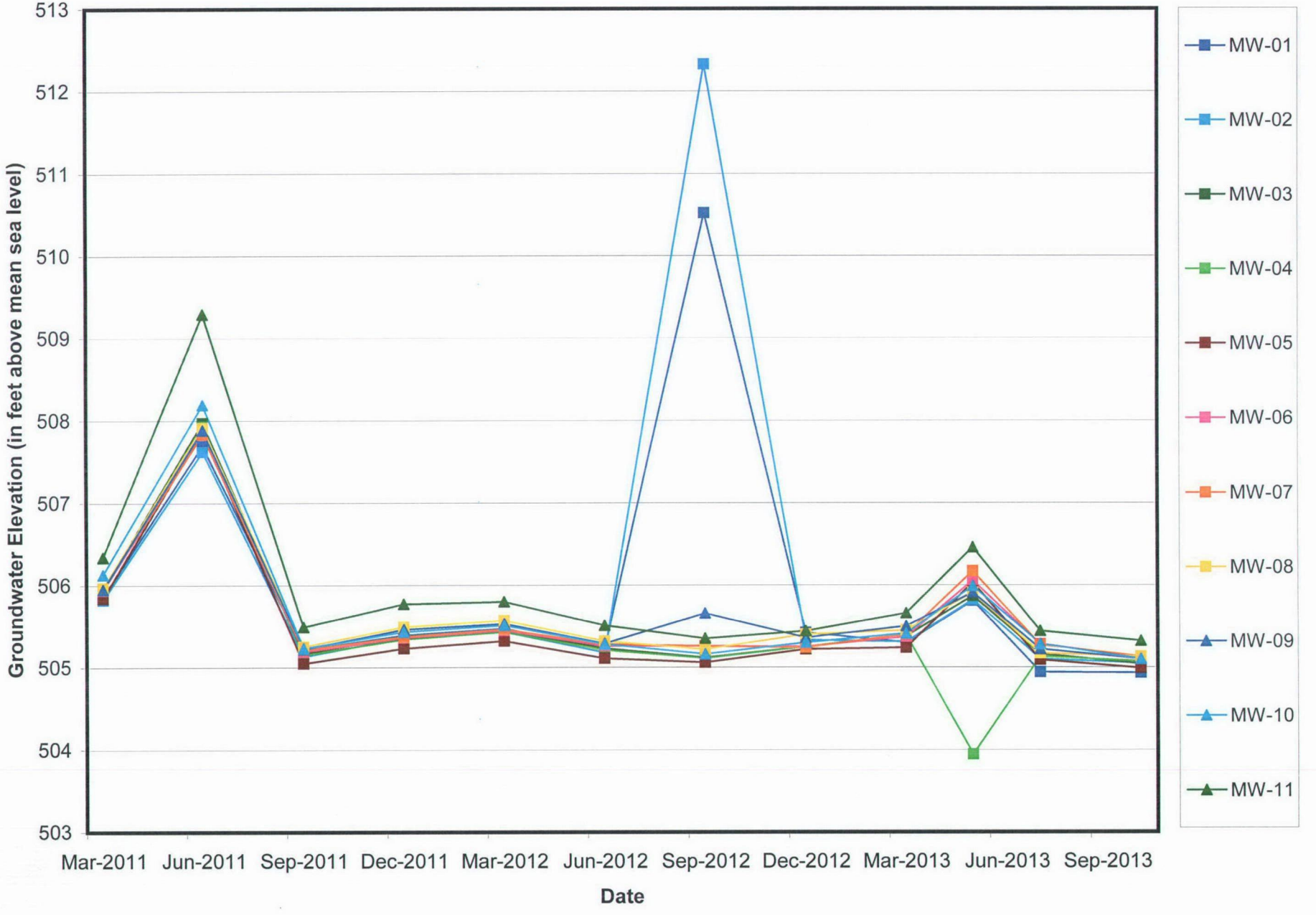
Temperature in °C degrees Celcius
Conductivity in ms/cm^c millisiemens/centimeters
Dissolved Oxygen in mg/L milligrams/liter
Oxygen Reduction Potential (ORP) in mV millivolts

MWG13-15_17368

ATTACHMENT 1
Hydrograph of Water Level Elevations

Midwest Generation Joliet Station #29, Joliet, IL

Groundwater Elevation vs Time



MWG13-15_17370

ATTACHMENT 2
Analytical Data Package(s)



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-65066-1
Client Project/Site: Joliet #29 Station Ash Ponds

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
11/4/2013 5:00:06 PM

Bonnie Stadelmann, Project Manager II
(708)534-5200
bonnie.stadelmann@testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

MWG13-15_17372

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Certification Summary 41

Job ID: 500-65066-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-65066-1

Comments
No additional comments.

Receipt
The samples were received on 10/16/2013 3:25 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 4.2° C, 4.9° C and 5.3° C.

GC/MS VOA
No analytical or quality issues were noted.

Metals
Method(s) 6020A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 500-65066-1 were outside control limits for selenium. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 200.8, 6020, 6020A: The internal standard (Rh) was used to report As in batch 208962.

No other analytical or quality issues were noted.

Field Service / Mobile Lab
No analytical or quality issues were noted.

General Chemistry
Method(s) 9251: The chloride matrix spike (MS) recovery for batch 209102 was outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 353.2, SM 4500 NO3 F: The initial calibration verification (ICV) for nitrate associated with batch 207898 recovered above the upper control limit. The laboratory control standard (LCS), which is made from the same source as the ICV, recovered within acceptance limits and brackets the beginning of the nitrate run. Therefore, the data have been reported.

No other analytical or quality issues were noted.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-65066-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
314.0	Perchlorate (IC)	EPA	TAL SAC
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
9014	Cyanide	SW846	TAL CHI
9038	Sulfate, Turbidimetric	SW846	TAL CHI
9251	Chloride	SW846	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-65066-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-65066-1	MW-2	Water	10/15/13 12:40	10/16/13 15:25
500-65066-2	MW-3	Water	10/15/13 09:45	10/16/13 15:25
500-65066-3	MW-4	Water	10/16/13 13:00	10/16/13 15:25
500-65066-4	MW-5	Water	10/15/13 15:05	10/16/13 15:25
500-65066-5	MW-6	Water	10/16/13 08:45	10/16/13 15:25
500-65066-6	MW-7	Water	10/16/13 11:20	10/16/13 15:25
500-65066-7	MW-8	Water	10/15/13 17:25	10/16/13 15:25
500-65066-8	MW-9	Water	10/15/13 11:10	10/16/13 15:25
500-65066-9	MW-10	Water	10/15/13 13:40	10/16/13 15:25
500-65066-10	MW-11	Water	10/15/13 16:10	10/16/13 15:25
500-65066-11	Duplicate	Water	10/15/13 00:00	10/16/13 15:25
500-65066-12	Trip Blank	Water	10/15/13 00:00	10/16/13 15:25

MWG13-15_17376

Client Sample ID: MW-2
Date Collected: 10/15/13 12:40
Date Received: 10/16/13 15:25

Lab Sample ID: 500-65066-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/22/13 23:21	1
Toluene	<0.00050		0.00050		mg/L			10/22/13 23:21	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/22/13 23:21	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/22/13 23:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 125*		*10/22/13 23:21*	*1*
Toluene-d8 (Surr)	*86*		*75 - 120*		*10/22/13 23:21*	*1*
4-Bromofluorobenzene (Surr)	*89*		*75 - 120*		*10/22/13 23:21*	*1*
Dibromofluoromethane	*101*		*75 - 120*		*10/22/13 23:21*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/01/13 20:24	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/18/13 14:52	10/28/13 15:01	1
Arsenic	<0.0010		0.0010		mg/L		10/18/13 14:52	10/26/13 00:11	1
Barium	**0.093**		0.0025		mg/L		10/18/13 14:52	10/18/13 17:19	1
Beryllium	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 17:19	1
Boron	**0.41**		0.050		mg/L		10/18/13 14:52	10/21/13 18:48	1
Cadmium	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:19	1
Chromium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/26/13 00:11	1
Cobalt	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 17:19	1
Copper	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 17:19	1
Iron	<0.10		0.10		mg/L		10/18/13 14:52	10/18/13 17:19	1
Lead	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:19	1
Manganese	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 17:19	1
Nickel	**0.0039**		0.0020		mg/L		10/18/13 14:52	10/18/13 17:19	1
Selenium	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 17:19	1
Silver	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:19	1
Thallium	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 17:19	1
Vanadium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/18/13 17:19	1
Zinc	<0.020		0.020		mg/L		10/18/13 14:52	10/18/13 17:19	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/21/13 15:15	10/22/13 10:02	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/17/13 10:15	10/17/13 15:54	1
Sulfate	**130**		25		mg/L			10/26/13 22:58	5
Chloride	**180**		10		mg/L			10/28/13 17:26	5
Nitrogen, Nitrate	**1.6**		0.10		mg/L			10/25/13 17:33	1
Total Dissolved Solids	**660**		10		mg/L			10/22/13 21:57	1
Fluoride	**0.56**		0.10		mg/L			10/20/13 17:58	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/16/13 19:45	1
Nitrogen, Nitrate Nitrite	**1.6**		0.10		mg/L			10/18/13 13:03	1

Client Sample ID: MW-3
Date Collected: 10/15/13 09:45
Date Received: 10/16/13 15:25

Lab Sample ID: 500-65066-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/22/13 23:45	1
Toluene	<0.00050		0.00050		mg/L			10/22/13 23:45	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/22/13 23:45	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/22/13 23:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 125*		*10/22/13 23:45*	*1*
Toluene-d8 (Surr)	*87*		*75 - 120*		*10/22/13 23:45*	*1*
4-Bromofluorobenzene (Surr)	*85*		*75 - 120*		*10/22/13 23:45*	*1*
Dibromofluoromethane	*100*		*75 - 120*		*10/22/13 23:45*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/01/13 20:40	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/18/13 14:52	10/28/13 15:26	1
Arsenic	**0.0014**		0.0010		mg/L		10/18/13 14:52	10/26/13 00:23	1
Barium	**0.099**		0.0025		mg/L		10/18/13 14:52	10/18/13 17:37	1
Beryllium	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 17:37	1
Boron	**0.27**		0.050		mg/L		10/18/13 14:52	10/21/13 19:05	1
Cadmium	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:37	1
Chromium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/26/13 00:23	1
Cobalt	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 17:37	1
Copper	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 17:37	1
Iron	<0.10		0.10		mg/L		10/18/13 14:52	10/18/13 17:37	1
Lead	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:37	1
Manganese	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 17:37	1
Nickel	**0.0046**		0.0020		mg/L		10/18/13 14:52	10/18/13 17:37	1
Selenium	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 17:37	1
Silver	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:37	1
Thallium	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 17:37	1
Vanadium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/18/13 17:37	1
Zinc	<0.020		0.020		mg/L		10/18/13 14:52	10/18/13 17:37	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/21/13 15:15	10/22/13 10:05	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/17/13 10:15	10/17/13 15:55	1
Sulfate	**210**		50		mg/L			10/26/13 22:59	10
Chloride	**250**		10		mg/L			10/28/13 17:27	5
Nitrogen, Nitrate	**1.9**		0.10		mg/L			10/25/13 17:33	1
Total Dissolved Solids	**910**		10		mg/L			10/22/13 21:59	1
Fluoride	**0.47**		0.10		mg/L			10/20/13 18:08	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/16/13 19:45	1
Nitrogen, Nitrate Nitrite	**1.9**		0.10		mg/L			10/18/13 13:06	1

Client Sample ID: MW-4
Date Collected: 10/16/13 13:00
Date Received: 10/16/13 15:25

Lab Sample ID: 500-65066-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/23/13 00:10	1
Toluene	<0.00050		0.00050		mg/L			10/23/13 00:10	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/23/13 00:10	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/23/13 00:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 125*		*10/23/13 00:10*	*1*
Toluene-d8 (Surr)	*86*		*75 - 120*		*10/23/13 00:10*	*1*
4-Bromofluorobenzene (Surr)	*86*		*75 - 120*		*10/23/13 00:10*	*1*
Dibromofluoromethane	*99*		*75 - 120*		*10/23/13 00:10*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/01/13 20:55	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/18/13 14:52	10/28/13 15:29	1
Arsenic	**0.0012**		0.0010		mg/L		10/18/13 14:52	10/26/13 00:25	1
Barium	**0.089**		0.0025		mg/L		10/18/13 14:52	10/18/13 17:41	1
Beryllium	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 17:41	1
Boron	**0.45**		0.050		mg/L		10/18/13 14:52	10/21/13 19:15	1
Cadmium	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:41	1
Chromium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/26/13 00:25	1
Cobalt	**0.0048**		0.0010		mg/L		10/18/13 14:52	10/18/13 17:41	1
Copper	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 17:41	1
Iron	<0.10		0.10		mg/L		10/18/13 14:52	10/18/13 17:41	1
Lead	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:41	1
Manganese	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 17:41	1
Nickel	**0.0033**		0.0020		mg/L		10/18/13 14:52	10/18/13 17:41	1
Selenium	**0.0037**		0.0025		mg/L		10/18/13 14:52	10/18/13 17:41	1
Silver	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:41	1
Thallium	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 17:41	1
Vanadium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/18/13 17:41	1
Zinc	<0.020		0.020		mg/L		10/18/13 14:52	10/18/13 17:41	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/21/13 15:15	10/22/13 10:07	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/17/13 10:15	10/17/13 15:56	1
Sulfate	**230**		50		mg/L			10/26/13 23:00	10
Chloride	**210**		10		mg/L			10/28/13 17:31	5
Nitrogen, Nitrate	**2.5**		0.10		mg/L			10/25/13 17:33	1
Total Dissolved Solids	**860**		10		mg/L			10/22/13 22:02	1
Fluoride	**0.53**		0.10		mg/L			10/20/13 18:11	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/16/13 19:45	1
Nitrogen, Nitrate Nitrite	**2.5**		0.20		mg/L			10/18/13 13:46	2

Client Sample ID: MW-5
Date Collected: 10/15/13 15:05
Date Received: 10/16/13 15:25

Lab Sample ID: 500-65066-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/23/13 00:34	1
Toluene	<0.00050		0.00050		mg/L			10/23/13 00:34	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/23/13 00:34	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/23/13 00:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 125*		*10/23/13 00:34*	*1*
Toluene-d8 (Surr)	*86*		*75 - 120*		*10/23/13 00:34*	*1*
4-Bromofluorobenzene (Surr)	*86*		*75 - 120*		*10/23/13 00:34*	*1*
Dibromofluoromethane	*99*		*75 - 120*		*10/23/13 00:34*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/01/13 21:11	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/18/13 14:52	10/28/13 15:33	1
Arsenic	**0.0010**		0.0010		mg/L		10/18/13 14:52	10/26/13 00:26	1
Barium	**0.056**		0.0025		mg/L		10/18/13 14:52	10/18/13 17:44	1
Beryllium	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 17:44	1
Boron	**0.55**		0.050		mg/L		10/18/13 14:52	10/21/13 19:18	1
Cadmium	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:44	1
Chromium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/26/13 00:26	1
Cobalt	**0.0014**		0.0010		mg/L		10/18/13 14:52	10/18/13 17:44	1
Copper	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 17:44	1
Iron	<0.10		0.10		mg/L		10/18/13 14:52	10/18/13 17:44	1
Lead	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:44	1
Manganese	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 17:44	1
Nickel	**0.0030**		0.0020		mg/L		10/18/13 14:52	10/18/13 17:44	1
Selenium	**0.0026**		0.0025		mg/L		10/18/13 14:52	10/18/13 17:44	1
Silver	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:44	1
Thallium	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 17:44	1
Vanadium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/18/13 17:44	1
Zinc	<0.020		0.020		mg/L		10/18/13 14:52	10/18/13 17:44	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/21/13 15:15	10/22/13 10:09	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/17/13 10:15	10/17/13 15:57	1
Sulfate	**180**		50		mg/L			10/26/13 23:01	10
Chloride	**140**		10		mg/L			10/28/13 17:32	5
Nitrogen, Nitrate	**1.0**		0.10		mg/L			10/25/13 17:33	1
Total Dissolved Solids	**680**		10		mg/L			10/22/13 22:04	1
Fluoride	**0.41**		0.10		mg/L			10/20/13 18:14	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/16/13 19:45	1
Nitrogen, Nitrate Nitrite	**1.0**		0.10		mg/L			10/18/13 18:11	1

Client Sample ID: MW-6
Date Collected: 10/16/13 08:45
Date Received: 10/16/13 15:25

Lab Sample ID: 500-65066-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/23/13 00:59	1
Toluene	<0.00050		0.00050		mg/L			10/23/13 00:59	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/23/13 00:59	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/23/13 00:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 125*		*10/23/13 00:59*	*1*
Toluene-d8 (Surr)	*86*		*75 - 120*		*10/23/13 00:59*	*1*
4-Bromofluorobenzene (Surr)	*87*		*75 - 120*		*10/23/13 00:59*	*1*
Dibromofluoromethane	*97*		*75 - 120*		*10/23/13 00:59*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/01/13 21:26	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/18/13 14:52	10/28/13 15:37	1
Arsenic	**0.0016**		0.0010		mg/L		10/18/13 14:52	10/26/13 00:28	1
Barium	**0.11**		0.0025		mg/L		10/18/13 14:52	10/18/13 17:55	1
Beryllium	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 17:55	1
Boron	**0.22**		0.050		mg/L		10/18/13 14:52	10/21/13 19:22	1
Cadmium	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:55	1
Chromium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/26/13 00:28	1
Cobalt	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 17:55	1
Copper	**0.0025**		0.0020		mg/L		10/18/13 14:52	10/18/13 17:55	1
Iron	<0.10		0.10		mg/L		10/18/13 14:52	10/18/13 17:55	1
Lead	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:55	1
Manganese	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 17:55	1
Nickel	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 17:55	1
Selenium	**0.0035**		0.0025		mg/L		10/18/13 14:52	10/18/13 17:55	1
Silver	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:55	1
Thallium	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 17:55	1
Vanadium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/18/13 17:55	1
Zinc	<0.020		0.020		mg/L		10/18/13 14:52	10/18/13 17:55	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/21/13 15:15	10/22/13 10:12	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/17/13 10:15	10/17/13 15:57	1
Sulfate	**150**		25		mg/L			10/26/13 23:02	5
Chloride	**120**		10		mg/L			10/28/13 17:32	5
Nitrogen, Nitrate	**0.49**		0.10		mg/L			10/25/13 17:33	1
Total Dissolved Solids	**570**		10		mg/L			10/22/13 22:07	1
Fluoride	**0.35**		0.10		mg/L			10/20/13 18:18	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/16/13 19:46	1
Nitrogen, Nitrate Nitrite	**0.49**		0.10		mg/L			10/18/13 18:14	1

Client Sample ID: MW-7
Date Collected: 10/16/13 11:20
Date Received: 10/16/13 15:25

Lab Sample ID: 500-65066-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/23/13 01:23	1
Toluene	<0.00050		0.00050		mg/L			10/23/13 01:23	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/23/13 01:23	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/23/13 01:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 125*		*10/23/13 01:23*	*1*
Toluene-d8 (Surr)	*82*		*75 - 120*		*10/23/13 01:23*	*1*
4-Bromofluorobenzene (Surr)	*86*		*75 - 120*		*10/23/13 01:23*	*1*
Dibromofluoromethane	*98*		*75 - 120*		*10/23/13 01:23*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/01/13 21:42	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/18/13 14:52	10/28/13 15:40	1
Arsenic	**0.0013**		0.0010		mg/L		10/18/13 14:52	10/26/13 00:29	1
Barium	**0.13**		0.0025		mg/L		10/18/13 14:52	10/18/13 17:59	1
Beryllium	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 17:59	1
Boron	**0.24**		0.050		mg/L		10/18/13 14:52	10/21/13 19:25	1
Cadmium	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:59	1
Chromium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/26/13 00:29	1
Cobalt	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 17:59	1
Copper	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 17:59	1
Iron	<0.10		0.10		mg/L		10/18/13 14:52	10/18/13 17:59	1
Lead	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:59	1
Manganese	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 17:59	1
Nickel	**0.0021**		0.0020		mg/L		10/18/13 14:52	10/18/13 17:59	1
Selenium	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 17:59	1
Silver	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:59	1
Thallium	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 17:59	1
Vanadium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/18/13 17:59	1
Zinc	<0.020		0.020		mg/L		10/18/13 14:52	10/18/13 17:59	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/21/13 15:15	10/22/13 10:15	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/17/13 10:15	10/17/13 15:57	1
Sulfate	**190**		50		mg/L			10/26/13 23:03	10
Chloride	**130**		10		mg/L			10/28/13 17:33	5
Nitrogen, Nitrate	**0.65**		0.10		mg/L			10/25/13 17:33	1
Total Dissolved Solids	**650**		10		mg/L			10/22/13 22:09	1
Fluoride	**0.32**		0.10		mg/L			10/20/13 18:31	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/16/13 19:46	1
Nitrogen, Nitrate Nitrite	**0.65**		0.10		mg/L			10/18/13 18:16	1

Client Sample ID: MW-8
Date Collected: 10/15/13 17:25
Date Received: 10/16/13 15:25

Lab Sample ID: 500-65066-7
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/23/13 01:48	1
Toluene	<0.00050		0.00050		mg/L			10/23/13 01:48	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/23/13 01:48	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/23/13 01:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 125*		*10/23/13 01:48*	*1*
Toluene-d8 (Surr)	*86*		*75 - 120*		*10/23/13 01:48*	*1*
4-Bromofluorobenzene (Surr)	*87*		*75 - 120*		*10/23/13 01:48*	*1*
Dibromofluoromethane	*97*		*75 - 120*		*10/23/13 01:48*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/01/13 22:28	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/18/13 14:52	10/28/13 15:44	1
Arsenic	<0.0010		0.0010		mg/L		10/18/13 14:52	10/26/13 00:31	1
Barium	**0.045**		0.0025		mg/L		10/18/13 14:52	10/18/13 18:02	1
Beryllium	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 18:02	1
Boron	**0.19**		0.050		mg/L		10/18/13 14:52	10/21/13 19:28	1
Cadmium	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 18:02	1
Chromium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/26/13 00:31	1
Cobalt	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 18:02	1
Copper	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 18:02	1
Iron	<0.10		0.10		mg/L		10/18/13 14:52	10/18/13 18:02	1
Lead	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 18:02	1
Manganese	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 18:02	1
Nickel	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 18:02	1
Selenium	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 18:02	1
Silver	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 18:02	1
Thallium	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 18:02	1
Vanadium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/21/13 19:28	1
Zinc	<0.020		0.020		mg/L		10/18/13 14:52	10/18/13 18:02	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/21/13 12:00	10/22/13 11:07	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/17/13 10:15	10/17/13 15:58	1
Sulfate	**74**		20		mg/L			10/27/13 01:14	4
Chloride	**110**		10		mg/L			10/28/13 17:34	5
Nitrogen, Nitrate	**1.2**		0.10		mg/L			10/25/13 17:33	1
Total Dissolved Solids	**560**		10		mg/L			10/22/13 22:12	1
Fluoride	**0.36**		0.10		mg/L			10/20/13 18:35	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/16/13 19:46	1
Nitrogen, Nitrate Nitrite	**1.2**		0.10		mg/L			10/18/13 18:18	1

Client Sample ID: MW-9
Date Collected: 10/15/13 11:10
Date Received: 10/16/13 15:25

Lab Sample ID: 500-65066-8
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/23/13 02:12	1
Toluene	<0.00050		0.00050		mg/L			10/23/13 02:12	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/23/13 02:12	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/23/13 02:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 125*		*10/23/13 02:12*	*1*
Toluene-d8 (Surr)	*85*		*75 - 120*		*10/23/13 02:12*	*1*
4-Bromofluorobenzene (Surr)	*87*		*75 - 120*		*10/23/13 02:12*	*1*
Dibromofluoromethane	*99*		*75 - 120*		*10/23/13 02:12*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/01/13 22:43	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/18/13 14:52	10/28/13 15:47	1
Arsenic	<0.0010		0.0010		mg/L		10/18/13 14:52	10/26/13 00:32	1
Barium	**0.019**		0.0025		mg/L		10/18/13 14:52	10/18/13 18:06	1
Beryllium	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 18:06	1
Boron	**0.29**		0.050		mg/L		10/18/13 14:52	10/21/13 19:32	1
Cadmium	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 18:06	1
Chromium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/26/13 00:32	1
Cobalt	**0.0056**		0.0010		mg/L		10/18/13 14:52	10/18/13 18:06	1
Copper	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 18:06	1
Iron	**25**		0.10		mg/L		10/18/13 14:52	10/18/13 18:06	1
Lead	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 18:06	1
Manganese	**0.52**		0.0025		mg/L		10/18/13 14:52	10/18/13 18:06	1
Nickel	**0.0090**		0.0020		mg/L		10/18/13 14:52	10/18/13 18:06	1
Selenium	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 18:06	1
Silver	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 18:06	1
Thallium	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 18:06	1
Vanadium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/21/13 19:32	1
Zinc	<0.020		0.020		mg/L		10/18/13 14:52	10/18/13 18:06	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/21/13 12:00	10/22/13 11:09	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/17/13 10:15	10/17/13 15:58	1
Sulfate	**680**		130		mg/L			10/27/13 01:15	25
Chloride	**280**		10		mg/L			10/28/13 17:34	5
Nitrogen, Nitrate	**0.11**		0.10		mg/L			10/25/13 17:33	1
Total Dissolved Solids	**1700**		10		mg/L			10/22/13 22:14	1
Fluoride	**0.53**		0.10		mg/L			10/20/13 18:38	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/16/13 19:46	1
Nitrogen, Nitrate Nitrite	**0.11**		0.10		mg/L			10/18/13 18:20	1

Client Sample ID: MW-10
Date Collected: 10/15/13 13:40
Date Received: 10/16/13 15:25

Lab Sample ID: 500-65066-9
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/23/13 02:37	1
Toluene	<0.00050		0.00050		mg/L			10/23/13 02:37	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/23/13 02:37	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/23/13 02:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 125*		*10/23/13 02:37*	*1*
Toluene-d8 (Surr)	*86*		*75 - 120*		*10/23/13 02:37*	*1*
4-Bromofluorobenzene (Surr)	*85*		*75 - 120*		*10/23/13 02:37*	*1*
Dibromofluoromethane	*99*		*75 - 120*		*10/23/13 02:37*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/01/13 22:59	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/18/13 14:52	10/28/13 15:51	1
Arsenic	<0.0010		0.0010		mg/L		10/18/13 14:52	10/26/13 00:37	1
Barium	**0.044**		0.0025		mg/L		10/18/13 14:52	10/18/13 18:09	1
Beryllium	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 18:09	1
Boron	**0.42**		0.050		mg/L		10/18/13 14:52	10/21/13 19:35	1
Cadmium	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 18:09	1
Chromium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/26/13 00:37	1
Cobalt	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 18:09	1
Copper	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 18:09	1
Iron	<0.10		0.10		mg/L		10/18/13 14:52	10/18/13 18:09	1
Lead	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 18:09	1
Manganese	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 18:09	1
Nickel	**0.0024**		0.0020		mg/L		10/18/13 14:52	10/18/13 18:09	1
Selenium	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 18:09	1
Silver	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 18:09	1
Thallium	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 18:09	1
Vanadium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/18/13 18:09	1
Zinc	<0.020		0.020		mg/L		10/18/13 14:52	10/18/13 18:09	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/21/13 12:00	10/22/13 11:11	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/17/13 10:15	10/17/13 15:59	1
Sulfate	**140**		50		mg/L			10/27/13 01:16	10
Chloride	**220**		10		mg/L			10/28/13 17:35	5
Nitrogen, Nitrate	**2.3**		0.10		mg/L			10/25/13 17:33	1
Total Dissolved Solids	**880**		10		mg/L			10/22/13 22:17	1
Fluoride	***0.50***		0.10		mg/L			10/20/13 18:42	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/16/13 19:47	1
Nitrogen, Nitrate Nitrite	**2.3**		0.50		mg/L			10/18/13 19:22	5

Client Sample ID: MW-11
Date Collected: 10/15/13 16:10
Date Received: 10/16/13 15:25

Lab Sample ID: 500-65066-10
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/23/13 03:01	1
Toluene	<0.00050		0.00050		mg/L			10/23/13 03:01	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/23/13 03:01	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/23/13 03:01	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 125*		*10/23/13 03:01*	*1*
Toluene-d8 (Surr)	*86*		*75 - 120*		*10/23/13 03:01*	*1*
4-Bromofluorobenzene (Surr)	*85*		*75 - 120*		*10/23/13 03:01*	*1*
Dibromofluoromethane	*101*		*75 - 120*		*10/23/13 03:01*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/01/13 23:14	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/18/13 14:52	10/28/13 15:54	1
Arsenic	**0.0015**		0.0010		mg/L		10/18/13 14:52	10/26/13 00:39	1
Barium	**0.060**		0.0025		mg/L		10/18/13 14:52	10/18/13 18:13	1
Beryllium	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 18:13	1
Boron	**0.49**		0.050		mg/L		10/18/13 14:52	10/21/13 19:39	1
Cadmium	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 18:13	1
Chromium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/26/13 00:39	1
Cobalt	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 18:13	1
Copper	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 18:13	1
Iron	<0.10		0.10		mg/L		10/18/13 14:52	10/18/13 18:13	1
Lead	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 18:13	1
Manganese	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 18:13	1
Nickel	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 18:13	1
Selenium	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 18:13	1
Silver	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 18:13	1
Thallium	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 18:13	1
Vanadium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/18/13 18:13	1
Zinc	<0.020		0.020		mg/L		10/18/13 14:52	10/18/13 18:13	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/21/13 12:00	10/22/13 11:13	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/17/13 10:15	10/17/13 15:59	1
Sulfate	**110**		25		mg/L			10/27/13 01:17	5
Chloride	**140**		10		mg/L			10/28/13 17:35	5
Nitrogen, Nitrate	**0.79**		0.10		mg/L			10/25/13 17:33	1
Total Dissolved Solids	**690**		10		mg/L			10/22/13 22:19	1
Fluoride	**0.31**		0.10		mg/L			10/20/13 18:46	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/16/13 19:47	1
Nitrogen, Nitrate Nitrite	**0.79**		0.10		mg/L			10/18/13 18:29	1

Client Sample ID: Duplicate
Date Collected: 10/15/13 00:00
Date Received: 10/16/13 15:25

Lab Sample ID: 500-65066-11
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/23/13 03:25	1
Toluene	<0.00050		0.00050		mg/L			10/23/13 03:25	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/23/13 03:25	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/23/13 03:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 125*		*10/23/13 03:25*	*1*
Toluene-d8 (Surr)	*86*		*75 - 120*		*10/23/13 03:25*	*1*
4-Bromofluorobenzene (Surr)	*89*		*75 - 120*		*10/23/13 03:25*	*1*
Dibromofluoromethane	*99*		*75 - 120*		*10/23/13 03:25*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/01/13 23:29	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/18/13 14:52	10/28/13 15:58	1
Arsenic	<0.0010		0.0010		mg/L		10/18/13 14:52	10/26/13 00:40	1
Barium	**0.019**		0.0025		mg/L		10/18/13 14:52	10/18/13 18:17	1
Beryllium	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 18:17	1
Boron	**0.29**		0.050		mg/L		10/18/13 14:52	10/21/13 19:42	1
Cadmium	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 18:17	1
Chromium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/26/13 00:40	1
Cobalt	**0.0054**		0.0010		mg/L		10/18/13 14:52	10/18/13 18:17	1
Copper	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 18:17	1
Iron	**23**		0.10		mg/L		10/18/13 14:52	10/18/13 18:17	1
Lead	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 18:17	1
Manganese	**0.51**		0.0025		mg/L		10/18/13 14:52	10/18/13 18:17	1
Nickel	**0.0097**		0.0020		mg/L		10/18/13 14:52	10/18/13 18:17	1
Selenium	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 18:17	1
Silver	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 18:17	1
Thallium	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 18:17	1
Vanadium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/21/13 19:42	1
Zinc	<0.020		0.020		mg/L		10/18/13 14:52	10/18/13 18:17	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/21/13 12:00	10/22/13 11:15	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/17/13 10:15	10/17/13 16:00	1
Sulfate	**830**		250		mg/L			10/27/13 01:18	50
Chloride	**290**		10		mg/L			10/28/13 17:38	5
Nitrogen, Nitrate	**0.14**		0.10		mg/L			10/25/13 17:33	1
Total Dissolved Solids	**1600**		10		mg/L			10/22/13 22:22	1
Fluoride	**0.54**		0.10		mg/L			10/20/13 18:49	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/16/13 19:48	1
Nitrogen, Nitrate Nitrite	**0.14**		0.10		mg/L			10/18/13 18:31	1

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-65066-1

Client Sample ID: Trip Blank
Date Collected: 10/15/13 00:00
Date Received: 10/16/13 15:25

Lab Sample ID: 500-65066-12
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/22/13 22:57	1
Toluene	<0.00050		0.00050		mg/L			10/22/13 22:57	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/22/13 22:57	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/22/13 22:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 125*		*10/22/13 22:57*	*1*
Toluene-d8 (Surr)	*86*		*75 - 120*		*10/22/13 22:57*	*1*
4-Bromofluorobenzene (Surr)	*87*		*75 - 120*		*10/22/13 22:57*	*1*
Dibromofluoromethane	*97*		*75 - 120*		*10/22/13 22:57*	*1*

Qualifiers

Metals

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits

General Chemistry

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA

Analysis Batch: 208155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Total/NA	Water	8260B	
500-65066-2	MW-3	Total/NA	Water	8260B	
500-65066-3	MW-4	Total/NA	Water	8260B	
500-65066-4	MW-5	Total/NA	Water	8260B	
500-65066-5	MW-6	Total/NA	Water	8260B	
500-65066-6	MW-7	Total/NA	Water	8260B	
500-65066-7	MW-8	Total/NA	Water	8260B	
500-65066-8	MW-9	Total/NA	Water	8260B	
500-65066-9	MW-10	Total/NA	Water	8260B	
500-65066-10	MW-11	Total/NA	Water	8260B	
500-65066-11	Duplicate	Total/NA	Water	8260B	
500-65066-11 MS	Duplicate	Total/NA	Water	8260B	
500-65066-11 MSD	Duplicate	Total/NA	Water	8260B	
500-65066-12	Trip Blank	Total/NA	Water	8260B	
LCS 500-208155/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-208155/7	Method Blank	Total/NA	Water	8260B	

HPLC/IC

Analysis Batch: 28990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Total/NA	Water	314.0	
500-65066-2	MW-3	Total/NA	Water	314.0	
500-65066-3	MW-4	Total/NA	Water	314.0	
500-65066-4	MW-5	Total/NA	Water	314.0	
500-65066-5	MW-6	Total/NA	Water	314.0	
500-65066-6	MW-7	Total/NA	Water	314.0	
500-65066-7	MW-8	Total/NA	Water	314.0	
500-65066-8	MW-9	Total/NA	Water	314.0	
500-65066-9	MW-10	Total/NA	Water	314.0	
500-65066-10	MW-11	Total/NA	Water	314.0	
500-65066-11	Duplicate	Total/NA	Water	314.0	
LCS 320-28990/7	Lab Control Sample	Total/NA	Water	314.0	
MB 320-28990/6	Method Blank	Total/NA	Water	314.0	
MRL 320-28990/5 MRL	Lab Control Sample	Total/NA	Water	314.0	

Metals

Prep Batch: 207725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Dissolved	Water	Soluble Metals	
500-65066-1 DU	MW-2	Dissolved	Water	Soluble Metals	
500-65066-1 MS	MW-2	Dissolved	Water	Soluble Metals	
500-65066-1 MSD	MW-2	Dissolved	Water	Soluble Metals	
500-65066-2	MW-3	Dissolved	Water	Soluble Metals	
500-65066-3	MW-4	Dissolved	Water	Soluble Metals	
500-65066-4	MW-5	Dissolved	Water	Soluble Metals	
500-65066-5	MW-6	Dissolved	Water	Soluble Metals	
500-65066-6	MW-7	Dissolved	Water	Soluble Metals	
500-65066-7	MW-8	Dissolved	Water	Soluble Metals	

Metals (Continued)

Prep Batch: 207725 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-8	MW-9	Dissolved	Water	Soluble Metals	
500-65066-9	MW-10	Dissolved	Water	Soluble Metals	
500-65066-10	MW-11	Dissolved	Water	Soluble Metals	
500-65066-11	Duplicate	Dissolved	Water	Soluble Metals	
LCS 500-207725/2-A	Lab Control Sample	Soluble	Water	Soluble Metals	
MB 500-207725/1-A	Method Blank	Soluble	Water	Soluble Metals	

Analysis Batch: 207888

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Dissolved	Water	6020A	207725
500-65066-1 DU	MW-2	Dissolved	Water	6020A	207725
500-65066-1 MS	MW-2	Dissolved	Water	6020A	207725
500-65066-1 MSD	MW-2	Dissolved	Water	6020A	207725
500-65066-2	MW-3	Dissolved	Water	6020A	207725
500-65066-3	MW-4	Dissolved	Water	6020A	207725
500-65066-4	MW-5	Dissolved	Water	6020A	207725
500-65066-5	MW-6	Dissolved	Water	6020A	207725
500-65066-6	MW-7	Dissolved	Water	6020A	207725
500-65066-7	MW-8	Dissolved	Water	6020A	207725
500-65066-8	MW-9	Dissolved	Water	6020A	207725
500-65066-9	MW-10	Dissolved	Water	6020A	207725
500-65066-10	MW-11	Dissolved	Water	6020A	207725
500-65066-11	Duplicate	Dissolved	Water	6020A	207725
LCS 500-207725/2-A	Lab Control Sample	Soluble	Water	6020A	207725
MB 500-207725/1-A	Method Blank	Soluble	Water	6020A	207725

Prep Batch: 207955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-7	MW-8	Dissolved	Water	7470A	
500-65066-8	MW-9	Dissolved	Water	7470A	
500-65066-9	MW-10	Dissolved	Water	7470A	
500-65066-10	MW-11	Dissolved	Water	7470A	
500-65066-11	Duplicate	Dissolved	Water	7470A	
LCS 500-207955/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-207955/12-A	Method Blank	Total/NA	Water	7470A	

Prep Batch: 208006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Dissolved	Water	7470A	
500-65066-2	MW-3	Dissolved	Water	7470A	
500-65066-3	MW-4	Dissolved	Water	7470A	
500-65066-4	MW-5	Dissolved	Water	7470A	
500-65066-5	MW-6	Dissolved	Water	7470A	
500-65066-6	MW-7	Dissolved	Water	7470A	
LCS 500-208006/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-208006/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 208073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Dissolved	Water	6020A	207725
500-65066-1 DU	MW-2	Dissolved	Water	6020A	207725

Metals (Continued)

Analysis Batch: 208073 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1 MS	MW-2	Dissolved	Water	6020A	207725
500-65066-1 MSD	MW-2	Dissolved	Water	6020A	207725
500-65066-2	MW-3	Dissolved	Water	6020A	207725
500-65066-3	MW-4	Dissolved	Water	6020A	207725
500-65066-4	MW-5	Dissolved	Water	6020A	207725
500-65066-5	MW-6	Dissolved	Water	6020A	207725
500-65066-6	MW-7	Dissolved	Water	6020A	207725
500-65066-7	MW-8	Dissolved	Water	6020A	207725
500-65066-8	MW-9	Dissolved	Water	6020A	207725
500-65066-9	MW-10	Dissolved	Water	6020A	207725
500-65066-10	MW-11	Dissolved	Water	6020A	207725
500-65066-11	Duplicate	Dissolved	Water	6020A	207725
LCS 500-207725/2-A	Lab Control Sample	Soluble	Water	6020A	207725
MB 500-207725/1-A	Method Blank	Soluble	Water	6020A	207725

Analysis Batch: 208171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-7	MW-8	Dissolved	Water	7470A	207955
500-65066-8	MW-9	Dissolved	Water	7470A	207955
500-65066-9	MW-10	Dissolved	Water	7470A	207955
500-65066-10	MW-11	Dissolved	Water	7470A	207955
500-65066-11	Duplicate	Dissolved	Water	7470A	207955
LCS 500-207955/13-A	Lab Control Sample	Total/NA	Water	7470A	207955
MB 500-207955/12-A	Method Blank	Total/NA	Water	7470A	207955

Analysis Batch: 208174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Dissolved	Water	7470A	208006
500-65066-2	MW-3	Dissolved	Water	7470A	208006
500-65066-3	MW-4	Dissolved	Water	7470A	208006
500-65066-4	MW-5	Dissolved	Water	7470A	208006
500-65066-5	MW-6	Dissolved	Water	7470A	208006
500-65066-6	MW-7	Dissolved	Water	7470A	208006
LCS 500-208006/13-A	Lab Control Sample	Total/NA	Water	7470A	208006
MB 500-208006/12-A	Method Blank	Total/NA	Water	7470A	208006

Analysis Batch: 208962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Dissolved	Water	6020A	207725
500-65066-1 DU	MW-2	Dissolved	Water	6020A	207725
500-65066-1 MS	MW-2	Dissolved	Water	6020A	207725
500-65066-1 MSD	MW-2	Dissolved	Water	6020A	207725
500-65066-2	MW-3	Dissolved	Water	6020A	207725
500-65066-3	MW-4	Dissolved	Water	6020A	207725
500-65066-4	MW-5	Dissolved	Water	6020A	207725
500-65066-5	MW-6	Dissolved	Water	6020A	207725
500-65066-6	MW-7	Dissolved	Water	6020A	207725
500-65066-7	MW-8	Dissolved	Water	6020A	207725
500-65066-8	MW-9	Dissolved	Water	6020A	207725
500-65066-9	MW-10	Dissolved	Water	6020A	207725
500-65066-10	MW-11	Dissolved	Water	6020A	207725

Metals (Continued)

Analysis Batch: 208962 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-11	Duplicate	Dissolved	Water	6020A	207725
LCS 500-207725/2-A	Lab Control Sample	Soluble	Water	6020A	207725
MB 500-207725/1-A	Method Blank	Soluble	Water	6020A	207725

Analysis Batch: 209130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Dissolved	Water	6020A	207725
500-65066-1 DU	MW-2	Dissolved	Water	6020A	207725
500-65066-1 MS	MW-2	Dissolved	Water	6020A	207725
500-65066-1 MSD	MW-2	Dissolved	Water	6020A	207725
500-65066-2	MW-3	Dissolved	Water	6020A	207725
500-65066-3	MW-4	Dissolved	Water	6020A	207725
500-65066-4	MW-5	Dissolved	Water	6020A	207725
500-65066-5	MW-6	Dissolved	Water	6020A	207725
500-65066-6	MW-7	Dissolved	Water	6020A	207725
500-65066-7	MW-8	Dissolved	Water	6020A	207725
500-65066-8	MW-9	Dissolved	Water	6020A	207725
500-65066-9	MW-10	Dissolved	Water	6020A	207725
500-65066-10	MW-11	Dissolved	Water	6020A	207725
500-65066-11	Duplicate	Dissolved	Water	6020A	207725
LCS 500-207725/2-A	Lab Control Sample	Soluble	Water	6020A	207725
MB 500-207725/1-A	Method Blank	Soluble	Water	6020A	207725

General Chemistry

Prep Batch: 207446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Dissolved	Water	9010B	
500-65066-2	MW-3	Dissolved	Water	9010B	
500-65066-3	MW-4	Dissolved	Water	9010B	
500-65066-4	MW-5	Dissolved	Water	9010B	
500-65066-5	MW-6	Dissolved	Water	9010B	
500-65066-6	MW-7	Dissolved	Water	9010B	
500-65066-7	MW-8	Dissolved	Water	9010B	
500-65066-8	MW-9	Dissolved	Water	9010B	
500-65066-9	MW-10	Dissolved	Water	9010B	
500-65066-10	MW-11	Dissolved	Water	9010B	
500-65066-11	Duplicate	Dissolved	Water	9010B	
LCS 500-207446/2-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-207446/1-A	Method Blank	Total/NA	Water	9010B	

Analysis Batch: 207455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Dissolved	Water	SM 4500 NO2 B	
500-65066-2	MW-3	Dissolved	Water	SM 4500 NO2 B	
500-65066-3	MW-4	Dissolved	Water	SM 4500 NO2 B	
500-65066-4	MW-5	Dissolved	Water	SM 4500 NO2 B	
500-65066-5	MW-6	Dissolved	Water	SM 4500 NO2 B	
500-65066-6	MW-7	Dissolved	Water	SM 4500 NO2 B	
500-65066-7	MW-8	Dissolved	Water	SM 4500 NO2 B	

General Chemistry (Continued)

Analysis Batch: 207455 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-8	MW-9	Dissolved	Water	SM 4500 NO2 B	
500-65066-9	MW-10	Dissolved	Water	SM 4500 NO2 B	
500-65066-10	MW-11	Dissolved	Water	SM 4500 NO2 B	
500-65066-11	Duplicate	Dissolved	Water	SM 4500 NO2 B	
LCS 500-207455/63	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-207455/62	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 207630

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Dissolved	Water	9014	207446
500-65066-2	MW-3	Dissolved	Water	9014	207446
500-65066-3	MW-4	Dissolved	Water	9014	207446
500-65066-4	MW-5	Dissolved	Water	9014	207446
500-65066-5	MW-6	Dissolved	Water	9014	207446
500-65066-6	MW-7	Dissolved	Water	9014	207446
500-65066-7	MW-8	Dissolved	Water	9014	207446
500-65066-8	MW-9	Dissolved	Water	9014	207446
500-65066-9	MW-10	Dissolved	Water	9014	207446
500-65066-10	MW-11	Dissolved	Water	9014	207446
500-65066-11	Duplicate	Dissolved	Water	9014	207446
LCS 500-207446/2-A	Lab Control Sample	Total/NA	Water	9014	207446
MB 500-207446/1-A	Method Blank	Total/NA	Water	9014	207446

Analysis Batch: 207758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Dissolved	Water	SM 4500 NO3 F	
500-65066-2	MW-3	Dissolved	Water	SM 4500 NO3 F	
500-65066-3	MW-4	Dissolved	Water	SM 4500 NO3 F	
500-65066-3 MS	MW-4	Dissolved	Water	SM 4500 NO3 F	
500-65066-3 MSD	MW-4	Dissolved	Water	SM 4500 NO3 F	
LCS 500-207758/5	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-207758/4	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 207898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-4	MW-5	Dissolved	Water	SM 4500 NO3 F	
500-65066-5	MW-6	Dissolved	Water	SM 4500 NO3 F	
500-65066-6	MW-7	Dissolved	Water	SM 4500 NO3 F	
500-65066-7	MW-8	Dissolved	Water	SM 4500 NO3 F	
500-65066-8	MW-9	Dissolved	Water	SM 4500 NO3 F	
500-65066-9	MW-10	Dissolved	Water	SM 4500 NO3 F	
500-65066-10	MW-11	Dissolved	Water	SM 4500 NO3 F	
500-65066-11	Duplicate	Dissolved	Water	SM 4500 NO3 F	
LCS 500-207898/4	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-207898/3	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 208044

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Dissolved	Water	SM 4500 F C	
500-65066-1 MS	MW-2	Dissolved	Water	SM 4500 F C	
500-65066-1 MSD	MW-2	Dissolved	Water	SM 4500 F C	

General Chemistry (Continued)

Analysis Batch: 208044 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-2	MW-3	Dissolved	Water	SM 4500 F C	
500-65066-3	MW-4	Dissolved	Water	SM 4500 F C	
500-65066-4	MW-5	Dissolved	Water	SM 4500 F C	
500-65066-5	MW-6	Dissolved	Water	SM 4500 F C	
500-65066-6	MW-7	Dissolved	Water	SM 4500 F C	
500-65066-7	MW-8	Dissolved	Water	SM 4500 F C	
500-65066-8	MW-9	Dissolved	Water	SM 4500 F C	
500-65066-9	MW-10	Dissolved	Water	SM 4500 F C	
500-65066-10	MW-11	Dissolved	Water	SM 4500 F C	
500-65066-11	Duplicate	Dissolved	Water	SM 4500 F C	
LCS 500-208044/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-208044/3	Method Blank	Total/NA	Water	SM 4500 F C	

Analysis Batch: 208224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Dissolved	Water	SM 2540C	
500-65066-2	MW-3	Dissolved	Water	SM 2540C	
500-65066-3	MW-4	Dissolved	Water	SM 2540C	
500-65066-4	MW-5	Dissolved	Water	SM 2540C	
500-65066-5	MW-6	Dissolved	Water	SM 2540C	
500-65066-6	MW-7	Dissolved	Water	SM 2540C	
500-65066-7	MW-8	Dissolved	Water	SM 2540C	
500-65066-8	MW-9	Dissolved	Water	SM 2540C	
500-65066-9	MW-10	Dissolved	Water	SM 2540C	
500-65066-10	MW-11	Dissolved	Water	SM 2540C	
500-65066-11	Duplicate	Dissolved	Water	SM 2540C	
LCS 500-208224/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-208224/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 208820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Dissolved	Water	Nitrate by calc	
500-65066-2	MW-3	Dissolved	Water	Nitrate by calc	
500-65066-3	MW-4	Dissolved	Water	Nitrate by calc	
500-65066-4	MW-5	Dissolved	Water	Nitrate by calc	
500-65066-5	MW-6	Dissolved	Water	Nitrate by calc	
500-65066-6	MW-7	Dissolved	Water	Nitrate by calc	
500-65066-7	MW-8	Dissolved	Water	Nitrate by calc	
500-65066-8	MW-9	Dissolved	Water	Nitrate by calc	
500-65066-9	MW-10	Dissolved	Water	Nitrate by calc	
500-65066-10	MW-11	Dissolved	Water	Nitrate by calc	
500-65066-11	Duplicate	Dissolved	Water	Nitrate by calc	

Analysis Batch: 208933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Dissolved	Water	9038	
500-65066-2	MW-3	Dissolved	Water	9038	
500-65066-3	MW-4	Dissolved	Water	9038	
500-65066-4	MW-5	Dissolved	Water	9038	
500-65066-5	MW-6	Dissolved	Water	9038	
500-65066-6	MW-7	Dissolved	Water	9038	

General Chemistry (Continued)

Analysis Batch: 208933 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-208933/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-208933/3	Method Blank	Total/NA	Water	9038	

Analysis Batch: 208935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-7	MW-8	Dissolved	Water	9038	
500-65066-8	MW-9	Dissolved	Water	9038	
500-65066-9	MW-10	Dissolved	Water	9038	
500-65066-10	MW-11	Dissolved	Water	9038	
500-65066-11	Duplicate	Dissolved	Water	9038	
LCS 500-208935/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-208935/3	Method Blank	Total/NA	Water	9038	

Analysis Batch: 209102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65066-1	MW-2	Dissolved	Water	9251	
500-65066-2	MW-3	Dissolved	Water	9251	
500-65066-3	MW-4	Dissolved	Water	9251	
500-65066-4	MW-5	Dissolved	Water	9251	
500-65066-5	MW-6	Dissolved	Water	9251	
500-65066-6	MW-7	Dissolved	Water	9251	
500-65066-7	MW-8	Dissolved	Water	9251	
500-65066-8	MW-9	Dissolved	Water	9251	
500-65066-9	MW-10	Dissolved	Water	9251	
500-65066-10	MW-11	Dissolved	Water	9251	
500-65066-10 MS	MW-11	Dissolved	Water	9251	
500-65066-10 MSD	MW-11	Dissolved	Water	9251	
500-65066-11	Duplicate	Dissolved	Water	9251	
LCS 500-209102/5	Lab Control Sample	Total/NA	Water	9251	
MB 500-209102/4	Method Blank	Total/NA	Water	9251	

Surrogate Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-65066-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(75-125)	(75-120)	(75-120)	(75-120)
500-65066-1	MW-2	98	86	89	101
500-65066-2	MW-3	98	87	85	100
500-65066-3	MW-4	98	86	86	99
500-65066-4	MW-5	99	86	86	99
500-65066-5	MW-6	97	86	87	97
500-65066-6	MW-7	98	82	86	98
500-65066-7	MW-8	99	86	87	97
500-65066-8	MW-9	96	85	87	99
500-65066-9	MW-10	99	86	85	99
500-65066-10	MW-11	99	86	85	101
500-65066-11	Duplicate	98	86	89	99
500-65066-11 MS	Duplicate	99	85	86	101
500-65066-11 MSD	Duplicate	100	86	85	100
500-65066-12	Trip Blank	95	86	87	97
LCS 500-208155/4	Lab Control Sample	95	86	84	98
MB 500-208155/7	Method Blank	97	85	87	98

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-208155/7
Matrix: Water
Analysis Batch: 208155

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/22/13 22:32	1
Toluene	<0.00050		0.00050		mg/L			10/22/13 22:32	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/22/13 22:32	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/22/13 22:32	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 125*		*10/22/13 22:32*	*1*
Toluene-d8 (Surr)	*85*		*75 - 120*		*10/22/13 22:32*	*1*
4-Bromofluorobenzene (Surr)	*87*		*75 - 120*		*10/22/13 22:32*	*1*
Dibromofluoromethane	*98*		*75 - 120*		*10/22/13 22:32*	*1*

Lab Sample ID: LCS 500-208155/4
Matrix: Water
Analysis Batch: 208155

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0458		mg/L		92	70 - 120
Toluene	0.0500	0.0448		mg/L		90	70 - 120
Ethylbenzene	0.0500	0.0465		mg/L		93	75 - 120
Xylenes, Total	0.100	0.0938		mg/L		94	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 125*
Toluene-d8 (Surr)	*86*		*75 - 120*
4-Bromofluorobenzene (Surr)	*84*		*75 - 120*
Dibromofluoromethane	*98*		*75 - 120*

Lab Sample ID: 500-65066-11 MS
Matrix: Water
Analysis Batch: 208155

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00050		0.0500	0.0439		mg/L		88	70 - 120
Toluene	<0.00050		0.0500	0.0424		mg/L		85	70 - 120
Ethylbenzene	<0.00050		0.0500	0.0441		mg/L		88	75 - 120
Xylenes, Total	<0.0010		0.100	0.0913		mg/L		91	70 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 125*
Toluene-d8 (Surr)	*85*		*75 - 120*
4-Bromofluorobenzene (Surr)	*86*		*75 - 120*
Dibromofluoromethane	*101*		*75 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-65066-11 MSD
Matrix: Water
Analysis Batch: 208155

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00050		0.0500	0.0455		mg/L		91	70 - 120	4	20
Toluene	<0.00050		0.0500	0.0443		mg/L		89	70 - 120	4	20
Ethylbenzene	<0.00050		0.0500	0.0458		mg/L		92	75 - 120	4	20
Xylenes, Total	<0.0010		0.100	0.0935		mg/L		93	70 - 120	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*
Toluene-d8 (Surr)	*86*		*75 - 120*
4-Bromofluorobenzene (Surr)	*85*		*75 - 120*
Dibromofluoromethane	*100*		*75 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-28990/6
Matrix: Water
Analysis Batch: 28990

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/01/13 19:22	1

Lab Sample ID: LCS 320-28990/7
Matrix: Water
Analysis Batch: 28990

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	0.0500	0.0506		mg/L		101	85 - 115

Lab Sample ID: MRL 320-28990/5 MRL
Matrix: Water
Analysis Batch: 28990

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	<4.0		ug/L		92	75 - 125

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: 500-65066-1 MS
Matrix: Water
Analysis Batch: 207888

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 207725

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.093		0.500	0.621		mg/L		106	75 - 125
Beryllium	<0.0010		0.0500	0.0540		mg/L		108	75 - 125
Cadmium	<0.00050		0.0500	0.0543		mg/L		108	75 - 125
Cobalt	<0.0010		0.500	0.522		mg/L		104	75 - 125
Copper	<0.0020		0.250	0.264		mg/L		105	75 - 125
Iron	<0.10		1.00	1.09		mg/L		109	75 - 125
Lead	<0.00050		0.100	0.105		mg/L		105	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-65066-1 MS
Matrix: Water
Analysis Batch: 207888

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 207725

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	<0.0025		0.500	0.524		mg/L		105	75 - 125
Nickel	0.0039		0.500	0.522		mg/L		104	75 - 125
Selenium	<0.0025		0.100	0.138	F	mg/L		136	75 - 125
Silver	<0.00050		0.0500	0.0393		mg/L		79	75 - 125
Thallium	<0.0020		0.100	0.105		mg/L		105	75 - 125
Vanadium	<0.0050		0.500	0.521		mg/L		104	75 - 125
Zinc	<0.020		0.500	0.545		mg/L		109	75 - 125

Lab Sample ID: 500-65066-1 MS
Matrix: Water
Analysis Batch: 208073

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 207725

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.41		1.00	1.36		mg/L		95	75 - 125

Lab Sample ID: 500-65066-1 MS
Matrix: Water
Analysis Batch: 208962

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 207725

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	<0.0010		0.100	0.116		mg/L		116	75 - 125
Chromium	<0.0050		0.200	0.195		mg/L		97	75 - 125

Lab Sample ID: 500-65066-1 MS
Matrix: Water
Analysis Batch: 209130

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 207725

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.395		mg/L		79	75 - 125

Lab Sample ID: 500-65066-1 MSD
Matrix: Water
Analysis Batch: 207888

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 207725

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.093		0.500	0.596		mg/L		101	75 - 125	4	20
Beryllium	<0.0010		0.0500	0.0520		mg/L		104	75 - 125	4	20
Cadmium	<0.00050		0.0500	0.0513		mg/L		102	75 - 125	6	20
Cobalt	<0.0010		0.500	0.498		mg/L		99	75 - 125	5	20
Copper	<0.0020		0.250	0.252		mg/L		100	75 - 125	4	20
Iron	<0.10		1.00	1.02		mg/L		102	75 - 125	6	20
Lead	<0.00050		0.100	0.100		mg/L		100	75 - 125	4	20
Manganese	<0.0025		0.500	0.499		mg/L		100	75 - 125	5	20
Nickel	0.0039		0.500	0.501		mg/L		99	75 - 125	4	20
Selenium	<0.0025		0.100	0.129	F	mg/L		127	75 - 125	7	20
Silver	<0.00050		0.0500	0.0395		mg/L		79	75 - 125	1	20
Thallium	<0.0020		0.100	0.101		mg/L		101	75 - 125	4	20
Vanadium	<0.0050		0.500	0.498		mg/L		100	75 - 125	5	20
Zinc	<0.020		0.500	0.524		mg/L		104	75 - 125	4	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-65066-1 MSD
Matrix: Water
Analysis Batch: 208073

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 207725

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.41		1.00	1.37		mg/L		96	75 - 125	0	20

Lab Sample ID: 500-65066-1 MSD
Matrix: Water
Analysis Batch: 208962

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 207725

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	<0.0010		0.100	0.117		mg/L		117	75 - 125	1	20
Chromium	<0.0050		0.200	0.197		mg/L		98	75 - 125	1	20

Lab Sample ID: 500-65066-1 MSD
Matrix: Water
Analysis Batch: 209130

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 207725

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.382		mg/L		76	75 - 125	3	20

Lab Sample ID: 500-65066-1 DU
Matrix: Water
Analysis Batch: 207888

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 207725

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Barium	0.093		0.0931		mg/L		0.2	20
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20
Copper	<0.0020		<0.0020		mg/L		NC	20
Iron	<0.10		<0.10		mg/L		NC	20
Lead	<0.00050		<0.00050		mg/L		NC	20
Manganese	<0.0025		<0.0025		mg/L		NC	20
Nickel	0.0039		0.00341		mg/L		14	20
Selenium	<0.0025		<0.0025		mg/L		NC	20
Silver	<0.00050		<0.00050		mg/L		NC	20
Thallium	<0.0020		<0.0020		mg/L		NC	20
Vanadium	<0.0050		<0.0050		mg/L		NC	20
Zinc	<0.020		<0.020		mg/L		NC	20

Lab Sample ID: 500-65066-1 DU
Matrix: Water
Analysis Batch: 208073

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 207725

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Boron	0.41		0.415		mg/L		1	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-65066-1 DU
Matrix: Water
Analysis Batch: 208962

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 207725

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	<0.0010		<0.0010		mg/L		NC	20
Chromium	<0.0050		<0.0050		mg/L		NC	20

Lab Sample ID: 500-65066-1 DU
Matrix: Water
Analysis Batch: 209130

Client Sample ID: MW-2
Prep Type: Dissolved
Prep Batch: 207725

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0030		<0.0030		mg/L		NC	20

Lab Sample ID: MB 500-207725/1-A
Matrix: Water
Analysis Batch: 207888

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 207725

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 17:12	1
Beryllium	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 17:12	1
Cadmium	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:12	1
Cobalt	<0.0010		0.0010		mg/L		10/18/13 14:52	10/18/13 17:12	1
Copper	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 17:12	1
Iron	<0.10		0.10		mg/L		10/18/13 14:52	10/18/13 17:12	1
Lead	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:12	1
Manganese	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 17:12	1
Nickel	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 17:12	1
Selenium	<0.0025		0.0025		mg/L		10/18/13 14:52	10/18/13 17:12	1
Silver	<0.00050		0.00050		mg/L		10/18/13 14:52	10/18/13 17:12	1
Thallium	<0.0020		0.0020		mg/L		10/18/13 14:52	10/18/13 17:12	1
Vanadium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/18/13 17:12	1
Zinc	<0.020		0.020		mg/L		10/18/13 14:52	10/18/13 17:12	1

Lab Sample ID: MB 500-207725/1-A
Matrix: Water
Analysis Batch: 208073

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 207725

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	<0.050		0.050		mg/L		10/18/13 14:52	10/21/13 18:41	1

Lab Sample ID: MB 500-207725/1-A
Matrix: Water
Analysis Batch: 208962

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 207725

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0010		0.0010		mg/L		10/18/13 14:52	10/26/13 00:08	1
Chromium	<0.0050		0.0050		mg/L		10/18/13 14:52	10/26/13 00:08	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 500-207725/1-A
Matrix: Water
Analysis Batch: 209130

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 207725

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/18/13 14:52	10/28/13 14:54	1

Lab Sample ID: LCS 500-207725/2-A
Matrix: Water
Analysis Batch: 207888

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 207725

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.500	0.488		mg/L		98	80 - 120
Beryllium	0.0500	0.0496		mg/L		99	80 - 120
Cadmium	0.0500	0.0507		mg/L		101	80 - 120
Cobalt	0.500	0.491		mg/L		98	80 - 120
Copper	0.250	0.254		mg/L		102	80 - 120
Iron	1.00	1.02		mg/L		102	80 - 120
Lead	0.100	0.0970		mg/L		97	80 - 120
Manganese	0.500	0.489		mg/L		98	80 - 120
Nickel	0.500	0.498		mg/L		100	80 - 120
Selenium	0.100	0.104		mg/L		104	80 - 120
Silver	0.0500	0.0443		mg/L		89	80 - 120
Thallium	0.100	0.0973		mg/L		97	80 - 120
Vanadium	0.500	0.490		mg/L		98	80 - 120
Zinc	0.500	0.519		mg/L		104	80 - 120

Lab Sample ID: LCS 500-207725/2-A
Matrix: Water
Analysis Batch: 208073

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 207725

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.977		mg/L		98	80 - 120

Lab Sample ID: LCS 500-207725/2-A
Matrix: Water
Analysis Batch: 208962

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 207725

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.0990		mg/L		99	80 - 120
Chromium	0.200	0.199		mg/L		100	80 - 120

Lab Sample ID: LCS 500-207725/2-A
Matrix: Water
Analysis Batch: 209130

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 207725

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.414		mg/L		83	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-207955/12-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208171 — **Prep Batch: 207955**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/21/13 12:00	10/22/13 11:01	1

Lab Sample ID: LCS 500-207955/13-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208171 — **Prep Batch: 207955**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00211		mg/L		105	80 - 120

Lab Sample ID: MB 500-208006/12-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208174 — **Prep Batch: 208006**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/21/13 15:15	10/22/13 09:57	1

Lab Sample ID: LCS 500-208006/13-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208174 — **Prep Batch: 208006**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00204		mg/L		102	80 - 120

Method: 9014 - Cyanide

Lab Sample ID: MB 500-207446/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207630 — **Prep Batch: 207446**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/17/13 10:15	10/17/13 15:50	1

Lab Sample ID: LCS 500-207446/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207630 — **Prep Batch: 207446**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.101		mg/L		101	80 - 120

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 500-208933/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208933

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			10/26/13 22:42	1

Method: 9038 - Sulfate, Turbidimetric (Continued)

Lab Sample ID: LCS 500-208933/4
Matrix: Water
Analysis Batch: 208933

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.7		mg/L		98	80 - 120

Lab Sample ID: MB 500-208935/3
Matrix: Water
Analysis Batch: 208935

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			10/27/13 01:12	1

Lab Sample ID: LCS 500-208935/4
Matrix: Water
Analysis Batch: 208935

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	18.6		mg/L		93	80 - 120

Method: 9251 - Chloride

Lab Sample ID: MB 500-209102/4
Matrix: Water
Analysis Batch: 209102

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			10/28/13 17:20	1

Lab Sample ID: LCS 500-209102/5
Matrix: Water
Analysis Batch: 209102

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.5		mg/L		101	80 - 120

Lab Sample ID: 500-65066-10 MS
Matrix: Water
Analysis Batch: 209102

Client Sample ID: MW-11
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	140		50.0	202	F	mg/L		128	75 - 125

Lab Sample ID: 500-65066-10 MSD
Matrix: Water
Analysis Batch: 209102

Client Sample ID: MW-11
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	140		50.0	193		mg/L		110	75 - 125	5	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-208224/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208224

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			10/22/13 21:52	1

Lab Sample ID: LCS 500-208224/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208224

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	238		mg/L		95	80 - 120

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-208044/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208044

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			10/20/13 17:49	1

Lab Sample ID: LCS 500-208044/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208044

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	11.1		mg/L		111	80 - 120

Lab Sample ID: 500-65066-1 MS — **Client Sample ID: MW-2**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 208044

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.56		5.00	6.28		mg/L		114	75 - 125

Lab Sample ID: 500-65066-1 MSD — **Client Sample ID: MW-2**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 208044

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.56		5.00	6.44		mg/L		118	75 - 125	3	20

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-207455/62 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 207455

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/16/13 19:44	1

Method: SM 4500 NO2 B - Nitrogen, Nitrite (Continued)

Lab Sample ID: LCS 500-207455/63
Matrix: Water
Analysis Batch: 207455

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.103		mg/L		103	80 - 120

Method: SM 4500 NO3 F - Nitrogen, Nitrate

Lab Sample ID: MB 500-207758/4
Matrix: Water
Analysis Batch: 207758

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			10/18/13 12:19	1

Lab Sample ID: LCS 500-207758/5
Matrix: Water
Analysis Batch: 207758

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	1.00		mg/L		100	80 - 120

Lab Sample ID: MB 500-207898/3
Matrix: Water
Analysis Batch: 207898

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			10/18/13 18:01	1

Lab Sample ID: LCS 500-207898/4
Matrix: Water
Analysis Batch: 207898

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	1.05		mg/L		105	80 - 120

Lab Sample ID: 500-65066-3 MS
Matrix: Water
Analysis Batch: 207758

Client Sample ID: MW-4
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	2.5		1.00	3.51		mg/L		98	75 - 125

Lab Sample ID: 500-65066-3 MSD
Matrix: Water
Analysis Batch: 207758

Client Sample ID: MW-4
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrate Nitrite	2.5		1.00	3.42		mg/L		89	75 - 125	3	20

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL (
Phone: 708.534.5200 Fax: 708.5

500-65066 COC

(optional)

Report To
Contact: RICH GNAT
Company: KPRG & ASSOCIATES
Address: 14665 W LISBON RD, 200
Address: BROOKFIELD, WI
Phone: 262-781-0475
Fax: 262-781-0478
E-Mail:

(optional)

Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-65066

Chain of Custody Number:

Page 1 of 1

Temperature °C of Cooler: (4.9)(4.2)(5.3)

Client: KPRG & ASSOCIATES. | Client Project #: 12313.0

Project Name: SOLIET #29 ASH PONDS

Project Location/State: SOLIET, IL | Lab Project #:

Sampler: I.S. HOWIESON | Lab PM: B. STADELMANN.

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	3	8	8	4	2	1	8			Comments
							Parameter	DISSOLVED METALS	TDS, F, SO4 Cl	NO2	CYANIDE	NO3-NO2	BTEX BENZENE	PERCHLORATE			
1		MW-2	10.15.13	12:40	9	W		X	X	X	X	X	X	X			
2		MW-3	10.15.13	09:45	9	W											
3		MW-4	10.16.13	13:00	9	W											
4		MW-5	10.15.13	15:05	9	W											
5		MW-6	10-16-13	08:45	9	W											
6		MW-7	10.16.13	11:20	9	W											
7		MW-8	10.15.13	17:25	9	W											
8		MW-9	10.15.13	11:10	9	W											
9		MW-10	10.15.13	13:40	9	W											
10		MW-11	10.15.13	16:10	9	W		X	X	X	X	X	X	X			
11		DUPLICATE	10.15.13		9	W		X	X	X	X	X	X	X			

Turnaround Time Required (Business Days)

___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other

Requested Due Date _____

Sample Disposal

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	KPRG	10-16-13	15:25		TA	10/16/13	1525
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier

Shipped

Hand Delivered KPRG

Matrix Key

WW – Wastewater	SE – Sediment
W – Water	SO – Soil
S – Soil	L – Leachate
SL – Sludge	WI – Wipe
MS – Miscellaneous	DW – Drinking Water
OL – Oil	O – Other
A – Air	

Client Comments: 12- INCLUDES TRIP BLANK.

Lab Comments:

MWG13-15_17408

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler	Lab PM: Stadelmann, Bonnie M	Carrier Tracking No(s)	COC No: 500-41297.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 500-65066-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 10/29/2013			Preservation Codes:
City: West Sacramento	TAT Requested (days):			A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2SO3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - ph 4-5; Z - other (specify)
State, Zip: CA, 95605	PO #			
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	WO #			Other:
Email:	Project #: 50005078			
Project Name: Joliet #29 Station Ash Ponds	SSOW#			
Site:				

500-65066 Chain of Custody

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:					
MW-2 (500-65066-1)	10/15/13	12:40 Central		Water		X	1	
MW-3 (500-65066-2)	10/15/13	09:45 Central		Water		X	1	
MW-4 (500-65066-3)	10/16/13	13:00 Central		Water		X	1	
MW-5 (500-65066-4)	10/15/13	15.05 Central		Water		X	1	
MW-6 (500-65066-5)	10/16/13	08:45 Central		Water		X	1	
MW-7 (500-65066-6)	10/16/13	11:20 Central		Water		X	1	
MW-8 (500-65066-7)	10/15/13	17:25 Central		Water		X	1	
MW-9 (500-65066-8)	10/15/13	11:10 Central		Water		X	1	
MW-10 (500-65066-9)	10/15/13	13:40 Central		Water		X	1	
MW-11 (500-65066-10)	10/15/13	16:10 Central		Water		X	1	
Duplicate (500-65066-11)	10/15/13	Central		Water		X	1	

Possible Hazard Identification: Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	10/17/13 1400	TA-CHI	[signature]	10/18/13 9:10	TA
Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

3.4°C

11/4/2013

MWG13-15_17409

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-65066-1

Login Number: 65066

List Number: 1

Creator: Lunt, Jeff T

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	4.9,4.2,5.3
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

MWG13-15_17410

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-65066-1

Login Number: 65066
List Number: 1
Creator: Nelson, Kym D

List Source: TestAmerica Sacramento
List Creation: 10/18/13 01:31 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-65066-1

Laboratory: TestAmerica Chicago

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40461	04-30-14
California	NELAP	9	01132CA	04-30-14
Georgia	State Program	4	N/A	04-30-14
Hawaii	State Program	9	N/A	04-30-14
Illinois	NELAP	5	100201	04-30-14
Indiana	State Program	5	C-IL-02	04-30-14
Iowa	State Program	7	82	05-01-14
Kansas	NELAP	7	E-10161	10-31-14 *
Kentucky	State Program	4	90023	12-31-13
Kentucky (UST)	State Program	4	66	04-30-14
Louisiana	NELAP	6	30720	06-30-14
Massachusetts	State Program	1	M-IL035	06-30-14
Mississippi	State Program	4	N/A	04-30-14
North Carolina DENR	State Program	4	291	12-31-13
North Dakota	State Program	8	R-194	04-30-14
Oklahoma	State Program	6	8908	08-31-14
South Carolina	State Program	4	77001	04-30-14
Texas	NELAP	6	T104704252-09-TX	02-28-14
USDA	Federal		P330-12-00038	02-06-15
Wisconsin	State Program	5	999580010	08-31-14
Wyoming	State Program	8	8TMS-Q	04-30-14

Laboratory: TestAmerica Sacramento

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NE-OS-22-13	01-31-14
A2LA	DoD ELAP		2928-01	01-31-14
Alaska (UST)	State Program	10	UST-055	12-18-13
Arizona	State Program	9	AZ0708	08-11-14
Arkansas DEQ	State Program	6	88-0691	06-17-14
California	NELAP	9	1119CA	01-31-14
Connecticut	State Program	1	PH-0691	06-30-15
Florida	NELAP	4	E87570	06-30-14
Guam	State Program	9	N/A	08-31-14
Hawaii	State Program	9	N/A	01-31-14
Illinois	NELAP	5	200060	03-17-14
Kansas	NELAP	7	E-10375	10-31-14
Louisiana	NELAP	6	30612	06-30-14
Michigan	State Program	5	9947	01-31-14
Nebraska	State Program	7	NE-OS-22-13	01-31-14
Nevada	State Program	9	CA44	07-31-14
New Jersey	NELAP	2	CA005	06-30-14
New York	NELAP	2	11666	04-01-14
Northern Mariana Islands	State Program	9	MP0007	02-01-14
Oregon	NELAP	10	CA200005	03-28-14
Pennsylvania	NELAP	3	68-01272	03-31-14
South Carolina	State Program	4	87014	06-30-14
Texas	NELAP	6	T104704399-08-TX	05-31-14
US Fish & Wildlife	Federal		LE148388-0	12-31-13

* Expired certification is currently pending renewal and is considered valid.

MWG13-15_17412

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-65066-1

Laboratory: TestAmerica Sacramento (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

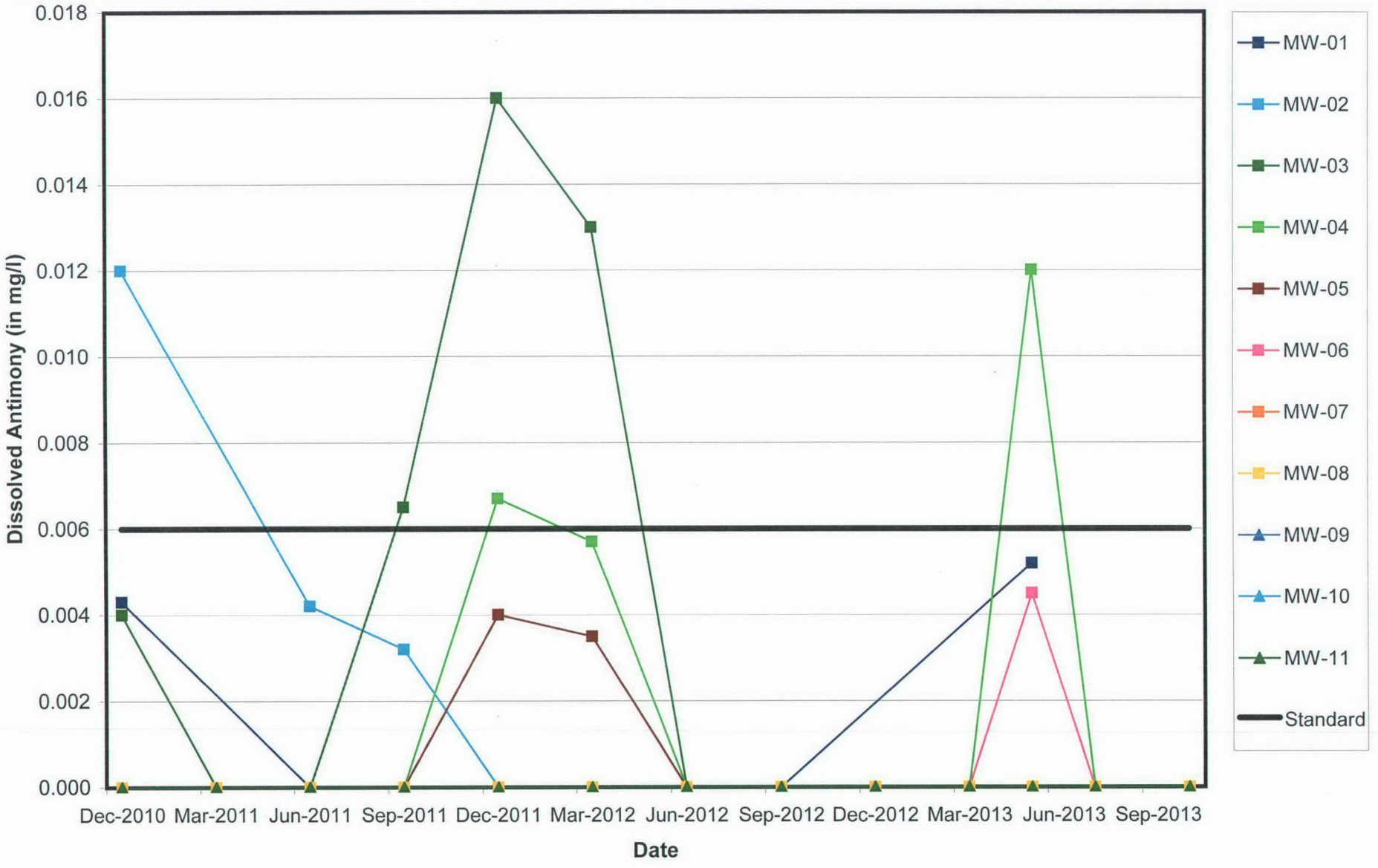
Authority	Program	EPA Region	Certification ID	Expiration Date
USDA	Federal		P330-11-00436	12-30-14
USEPA UCMR	Federal	1	CA00044	11-06-14
Utah	NELAP	8	QUAN1	01-31-14
Washington	State Program	10	C581	05-05-14
West Virginia	State Program	3	9930C	12-31-13
Wyoming	State Program	8	8TMS-Q	01-31-14

MWG13-15_17413

ATTACHMENT 3
Time Versus Concentration Curves

Midwest Generation Joliet Station #29, Joliet, IL

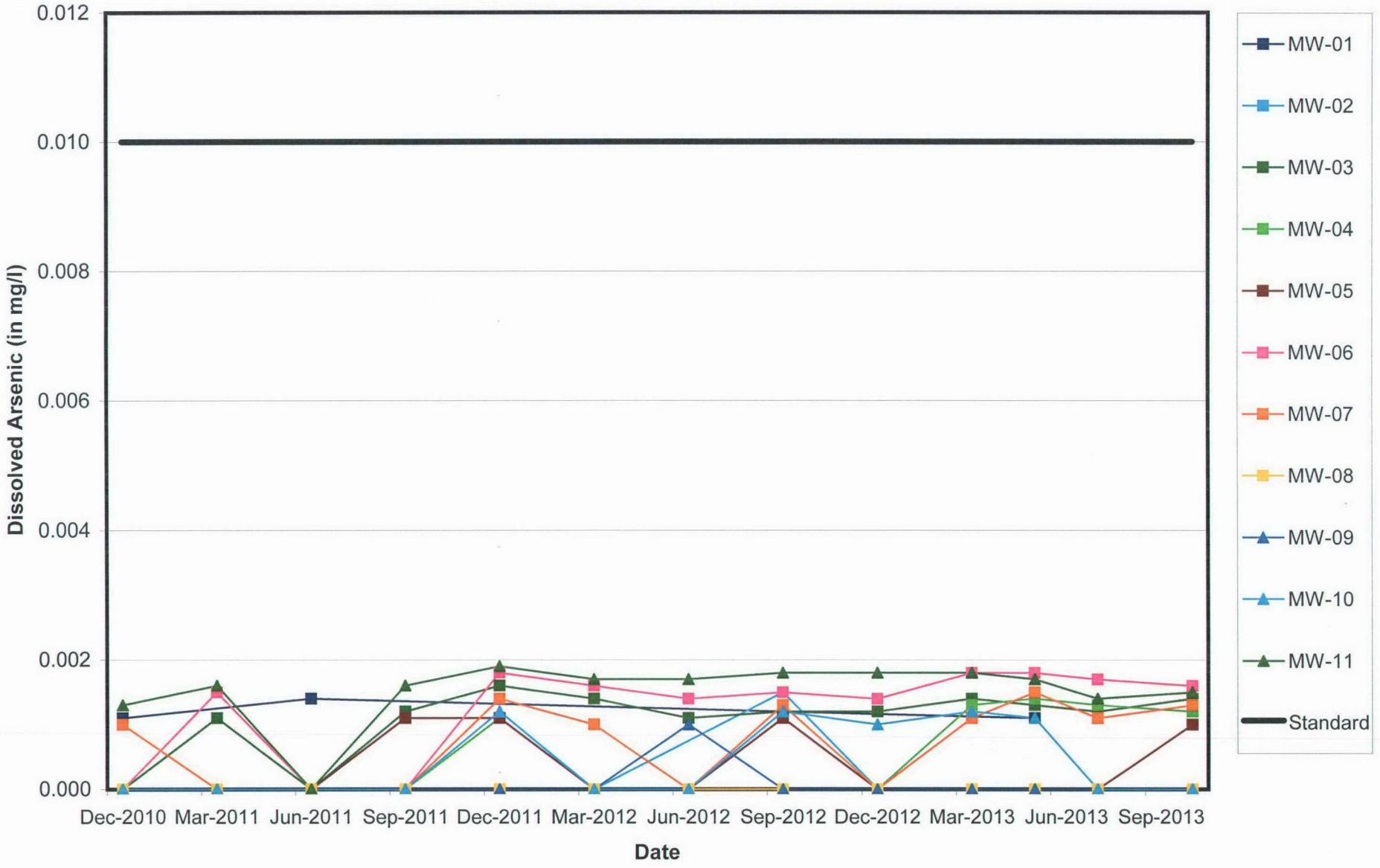
Dissolved Antimony vs. Time



MWG13-15_17415

Midwest Generation Joliet Station #29, Joliet, IL

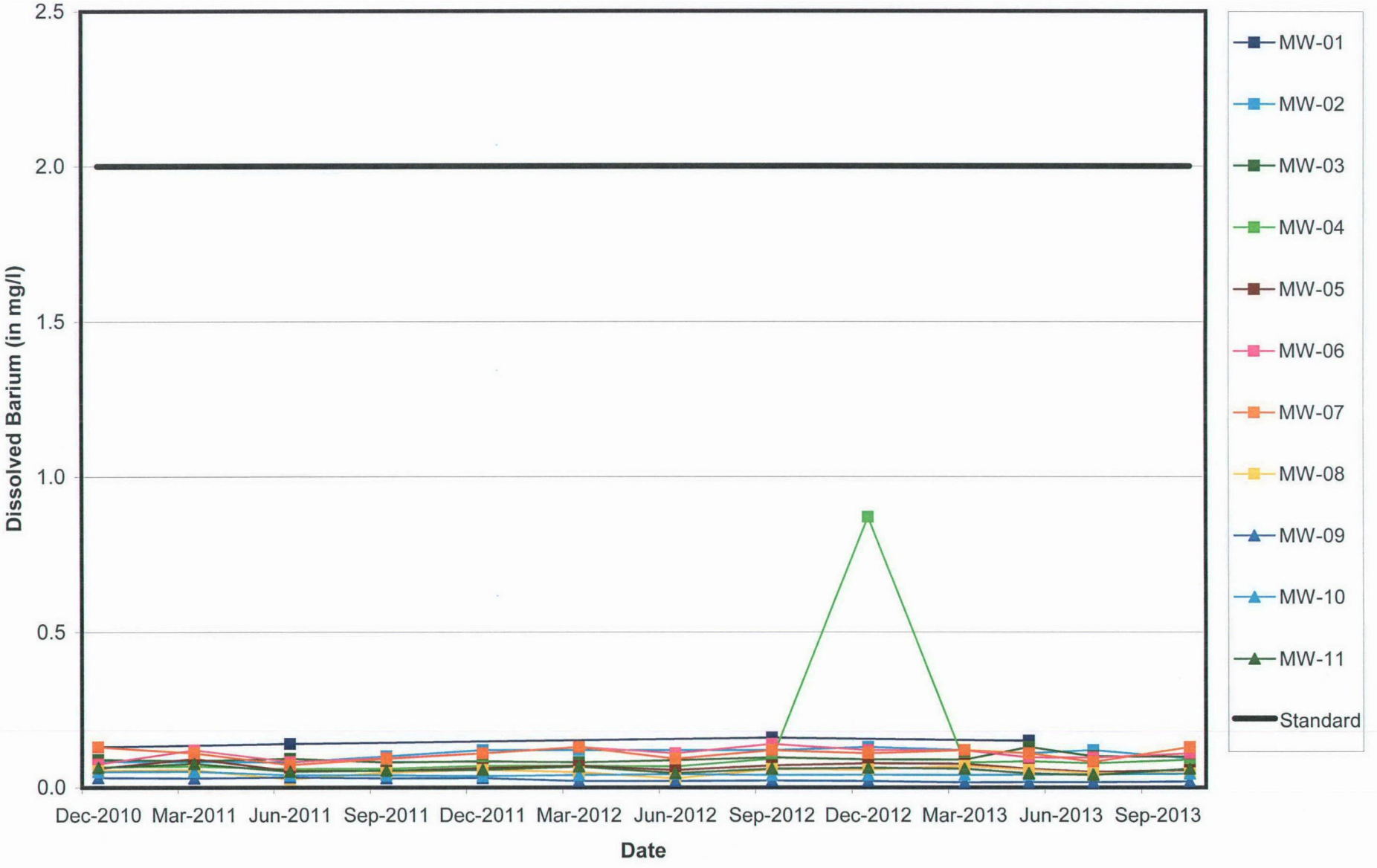
Dissolved Arsenic vs. Time



MWG13-15_17416

Midwest Generation Joliet Station #29, Joliet, IL

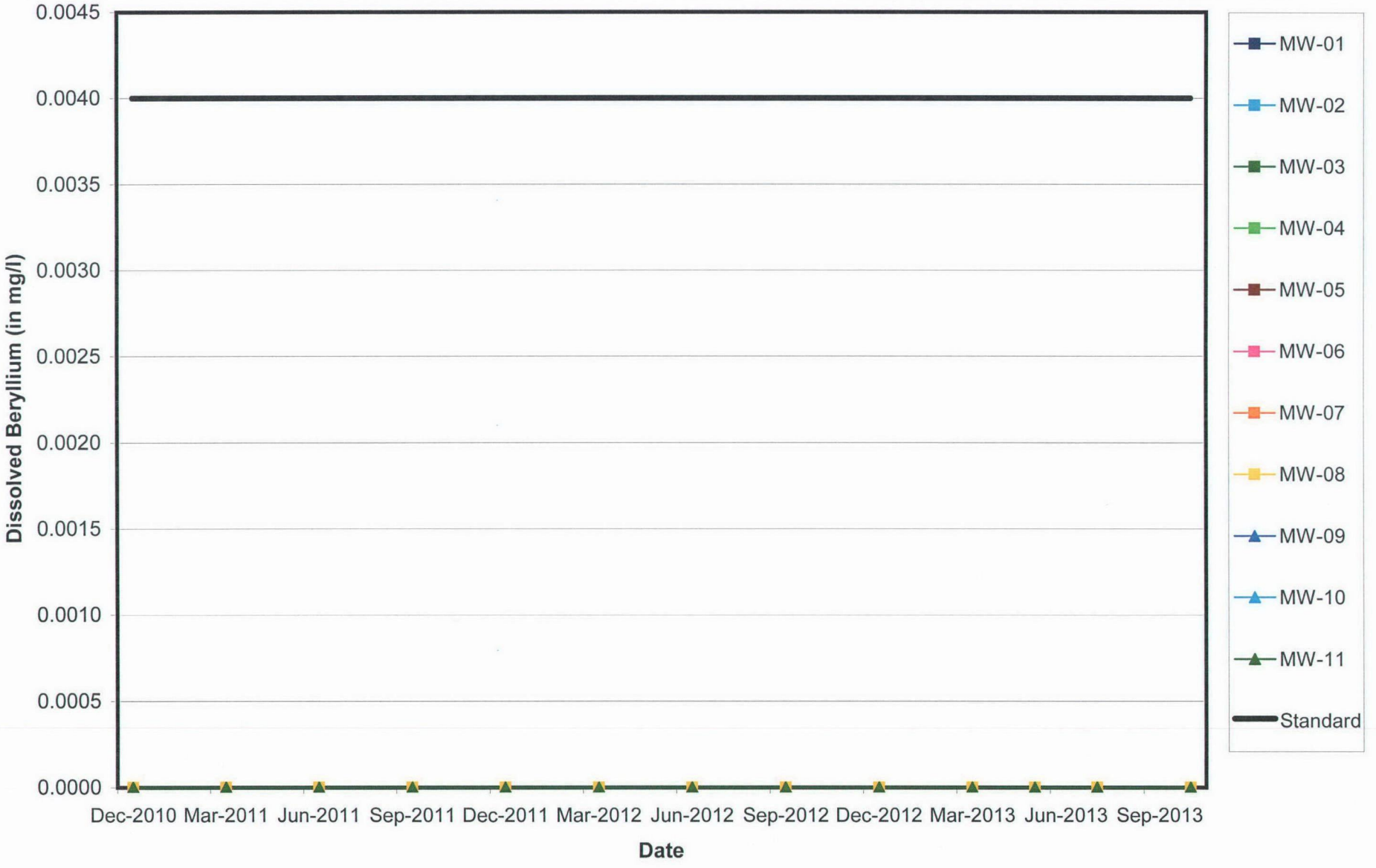
Dissolved Barium vs. Time



MWG13-15_17417

Midwest Generation Joliet Station #29, Joliet, IL

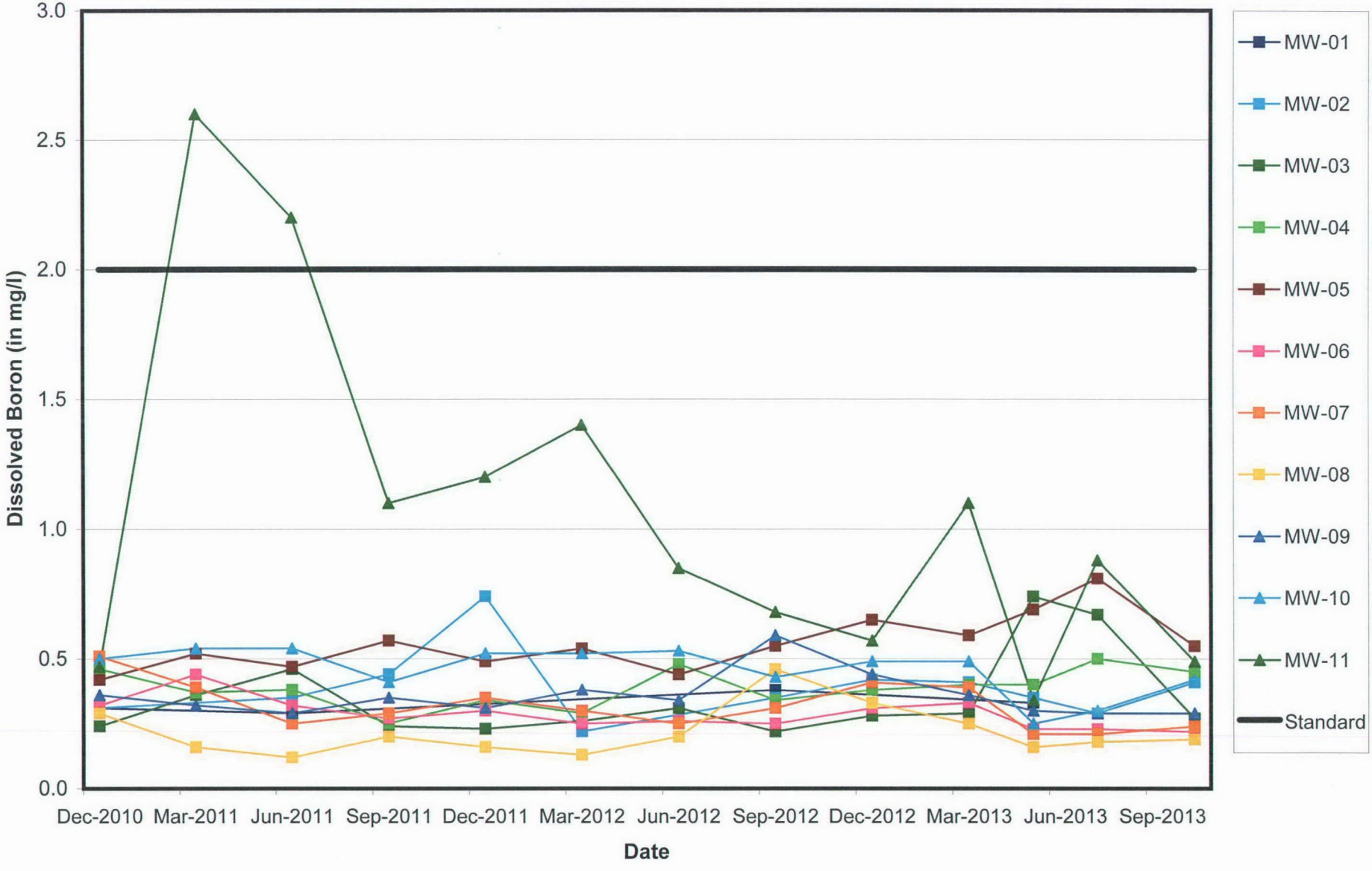
Dissolved Beryllium vs. Time



MWG13-15_17418

Midwest Generation Joliet Station #29, Joliet, IL

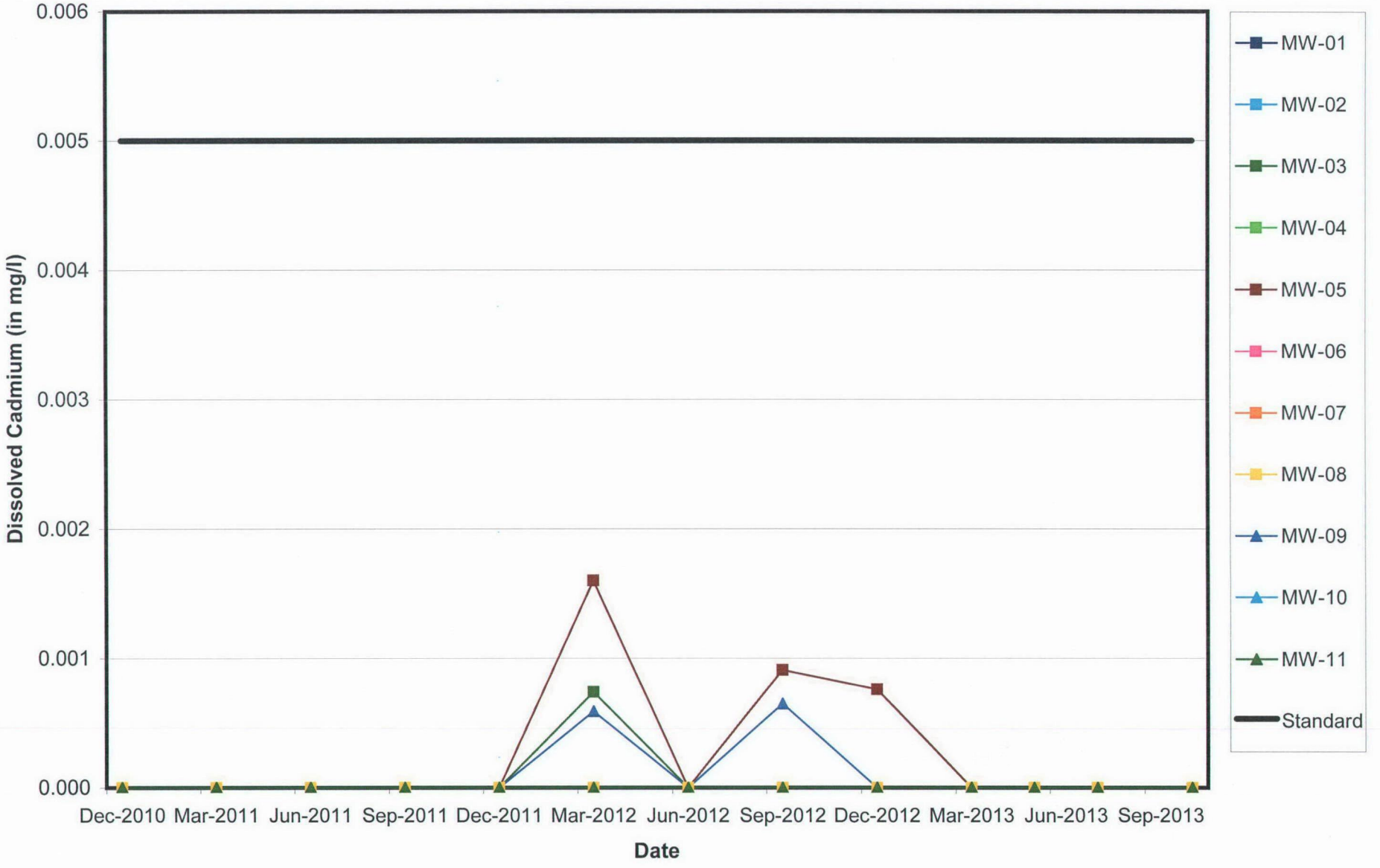
Dissolved Boron vs. Time



MWG13-15_17419

Midwest Generation Joliet Station #29, Joliet, IL

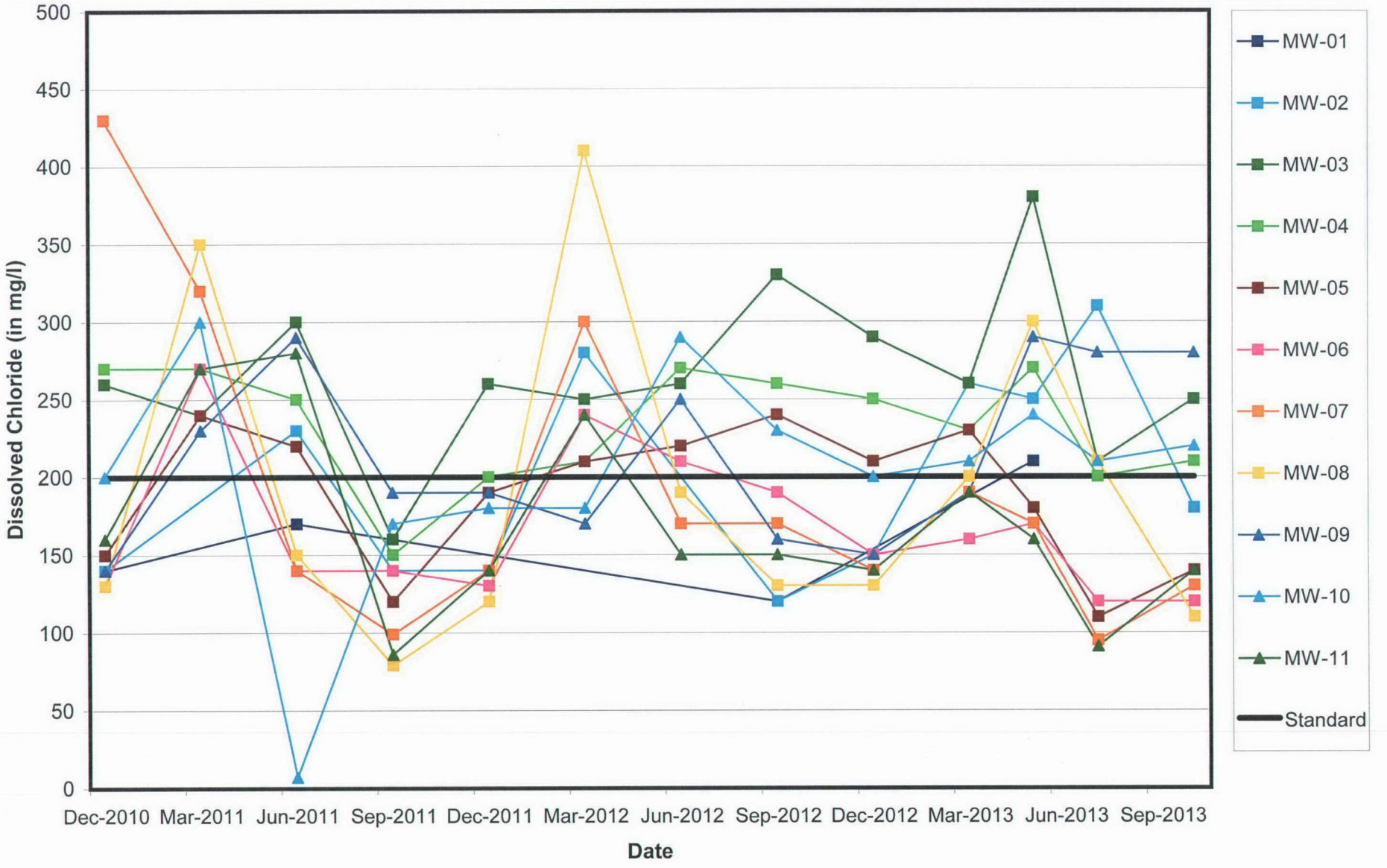
Dissolved Cadmium vs. Time



MWG13-15_17420

Midwest Generation Joliet Station #29, Joliet, IL

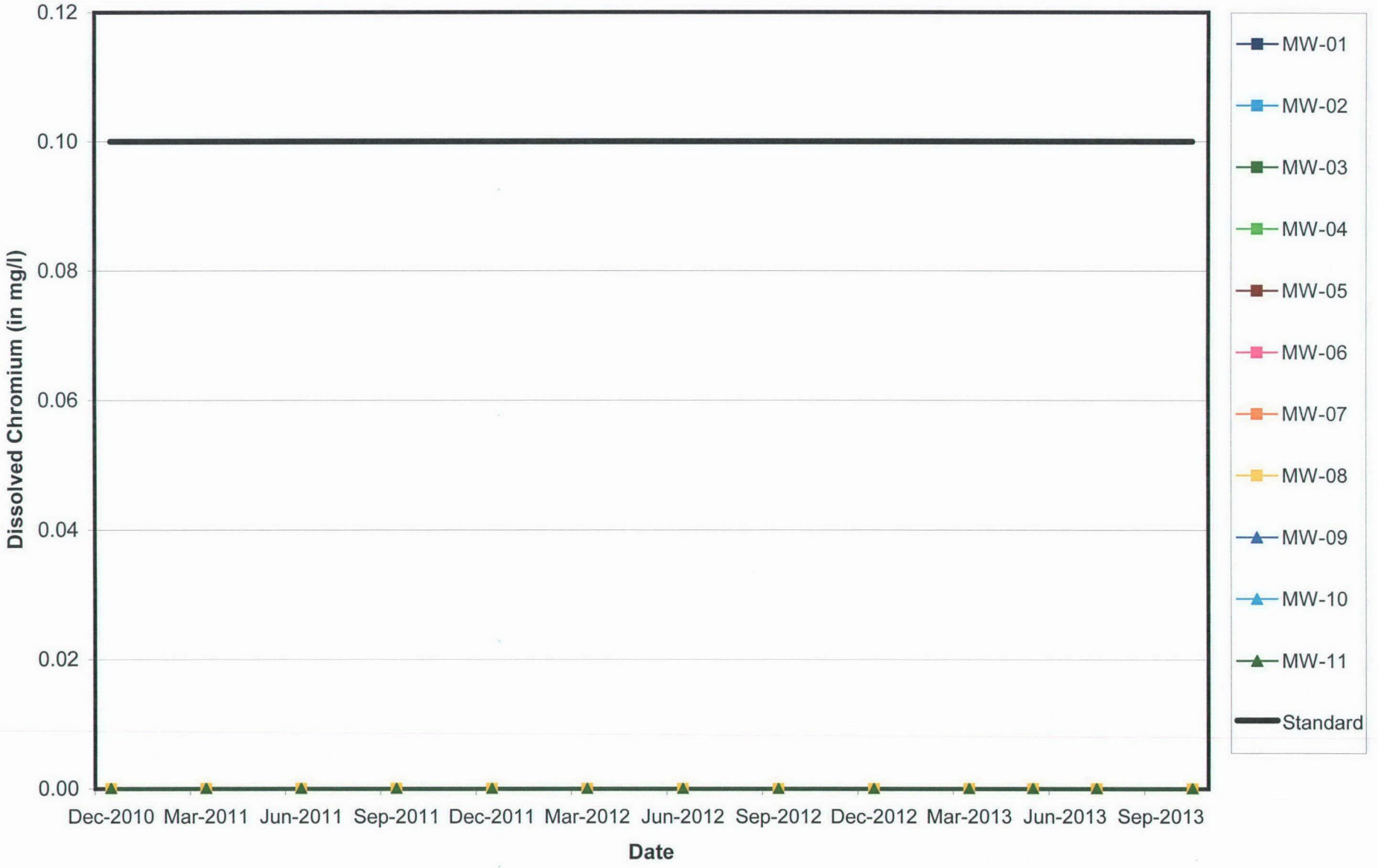
Dissolved Chloride vs. Time



MWG13-15_17421

Midwest Generation Joliet Station #29, Joliet, IL

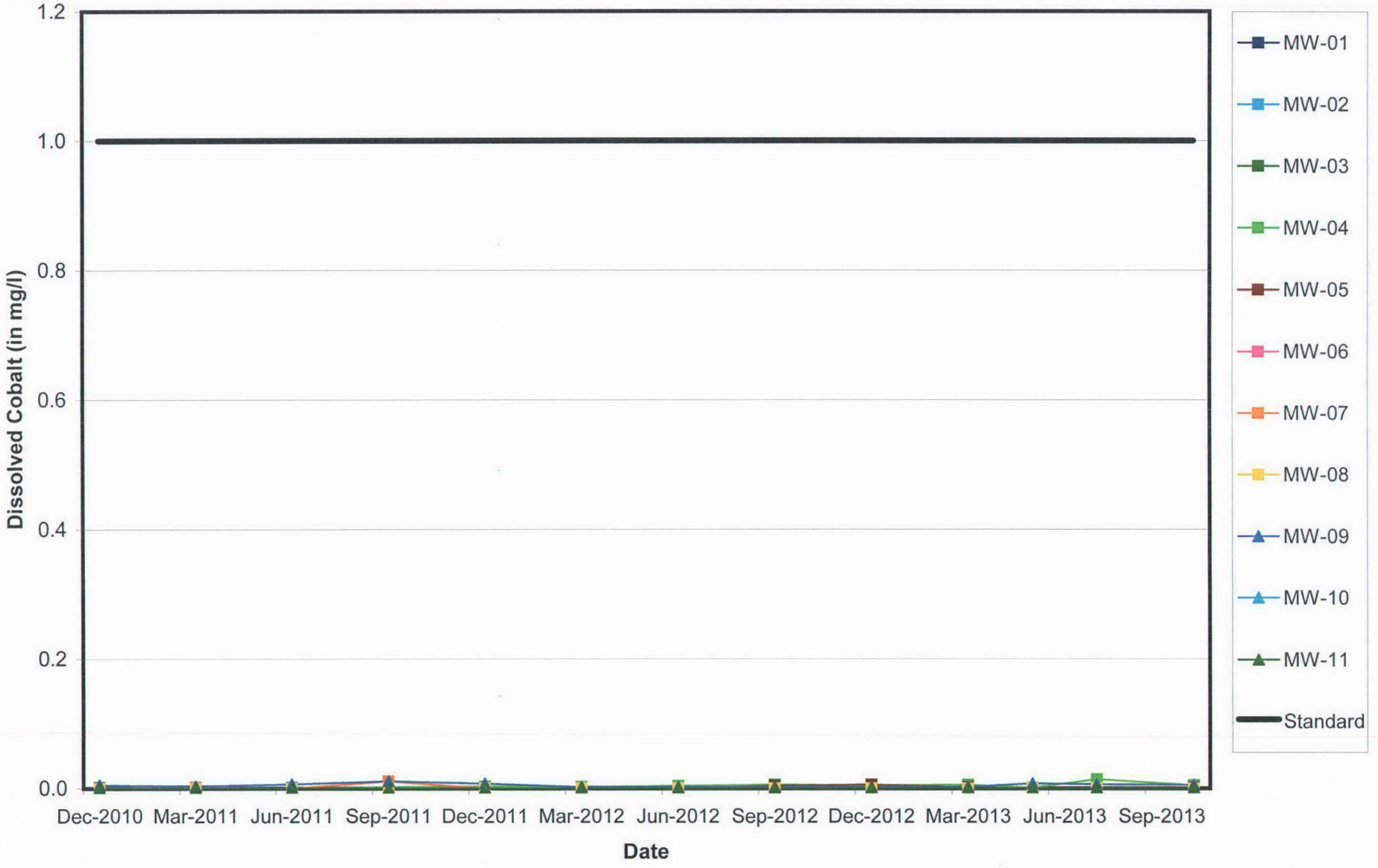
Dissolved Chromium vs. Time



MWG13-15_17422

Midwest Generation Joliet Station #29, Joliet, IL

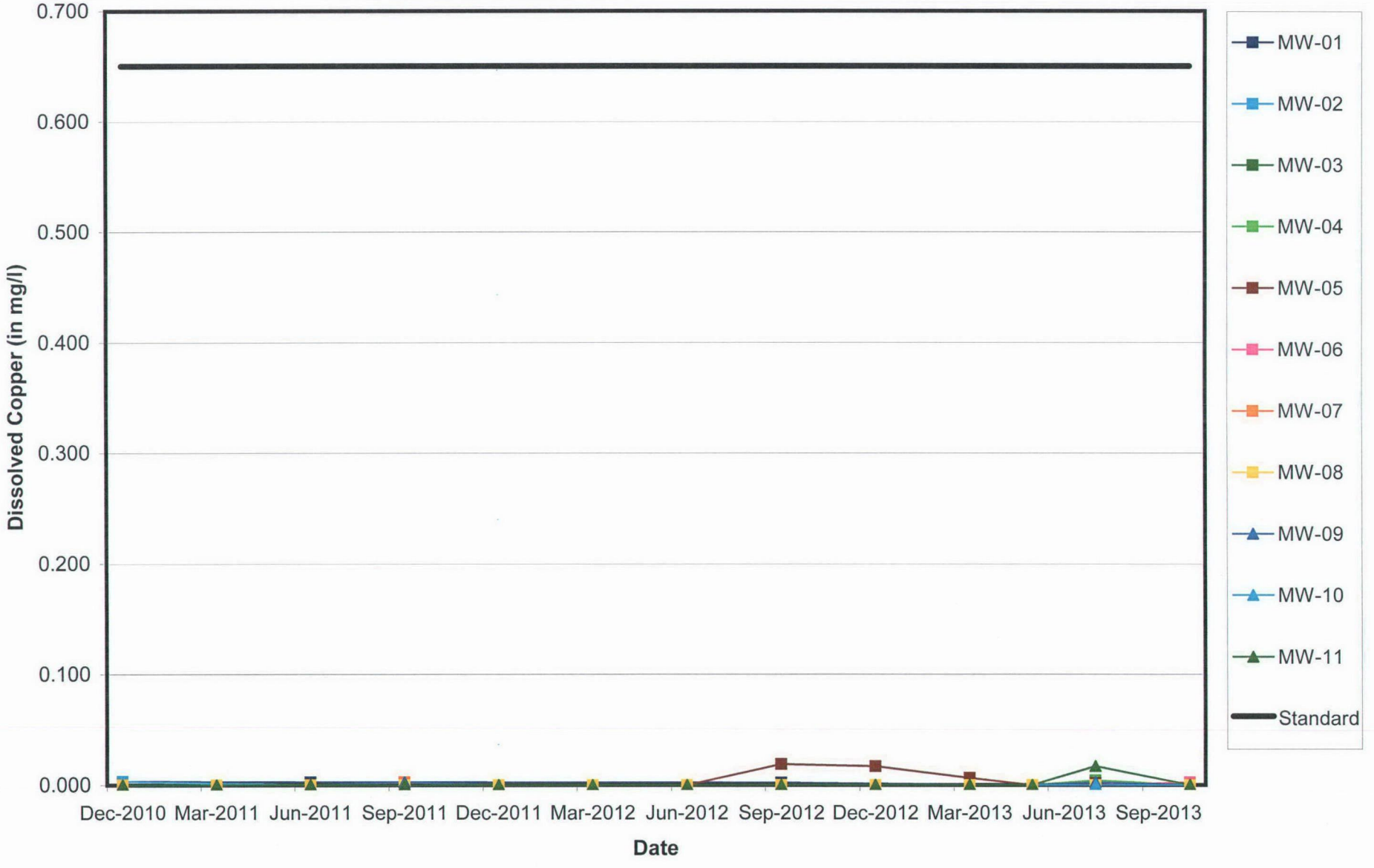
Dissolved Cobalt vs. Time



MWG13-15_17423

Midwest Generation Joliet Station #29, Joliet, IL

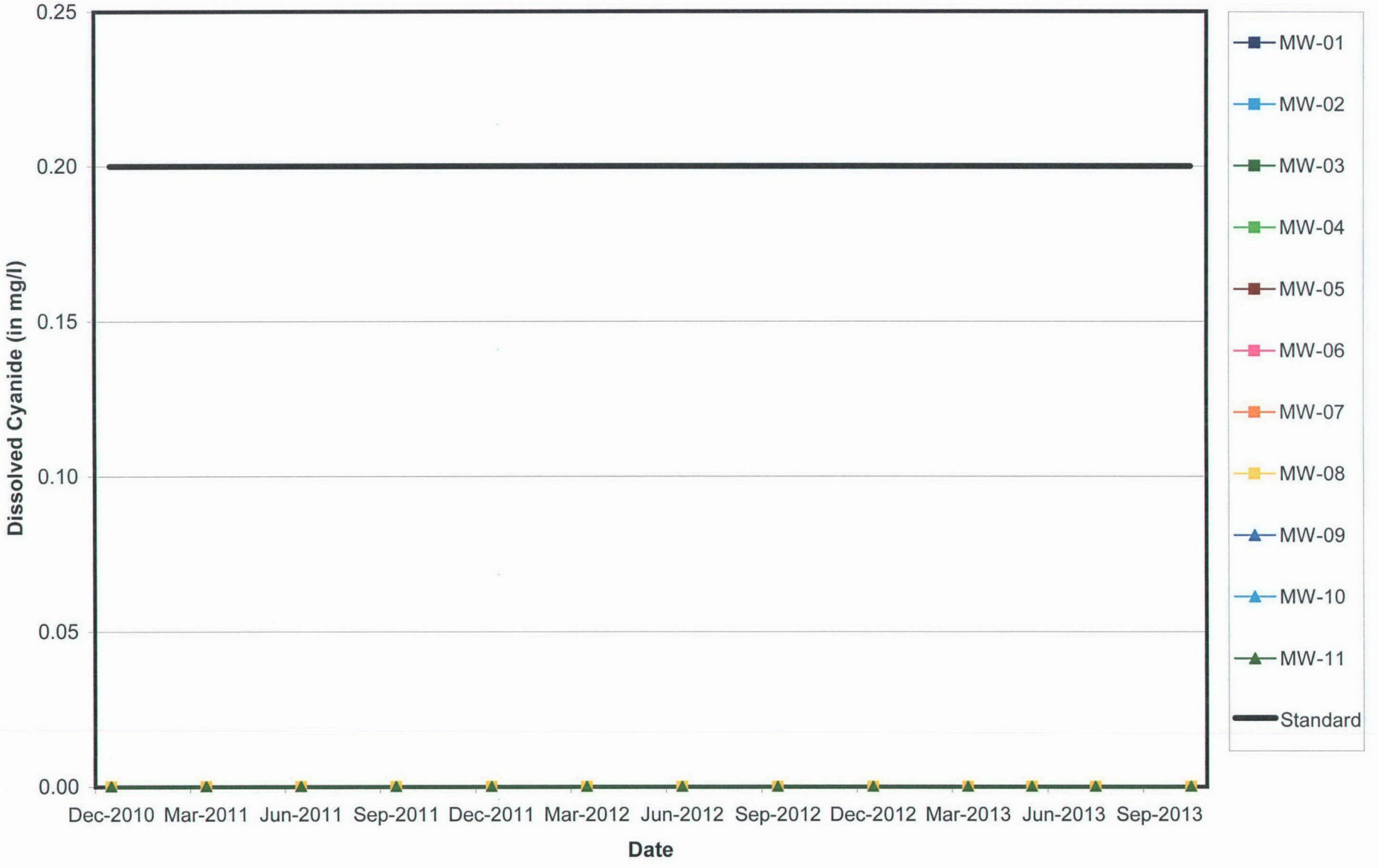
Dissolved Copper vs. Time



MWG13-15_17424

Midwest Generation Joliet Station #29, Joliet, IL

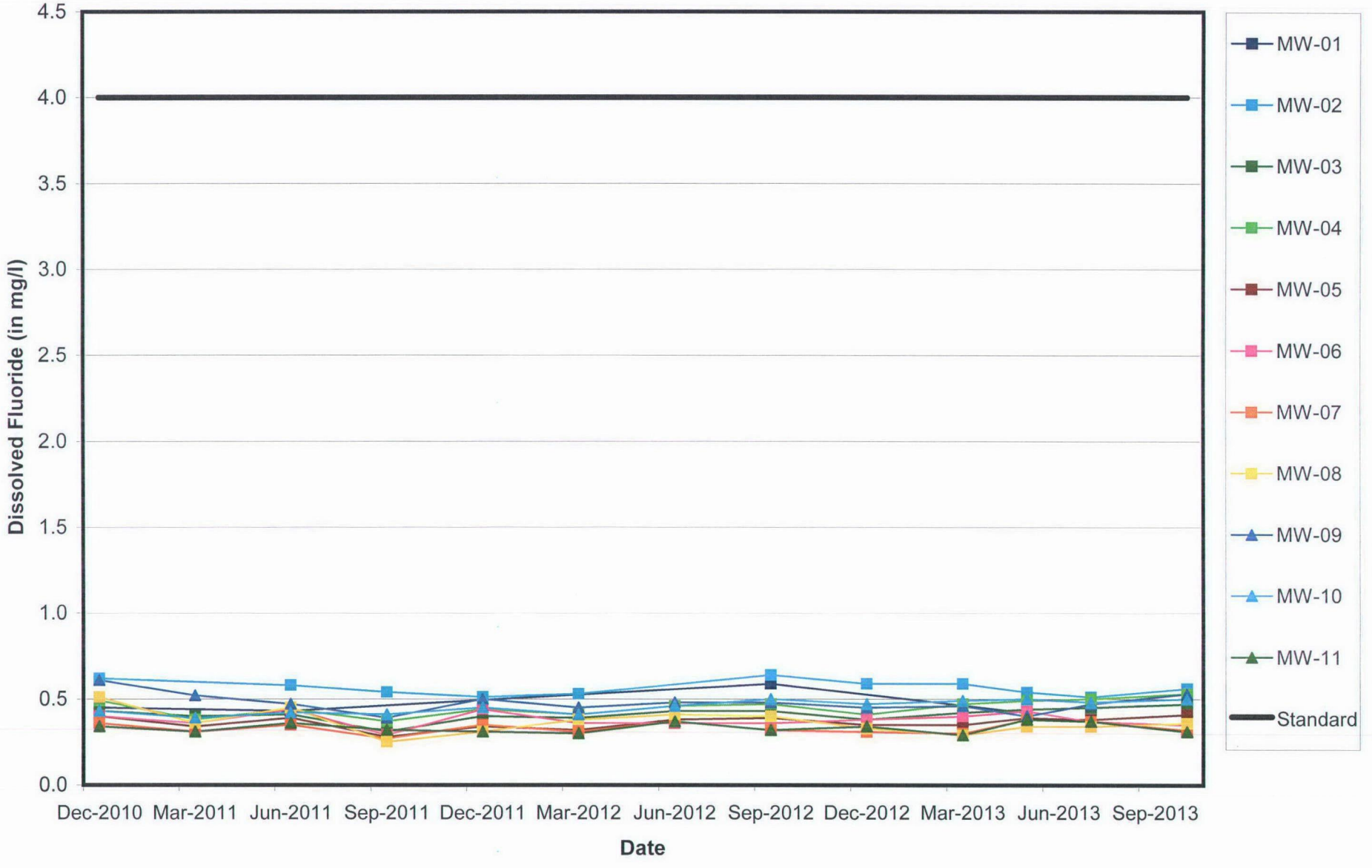
Dissolved Cyanide vs. Time



MWG13-15_17425

Midwest Generation Joliet Station #29, Joliet, IL

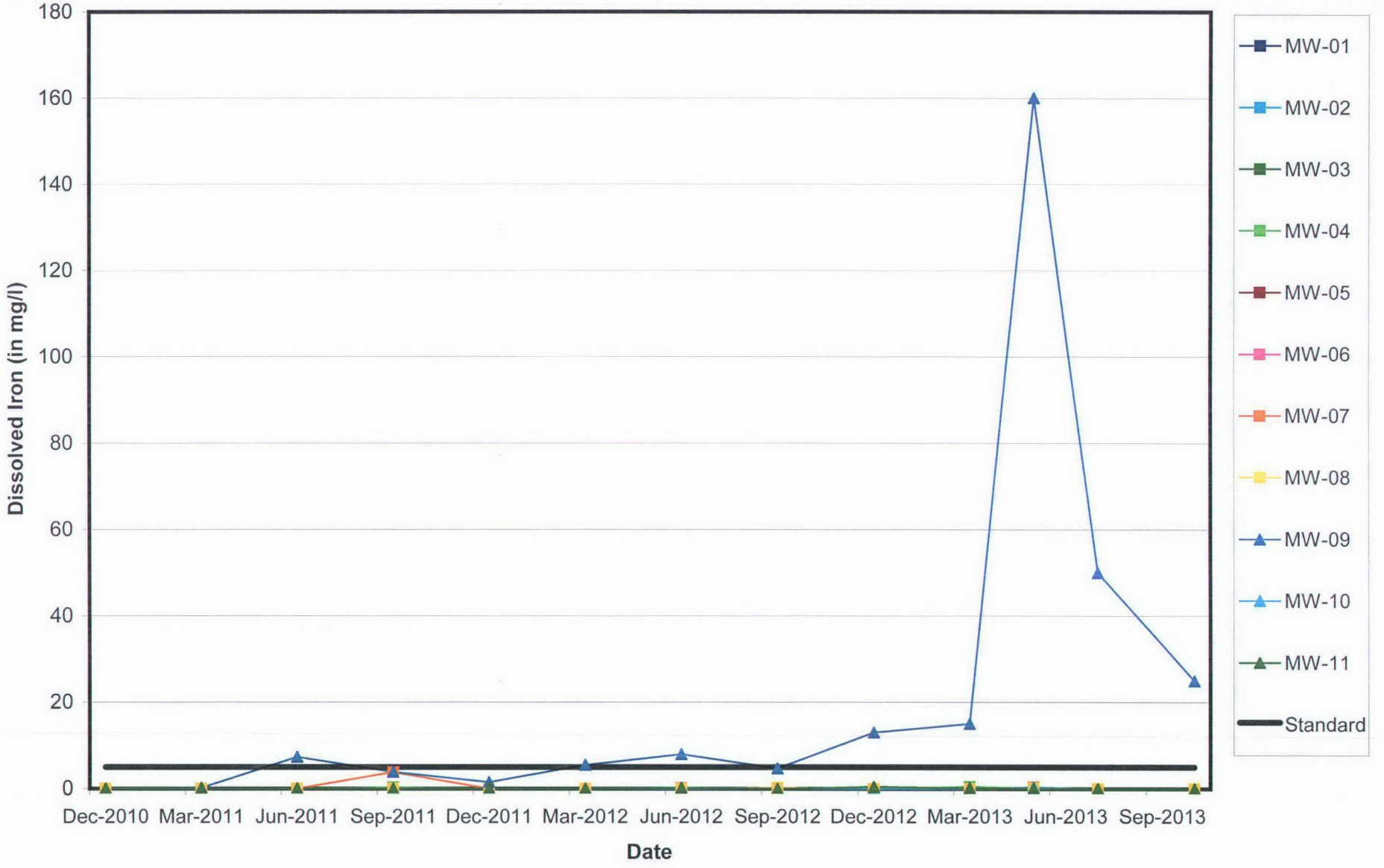
Dissolved Fluoride vs. Time



MWG13-15_17426

Midwest Generation Joliet Station #29, Joliet, IL

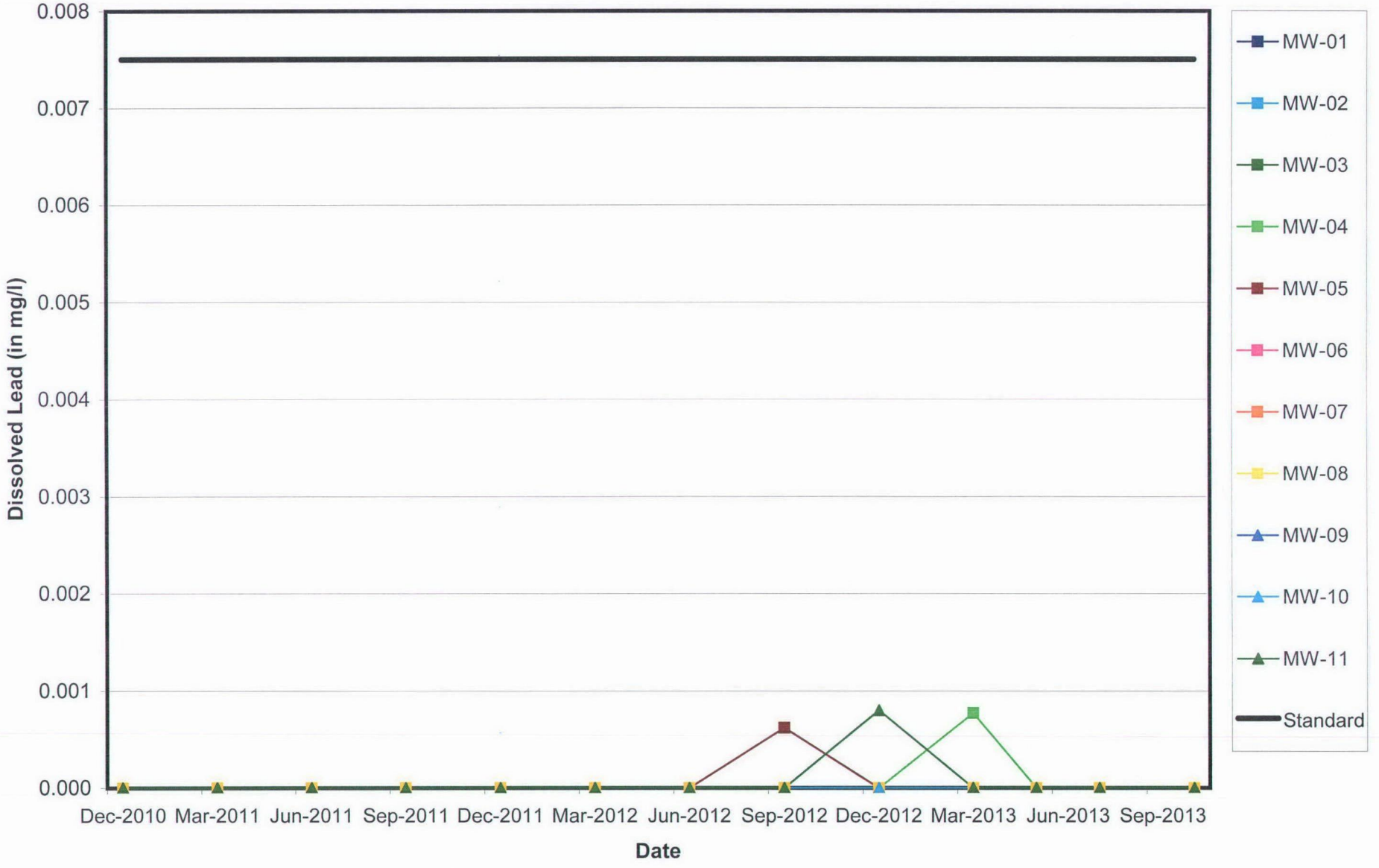
Dissolved Iron vs. Time



MWG13-15_17427

Midwest Generation Joliet Station #29, Joliet, IL

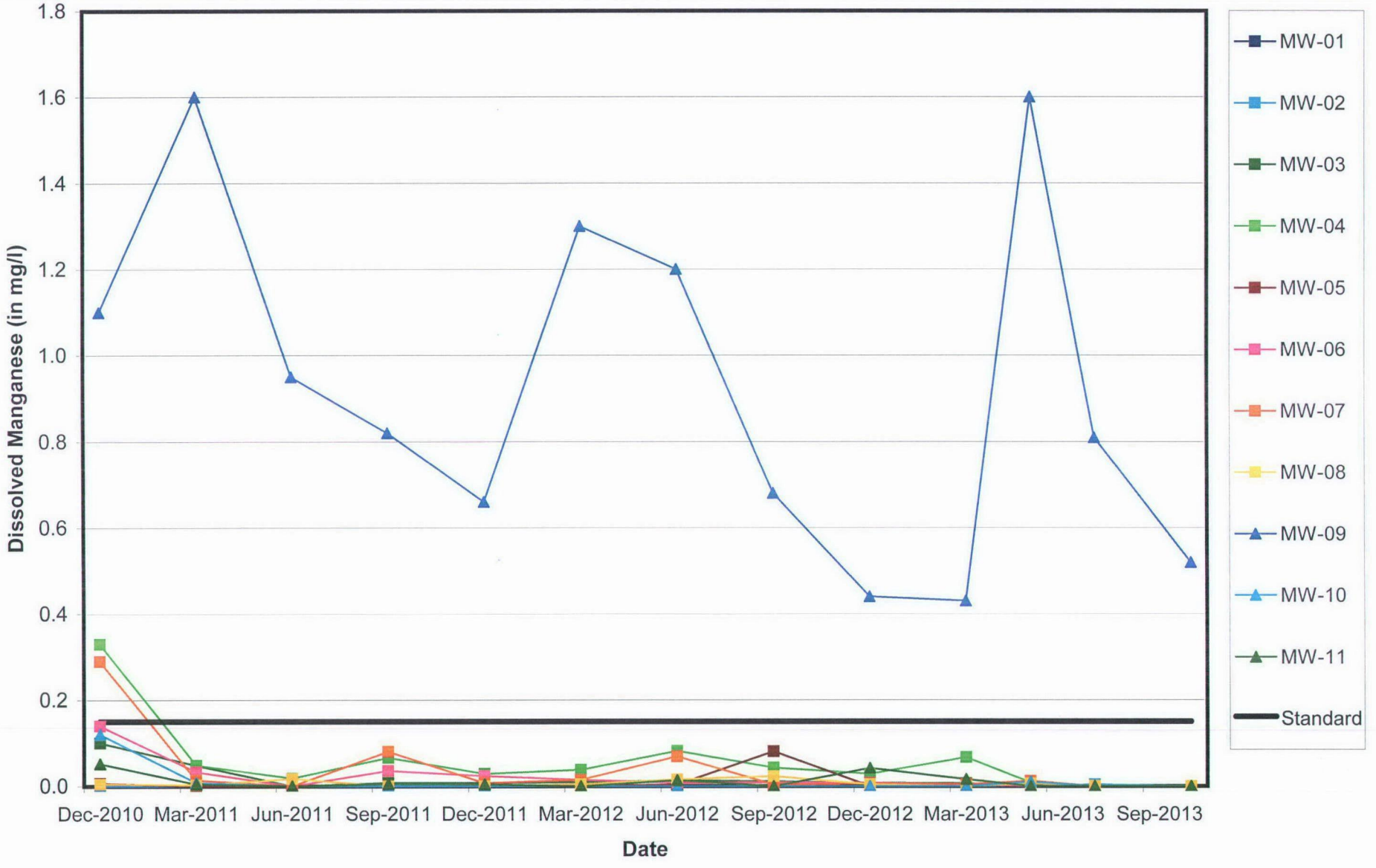
Dissolved Lead vs. Time



MWG13-15_17428

Midwest Generation Joliet Station #29, Joliet, IL

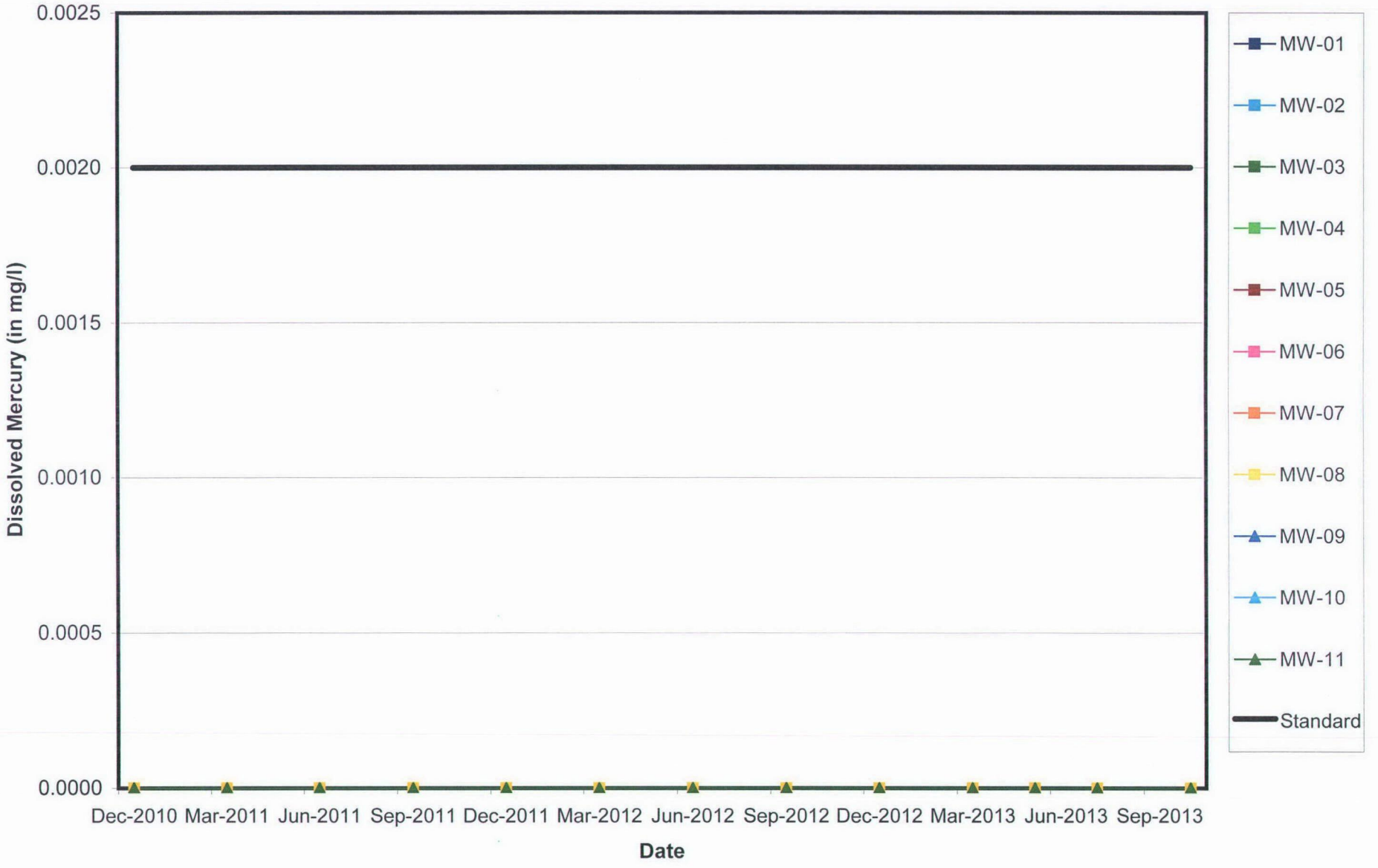
Dissolved Manganese vs. Time



MWG13-15_17429

Midwest Generation Joliet Station #29, Joliet, IL

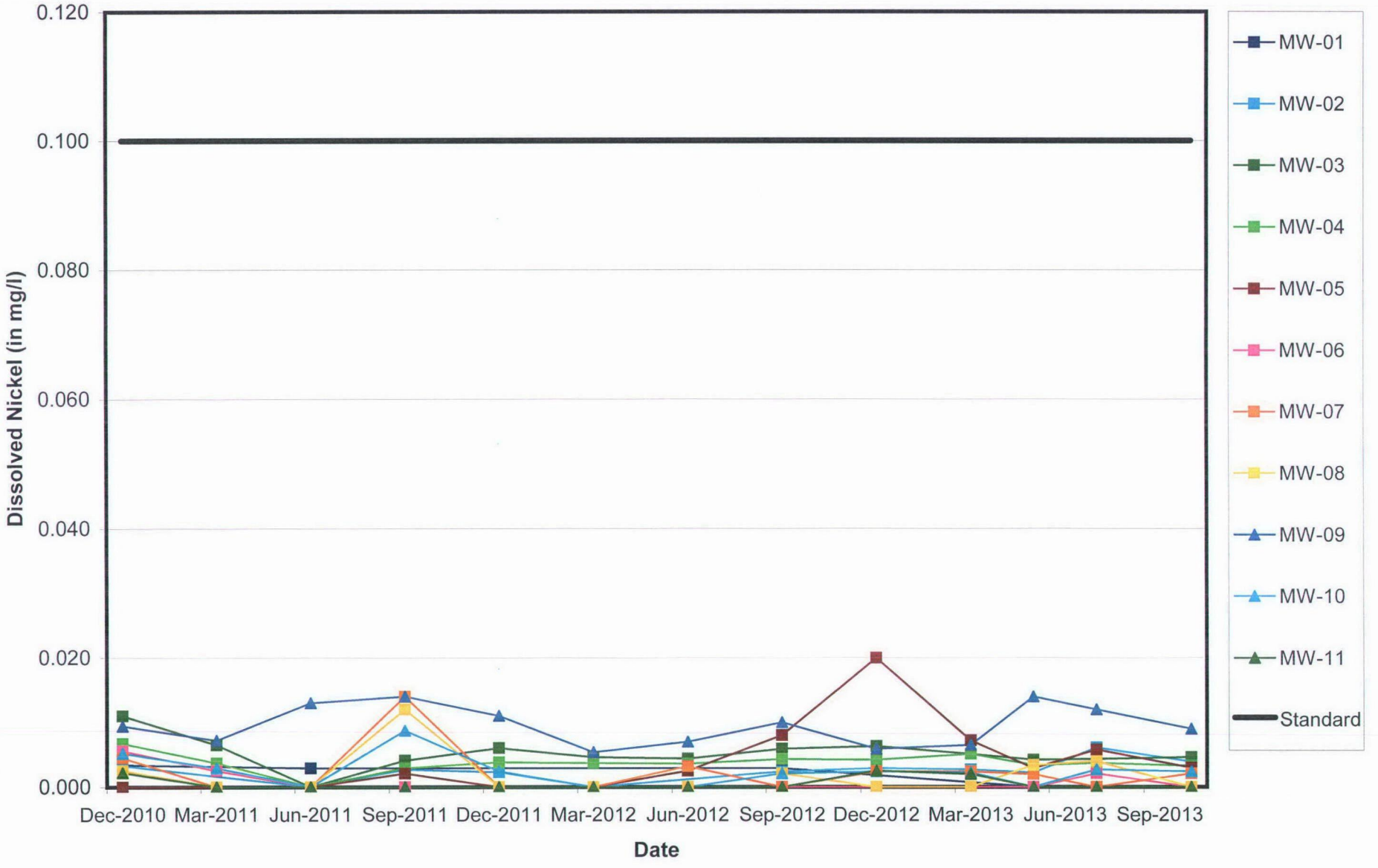
Dissolved Mercury vs. Time



MWG13-15_17430

Midwest Generation Joliet Station #29, Joliet, IL

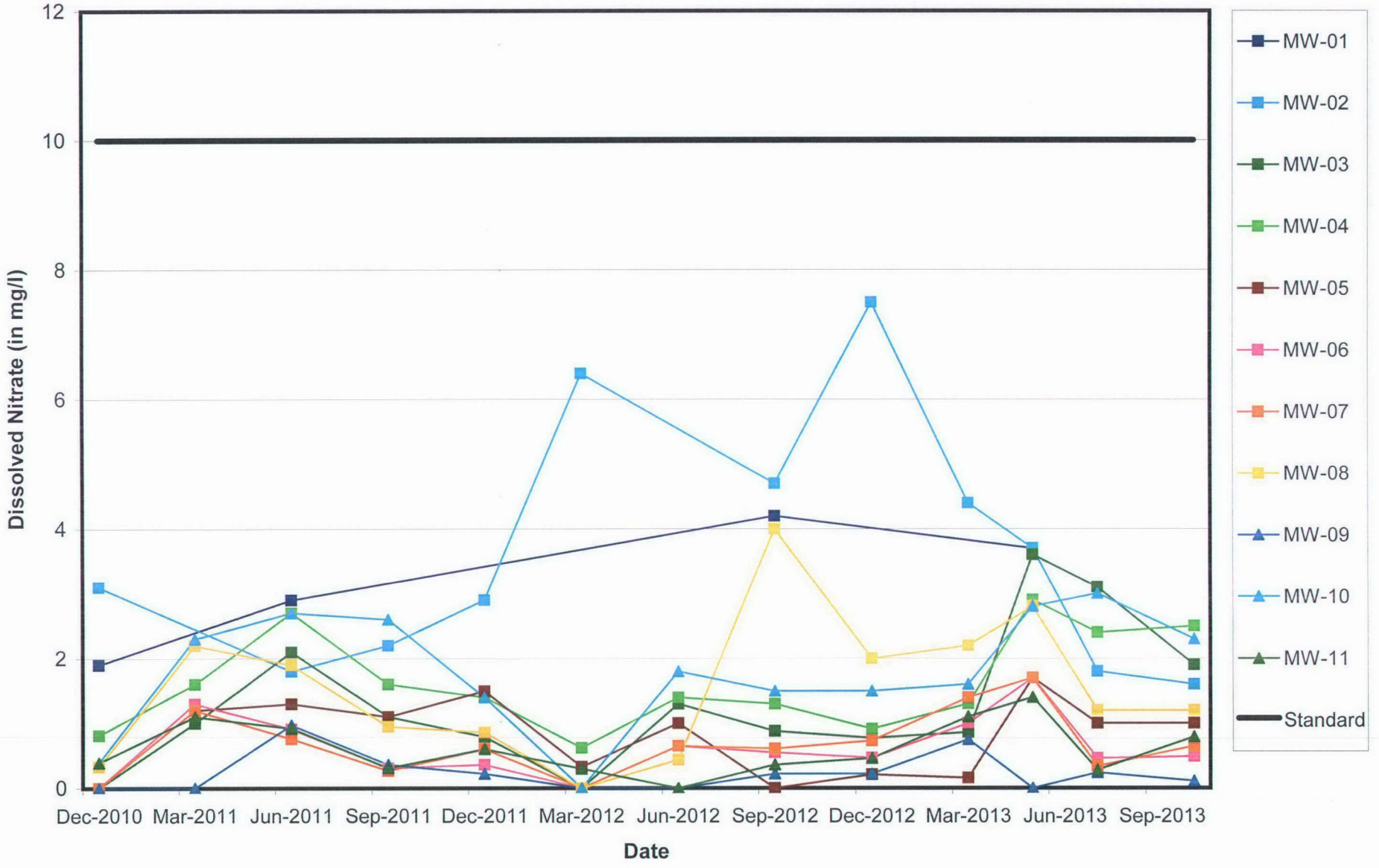
Dissolved Nickel vs. Time



MWG13-15_17431

Midwest Generation Joliet Station #29, Joliet, IL

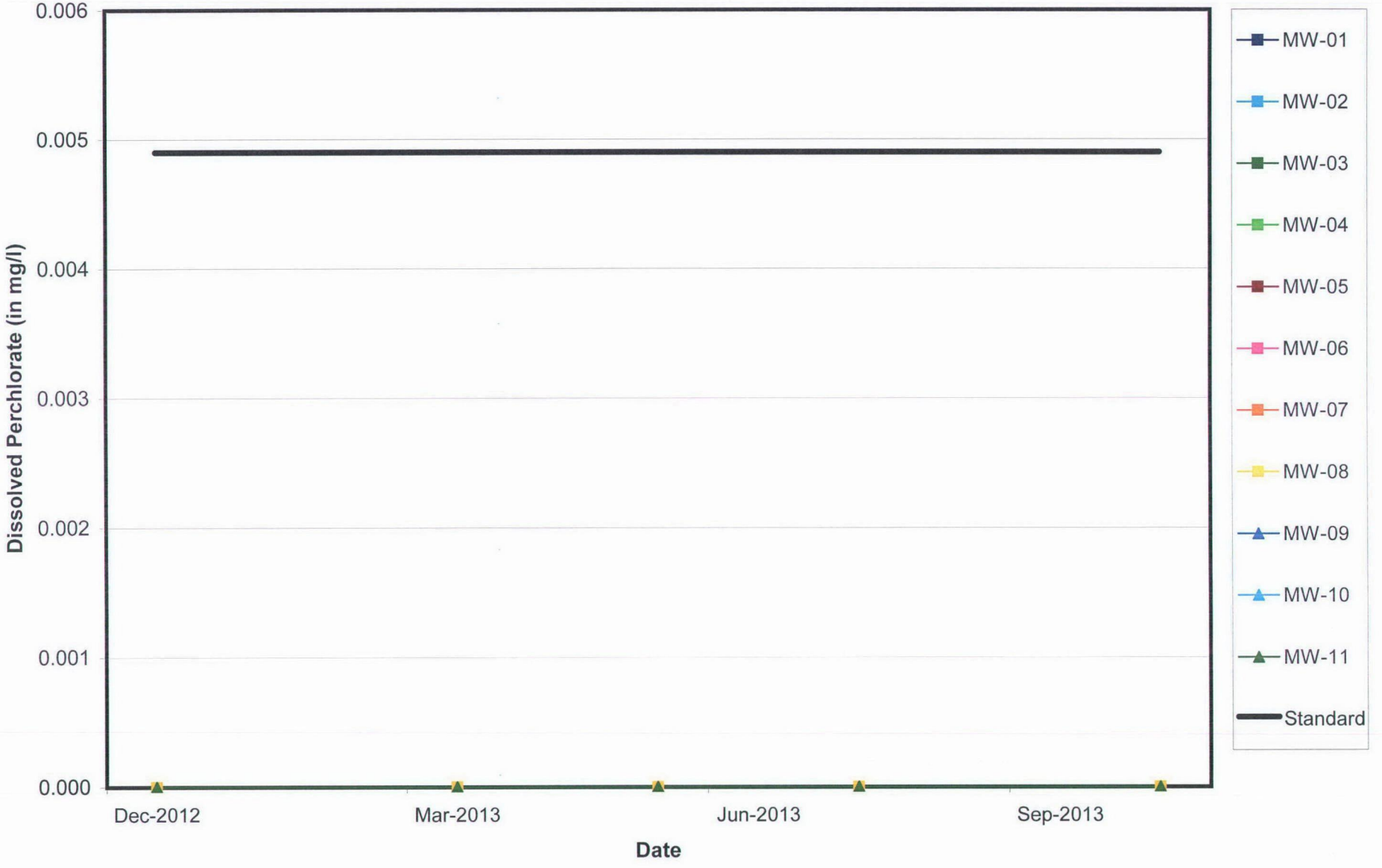
Dissolved Nitrate vs. Time



MWG13-15_17432

Midwest Generation Joliet Station #29, Joliet, IL

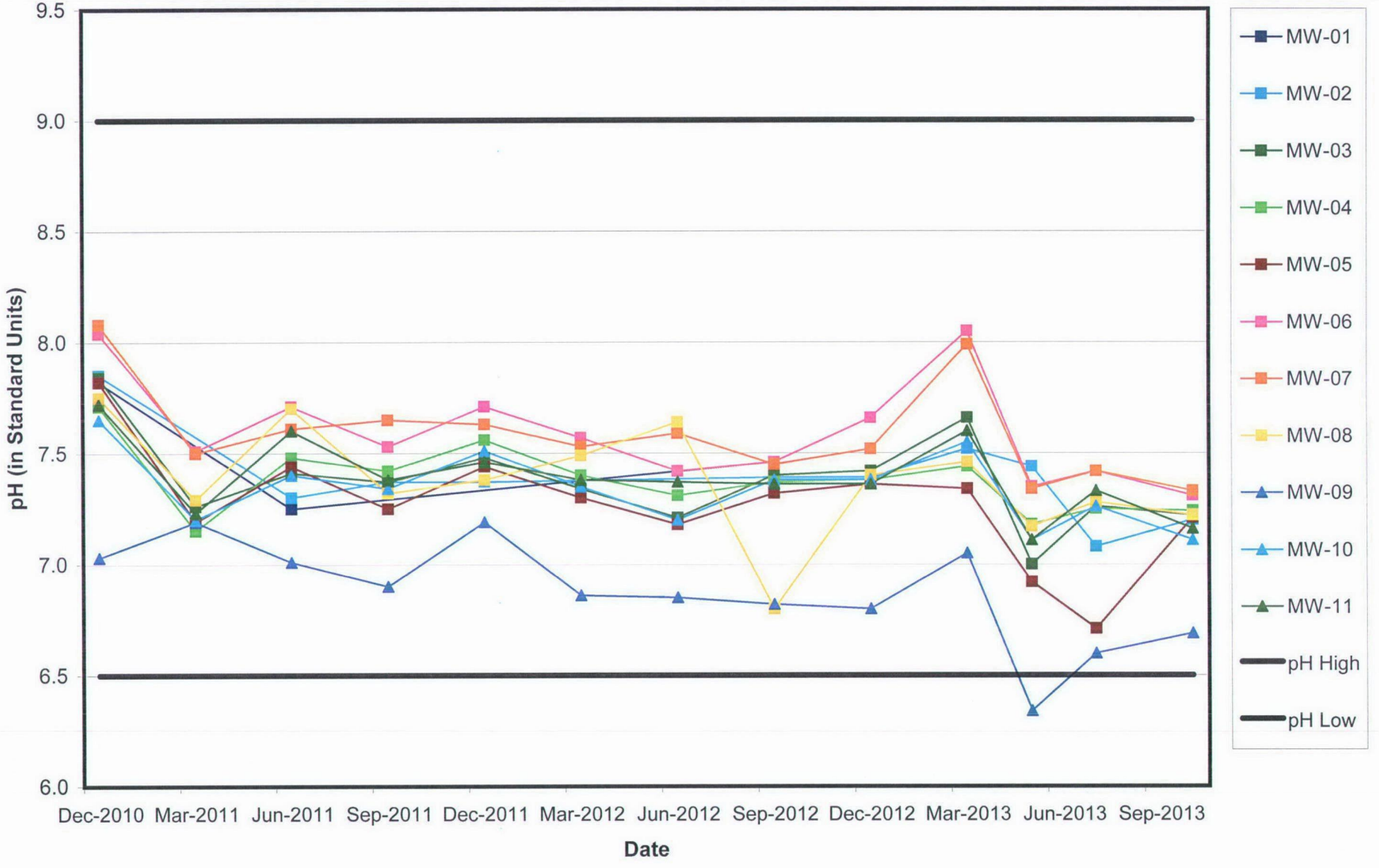
Dissolved Perchlorate vs. Time



MWG13-15_17433

Midwest Generation Joliet Station #29, Joliet, IL

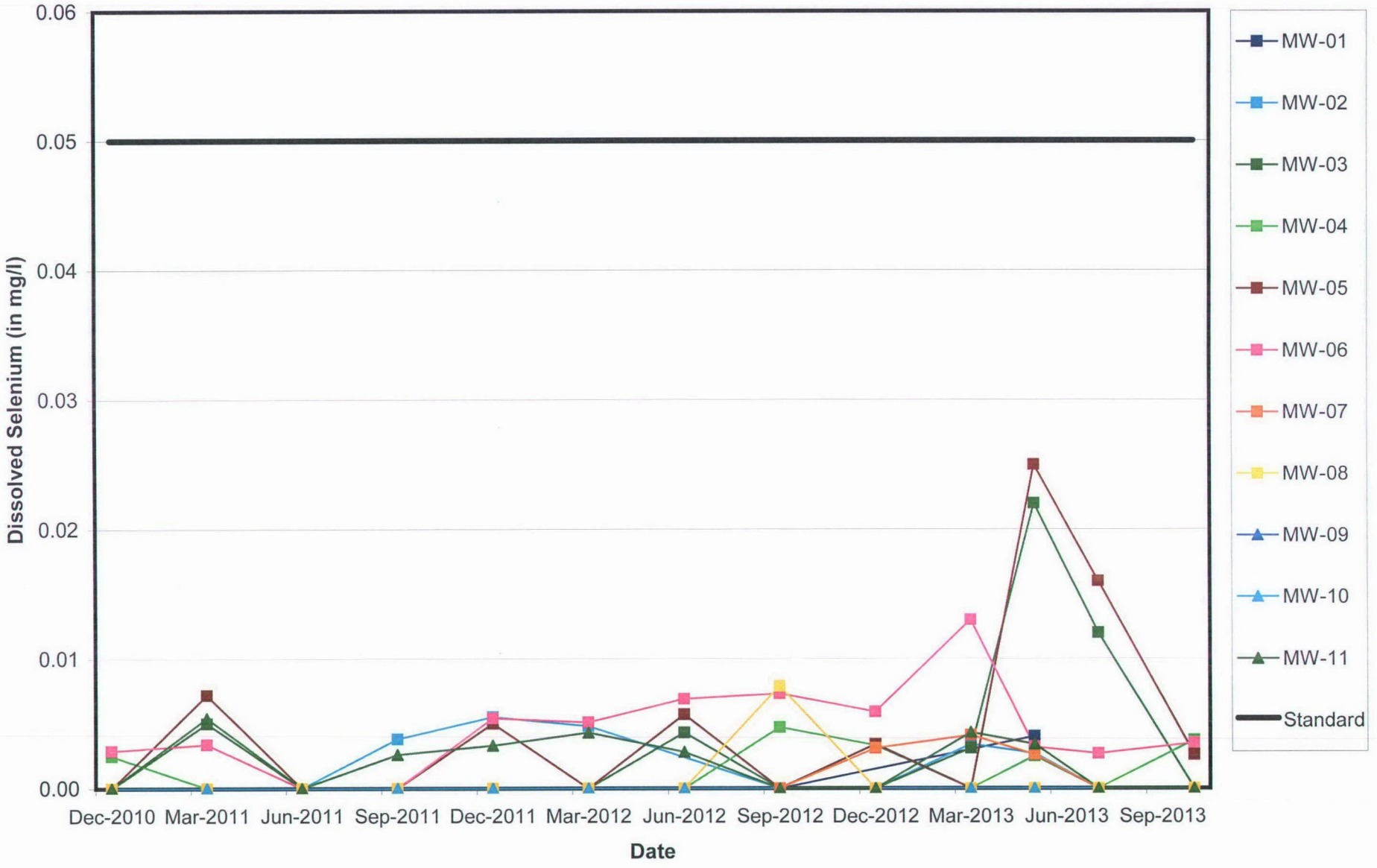
pH vs. Time



MWG13-15_17434

Midwest Generation Joliet Station #29, Joliet, IL

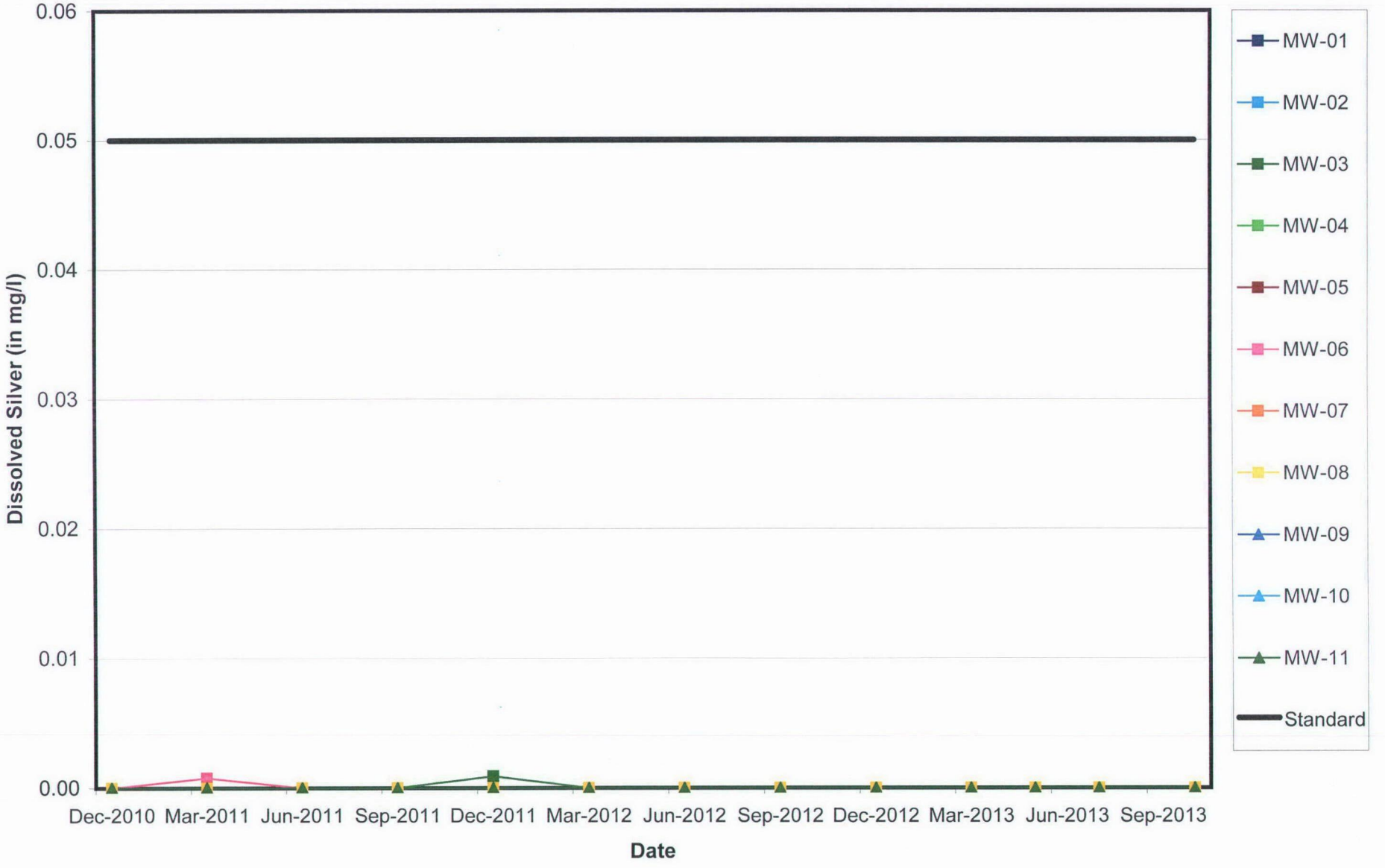
Dissolved Selenium vs. Time



MWG13-15_17435

Midwest Generation Joliet Station #29, Joliet, IL

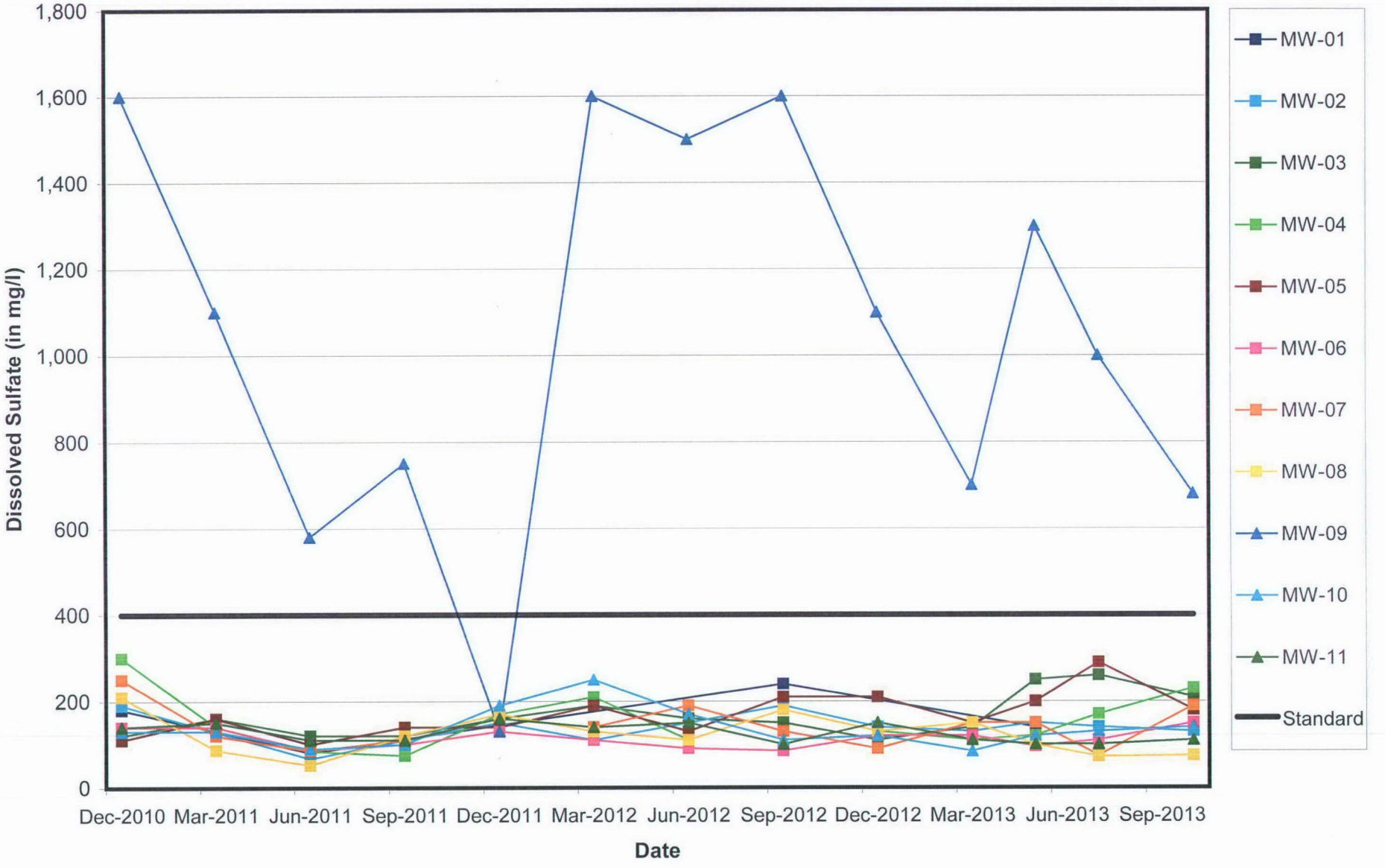
Dissolved Silver vs. Time



MWG13-15_17436

Midwest Generation Joliet Station #29, Joliet, IL

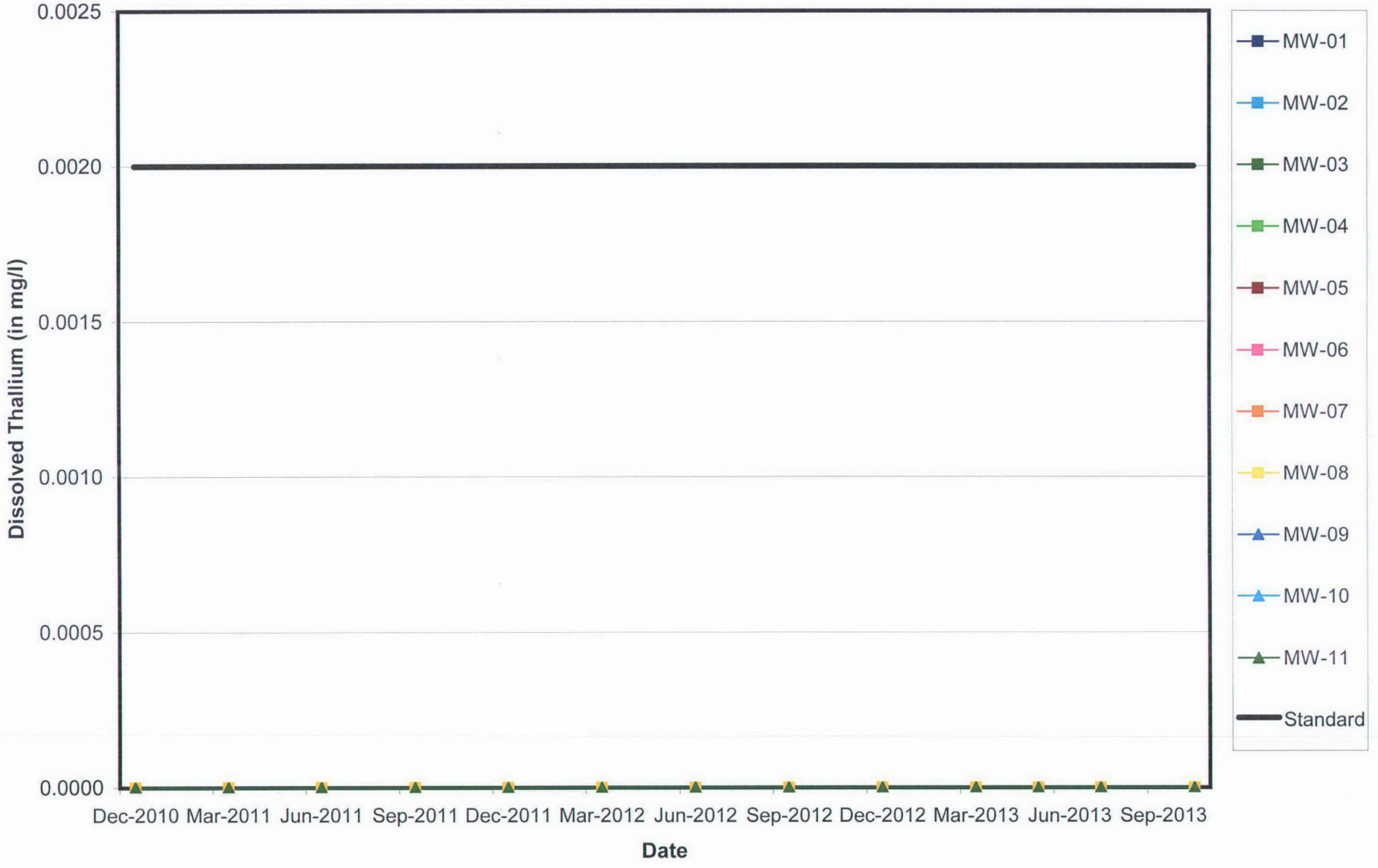
Dissolved Sulfate vs. Time



MWG13-15_17437

Midwest Generation Joliet Station #29, Joliet, IL

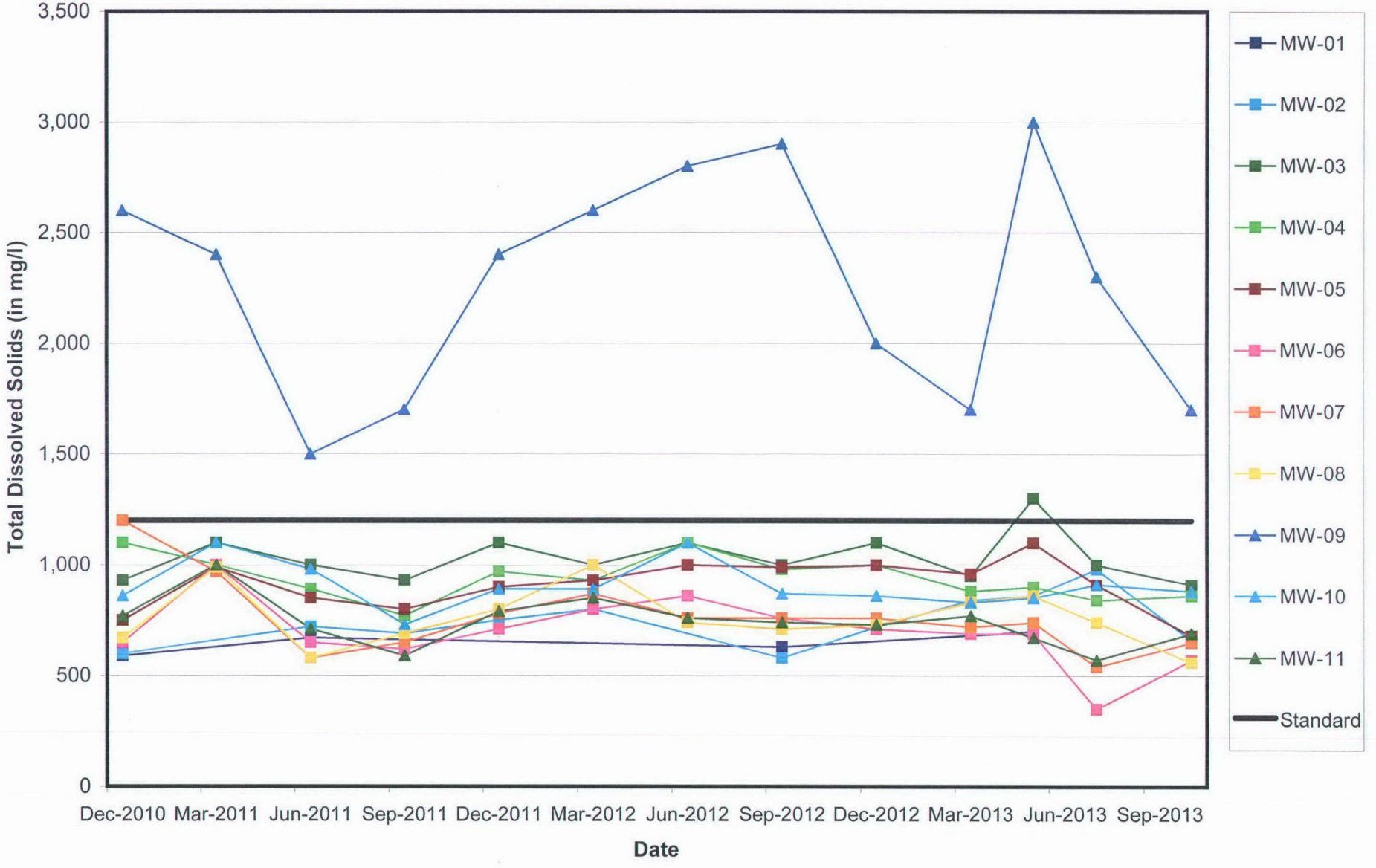
Dissolved Thallium vs. Time



MWG13-15_17438

Midwest Generation Joliet Station #29, Joliet, IL

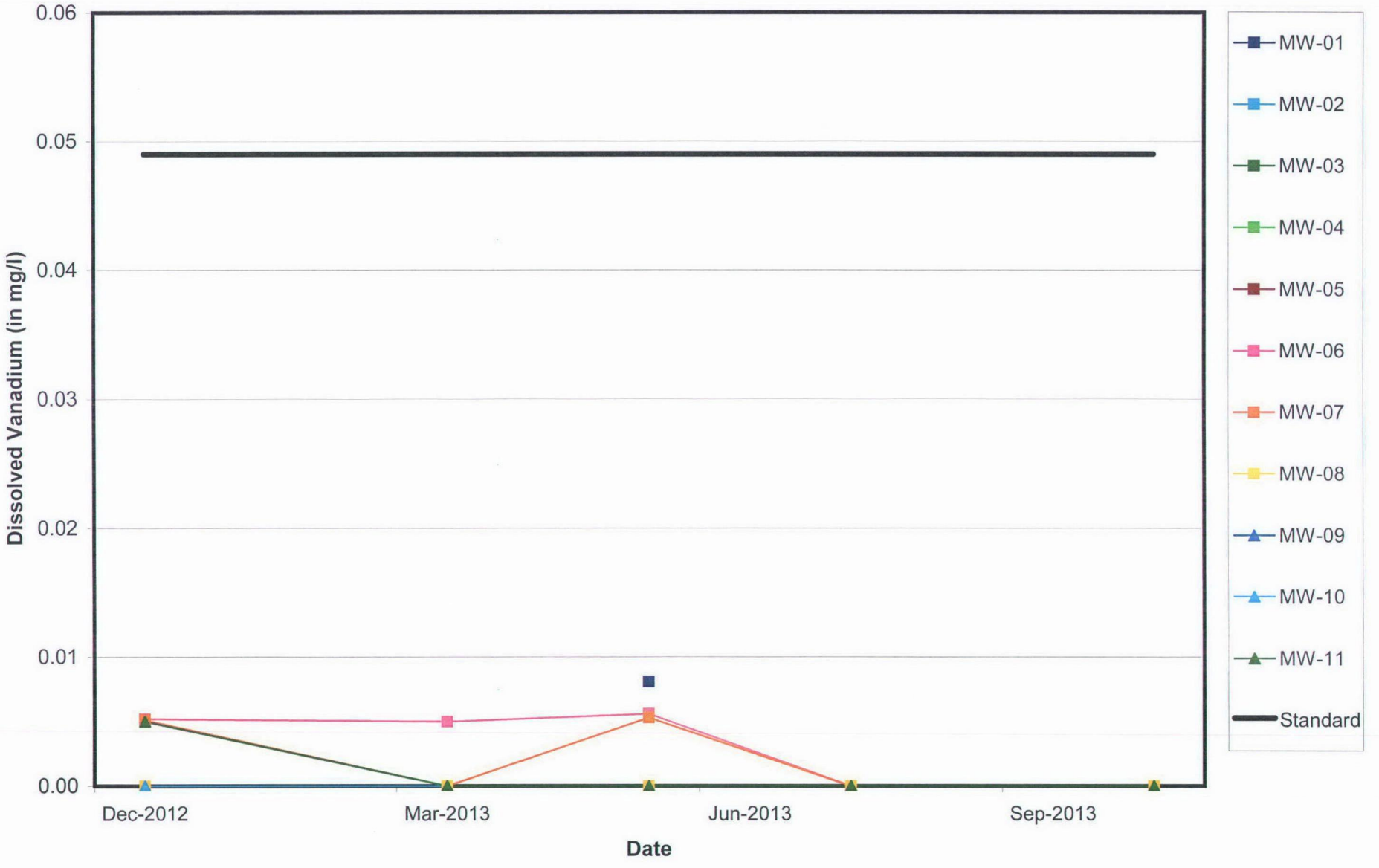
Total Dissolved Solids vs. Time



MWG13-15_17439

Midwest Generation Joliet Station #29, Joliet, IL

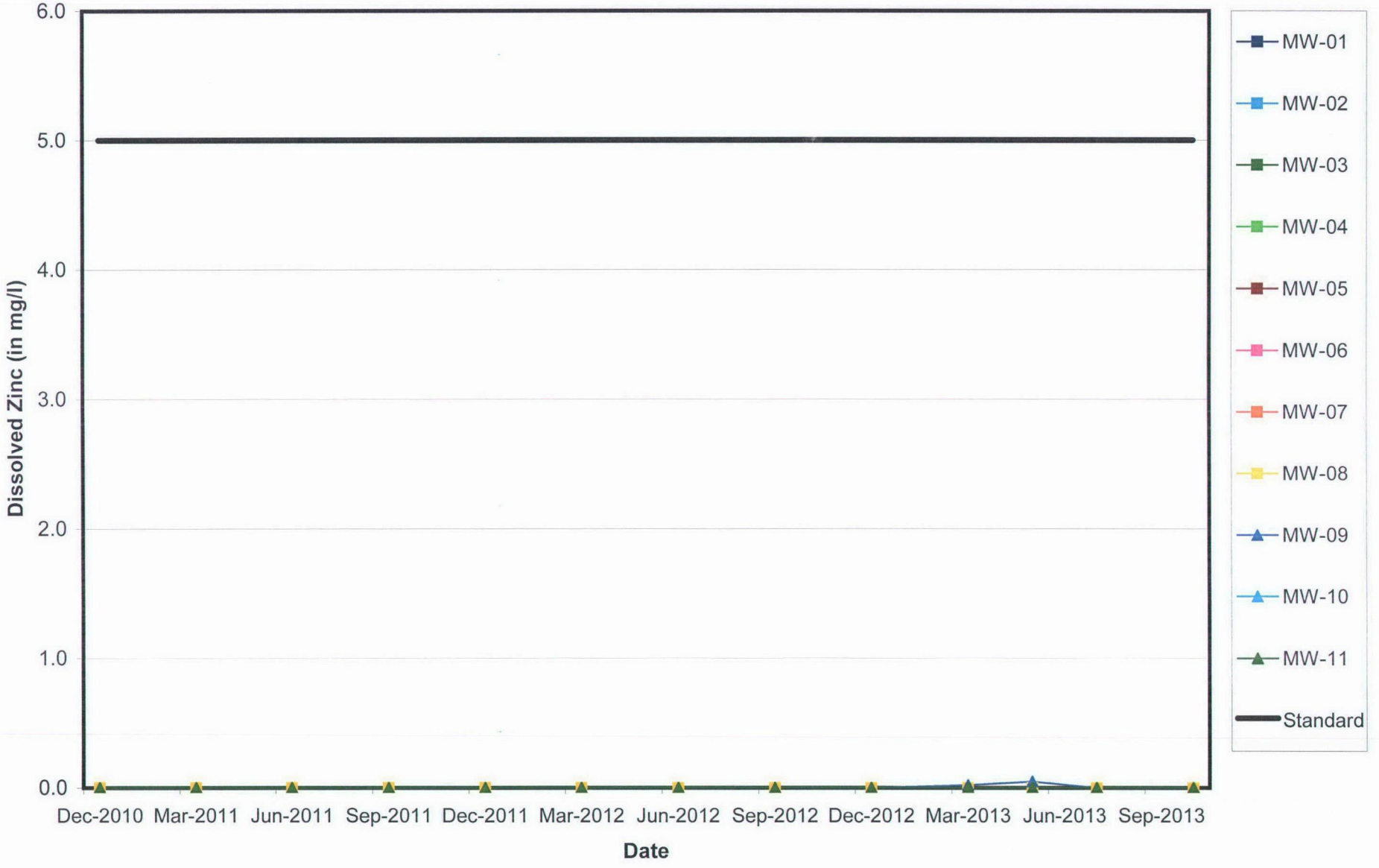
Dissolved Vanadium vs. Time



MWG13-15_17440

Midwest Generation Joliet Station #29, Joliet, IL

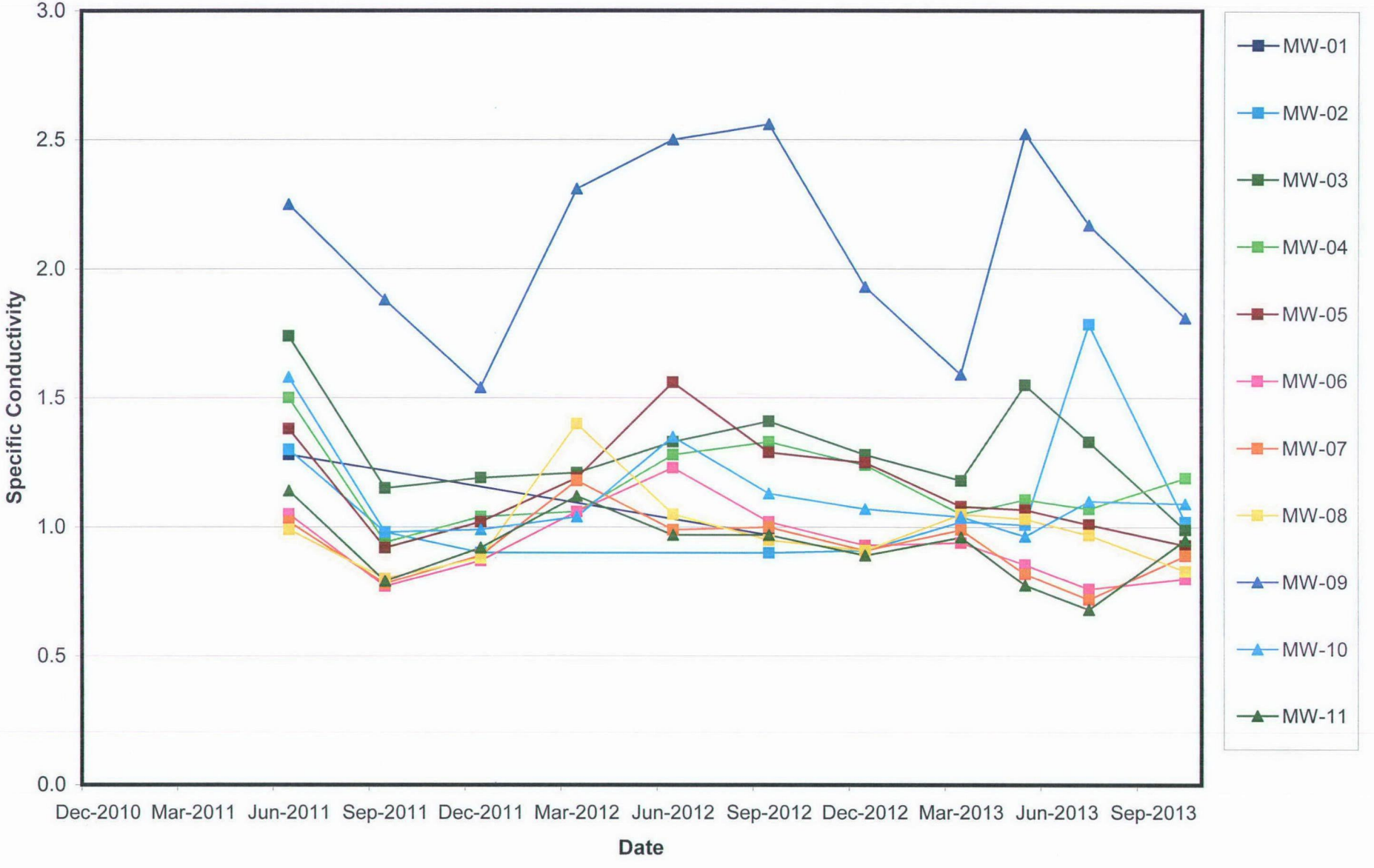
Dissolved Zinc vs. Time



MWG13-15_17441

Midwest Generation Joliet Station #29, Joliet, IL

Specific Conductivity vs. Time



MWG13-15_17442

Exhibit C11

NRG Energy
1800 Channahon Road
Joliet, IL 60436
Telephone: (815) 207-5968

ANNUAL and QUARTERLY GROUNDWATER MONITORING REPORT
JOLIET #29 GENERATING STATION

January 22, 2016

Ms. Andrea Rhodes
Illinois Environmental Protection Agency
Division of Public Water Supplies
MC#19
1021 North Grand Avenue East
Springfield, IL 62794-9276

VIA FEDERAL EXPRESS

Re: Annual and Quarterly Groundwater Monitoring Results – Fourth Quarter 2015
Joliet #29 Generating Station – Ash Impoundments
Compliance Commitment Agreement VN W-2012-00059; ID# 6284

Dear Ms. Rhodes:

The fourth quarterly groundwater sampling for 2015 has been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Joliet #29 Generating Station in accordance with the signed Compliance Commitment Agreement (CCA) with Illinois Environmental Protection Agency (IEPA) dated October 24, 2012. This Quarterly Monitoring Report is being submitted summarizing the results of the monitoring event. This report is also intended to serve as the Annual Report and includes historical data analysis/summaries.

Well Inspection and Sampling Procedures

The groundwater monitoring network around the ash ponds at this facility consists of eleven wells (MW-01 through MW-11) as shown on Figure 1. As part of sampling procedures, the integrity of all monitoring wells was inspected and water levels obtained using an electronic water level meter (see summary of water level discussion below). All wells were generally found in good condition with locked protector casings and the concrete surface seals were intact. MW-01 appeared to be bent, however, a water level meter noted the well was dry. In addition, the lids on wells MW-08 and MW-11 were noted be to cracked but the well integrity has not been affected. These wells will scheduled for repair in the first quarter of 2016.

Groundwater samples at well locations MW-03 through MW-11 were collected using the low-flow sampling technique. Dedicated PVC bailers were used to collect groundwater samples at monitoring well location MW-2 due to the short water column (generally less than two feet within each well). As noted above, there was no sample collected from MW-01 as it was dry.

One duplicate sample was collected at well MW-03. In addition, a de-ionized water trip blank accompanied the groundwater samples bottles from and back to the laboratory. The groundwater monitoring samples and the duplicate sample were analyzed for the compounds listed in Illinois Administrative Code (IAC) 620.410(a), 620.410(d) and 620.410(e), excluding radium 226/228. The trip blank was analyzed for the volatile organic compounds (VOCs) listed in IAC 620.410(d).

Groundwater Flow Evaluation

Water level data from the most recent round of sampling along with historical water levels obtained from each well are summarized in Table 1. The water levels were used to generate a groundwater flow map which is provided on Figure 2. The water elevation data indicates a general southeasterly flow. The flow conditions observed during this sampling are consistent with historical conditions reported for the site.

Relative to an annual evaluation of groundwater levels, a historical hydrograph is presented in Attachment 1. The hydrograph (Groundwater Elevation vs. Time) indicates a downward trend for the last six quarters with a slight rise between the First and Second Quarters of 2015. This reflects the lack of precipitation over that time (end of 2014 and all of 2015 being relatively dry). With that said, the relative changes are within historical levels.

Summary of Analytical Data

A copy of the analytical data package is provided in Attachment 2. The field parameter and analytical data from the most recent sampling, along with the previous eight quarters of data, are summarized in Table 2.

The data appear to be generally consistent with the historical data. All wells for which the sampling data reports a value above groundwater comparison standards are located within the area of the approved Groundwater Management Zone (GMZ).

At this time, a statistical evaluation of background water quality for comparing against downgradient wells has not been completed. The initial anticipated background well installation (MW-11) indicates impacts that are not believed to be associated with the ash ponds at the site and however, IEPA does not recognize the water quality data from this well as representative of background. Relative to an annual evaluation of the water chemistry data, time versus concentration curves are provided for each parameter analyzed in Attachment 3. The curves include the Class I drinking water standard for reference, where applicable.

As noted previously, all wells for which the sampling data reports a value above one or more applicable groundwater standards are located within the area of the approved GMZ.

If there are any questions, please contact either Sharene Shealey of NRG Energy at 815-372-4625 or Richard Gnat of KPRG and Associates, Inc. at 262-781-0475.

Sincerely,

William Naglosky

William Naglosky
Station Manager

cc: William Buscher, IEPA
Peter O'Day, Midwest Generation, LLC
Sharene Shealey, NRG Energy
Richard Gnat, KPRG and Associates, Inc.

FIGURES



MWG13-15_56342

W:\c-p&p\projects\midwest generation\groundwater sampling\joliet #29 gmz.dwg(site map)

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

SITE MAP

JOLIET #29 GENERATING STATION
JOLIET, ILLINOIS

Scale: 1" = 250' | Date: January 23, 2015

KPRG Project No. 12313.0 | FIGURE 1



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MWG13-15_56343

0 250'

APPROXIMATE SCALE

N

ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

GROUNDWATER CONTOUR MAP 10/2015

JOLIET #29 GENERATING STATION
JOLIET, ILLINOIS

Scale: 1" = 250' | Date: January 7, 2016

KPRG Project No. 12313.0 | FIGURE 2

TABLES

Table 1. Groundwater Elevations - Midwest Generation, LLC, Joliet Station #29, Joliet, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-01	06/14/11	534.76	531.46	507.69	507.39	504.91	27.07	27.37	29.85
	09/14/11	534.76	531.46	505.21	NM	504.91	29.55	NM	29.85
	12/07/11	534.76	531.46	505.39	NM	504.91	29.37	NM	29.85
	03/15/12	534.76	531.46	505.47	NM	504.91	29.29	NM	29.85
	06/19/12	534.76	531.46	505.23	NM	504.91	29.53	NM	29.85
	09/19/12	534.76	531.46	510.52	510.52	504.91	24.24	24.24	29.85
	12/20/12	534.76	531.46	505.42	NM	504.91	29.34	NM	29.85
	03/05/13	534.76	531.46	505.30	NM	504.91	29.46	NM	29.85
	05/23/13	534.76	531.46	505.81	505.25	504.91	28.95	29.51	29.85
	07/22/13	534.76	531.46	504.94	504.94	504.91	29.82	29.82	29.90
	10/15/13	534.76	531.46	504.93	NM	504.88	29.83	NM	29.88
	02/21/14	534.76	531.46	NM	NM	NM	NM	NM	NM
	05/01/14	534.76	531.46	505.73	NM	504.87	29.03	NM	29.89
	08/18/14	534.76	531.46	506.75	NM	504.87	28.01	28.89	29.89
	10/23/14	534.76	531.46	505.80	NM	504.87	28.96	29.23	29.89
	02/10/15	534.76	531.46	NM	NM	504.88	NM	NM	29.88
	05/27/15	534.76	531.46	NM	NM	504.88	NM	NM	29.88
	08/04/15	534.76	531.46	NM	NM	504.88	NM	NM	29.88
	10/27/15	534.76	531.46	NM	NM	504.88	NM	NM	29.88
MW-02	06/14/11	534.28	531.19	507.62	507.62	504.06	26.66	26.66	30.22
	09/14/11	534.28	531.19	505.13	505.17	504.06	29.15	29.11	30.22
	12/07/11	534.28	531.19	505.36	505.34	504.06	28.92	28.94	30.22
	03/15/12	534.28	531.19	505.43	505.43	504.06	28.85	28.85	30.22
	06/19/12	534.28	531.19	505.18	NM	504.06	29.10	NM	30.22
	09/19/12	534.28	531.19	512.33	505.31	504.06	21.95	28.97	30.22
	12/20/12	534.28	531.19	505.33	505.33	504.06	28.95	28.95	30.22
	03/05/13	534.28	531.19	505.31	505.31	504.06	28.97	28.97	30.22
	05/23/13	534.28	531.19	505.82	504.28	504.06	28.46	30.00	30.22
	07/22/13	534.28	531.19	505.10	505.18	504.04	29.18	29.10	30.24
	10/15/13	534.28	531.19	505.05	NM	504.05	29.23	NM	30.23
	02/21/14	534.28	531.19	505.99	506.00	504.05	28.29	28.28	30.23
	05/02/14	534.28	531.19	505.73	505.77	504.05	28.55	28.51	30.23
	08/18/14	534.28	531.19	506.05	506.05	504.05	28.23	28.23	30.23
	10/23/14	534.28	531.19	505.79	505.79	504.05	28.49	28.49	30.23
	02/10/15	534.28	531.19	505.17	505.17	504.05	29.11	29.11	30.23
	05/27/15	534.28	531.19	505.34	505.32	504.05	28.94	28.96	30.23
	08/04/15	534.28	531.19	505.14	505.13	504.05	29.14	29.15	30.23
	10/27/15	534.28	531.19	504.89	505.09	504.05	29.39	29.19	30.23
MW-03	06/14/11	538.78	535.54	507.97	506.89	494.68	30.81	31.89	44.10
	09/14/11	538.78	535.54	505.17	505.15	494.68	33.61	33.63	44.10
	12/07/11	538.78	535.54	505.38	505.35	494.68	33.40	33.43	44.10
	03/15/12	538.78	535.54	505.45	505.45	494.68	33.33	33.33	44.10
	06/19/12	538.78	535.54	505.23	505.23	494.68	33.55	33.55	44.10
	09/19/12	538.78	535.54	505.12	505.12	494.68	33.66	33.66	44.10
	12/20/12	538.78	535.54	505.25	505.25	494.68	33.53	33.53	44.10
	03/05/13	538.78	535.54	505.38	505.38	494.68	33.40	33.40	44.10
	05/22/13	538.78	535.54	505.87	506.03	494.68	32.91	32.75	44.10
	07/22/13	538.78	535.54	505.16	505.20	494.68	33.62	33.58	44.10
	10/15/13	538.78	535.54	505.04	505.05	494.68	33.74	33.73	44.10
	02/17/14	538.78	565.54	505.29	505.29	494.68	33.49	33.49	44.10
	05/02/14	538.78	565.54	505.70	505.71	494.68	33.08	33.07	44.10
	08/18/14	538.78	565.54	506.26	506.26	494.68	32.52	32.52	44.10
	10/23/14	538.78	565.54	505.82	505.82	494.68	32.96	32.96	44.10
	02/10/15	538.78	565.54	505.19	505.20	494.68	33.59	33.58	44.10
	05/27/15	538.78	565.54	505.36	505.35	494.68	33.42	33.43	44.10
	08/04/15	538.78	565.54	505.22	505.22	494.68	33.56	33.56	44.10
	10/27/15	538.78	565.54	504.91	505.04	494.68	33.87	33.74	44.10

NM - Not Measured

Table 1. Groundwater Elevations - Midwest Generation, LLC, Joliet Station #29, Joliet, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-04	06/14/11	539.03	535.80	507.93	507.93	496.13	31.10	31.10	42.90
	09/14/11	539.03	535.80	505.15	505.15	496.13	33.88	33.88	42.90
	12/07/11	539.03	535.80	505.34	505.34	496.13	33.69	33.69	42.90
	03/15/12	539.03	535.80	505.43	505.43	496.13	33.60	33.60	42.90
	06/19/12	539.03	535.80	505.21	505.21	496.13	33.82	33.82	42.90
	09/19/12	539.03	535.80	505.11	505.11	496.13	33.92	33.92	42.90
	12/20/12	539.03	535.80	505.25	505.25	496.13	33.78	33.78	42.90
	03/05/13	539.03	535.80	505.39	505.39	496.13	33.64	33.64	42.90
	05/22/13	539.03	535.80	503.94	505.93	496.13	35.09	33.10	42.90
	07/22/13	539.03	535.80	505.13	505.21	496.13	33.90	33.82	42.90
	10/16/13	539.03	535.80	505.07	505.09	496.13	33.96	33.94	42.90
	02/21/14	539.03	535.80	505.99	506.00	496.13	33.04	33.03	42.90
	05/01/14	539.03	535.80	505.71	507.70	496.13	33.32	31.33	42.90
	08/18/14	539.03	535.80	506.28	506.27	496.13	32.75	32.76	42.90
	10/23/14	539.03	535.80	505.86	505.82	496.13	33.17	33.21	42.90
	02/10/15	539.03	535.80	505.19	505.18	496.13	33.84	33.85	42.90
	05/27/15	539.03	535.80	505.39	505.37	496.13	33.64	33.66	42.90
	08/04/15	539.03	535.80	505.19	505.19	496.13	33.84	33.84	42.90
	10/27/15	539.03	535.80	504.98	505.00	496.13	34.05	34.03	42.90
MW-05	06/14/11	539.69	536.43	507.87	507.86	494.64	31.82	31.83	45.05
	09/14/11	539.69	536.43	505.05	505.06	494.64	34.64	34.63	45.05
	12/07/11	539.69	536.43	505.23	505.23	494.64	34.46	34.46	45.05
	03/15/12	539.69	536.43	505.32	505.32	494.64	34.37	34.37	45.05
	06/19/12	539.69	536.43	505.11	505.11	494.64	34.58	34.58	45.05
	09/19/12	539.69	536.43	505.06	505.05	494.64	34.63	34.64	45.05
	12/20/12	539.69	536.43	505.22	505.22	494.64	34.47	34.47	45.05
	03/05/13	539.69	536.43	505.24	505.24	494.64	34.45	34.45	45.05
	06/05/13	539.69	536.43	506.03	506.06	494.64	33.66	33.63	45.05
	07/23/13	539.69	536.43	505.09	505.13	494.64	34.60	34.56	45.05
	10/15/13	539.69	536.43	504.99	504.99	494.64	34.70	34.70	45.05
	02/21/14	539.69	536.43	505.97	505.97	494.64	33.72	33.72	45.05
	05/01/14	539.69	536.43	505.56	505.58	494.64	34.13	34.11	45.05
	08/19/14	539.69	536.43	506.10	506.09	494.64	33.59	33.60	45.05
	10/23/14	539.69	536.43	505.65	505.65	494.64	34.04	34.04	45.05
	02/11/15	539.69	536.43	505.12	505.12	494.64	34.57	34.57	45.05
	05/27/15	539.69	536.43	505.26	505.25	494.64	34.43	34.44	45.05
	08/04/15	539.69	536.43	505.14	505.14	494.64	34.55	34.55	45.05
	10/27/15	539.69	536.43	504.78	504.95	494.64	34.91	34.74	45.05
MW-06	06/14/11	539.06	535.86	507.83	507.83	496.86	31.23	31.23	42.20
	09/14/11	539.06	535.86	505.19	505.24	496.86	33.87	33.82	42.20
	12/07/11	539.06	535.86	505.36	505.33	496.86	33.70	33.73	42.20
	03/15/12	539.06	535.86	505.45	505.46	496.86	33.61	33.60	42.20
	06/19/12	539.06	535.86	505.26	505.26	496.86	33.80	33.80	42.20
	09/19/12	539.06	535.86	505.26	505.24	496.86	33.80	33.82	42.20
	12/20/12	539.06	535.86	505.25	505.25	496.86	33.81	33.81	42.20
	03/05/13	539.06	535.86	505.37	505.37	496.86	33.69	33.69	42.20
	05/22/13	539.06	535.86	506.06	506.06	496.86	33.00	33.00	42.20
	07/23/13	539.06	535.86	505.28	505.26	496.86	33.78	33.80	42.20
	10/16/13	539.06	535.86	505.12	505.13	496.86	33.94	33.93	42.20
	02/21/14	539.06	535.86	506.10	506.11	496.86	32.96	32.95	42.20
	05/02/14	539.06	535.86	505.71	505.70	496.86	33.35	33.36	42.20
	08/19/14	539.06	535.86	506.22	506.22	496.86	32.84	32.84	42.20
	10/23/14	539.06	535.86	505.75	505.77	496.86	33.31	33.29	42.20
	02/10/15	539.06	535.86	505.23	505.23	496.86	33.83	33.83	42.20
	05/28/15	539.06	535.86	505.46	505.45	496.86	33.60	33.61	42.20
	08/05/15	539.06	535.86	505.11	505.12	496.86	33.95	33.94	42.20
	10/27/15	539.06	535.86	504.88	504.93	496.86	34.18	34.13	42.20

NM - Not Measured

Table 1. Groundwater Elevations - Midwest Generation, LLC, Joliet Station #29, Joliet, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-07	06/14/11	539.35	535.86	507.83	507.83	496.11	31.52	31.52	43.24
	09/14/11	539.35	535.86	505.21	505.21	496.11	34.14	34.14	43.24
	12/07/11	539.35	535.86	505.37	505.37	496.11	33.98	33.98	43.24
	03/15/12	539.35	535.86	505.46	505.46	496.11	33.89	33.89	43.24
	06/19/12	539.35	535.86	505.28	500.70	496.11	34.07	38.65	43.24
	09/19/12	539.35	535.86	505.26	505.26	496.11	34.09	34.09	43.24
	12/20/12	539.35	535.86	505.24	505.24	496.11	34.11	34.11	43.24
	03/05/13	539.35	535.86	505.40	505.40	496.11	33.95	33.95	43.24
	05/22/13	539.35	535.86	506.17	506.17	496.11	33.18	33.18	43.24
	07/23/13	539.35	535.86	505.27	505.27	496.11	34.08	34.08	43.24
	10/16/13	539.35	535.86	505.13	505.14	496.12	34.22	34.21	43.23
	02/21/14	539.35	535.86	506.16	506.16	496.12	33.19	33.19	43.23
	05/02/14	539.35	535.86	505.71	505.70	496.12	33.64	33.65	43.23
	08/19/14	539.35	535.86	506.27	506.25	496.12	33.08	33.10	43.23
	10/23/14	539.35	535.86	505.79	505.78	496.12	33.56	33.57	43.23
	02/10/15	539.35	535.86	505.24	505.24	496.12	34.11	34.11	43.23
	05/28/15	539.35	535.86	505.50	505.50	496.12	33.85	33.85	43.23
	08/05/15	539.35	535.86	505.18	505.17	496.12	34.17	34.18	43.23
	10/27/15	539.35	535.86	504.93	505.00	496.12	34.42	34.35	43.23
MW-08	06/14/11	536.87	533.72	507.91	507.89	498.81	28.96	28.98	38.06
	09/14/11	536.87	533.72	505.25	505.25	498.81	31.62	31.62	38.06
	12/07/11	536.87	533.72	505.49	505.49	498.81	31.38	31.38	38.06
	03/15/12	536.87	533.72	505.57	505.57	498.81	31.30	31.30	38.06
	06/19/12	536.87	533.72	505.32	505.32	498.81	31.55	31.55	38.06
	09/19/12	536.87	533.72	505.22	505.22	498.81	31.65	31.65	38.06
	12/20/12	536.87	533.72	505.40	505.40	498.81	31.47	31.47	38.06
	03/05/13	536.87	533.72	505.45	505.45	498.81	31.42	31.42	38.06
	05/23/13	536.87	533.72	505.91	505.91	498.81	30.96	30.96	38.06
	07/22/13	536.87	533.72	505.17	505.19	498.81	31.70	31.68	38.06
	10/15/13	536.87	533.72	505.13	505.13	498.81	31.74	31.74	38.06
	02/21/14	536.87	533.72	505.94	505.95	498.81	30.93	30.92	38.06
	05/01/14	536.87	533.72	505.84	505.86	498.81	31.03	31.01	38.06
	08/18/14	536.87	533.72	506.19	506.18	498.81	30.68	30.69	38.06
	10/23/14	536.87	533.72	505.78	505.77	498.81	31.09	31.10	38.06
	02/10/15	536.87	533.72	505.18	505.19	498.81	31.69	31.68	38.06
	05/27/15	536.87	533.72	505.36	505.38	498.81	31.51	31.49	38.06
	08/04/15	536.87	533.72	505.19	505.20	498.81	31.68	31.67	38.06
	10/27/15	536.87	533.72	504.93	504.98	498.81	31.94	31.89	38.06
MW-09	06/14/11	534.44	531.13	507.88	505.84	496.29	26.56	28.60	38.15
	09/14/11	534.44	531.13	505.22	504.81	496.29	29.22	29.63	38.15
	12/07/11	534.44	531.13	505.46	505.03	496.29	28.98	29.41	38.15
	03/15/12	534.44	531.13	505.53	500.37	496.29	28.91	34.07	38.15
	06/19/12	534.44	531.13	505.29	501.20	496.29	29.15	33.24	38.15
	09/19/12	534.44	531.13	505.66	504.91	496.29	28.78	29.53	38.15
	12/20/12	534.44	531.13	505.36	505.36	496.29	29.08	29.08	38.15
	03/05/13	534.44	531.13	505.50	505.50	496.29	28.94	28.94	38.15
	05/23/13	534.44	531.13	505.91	505.63	496.29	28.53	28.81	38.15
	07/22/13	534.44	531.13	505.22	505.11	496.29	29.22	29.33	38.15
	10/15/13	534.44	531.13	505.10	504.96	496.29	29.34	29.48	38.15
	02/17/14	534.44	531.13	505.30	504.98	496.29	29.14	29.46	38.15
	05/01/14	534.44	531.13	505.82	505.72	496.29	28.62	28.72	38.15
	08/18/14	534.44	531.13	506.18	505.83	496.29	28.26	28.61	38.15
	10/23/14	534.44	531.13	505.82	505.46	496.29	28.62	28.98	38.15
	02/10/15	534.44	531.13	505.22	504.70	496.29	29.22	29.74	38.15
	05/27/15	534.44	531.13	505.37	504.98	496.29	29.07	29.46	38.15
	08/04/15	534.44	531.13	505.22	504.91	496.29	29.22	29.53	38.15
	10/27/15	534.44	531.13	504.96	504.83	496.29	29.48	29.61	38.15

NM - Not Measured

Table 1. Groundwater Elevations - Midwest Generation, LLC, Joliet Station #29, Joliet, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-10	06/14/11	540.03	536.95	508.19	508.17	496.10	31.84	31.86	43.93
	09/14/11	540.03	536.95	505.23	505.23	496.10	34.80	34.80	43.93
	12/07/11	540.03	536.95	505.43	505.43	496.10	34.60	34.60	43.93
	03/15/12	540.03	536.95	505.51	505.51	496.10	34.52	34.52	43.93
	06/19/12	540.03	536.95	505.28	505.28	496.10	34.75	34.75	43.93
	09/19/12	540.03	536.95	505.16	505.19	496.10	34.87	34.84	43.93
	12/20/12	540.03	536.95	505.30	505.30	496.10	34.73	34.73	43.93
	03/05/13	540.03	536.95	505.41	505.41	496.10	34.62	34.62	43.93
	05/22/13	540.03	536.95	505.99	505.99	496.10	34.04	34.04	43.93
	07/23/13	540.03	536.95	505.28	505.29	496.10	34.75	34.74	43.93
	10/15/13	540.03	536.95	505.10	505.10	496.10	34.93	34.93	43.93
	02/17/14	540.03	536.95	505.35	505.35	496.10	34.68	34.68	43.93
	05/01/14	540.03	536.95	505.80	505.80	496.10	34.23	34.23	43.93
	08/18/14	540.03	536.95	506.41	506.40	496.10	33.62	33.63	43.93
	10/23/14	540.03	536.95	505.89	505.88	496.10	34.14	34.15	43.93
	02/11/15	540.03	536.95	505.27	505.27	496.10	34.76	34.76	43.93
	05/28/15	540.03	536.95	505.48	505.48	496.10	34.55	34.55	43.93
	08/04/15	540.03	536.95	505.29	505.30	496.10	34.74	34.73	43.93
	10/27/15	540.03	536.95	504.93	505.07	496.10	35.10	34.96	43.93
MW-11	06/14/11	539.47	536.52	509.29	509.30	497.14	30.18	30.17	42.33
	09/14/11	539.47	536.52	505.49	505.49	497.14	33.98	33.98	42.33
	12/07/11	539.47	536.52	505.77	505.77	497.14	33.70	33.70	42.33
	03/15/12	539.47	536.52	505.80	505.80	497.14	33.67	33.67	42.33
	06/19/12	539.47	536.52	505.51	505.51	497.14	33.96	33.96	42.33
	09/19/12	539.47	536.52	505.35	505.35	497.14	34.12	34.12	42.33
	12/20/12	539.47	536.52	505.44	505.44	497.14	34.03	34.03	42.33
	03/05/13	539.47	536.52	505.66	505.66	497.14	33.81	33.81	42.33
	05/23/13	539.47	536.52	506.46	506.37	497.14	33.01	33.10	42.33
	07/23/13	539.47	536.52	505.44	505.50	497.14	34.03	33.97	42.33
	10/15/13	539.47	536.52	505.32	505.32	497.14	34.15	34.15	42.33
	02/21/14	539.47	536.52	506.19	506.19	497.14	33.28	33.28	42.33
	05/01/14	539.47	536.52	506.20	506.20	497.14	33.27	33.27	42.33
	08/19/14	539.47	536.52	507.14	507.13	497.14	32.33	32.34	42.33
	10/23/14	539.47	536.52	506.28	506.28	497.14	33.19	33.19	42.33
	02/11/15	539.47	536.52	505.49	505.49	497.14	33.98	33.98	42.33
	05/28/15	539.47	536.52	505.96	505.97	497.14	33.51	33.50	42.33
	08/04/15	539.47	536.52	505.65	505.64	497.14	33.82	33.83	42.33
	10/27/15	539.47	536.52	505.16	505.32	497.14	34.31	34.15	42.33

NM - Not Measured

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-01	Date	10/15/2013		2/21/2014		5/1/2014		8/18/2014		10/23/2014		2/10/2015		5/27/2015		8/4/2015		10/28/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	NS	NS	NS	NS	NS	NS	0.0030	ND	0.0030	ND	NS	NS	NS	NS	NS	NS	NS	NS
Arsenic	0.010	NS	NS	NS	NS	NS	NS	0.0010	ND	0.0010	ND^	NS	NS	NS	NS	NS	NS	NS	NS
Barium	2.0	NS	NS	NS	NS	NS	NS	0.0025	0.15	0.0025	0.17	NS	NS	NS	NS	NS	NS	NS	NS
Beryllium	0.004	NS	NS	NS	NS	NS	NS	0.0010	ND	0.0010	ND	NS	NS	NS	NS	NS	NS	NS	NS
Boron	2.0	NS	NS	NS	NS	NS	NS	0.050	0.22	0.050	0.21	NS	NS	NS	NS	NS	NS	NS	NS
Cadmium	0.005	NS	NS	NS	NS	NS	NS	0.00050	ND	0.00050	ND	NS	NS	NS	NS	NS	NS	NS	NS
Chloride	200.0	NS	NS	NS	NS	NS	NS	10	120	10	79	NS	NS	NS	NS	NS	NS	NS	NS
Chromium	0.1	NS	NS	NS	NS	NS	NS	0.0050	ND	0.0050	ND	NS	NS	NS	NS	NS	NS	NS	NS
Cobalt	1.0	NS	NS	NS	NS	NS	NS	0.0010	ND	0.0010	ND	NS	NS	NS	NS	NS	NS	NS	NS
Copper	0.65	NS	NS	NS	NS	NS	NS	0.0020	ND	0.0020	ND	NS	NS	NS	NS	NS	NS	NS	NS
Cyanide	0.2	NS	NS	NS	NS	NS	NS	0.010	ND	0.010	ND	NS	NS	NS	NS	NS	NS	NS	NS
Fluoride	4.0	NS	NS	NS	NS	NS	NS	0.10	0.47	0.10	0.39	NS	NS	NS	NS	NS	NS	NS	NS
Iron	5.0	NS	NS	NS	NS	NS	NS	0.10	ND	0.10	ND	NS	NS	NS	NS	NS	NS	NS	NS
Lead	0.0075	NS	NS	NS	NS	NS	NS	0.00050	ND	0.00050	ND	NS	NS	NS	NS	NS	NS	NS	NS
Manganese	0.15	NS	NS	NS	NS	NS	NS	0.0025	0.012	0.0025	0.015	NS	NS	NS	NS	NS	NS	NS	NS
Mercury	0.002	NS	NS	NS	NS	NS	NS	0.00020	ND	0.00020	ND	NS	NS	NS	NS	NS	NS	NS	NS
Nickel	0.1	NS	NS	NS	NS	NS	NS	0.0020	0.0024	0.0020	0.0020	NS	NS	NS	NS	NS	NS	NS	NS
Nitrogen/Nitrate	10.0	NS	NS	NS	NS	NS	NS	0.10	0.44	0.10	0.71	NS	NS	NS	NS	NS	NS	NS	NS
Nitrogen/Nitrate, Nitrite	NA	NS	NS	NS	NS	NS	NS	0.10	0.44	0.10	0.71	NS	NS	NS	NS	NS	NS	NS	NS
Nitrogen/Nitrite	NA	NS	NS	NS	NS	NS	NS	0.020	ND	0.020	ND	NS	NS	NS	NS	NS	NS	NS	NS
Perchlorate	0.0049	NS	NS	NS	NS	NS	NS	0.0040	ND	0.0040	ND	NS	NS	NS	NS	NS	NS	NS	NS
Selenium	0.05	NS	NS	NS	NS	NS	NS	0.0025	ND	0.0025	ND	NS	NS	NS	NS	NS	NS	NS	NS
Silver	0.05	NS	NS	NS	NS	NS	NS	0.00050	ND	0.00050	ND	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	400.0	NS	NS	NS	NS	NS	NS	20	59	20	65	NS	NS	NS	NS	NS	NS	NS	NS
Thallium	0.002	NS	NS	NS	NS	NS	NS	0.0020	ND	0.0020	ND	NS	NS	NS	NS	NS	NS	NS	NS
Total Dissolved Solids	1,200	NS	NS	NS	NS	NS	NS	10	550	10	570	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium	0.049	NS	NS	NS	NS	NS	NS	0.0050	0.0066	0.0050	0.0068	NS	NS	NS	NS	NS	NS	NS	NS
Zinc	5.0	NS	NS	NS	NS	NS	NS	0.020	ND	0.020	ND	NS	NS	NS	NS	NS	NS	NS	NS
Benzene	0.005	NS	NS	NS	NS	NS	NS	0.0005	ND	0.0005	ND	NS	NS	NS	NS	NS	NS	NS	NS
BETX	11.705	NS	NS	NS	NS	NS	NS	0.002	ND	0.002	0.00056	NS	NS	NS	NS	NS	NS	NS	NS
pH	6.5 - 9.0	NS	NS	NS	NS	NS	NS	NA	6.54	NA	7.08	NS	NS	NS	NS	NS	NS	NS	NS
Temperature	NA	NS	NS	NS	NS	NS	NS	NA	14.06	NA	12.25	NS	NS	NS	NS	NS	NS	NS	NS
Conductivity	NA	NS	NS	NS	NS	NS	NS	NA	0.86	NA	0.90	NS	NS	NS	NS	NS	NS	NS	NS
Dissolved Oxygen	NA	NS	NS	NS	NS	NS	NS	NA	3.38	NA	1.36	NS	NS	NS	NS	NS	NS	NS	NS
ORP	NA	NS	NS	NS	NS	NS	NS	NA	150.8	NA	66.2	NS	NS	NS	NS	NS	NS	NS	NS

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-02	Date	10/15/2013		2/21/2014		5/2/2014		8/18/2014		10/23/2014		2/10/2015		5/27/2015		8/4/2015		10/28/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.093	0.0025	0.13	0.0025	0.11	0.0025	0.087	0.0025	0.089	0.0025	0.088	0.0025	0.092	0.0025	0.090	0.0025	0.084
Beryllium	0.004	0.0010	ND	0.0010	ND ^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.41	0.050	0.34	0.050	0.25	0.050	0.22	0.050	0.22	0.050	0.23	0.050	0.35	0.050	0.25	0.050	0.21
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	0.00057	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00069	0.00050	ND	0.00050	ND
Chloride	200.0	10	180	10	240	50	350	10	280	10	240	10	190	50	410	10	290	10	130
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0017	0.0010	0.010	0.0010	0.0027	0.0010	0.0017
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0059	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.56	0.10	0.46	0.10	0.40	0.10	0.49	0.10	0.45	0.10	0.40	0.10	0.40	0.10	0.41	0.10	0.39
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0031	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND *	0.00020	ND
Nickel	0.1	0.0020	0.0039	0.0020	ND	0.0020	0.0023	0.0020	0.0049	0.0020	0.0069	0.0020	0.0053	0.0020	0.013	0.0020	0.0073	0.0020	0.0031
Nitrogen/Nitrate	10.0	0.10	1.6	0.10	3.4	0.10	2.9	0.10	1.1	0.10	1.3	0.10	1.3	0.10	0.43	0.10	1.2	0.10	1.0
Nitrogen/Nitrate, Nitrite	NA	0.10	1.6	0.50	3.4	0.50	2.9	0.10	1.1	0.10	1.3	0.10	1.3	0.10	0.43	0.10	1.2	0.10	1.0
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	0.0077	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	25	130	25	61	25	68	25	85	25	92	20	67	25	100	25	85	20	60
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	660	10	830	10	1100	10	850	10	810	10	730	10	1200	10	890	10	610
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.002	ND	0.002	ND	0.002	0.00076	0.002	ND	0.002	ND	0.002	ND	0.002	ND
pH	6.5 - 9.0	NA	7.20	NA	9.24	NA	7.22	NA	7.07	NA	7.31	NA	7.46	NA	6.83	NA	7.61	NA	7.05
Temperature	NA	NA	15.37	NA	11.97	NA	11.55	NA	16.92	NA	14.30	NA	9.28	NA	14.63	NA	16.75	NA	15.07
Conductivity	NA	NA	1.02	NA	1.00	NA	1.35	NA	1.30	NA	1.30	NA	0.94	NA	1.75	NA	1.38	NA	1.10
Dissolved Oxygen	NA	NA	5.81	NA	6.17	NA	8.48	NA	5.14	NA	4.07	NA	5.58	NA	1.96	NA	3.66	NA	4.47
ORP	NA	NA	-40.3	NA	-66.1	NA	152.4	NA	115.8	NA	57.1	NA	73.2	NA	33.9	NA	-51.3	NA	110.4

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-03	Date	10/15/2013		2/17/2014		5/2/2014		8/18/2014		10/23/2014		2/10/2015		5/27/2015		8/4/2015		10/28/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0014	0.0010	0.0014	0.0010	0.0015	0.0010	ND	0.0010	ND^	0.0010	0.0015	0.0010	0.0015	0.0010	0.0015	0.0010	ND
Barium	2.0	0.0025	0.099	0.0025	0.098	0.0025	0.10	0.0025	0.075	0.0025	0.089	0.0025	0.093	0.0025	0.094	0.0025	0.092	0.0025	0.10
Beryllium	0.004	0.0010	ND	0.0010	ND ^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.27	0.050	0.45	0.050	0.27	0.050	0.37	0.050	0.45	0.050	0.52	0.050	0.54	0.050	0.48	0.050	0.29
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	250	10	200	10	300	10	220	10	180	10	160	10	220	10	230	10	230
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0021	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.47	0.10	0.51	0.10	0.40	0.10	0.52	0.10	0.49	0.10	0.46	0.10	0.43	0.10	0.47	0.10	0.41
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND *	0.00020	ND
Nickel	0.1	0.0020	0.0046	0.0020	0.0033	0.0020	0.0040	0.0020	0.0021	0.0020	0.0023	0.0020	ND	0.0020	0.0026	0.0020	ND	0.0020	0.0023
Nitrogen/Nitrate	10.0	0.10	1.9	0.10	1.5	0.10	2.3	0.10	1.9	0.10	1.8	0.10	2.5	0.10	2.1	0.10	1.9	0.10	1.6
Nitrogen/Nitrate, Nitrite	NA	0.10	1.9	0.10	1.5	0.50	2.3	0.10	1.9	0.10	1.8	0.20	2.5	0.20	2.1	0.10	1.9	0.10	1.6
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	0.0051	0.0025	ND	0.0025	0.0029	0.0025	0.0036	0.0025	0.0054	0.0025	0.0063	0.0025	0.0066	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	210	25	89	25	110	40	84	50	130	25	58	25	84	25	91	40	180
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	910	10	890	10	1100	10	810	10	760	10	700	10	830	10	860	10	820
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	0.0015	0.002	ND	0.002	0.0065
pH	6.5 - 9.0	NA	7.22	NA	8.57	NA	7.09	NA	6.70	NA	7.16	NA	7.55	NA	7.37	NA	7.29	NA	7.11
Temperature	NA	NA	13.91	NA	9.27	NA	11.38	NA	18.40	NA	13.97	NA	9.02	NA	16.14	NA	17.45	NA	13.85
Conductivity	NA	NA	0.99	NA	0.75	NA	1.31	NA	1.22	NA	1.22	NA	0.90	NA	1.23	NA	1.26	NA	1.50
Dissolved Oxygen	NA	NA	2.78	NA	3.32	NA	5.23	NA	6.68	NA	5.41	NA	4.84	NA	5.49	NA	6.03	NA	5.48
ORP	NA	NA	-79.8	NA	-7.3	NA	141.8	NA	94.8	NA	69.5	NA	71.9	NA	64.1	NA	7.6	NA	106.6

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-04	Date	10/16/2013		2/21/2014		5/1/2014		8/18/2014		10/23/2014		2/10/2015		5/27/2015		8/4/2015		10/28/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND [F1]	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0012	0.0010	0.0013	0.0010	ND	0.0010	0.0012	0.0010	ND	0.0010	ND	0.0010	0.0013 [F1]	0.0010	0.0015	0.0010	ND
Barium	2.0	0.0025	0.089	0.0025	0.088	0.0025	0.072	0.0025	0.071	0.0025	0.078	0.0025	0.079	0.0025	0.090 [F1]	0.0025	0.067	0.0025	0.083
Beryllium	0.004	0.0010	ND	0.0010	ND ^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND [F1]	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.45	0.050	0.35	0.050	0.32	0.050	0.35	0.050	0.41	0.050	0.44	0.050	0.36 [F1]	0.050	0.33	0.050	0.30
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND [F1]	0.00050	ND	0.00050	ND
Chloride	200.0	10	210	10	220	10	270	10	210	10	160	10	180	10	290	10	200	10	200
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND [F1]	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0048	0.0010	0.0022	0.0010	ND	0.0010	0.0060	0.0010	0.011	0.0010	0.0076	0.0010	0.0062 [F1]	0.0010	0.0047	0.0010	0.0041
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND [F1]	0.0020	0.0072	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.53	0.10	0.45	0.10	0.44	0.10	0.51	0.10	0.49	0.10	0.44	0.10	0.43	0.10	0.49	0.10	0.45
Iron	5.0	0.10	ND	0.10	ND	0.10	0.18	0.10	ND	0.10	ND	0.10	0.14	0.10	ND [F1]	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND [F1]	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0044	0.0025	ND [F1]	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND *	0.00020	ND
Nickel	0.1	0.0020	0.0033	0.0020	0.0022	0.0020	0.0022	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0023 [F1]	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	2.5	0.10	2.0	0.10	2.0	0.10	1.9	0.10	1.6	0.10	2.2	0.10	2.5	0.10	1.3	0.10	1.7
Nitrogen/Nitrate, Nitrite	NA	0.20	2.5	0.10	2.0	0.50	2.0	0.10	1.9	0.10	1.6	0.20	2.2	0.20	2.5	0.10	1.3	0.10	1.7
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0037	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND [F1]	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND [F1]	0.00050	ND	0.00050	ND
Sulfate	400.0	50	230	25	110	20	140	25	89	50	160	25	65	20	88	25	92	20	100
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND [F1]	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	860	10	870	10	860	10	760	10	720	10	730	10	980	10	770	10	780
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND [F1]	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND [F1]	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
pH	6.5 - 9.0	NA	7.24	NA	9.11	NA	7.15	NA	6.89	NA	7.11	NA	7.53	NA	7.31	NA	6.80	NA	7.07
Temperature	NA	NA	13.91	NA	9.25	NA	10.92	NA	18.13	NA	14.52	NA	8.49	NA	15.49	NA	18.49	NA	13.44
Conductivity	NA	NA	1.19	NA	0.93	NA	1.13	NA	1.18	NA	1.18	NA	0.90	NA	1.34	NA	1.20	NA	1.34
Dissolved Oxygen	NA	NA	3.13	NA	5.94	NA	4.23	NA	5.82	NA	5.54	NA	4.57	NA	6.54	NA	5.60	NA	5.76
ORP	NA	NA	-80.9	NA	-34.2	NA	101.1	NA	77.4	NA	57.6	NA	41.7	NA	36.7	NA	25.8	NA	104.2

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-05	Date	10/15/2013		2/21/2014		5/1/2014		8/19/2014		10/23/2014		2/11/2015		5/27/2015		8/4/2015		10/28/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0010	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.056	0.0025	0.091	0.0025	0.078	0.0025	0.054	0.0025	0.057	0.0025	0.078	0.0025	0.053	0.0025	0.060	0.0025	0.057
Beryllium	0.004	0.0010	ND	0.0010	ND ^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.55	0.050	0.34	0.050	0.36	0.050	0.95	0.050	0.57	0.050	0.69	0.050	1.0	0.050	1.1	0.050	0.57
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00060	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0014	0.00050	ND
Chloride	200.0	10	140	10	240	10	370	10	120	10	120	10	220	10	250	10	180	10	170
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0014	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0035	0.0010	ND	0.0010	0.0052	0.0010	0.0014
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	0.0057	0.0020	ND	0.0020	ND	0.0020	0.013	0.0020	0.0026	0.0020	0.015	0.0020	0.0032
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.41	0.10	0.34	0.10	0.32	0.10	0.42	0.10	0.44	0.10	0.42	0.10	0.54	0.10	0.52	0.10	0.38
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00074	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	ND	0.0025	0.035	0.0025	0.0062	0.0025	ND	0.0025	0.0076	0.0025	ND	0.0025	0.012	0.0025	0.0046
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND *	0.00020	ND
Nickel	0.1	0.0020	0.0030	0.0020	ND	0.0020	0.0033	0.0020	0.0078	0.0020	0.0035	0.0020	0.0092	0.0020	0.0055	0.0020	0.011	0.0020	0.0037
Nitrogen/Nitrate	10.0	0.10	1.0	0.10	1.2	0.10	1.6	0.10	0.53	0.10	1.2	0.10	1.7	0.10	1.5	0.10	0.18	0.10	1.0
Nitrogen/Nitrate, Nitrite	NA	0.10	1.0	0.10	1.2	0.10	1.7	0.10	0.53	0.10	1.2	0.10	1.7	0.10	1.5	0.10	0.18	0.10	1.0
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	0.056	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0026	0.0025	0.0030	0.0025	ND	0.0025	0.017	0.0025	0.0097	0.0025	0.014	0.0025	0.025	0.0025	0.013	0.0025	0.0030
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	180	25	130	25	160	100	360	50	240	50	230	50	290	50	260	50	140
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	680	10	840	10	1100	10	1000	10	730	10	1000	10	1000	10	930	10	760
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	0.0008
BETX	11.705	0.0025	ND	0.0025	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	0.0031
pH	6.5 - 9.0	NA	7.21	NA	9.09	NA	7.06	NA	6.40	NA	6.94	NA	7.49	NA	7.25	NA	7.31	NA	7.12
Temperature	NA	NA	14.16	NA	11.17	NA	11.87	NA	16.11	NA	16.69	NA	8.18	NA	18.15	NA	21.19	NA	14.3
Conductivity	NA	NA	0.93	NA	0.96	NA	1.46	NA	1.18	NA	1.17	NA	1.15	NA	1.49	NA	1.47	NA	1.31
Dissolved Oxygen	NA	NA	1.17	NA	4.61	NA	1.10	NA	1.65	NA	4.70	NA	4.99	NA	6.73	NA	2.77	NA	2.29
ORP	NA	NA	-98.4	NA	-54.7	NA	91.1	NA	88.6	NA	62.0	NA	85.8	NA	92.2	NA	-27.6	NA	107.2

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-06	Date	10/16/2013		2/21/2014		5/2/2014		8/19/2014		10/23/2014		2/10/2015		5/28/2015		8/5/2015		10/27/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0016	0.0010	0.0015	0.0010	0.0019	0.0010	0.0013	0.0010	0.0010	0.0010	0.0016	0.0010	0.0017	0.0010	0.0016	0.0010	ND
Barium	2.0	0.0025	0.11	0.0025	0.17	0.0025	0.15	0.0025	0.098	0.0025	0.12	0.0025	0.14	0.0025	0.14	0.0025	0.11	0.0025	0.12
Beryllium	0.004	0.0010	ND	0.0010	ND ^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.22	0.050	0.26	0.050	0.17	0.050	0.26	0.050	0.19	0.050	0.22	0.050	0.19	0.050	0.21	0.050	0.22
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	120	10	370	50	340	10	120	10	100	10	150	10	270	10	140	10	130
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0017	0.0010	ND	0.0010	0.0010	0.0010	0.0015	0.0010	0.0011	0.0010	ND
Copper	0.65	0.0020	0.0025	0.0020	ND	0.0020	ND	0.0020	0.0056	0.0020	0.0021	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.054	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.35	0.10	0.34	0.10	0.33	0.10	0.38	0.10	0.34	0.10	0.36	0.10	0.35	0.10	0.39	0.10	0.32
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND *	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0021	0.0020	0.0022	0.0020	0.0027	0.0020	0.0034	0.0020	0.0023	0.0020	0.0026
Nitrogen/Nitrate	10.0	0.10	0.49	0.10	1.7	0.10	1.3	0.10	0.51	0.10	0.64	0.10	1.3	0.10	1.2	0.10	0.35	0.10	0.47
Nitrogen/Nitrate, Nitrite	NA	0.10	0.49	0.10	1.7	0.10	1.3	0.10	0.51	0.10	0.64	0.10	1.3	0.10	1.2	0.10	0.35	0.10	0.47
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0035	0.0025	0.0034	0.0025	0.0034	0.0025	0.0031	0.0025	0.0039	0.0025	0.0045	0.0025	0.0036	0.0025	ND	0.0025	0.0035
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND [F1]
Sulfate	400.0	25	150	25	100	20	120	25	91	25	140	50	140	25	94	50	110	25	120
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	570	10	930	10	990	10	600	10	530	10	710	10	870	10	680	10	650
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	0.0059	0.0050	ND	0.0050	0.0057	0.0050	0.0063	0.0050	0.0060	0.0050	0.0063	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	0.00073	0.002	ND	0.002	ND
pH	6.5 - 9.0	NA	7.31	NA	9.52	NA	7.42	NA	7.29	NA	7.29	NA	7.78	NA	7.60	NA	7.79	NA	7.02
Temperature	NA	NA	13.50	NA	7.33	NA	11.12	NA	18.67	NA	13.92	NA	9.51	NA	16.30	NA	18.55	NA	14.11
Conductivity	NA	NA	0.80	NA	0.96	NA	1.37	NA	0.94	NA	0.88	NA	0.86	NA	1.19	NA	1.108	NA	1.115
Dissolved Oxygen	NA	NA	3.73	NA	4.78	NA	6.82	NA	3.99	NA	4.44	NA	7.08	NA	6.80	NA	5.23	NA	5.42
ORP	NA	NA	-86.3	NA	-81.0	NA	137.8	NA	60.1	NA	60.8	NA	88.5	NA	120.7	NA	-16.5	NA	164.8

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-07	Date	10/16/2013		2/21/2014		5/2/2014		8/19/2014		10/23/2014		2/10/2015		5/28/2015		8/5/2015		10/27/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0013	0.0010	ND	0.0010	0.0014	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	0.0013	0.0010	0.0013	0.0010	ND
Barium	2.0	0.0025	0.13	0.0025	0.15	0.0025	0.12	0.0025	0.091	0.0025	0.11	0.0025	0.18	0.0025	0.12	0.0025	0.10	0.0025	0.11
Beryllium	0.004	0.0010	ND	0.0010	ND ^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.24	0.050	0.30	0.050	0.15	0.050	0.22	0.050	0.17	0.050	0.21	0.050	0.16	0.050	0.20	0.050	0.19
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0041	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	130	50	470	10	350	10	110	10	98	10	210	10	260	10	130	10	110
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0090	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0047	0.0020	0.0020	0.0020	0.096	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.32	0.10	0.31	0.10	0.32	0.10	0.35	0.10	0.36	0.10	0.30	0.10	0.32	0.10	0.35	0.10	0.32
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.13	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0072	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0033	0.0025	0.0091	0.0025	0.0048	0.0025	0.0026	0.0025	ND	0.0025	0.0041
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND *	0.00020	ND
Nickel	0.1	0.0020	0.0021	0.0020	ND	0.0020	ND	0.0020	0.0022	0.0020	0.0027	0.0020	0.016	0.0020	0.0034	0.0020	ND	0.0020	0.0020
Nitrogen/Nitrate	10.0	0.10	0.65	0.10	ND	0.10	1.3	0.10	0.46	0.10	0.56	0.10	0.19	0.10	1.1	0.10	0.37	0.10	0.51
Nitrogen/Nitrate, Nitrite	NA	0.10	0.65	0.50	ND	0.10	1.3	0.10	0.46	0.10	0.56	0.10	0.33	0.10	1.1	0.10	0.37	0.10	0.51
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	0.14	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	0.0026	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	190	25	170	20	110	25	82	25	120	50	260	25	80	25	99	50	110
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	650	10	1200	10	860	10	570	10	520	10	1000	10	860	10	640	10	620
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	0.0051	0.0050	ND	0.0050	ND	0.0050	0.0052	0.0050	ND	0.0050	0.0051	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	0.036	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND
pH	6.5 - 9.0	NA	7.33	NA	9.34	NA	7.35	NA	6.99	NA	7.28	NA	7.52	NA	7.52	NA	7.75	NA	7.21
Temperature	NA	NA	13.06	NA	8.38	NA	11.45	NA	17.46	NA	16.49	NA	10.95	NA	17.16	NA	21.99	NA	14.87
Conductivity	NA	NA	0.89	NA	1.21	NA	1.30	NA	0.90	NA	0.91	NA	1.18	NA	1.30	NA	1.06	NA	1.04
Dissolved Oxygen	NA	NA	2.52	NA	6.39	NA	5.51	NA	3.47	NA	3.32	NA	1.15	NA	4.82	NA	1.80	NA	3.74
ORP	NA	NA	-81.7	NA	-99.0	NA	141.5	NA	55.0	NA	61.8	NA	78.4	NA	128.5	NA	-41.0	NA	147.0

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-08	Date	10/15/2013		2/21/2014		5/1/2014		8/18/2014		10/23/2014		2/10/2015		5/27/2015		8/4/2015		10/27/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	0.0089	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.045	0.0025	0.066	0.0025	0.12	0.0025	0.044	0.0025	0.051	0.0025	0.22	0.0025	0.057	0.0025	0.044	0.0025	0.048
Beryllium	0.004	0.0010	ND	0.0010	ND ^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.19	0.050	0.16	0.050	0.15	0.050	0.19	0.050	0.16	0.050	0.64	0.050	0.11	0.050	0.15	0.050	0.15
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	0.0019	0.00050	ND	0.00050	ND	0.00050	0.00053	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	110	10	270	50	780	10	170	10	140	50	470	10	270	10	130	2.0	70
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.13	0.0010	0.0018	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	0.012	0.0020	ND	0.0020	ND	0.0020	0.0060	0.0020	0.0039	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.012	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.36	0.10	0.29	0.10	0.34	0.10	0.36	0.10	0.36	0.10	0.51	0.10	0.44	0.10	0.39	0.10	0.32
Iron	5.0	0.10	ND	0.10	0.11	0.10	ND	0.10	ND	0.10	ND	0.10	10	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	0.0036	0.00050	ND	0.00050	ND	0.00050	0.0034	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	0.0039	0.0025	ND	0.0025	0.017	0.0025	0.0069	0.0025	1.1	0.0025	0.0044	0.0025	0.0029	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND *	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	0.0020	0.0020	0.0029	0.0020	0.0036	0.0020	0.19	0.0020	0.0033	0.0020	0.0020	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	1.2	0.10	1.6	0.10	5.9	0.10	0.54	0.10	1.3	0.10	ND	0.10	1.7	0.10	0.72	0.10	1.0
Nitrogen/Nitrate, Nitrite	NA	0.10	1.2	0.10	1.6	0.50	6.2	0.10	0.54	0.10	1.3	0.10	ND	0.10	1.7	0.10	0.72	0.10	1.0
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.040	0.33	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.020	ND	0.0040	ND	0.0040	ND	0.040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0034	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND^	0.00050	ND	0.00050	ND
Sulfate	400.0	20	74	20	54	100	460	10	59	20	73	100	600	5.0	25	10	31	10	41
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	560	10	740	13	2100	10	610	10	560	10	2000	10	760	10	540	10	470
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	0.080	0.020	ND	0.020	ND	0.020	0.026	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	0.002	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.002	ND	0.002	ND	0.002	ND	0.002	0.002	0.002	ND	0.002	ND	0.002	ND
pH	6.5 - 9.0	NA	7.22	NA	9.17	NA	7.17	NA	7.28	NA	7.19	NA	7.58	NA	7.26	NA	7.47	NA	6.95
Temperature	NA	NA	13.43	NA	10.89	NA	11.71	NA	20.49	NA	15.79	NA	9.48	NA	17.90	NA	22.19	NA	14.00
Conductivity	NA	NA	0.83	NA	0.91	NA	2.71	NA	1.08	NA	1.01	NA	2.80	NA	1.57	NA	0.98	NA	0.86
Dissolved Oxygen	NA	NA	3.69	NA	4.94	NA	4.72	NA	5.91	NA	3.52	NA	1.00	NA	3.82	NA	3.84	NA	3.86
ORP	NA	NA	-49.3	NA	-64.9	NA	85.2	NA	76.5	NA	28.8	NA	-114.1	NA	-9.9	NA	-19.0	NA	146.3

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-09	Date	10/15/2013		2/17/2014		5/1/2014		8/18/2014		10/23/2014		2/10/2015		5/27/2015		8/4/2015		10/27/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.019	0.0025	0.022	0.0025	0.021	0.0025	0.018	0.0025	0.017	0.0025	0.029	0.0025	0.018	0.0025	0.013	0.0025	0.014
Beryllium	0.004	0.0010	ND	0.0010	ND ^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.29	0.050	0.30	0.050	0.27	0.050	0.29	0.050	0.24	0.050	0.30	0.050	0.37	0.050	0.38	0.050	0.33
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0019	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	280	10	270	10	340	10	270	10	230	50	390	10	340	10	230	10	220
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0056	0.0010	0.0044	0.0010	0.0035	0.0010	0.0063	0.0010	0.0045	0.0010	0.047	0.0010	0.017	0.0010	0.011	0.0010	0.016
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.011	0.0020	0.0023	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.53	0.10	0.56	0.10	0.50	0.10	0.56	0.10	0.55	0.10	0.51	0.10	0.44	0.10	0.27	0.10	0.35
Iron	5.0	0.10	25	0.10	12	0.10	8.4	0.10	130	0.10	45	0.10	23	0.10	140	0.10	ND	0.10	170
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0010	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.52	0.0025	0.34	0.0025	0.30	0.0025	0.72	0.0025	0.38	0.0025	0.54	0.0025	0.66	0.0025	1.4	0.0025	0.79
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND *	0.00020	ND
Nickel	0.1	0.0020	0.0090	0.0020	0.0057	0.0020	0.0057	0.0020	0.013	0.0020	0.0079	0.0020	0.039	0.0020	0.026	0.0020	0.021	0.0020	0.025
Nitrogen/Nitrate	10.0	0.10	0.11	0.10	0.34	0.10	0.12	0.10	0.11	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	0.11	0.10	0.34	0.10	0.12	0.10	0.11	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	0.020	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND^	0.00050	ND	0.00050	ND
Sulfate	400.0	130	680	100	560	130	560	250	880	250	960	250	820	500	1100	500	1900	500	1100
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1700	10	1600	10	1700	10	2100	10	1700	10	2400	17	3100	10	3900	10	2600
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	0.021	0.020	ND	0.020	0.072	0.020	0.028	0.020	0.17	0.020	0.050
Benzene	0.005	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.002	ND	0.002	ND	0.002	0.0006	0.002	ND	0.002	ND	0.002	ND	0.002	0.00093
pH	6.5 - 9.0	NA	6.69	NA	8.83	NA	6.71	NA	6.62	NA	6.93	NA	6.92	NA	6.59	NA	6.52	NA	6.37
Temperature	NA	NA	15.21	NA	8.40	NA	9.84	NA	21.87	NA	15.35	NA	10.12	NA	19.34	NA	22.72	NA	13.47
Conductivity	NA	NA	1.81	NA	1.02	NA	1.89	NA	2.91	NA	2.51	NA	2.50	NA	3.51	NA	4.04	NA	3.53
Dissolved Oxygen	NA	NA	1.81	NA	1.24	NA	1.49	NA	0.41	NA	0.76	NA	1.26	NA	0.81	NA	1.00	NA	0.95
ORP	NA	NA	-78.4	NA	-125.7	NA	25.7	NA	-108.7	NA	-85.1	NA	-82.0	NA	-96.9	NA	-108.0	NA	-24.9

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-10	Date	10/15/2013		2/17/2014		5/1/2014		8/18/2014		10/23/2014		2/11/2015		5/28/2015		8/4/2015		10/28/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.044	0.0025	0.047	0.0025	0.043	0.0025	0.038	0.0025	0.044	0.0025	0.050	0.0025	0.046	0.0025	0.035	0.0025	0.041
Beryllium	0.004	0.0010	ND	0.0010	ND ^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.42	0.050	0.40	0.050	0.39	0.050	0.48	0.050	0.56	0.050	0.52	0.050	0.35	0.050	0.32	0.050	0.44
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	220	10	240	10	300	10	200	10	170	10	210	10	320	10	180	10	210
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0027	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.50	0.10	0.47	0.10	0.43	0.10	0.49	0.10	0.46	0.10	0.41	0.10	0.43	0.10	0.46	0.10	0.41
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0049	0.0025	ND	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND *	0.00020	ND
Nickel	0.1	0.0020	0.0024	0.0020	0.0020	0.0020	0.0023	0.0020	ND	0.0020	0.0020	0.0020	0.0037	0.0020	0.0023	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	2.3	0.10	2.2	0.10	2.8	0.10	0.72	0.10	1.7	0.10	2.4	0.10	2.9	0.10	1.5	0.10	2.4
Nitrogen/Nitrate, Nitrite	NA	0.50	2.3	0.50	2.2	0.50	2.8	0.10	0.72	0.10	1.7	0.20	2.4	0.20	2.9	0.10	1.5	0.20	2.4
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0025	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND^	0.00050	ND	0.00050	ND
Sulfate	400.0	50	140	25	55	20	120	20	73	50	110	25	93	20	50	25	97	25	86
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	880	10	870	10	890	10	910	10	740	10	810	10	1100	10	710	10	810
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	0.00075
pH	6.5 - 9.0	NA	7.11	NA	4.39	NA	7.07	NA	6.74	NA	7.12	NA	7.26	NA	7.27	NA	6.92	NA	7.04
Temperature	NA	NA	13.04	NA	11.47	NA	11.23	NA	16.85	NA	13.74	NA	6.83	NA	15.02	NA	17.42	NA	12.9
Conductivity	NA	NA	1.09	NA	0.84	NA	1.18	NA	1.14	NA	1.18	NA	0.92	NA	1.37	NA	1.19	NA	1.40
Dissolved Oxygen	NA	NA	4.27	NA	4.82	NA	6.31	NA	6.99	NA	6.16	NA	6.50	NA	7.41	NA	5.39	NA	6.49
ORP	NA	NA	-48.9	NA	201.1	NA	109.8	NA	87.8	NA	77.3	NA	135.3	NA	134.8	NA	15.3	NA	113.8

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^{c}	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Joliet Station #29, Joliet, IL

Sample: MW-11	Date	10/15/2013		2/21/2014		5/1/2014		8/19/2014		10/23/2014		2/11/2015		5/28/2015		8/4/2015		10/29/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0015	0.0010	ND	0.0010	0.0017	0.0010	0.0016	0.0010	0.0012	0.0010	ND	0.0010	0.0015	0.0010	0.0026	0.0010	ND
Barium	2.0	0.0025	0.060	0.0050	0.090	0.0025	0.053	0.0025	0.048	0.0025	0.059	0.0025	0.10	0.0025	0.059	0.0025	0.062	0.0025	0.069
Beryllium	0.004	0.0010	ND	0.0010	ND ^	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.49	0.10	1.2	0.050	1.3	0.25	1.6	0.050	2.0	0.050	1.1	0.050	1.0	0.050	1.4	0.050	0.78
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0077	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	140	50	430	10	340	10	120	10	84	10	270	10	290	10	150	10	120
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.033	0.0010	0.0016	0.0010	0.0015	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.16	0.0020	0.0073	0.0020	0.0022	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.31	0.10	0.29	0.10	0.32	0.10	0.37	0.10	0.38	0.10	0.33	0.10	0.35	0.10	0.38	0.10	0.30
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	0.17	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.023	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.27	0.0025	ND	0.0025	0.49	0.0025	0.040
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND *	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0020	0.0020	0.16	0.0020	0.0097	0.0020	0.0099	0.0020	0.0028
Nitrogen/Nitrate	10.0	0.10	0.79	0.10	1.4	0.10	1.3	0.10	0.25	0.10	0.59	0.10	ND	0.10	1.1	0.10	0.15	0.10	0.48
Nitrogen/Nitrate, Nitrite	NA	0.10	0.79	0.10	1.4	0.10	1.3	0.10	0.25	0.10	0.59	0.10	ND	0.10	1.1	0.10	0.15	0.10	0.48
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	0.027	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	0.0041	0.0025	0.0043	0.0025	0.0069	0.0025	0.0040	0.0025	ND	0.0025	0.0035	0.0025	0.0050	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND^	0.00050	ND	0.00050	ND
Sulfate	400.0	25	110	25	130	25	100	25	91	50	120	100	290	25	84	50	110	50	170
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	690	10	1100	10	850	10	720	10	580	10	1300	10	860	10	700	10	740
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	0.056	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND	0.0005	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.00094	0.00094
pH	6.5 - 9.0	NA	7.16	NA	9.25	NA	7.17	NA	6.78	NA	7.29	NA	7.16	NA	7.42	NA	7.40	NA	7.26
Temperature	NA	NA	15.41	NA	10.38	NA	10.97	NA	16.58	NA	15.17	NA	8.04	NA	17.77	NA	17.05	NA	12.34
Conductivity	NA	NA	0.95	NA	1.20	NA	1.25	NA	0.90	NA	0.95	NA	1.32	NA	1.45	NA	1.08	NA	1.13
Dissolved Oxygen	NA	NA	3.26	NA	4.81	NA	6.31	NA	5.14	NA	3.80	NA	2.98	NA	5.44	NA	1.52	NA	8.45
ORP	NA	NA	-58.4	NA	-51.0	NA	106.7	NA	87.8	NA	69.4	NA	108.2	NA	121.5	NA	-25.7	NA	86.5

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

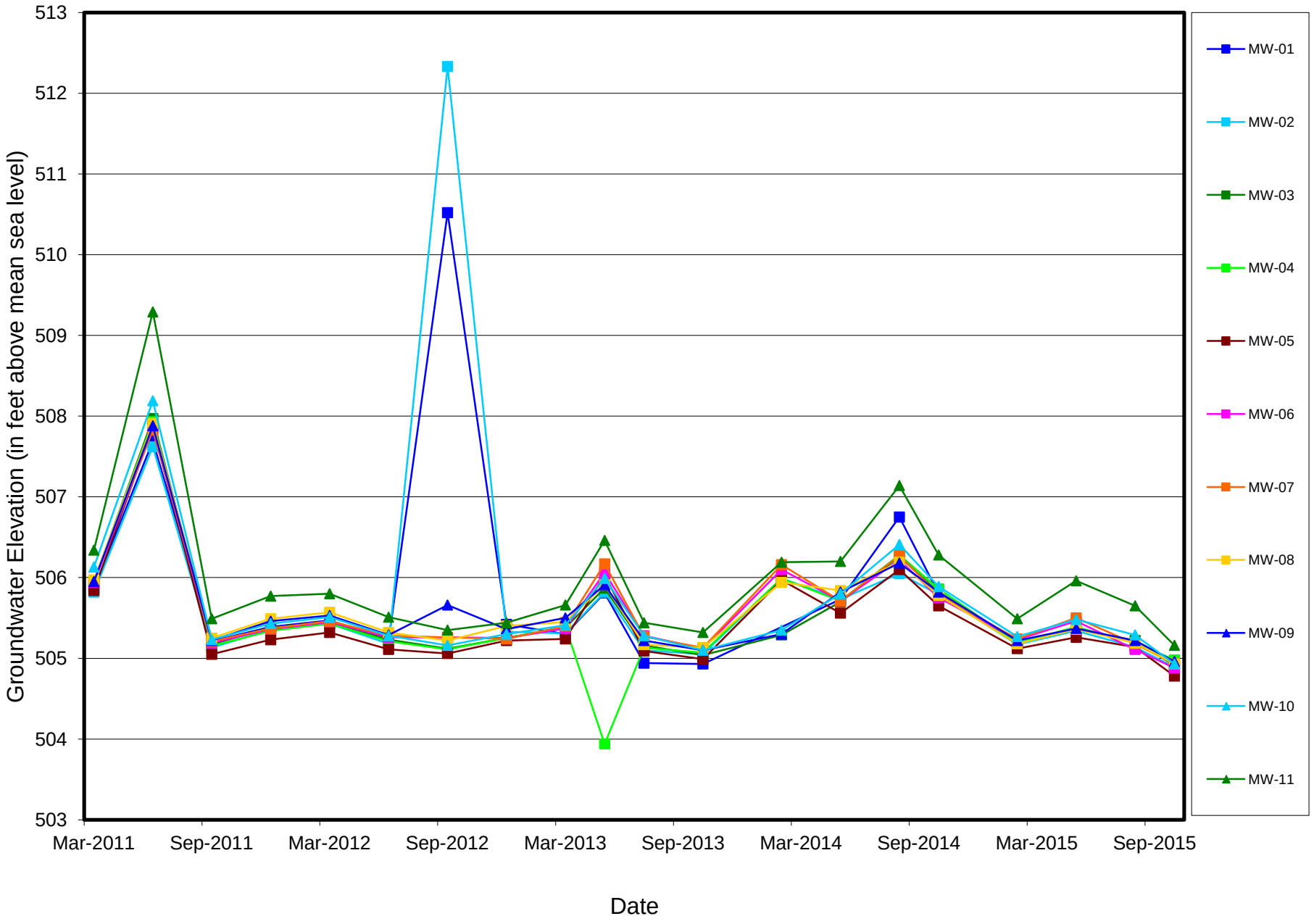
NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

ATTACHMENT 1
Hydrograph

Midwest Generation Joliet Station #29, Joliet, IL

Groundwater Elevation vs Time



MWG13-15_56361

ATTACHMENT 2
Analytical Data Package

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-103210-1
Client Project/Site: Joliet #29 Station Ash Ponds

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
11/9/2015 11:27:52 AM

Bonnie Stadelmann, Senior Project Manager
(708)534-5200
bonnie.stadelmann@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-103210-1

Job ID: 500-103210-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-103210-1

Comments
No additional comments.

Receipt
The samples were received on 10/29/2015 10:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 0.6º C, 2.6º C, 3.7º C, 3.9º C and 4.8º C.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-103210-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
314.0	Perchlorate (IC)	EPA	TAL SAC
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
9014	Cyanide	SW846	TAL CHI
9038	Sulfate, Turbidimetric	SW846	TAL CHI
9251	Chloride	SW846	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-103210-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-103210-1	MW-06	Water	10/27/15 13:20	10/29/15 10:10
500-103210-2	MW-07	Water	10/27/15 14:45	10/29/15 10:10
500-103210-3	MW-08	Water	10/27/15 16:10	10/29/15 10:10
500-103210-4	MW-09	Water	10/27/15 17:35	10/29/15 10:10
500-103210-5	DUP	Water	10/27/15 00:00	10/29/15 10:10
500-103210-6	MW-02	Water	10/28/15 16:10	10/29/15 10:10
500-103210-7	MW-03	Water	10/28/15 11:30	10/29/15 10:10
500-103210-8	MW-04	Water	10/28/15 09:40	10/29/15 10:10
500-103210-9	MW-05	Water	10/28/15 13:20	10/29/15 10:10
500-103210-10	MW-10	Water	10/28/15 14:40	10/29/15 10:10
500-103210-11	MW-11	Water	10/29/15 11:50	10/29/15 10:10
500-103210-12	Trip Blank	Water	10/27/15 00:00	10/29/15 10:10

Client Sample ID: MW-06

Date Collected: 10/27/15 13:20
Date Received: 10/29/15 10:10

Lab Sample ID: 500-103210-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/06/15 01:23	1
Toluene	<0.00050		0.00050		mg/L			11/06/15 01:23	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/06/15 01:23	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/06/15 01:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*75 - 125*		*11/06/15 01:23*	*1*
Toluene-d8 (Surr)	*101*		*75 - 120*		*11/06/15 01:23*	*1*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*11/06/15 01:23*	*1*
Dibromofluoromethane	*88*		*75 - 120*		*11/06/15 01:23*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/03/15 21:03	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/06/15 14:20	11/06/15 16:45	1
Arsenic	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 16:45	1
Barium	**0.12**		0.0025		mg/L		11/06/15 14:20	11/06/15 16:45	1
Beryllium	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 16:45	1
Boron	**0.22**		0.050		mg/L		11/06/15 14:20	11/06/15 16:45	1
Cadmium	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 16:45	1
Chromium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 16:45	1
Cobalt	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 16:45	1
Copper	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 16:45	1
Iron	<0.10		0.10		mg/L		11/06/15 14:20	11/06/15 16:45	1
Lead	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 16:45	1
Manganese	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 16:45	1
Nickel	**0.0026**		0.0020		mg/L		11/06/15 14:20	11/06/15 16:45	1
Selenium	**0.0035**		0.0025		mg/L		11/06/15 14:20	11/06/15 16:45	1
Silver	<0.00050	F1	0.00050		mg/L		11/06/15 14:20	11/06/15 16:45	1
Thallium	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 16:45	1
Vanadium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 16:45	1
Zinc	<0.020		0.020		mg/L		11/06/15 14:20	11/06/15 16:45	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/03/15 16:30	11/04/15 11:03	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/04/15 15:00	11/04/15 21:36	1
Sulfate	**120**		25		mg/L			11/04/15 00:57	5
Chloride	**130**		10		mg/L			11/08/15 12:39	5
Nitrogen, Nitrate	**0.47**		0.10		mg/L			11/05/15 08:48	1
Total Dissolved Solids	**650**		10		mg/L			10/29/15 21:15	1
Fluoride	**0.32**		0.10		mg/L			11/03/15 19:40	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/15 13:04	1
Nitrogen, Nitrate Nitrite	**0.47**		0.10		mg/L			10/30/15 17:21	1

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-103210-1

Client Sample ID: MW-07
Date Collected: 10/27/15 14:45
Date Received: 10/29/15 10:10

Lab Sample ID: 500-103210-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/06/15 01:49	1
Toluene	<0.00050		0.00050		mg/L			11/06/15 01:49	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/06/15 01:49	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/06/15 01:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*75 - 125*		*11/06/15 01:49*	*1*
Toluene-d8 (Surr)	*101*		*75 - 120*		*11/06/15 01:49*	*1*
4-Bromofluorobenzene (Surr)	*98*		*75 - 120*		*11/06/15 01:49*	*1*
Dibromofluoromethane	*87*		*75 - 120*		*11/06/15 01:49*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/03/15 21:49	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/06/15 14:20	11/06/15 17:11	1
Arsenic	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:11	1
Barium	**0.11**		0.0025		mg/L		11/06/15 14:20	11/06/15 17:11	1
Beryllium	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:11	1
Boron	**0.19**		0.050		mg/L		11/06/15 14:20	11/06/15 17:11	1
Cadmium	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:11	1
Chromium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:11	1
Cobalt	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:11	1
Copper	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:11	1
Iron	<0.10		0.10		mg/L		11/06/15 14:20	11/06/15 17:11	1
Lead	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:11	1
Manganese	**0.0041**		0.0025		mg/L		11/06/15 14:20	11/06/15 17:11	1
Nickel	**0.0020**		0.0020		mg/L		11/06/15 14:20	11/06/15 17:11	1
Selenium	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 17:11	1
Silver	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:11	1
Thallium	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:11	1
Vanadium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:11	1
Zinc	<0.020		0.020		mg/L		11/06/15 14:20	11/06/15 17:11	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/03/15 16:30	11/04/15 11:05	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/04/15 15:00	11/04/15 21:37	1
Sulfate	**110**		50		mg/L			11/04/15 00:58	10
Chloride	**110**		10		mg/L			11/08/15 12:40	5
Nitrogen, Nitrate	**0.51**		0.10		mg/L			11/05/15 08:48	1
Total Dissolved Solids	**620**		10		mg/L			10/29/15 21:20	1
Fluoride	**0.32**		0.10		mg/L			11/03/15 19:47	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/15 13:04	1
Nitrogen, Nitrate Nitrite	**0.51**		0.10		mg/L			10/30/15 17:23	1

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-103210-1

Client Sample ID: MW-08
Date Collected: 10/27/15 16:10
Date Received: 10/29/15 10:10

Lab Sample ID: 500-103210-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/06/15 02:16	1
Toluene	<0.00050		0.00050		mg/L			11/06/15 02:16	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/06/15 02:16	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/06/15 02:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*75 - 125*		*11/06/15 02:16*	*1*
Toluene-d8 (Surr)	*102*		*75 - 120*		*11/06/15 02:16*	*1*
4-Bromofluorobenzene (Surr)	*99*		*75 - 120*		*11/06/15 02:16*	*1*
Dibromofluoromethane	*88*		*75 - 120*		*11/06/15 02:16*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/03/15 22:05	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/06/15 14:20	11/06/15 17:14	1
Arsenic	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:14	1
Barium	**0.048**		0.0025		mg/L		11/06/15 14:20	11/06/15 17:14	1
Beryllium	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:14	1
Boron	**0.15**		0.050		mg/L		11/06/15 14:20	11/06/15 17:14	1
Cadmium	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:14	1
Chromium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:14	1
Cobalt	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:14	1
Copper	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:14	1
Iron	<0.10		0.10		mg/L		11/06/15 14:20	11/06/15 17:14	1
Lead	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:14	1
Manganese	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 17:14	1
Nickel	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:14	1
Selenium	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 17:14	1
Silver	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:14	1
Thallium	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:14	1
Vanadium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:14	1
Zinc	<0.020		0.020		mg/L		11/06/15 14:20	11/06/15 17:14	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/03/15 16:30	11/04/15 11:07	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/04/15 15:00	11/04/15 21:37	1
Sulfate	**41**		10		mg/L			11/04/15 00:59	2
Chloride	**70**		2.0		mg/L			11/08/15 12:06	1
Nitrogen, Nitrate	**1.0**		0.10		mg/L			11/05/15 08:48	1
Total Dissolved Solids	**470**		10		mg/L			10/29/15 21:22	1
Fluoride	**0.32**		0.10		mg/L			11/03/15 19:50	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/15 13:05	1
Nitrogen, Nitrate Nitrite	**1.0**		0.10		mg/L			10/30/15 17:25	1

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-103210-1

Client Sample ID: MW-09
Date Collected: 10/27/15 17:35
Date Received: 10/29/15 10:10

Lab Sample ID: 500-103210-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/06/15 02:42	1
Toluene	**0.00093**		0.00050		mg/L			11/06/15 02:42	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/06/15 02:42	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/06/15 02:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*75 - 125*		*11/06/15 02:42*	*1*
Toluene-d8 (Surr)	*100*		*75 - 120*		*11/06/15 02:42*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*		*11/06/15 02:42*	*1*
Dibromofluoromethane	*89*		*75 - 120*		*11/06/15 02:42*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/03/15 22:51	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/06/15 14:20	11/06/15 17:18	1
Arsenic	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:18	1
Barium	**0.014**		0.0025		mg/L		11/06/15 14:20	11/06/15 17:18	1
Beryllium	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:18	1
Boron	**0.33**		0.050		mg/L		11/06/15 14:20	11/06/15 17:18	1
Cadmium	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:18	1
Chromium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:18	1
Cobalt	**0.016**		0.0010		mg/L		11/06/15 14:20	11/06/15 17:18	1
Copper	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:18	1
Iron	**170**		0.10		mg/L		11/06/15 14:20	11/06/15 17:18	1
Lead	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:18	1
Manganese	**0.79**		0.0025		mg/L		11/06/15 14:20	11/06/15 17:18	1
Nickel	**0.025**		0.0020		mg/L		11/06/15 14:20	11/06/15 17:18	1
Selenium	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 17:18	1
Silver	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:18	1
Thallium	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:18	1
Vanadium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:18	1
Zinc	**0.050**		0.020		mg/L		11/06/15 14:20	11/06/15 17:18	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/03/15 16:30	11/04/15 11:09	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/04/15 15:00	11/04/15 21:37	1
Sulfate	**1100**		500		mg/L			11/04/15 01:04	100
Chloride	**220**		10		mg/L			11/08/15 12:41	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/05/15 08:48	1
Total Dissolved Solids	**2600**		10		mg/L			10/29/15 21:25	1
Fluoride	**0.35**		0.10		mg/L			11/03/15 19:52	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/15 13:05	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			10/30/15 22:01	1

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-103210-1

Client Sample ID: DUP
Date Collected: 10/27/15 00:00
Date Received: 10/29/15 10:10

Lab Sample ID: 500-103210-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/06/15 03:09	1
Toluene	<0.00050		0.00050		mg/L			11/06/15 03:09	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/06/15 03:09	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/06/15 03:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*75 - 125*		*11/06/15 03:09*	*1*
Toluene-d8 (Surr)	*101*		*75 - 120*		*11/06/15 03:09*	*1*
4-Bromofluorobenzene (Surr)	*101*		*75 - 120*		*11/06/15 03:09*	*1*
Dibromofluoromethane	*89*		*75 - 120*		*11/06/15 03:09*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/03/15 23:07	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/06/15 14:20	11/06/15 17:22	1
Arsenic	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:22	1
Barium	**0.048**		0.0025		mg/L		11/06/15 14:20	11/06/15 17:22	1
Beryllium	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:22	1
Boron	**0.15**		0.050		mg/L		11/06/15 14:20	11/06/15 17:22	1
Cadmium	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:22	1
Chromium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:22	1
Cobalt	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:22	1
Copper	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:22	1
Iron	<0.10		0.10		mg/L		11/06/15 14:20	11/06/15 17:22	1
Lead	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:22	1
Manganese	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 17:22	1
Nickel	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:22	1
Selenium	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 17:22	1
Silver	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:22	1
Thallium	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:22	1
Vanadium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:22	1
Zinc	<0.020		0.020		mg/L		11/06/15 14:20	11/06/15 17:22	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/03/15 16:30	11/04/15 11:15	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/04/15 15:00	11/04/15 21:38	1
Sulfate	**49**		10		mg/L			11/04/15 01:05	2
Chloride	**69**		2.0		mg/L			11/08/15 12:07	1
Nitrogen, Nitrate	**1.0**		0.10		mg/L			11/05/15 08:48	1
Total Dissolved Solids	**450**		10		mg/L			10/29/15 21:27	1
Fluoride	**0.32**		0.10		mg/L			11/03/15 19:54	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/15 13:05	1
Nitrogen, Nitrate Nitrite	**1.0**		0.10		mg/L			10/30/15 22:03	1

Client Sample ID: MW-02

Date Collected: 10/28/15 16:10
Date Received: 10/29/15 10:10

Lab Sample ID: 500-103210-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/06/15 03:36	1
Toluene	<0.00050		0.00050		mg/L			11/06/15 03:36	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/06/15 03:36	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/06/15 03:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*75 - 125*		*11/06/15 03:36*	*1*
Toluene-d8 (Surr)	*101*		*75 - 120*		*11/06/15 03:36*	*1*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*11/06/15 03:36*	*1*
Dibromofluoromethane	*91*		*75 - 120*		*11/06/15 03:36*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/03/15 23:22	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/06/15 14:20	11/06/15 17:25	1
Arsenic	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:25	1
Barium	**0.084**		0.0025		mg/L		11/06/15 14:20	11/06/15 17:25	1
Beryllium	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:25	1
Boron	**0.21**		0.050		mg/L		11/06/15 14:20	11/06/15 17:25	1
Cadmium	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:25	1
Chromium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:25	1
Cobalt	**0.0017**		0.0010		mg/L		11/06/15 14:20	11/06/15 17:25	1
Copper	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:25	1
Iron	<0.10		0.10		mg/L		11/06/15 14:20	11/06/15 17:25	1
Lead	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:25	1
Manganese	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 17:25	1
Nickel	**0.0031**		0.0020		mg/L		11/06/15 14:20	11/06/15 17:25	1
Selenium	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 17:25	1
Silver	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:25	1
Thallium	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:25	1
Vanadium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:25	1
Zinc	<0.020		0.020		mg/L		11/06/15 14:20	11/06/15 17:25	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/03/15 16:30	11/04/15 11:17	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/04/15 15:00	11/04/15 21:38	1
Sulfate	**60**		20		mg/L			11/04/15 01:08	4
Chloride	**130**		10		mg/L			11/08/15 12:43	5
Nitrogen, Nitrate	**1.0**		0.10		mg/L			11/05/15 08:48	1
Total Dissolved Solids	**610**		10		mg/L			10/29/15 21:30	1
Fluoride	**0.39**		0.10		mg/L			11/03/15 19:57	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/15 19:21	1
Nitrogen, Nitrate Nitrite	**1.0**		0.10		mg/L			10/30/15 22:06	1

Client Sample ID: MW-03

Date Collected: 10/28/15 11:30
Date Received: 10/29/15 10:10

Lab Sample ID: 500-103210-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/06/15 04:02	1
Toluene	**0.0065**		0.00050		mg/L			11/06/15 04:02	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/06/15 04:02	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/06/15 04:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*75 - 125*		*11/06/15 04:02*	*1*
Toluene-d8 (Surr)	*102*		*75 - 120*		*11/06/15 04:02*	*1*
4-Bromofluorobenzene (Surr)	*101*		*75 - 120*		*11/06/15 04:02*	*1*
Dibromofluoromethane	*89*		*75 - 120*		*11/06/15 04:02*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/03/15 23:38	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/06/15 14:20	11/06/15 17:29	1
Arsenic	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:29	1
Barium	**0.10**		0.0025		mg/L		11/06/15 14:20	11/06/15 17:29	1
Beryllium	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:29	1
Boron	**0.29**		0.050		mg/L		11/06/15 14:20	11/06/15 17:29	1
Cadmium	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:29	1
Chromium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:29	1
Cobalt	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:29	1
Copper	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:29	1
Iron	<0.10		0.10		mg/L		11/06/15 14:20	11/06/15 17:29	1
Lead	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:29	1
Manganese	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 17:29	1
Nickel	**0.0023**		0.0020		mg/L		11/06/15 14:20	11/06/15 17:29	1
Selenium	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 17:29	1
Silver	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:29	1
Thallium	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:29	1
Vanadium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:29	1
Zinc	<0.020		0.020		mg/L		11/06/15 14:20	11/06/15 17:29	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/03/15 16:30	11/04/15 11:19	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/04/15 15:00	11/04/15 21:39	1
Sulfate	**180**		40		mg/L			11/04/15 01:09	8
Chloride	**230**		10		mg/L			11/08/15 12:44	5
Nitrogen, Nitrate	**1.6**		0.10		mg/L			11/05/15 08:48	1
Total Dissolved Solids	**820**		10		mg/L			10/29/15 21:32	1
Fluoride	**0.41**		0.10		mg/L			11/03/15 20:05	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/15 19:21	1
Nitrogen, Nitrate Nitrite	**1.6**		0.10		mg/L			10/30/15 22:08	1

Client Sample ID: MW-04

Date Collected: 10/28/15 09:40
Date Received: 10/29/15 10:10

Lab Sample ID: 500-103210-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/06/15 04:29	1
Toluene	<0.00050		0.00050		mg/L			11/06/15 04:29	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/06/15 04:29	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/06/15 04:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*75 - 125*		*11/06/15 04:29*	*1*
Toluene-d8 (Surr)	*102*		*75 - 120*		*11/06/15 04:29*	*1*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*		*11/06/15 04:29*	*1*
Dibromofluoromethane	*87*		*75 - 120*		*11/06/15 04:29*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/03/15 23:53	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/06/15 14:20	11/06/15 17:33	1
Arsenic	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:33	1
Barium	**0.083**		0.0025		mg/L		11/06/15 14:20	11/06/15 17:33	1
Beryllium	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:33	1
Boron	**0.30**		0.050		mg/L		11/06/15 14:20	11/06/15 17:33	1
Cadmium	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:33	1
Chromium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:33	1
Cobalt	**0.0041**		0.0010		mg/L		11/06/15 14:20	11/06/15 17:33	1
Copper	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:33	1
Iron	<0.10		0.10		mg/L		11/06/15 14:20	11/06/15 17:33	1
Lead	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:33	1
Manganese	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 17:33	1
Nickel	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:33	1
Selenium	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 17:33	1
Silver	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:33	1
Thallium	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:33	1
Vanadium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:33	1
Zinc	<0.020		0.020		mg/L		11/06/15 14:20	11/06/15 17:33	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/03/15 16:30	11/04/15 11:21	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/04/15 15:00	11/04/15 21:39	1
Sulfate	**100**		20		mg/L			11/04/15 01:10	4
Chloride	**200**		10		mg/L			11/08/15 12:44	5
Nitrogen, Nitrate	**1.7**		0.10		mg/L			11/05/15 08:48	1
Total Dissolved Solids	**780**		10		mg/L			10/29/15 21:35	1
Fluoride	**0.45**		0.10		mg/L			11/03/15 20:08	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/15 19:22	1
Nitrogen, Nitrate Nitrite	**1.7**		0.10		mg/L			10/30/15 22:14	1

Client Sample ID: MW-05

Date Collected: 10/28/15 13:20
Date Received: 10/29/15 10:10

Lab Sample ID: 500-103210-9

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00080**		0.00050		mg/L			11/06/15 04:56	1
Toluene	**0.0023**		0.00050		mg/L			11/06/15 04:56	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/06/15 04:56	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/06/15 04:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*75 - 125*		*11/06/15 04:56*	*1*
Toluene-d8 (Surr)	*100*		*75 - 120*		*11/06/15 04:56*	*1*
4-Bromofluorobenzene (Surr)	*101*		*75 - 120*		*11/06/15 04:56*	*1*
Dibromofluoromethane	*91*		*75 - 120*		*11/06/15 04:56*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/04/15 00:08	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/06/15 14:20	11/06/15 17:37	1
Arsenic	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:37	1
Barium	**0.057**		0.0025		mg/L		11/06/15 14:20	11/06/15 17:37	1
Beryllium	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:37	1
Boron	**0.57**		0.050		mg/L		11/06/15 14:20	11/06/15 17:37	1
Cadmium	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:37	1
Chromium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:37	1
Cobalt	**0.0014**		0.0010		mg/L		11/06/15 14:20	11/06/15 17:37	1
Copper	**0.0032**		0.0020		mg/L		11/06/15 14:20	11/06/15 17:37	1
Iron	<0.10		0.10		mg/L		11/06/15 14:20	11/06/15 17:37	1
Lead	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:37	1
Manganese	**0.0046**		0.0025		mg/L		11/06/15 14:20	11/06/15 17:37	1
Nickel	**0.0037**		0.0020		mg/L		11/06/15 14:20	11/06/15 17:37	1
Selenium	**0.0030**		0.0025		mg/L		11/06/15 14:20	11/06/15 17:37	1
Silver	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:37	1
Thallium	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:37	1
Vanadium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:37	1
Zinc	<0.020		0.020		mg/L		11/06/15 14:20	11/06/15 17:37	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/03/15 16:30	11/04/15 11:23	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/04/15 15:00	11/04/15 21:40	1
Sulfate	**140**		50		mg/L			11/04/15 01:11	10
Chloride	**170**		10		mg/L			11/08/15 12:45	5
Nitrogen, Nitrate	**1.0**		0.10		mg/L			11/05/15 08:48	1
Total Dissolved Solids	**760**		10		mg/L			10/29/15 21:37	1
Fluoride	**0.38**		0.10		mg/L			11/03/15 20:10	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/15 19:23	1
Nitrogen, Nitrate Nitrite	**1.0**		0.10		mg/L			10/30/15 22:16	1

Client Sample ID: MW-10

Date Collected: 10/28/15 14:40
Date Received: 10/29/15 10:10

Lab Sample ID: 500-103210-10

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/06/15 05:22	1
Toluene	**0.00075**		0.00050		mg/L			11/06/15 05:22	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/06/15 05:22	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/06/15 05:22	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*75 - 125*		*11/06/15 05:22*	*1*
Toluene-d8 (Surr)	*101*		*75 - 120*		*11/06/15 05:22*	*1*
4-Bromofluorobenzene (Surr)	*101*		*75 - 120*		*11/06/15 05:22*	*1*
Dibromofluoromethane	*91*		*75 - 120*		*11/06/15 05:22*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/04/15 00:24	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/06/15 14:20	11/06/15 17:40	1
Arsenic	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:40	1
Barium	**0.041**		0.0025		mg/L		11/06/15 14:20	11/06/15 17:40	1
Beryllium	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:40	1
Boron	**0.44**		0.050		mg/L		11/06/15 14:20	11/06/15 17:40	1
Cadmium	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:40	1
Chromium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:40	1
Cobalt	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 17:40	1
Copper	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:40	1
Iron	<0.10		0.10		mg/L		11/06/15 14:20	11/06/15 17:40	1
Lead	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:40	1
Manganese	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 17:40	1
Nickel	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:40	1
Selenium	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 17:40	1
Silver	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 17:40	1
Thallium	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 17:40	1
Vanadium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 17:40	1
Zinc	<0.020		0.020		mg/L		11/06/15 14:20	11/06/15 17:40	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/03/15 16:30	11/04/15 11:25	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/04/15 15:00	11/04/15 21:40	1
Sulfate	**86**		25		mg/L			11/04/15 01:12	5
Chloride	**210**		10		mg/L			11/08/15 12:45	5
Nitrogen, Nitrate	**2.4**		0.10		mg/L			11/05/15 08:48	1
Total Dissolved Solids	**810**		10		mg/L			10/29/15 21:40	1
Fluoride	**0.41**		0.10		mg/L			11/03/15 20:13	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/15 19:23	1
Nitrogen, Nitrate Nitrite	**2.4**		0.20		mg/L			11/03/15 18:29	2

Client Sample ID: MW-11

Date Collected: 10/29/15 11:50
Date Received: 10/29/15 10:10

Lab Sample ID: 500-103210-11

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/06/15 05:49	1
Toluene	**0.00094**		0.00050		mg/L			11/06/15 05:49	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/06/15 05:49	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/06/15 05:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*75 - 125*		*11/06/15 05:49*	*1*
Toluene-d8 (Surr)	*100*		*75 - 120*		*11/06/15 05:49*	*1*
4-Bromofluorobenzene (Surr)	*102*		*75 - 120*		*11/06/15 05:49*	*1*
Dibromofluoromethane	*90*		*75 - 120*		*11/06/15 05:49*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/04/15 00:39	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/06/15 14:23	11/06/15 17:44	1
Arsenic	<0.0010		0.0010		mg/L		11/06/15 14:23	11/06/15 17:44	1
Barium	**0.069**		0.0025		mg/L		11/06/15 14:23	11/06/15 17:44	1
Beryllium	<0.0010		0.0010		mg/L		11/06/15 14:23	11/06/15 17:44	1
Boron	**0.78**		0.050		mg/L		11/06/15 14:23	11/06/15 17:44	1
Cadmium	<0.00050		0.00050		mg/L		11/06/15 14:23	11/06/15 17:44	1
Chromium	<0.0050		0.0050		mg/L		11/06/15 14:23	11/06/15 17:44	1
Cobalt	<0.0010		0.0010		mg/L		11/06/15 14:23	11/06/15 17:44	1
Copper	<0.0020		0.0020		mg/L		11/06/15 14:23	11/06/15 17:44	1
Iron	<0.10		0.10		mg/L		11/06/15 14:23	11/06/15 17:44	1
Lead	<0.00050		0.00050		mg/L		11/06/15 14:23	11/06/15 17:44	1
Manganese	**0.040**		0.0025		mg/L		11/06/15 14:23	11/06/15 17:44	1
Nickel	**0.0028**		0.0020		mg/L		11/06/15 14:23	11/06/15 17:44	1
Selenium	<0.0025		0.0025		mg/L		11/06/15 14:23	11/06/15 17:44	1
Silver	<0.00050		0.00050		mg/L		11/06/15 14:23	11/06/15 17:44	1
Thallium	<0.0020		0.0020		mg/L		11/06/15 14:23	11/06/15 17:44	1
Vanadium	<0.0050		0.0050		mg/L		11/06/15 14:23	11/06/15 17:44	1
Zinc	<0.020		0.020		mg/L		11/06/15 14:23	11/06/15 17:44	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/03/15 16:30	11/04/15 11:27	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/04/15 15:00	11/04/15 21:40	1
Sulfate	**170**		50		mg/L			11/04/15 01:13	10
Chloride	**120**		10		mg/L			11/08/15 12:46	5
Nitrogen, Nitrate	**0.48**		0.10		mg/L			11/05/15 08:48	1
Total Dissolved Solids	**740**		10		mg/L			10/29/15 21:42	1
Fluoride	**0.30**		0.10		mg/L			11/03/15 20:15	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/15 19:23	1
Nitrogen, Nitrate Nitrite	**0.48**		0.10		mg/L			10/30/15 22:21	1

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-103210-1

Client Sample ID: Trip Blank
Date Collected: 10/27/15 00:00
Date Received: 10/29/15 10:10

Lab Sample ID: 500-103210-12
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/05/15 22:42	1
Toluene	<0.00050		0.00050		mg/L			11/05/15 22:42	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/05/15 22:42	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/05/15 22:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*75 - 125*		*11/05/15 22:42*	*1*
Toluene-d8 (Surr)	*100*		*75 - 120*		*11/05/15 22:42*	*1*
4-Bromofluorobenzene (Surr)	*102*		*75 - 120*		*11/05/15 22:42*	*1*
Dibromofluoromethane	*88*		*75 - 120*		*11/05/15 22:42*	*1*

Definitions/Glossary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-103210-1

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA

Analysis Batch: 311283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-1	MW-06	Total/NA	Water	8260B	
500-103210-2	MW-07	Total/NA	Water	8260B	
500-103210-3	MW-08	Total/NA	Water	8260B	
500-103210-4	MW-09	Total/NA	Water	8260B	
500-103210-5	DUP	Total/NA	Water	8260B	
500-103210-6	MW-02	Total/NA	Water	8260B	
500-103210-7	MW-03	Total/NA	Water	8260B	
500-103210-8	MW-04	Total/NA	Water	8260B	
500-103210-9	MW-05	Total/NA	Water	8260B	
500-103210-10	MW-10	Total/NA	Water	8260B	
500-103210-11	MW-11	Total/NA	Water	8260B	
500-103210-11 MS	MW-11	Total/NA	Water	8260B	
500-103210-11 MSD	MW-11	Total/NA	Water	8260B	
500-103210-12	Trip Blank	Total/NA	Water	8260B	
LCS 500-311283/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-311283/6	Method Blank	Total/NA	Water	8260B	

HPLC/IC

Analysis Batch: 91309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-1	MW-06	Total/NA	Water	314.0	
500-103210-1 MS	MW-06	Total/NA	Water	314.0	
500-103210-1 MSD	MW-06	Total/NA	Water	314.0	
500-103210-2	MW-07	Total/NA	Water	314.0	
500-103210-3	MW-08	Total/NA	Water	314.0	
500-103210-4	MW-09	Total/NA	Water	314.0	
500-103210-5	DUP	Total/NA	Water	314.0	
500-103210-6	MW-02	Total/NA	Water	314.0	
500-103210-7	MW-03	Total/NA	Water	314.0	
500-103210-8	MW-04	Total/NA	Water	314.0	
500-103210-9	MW-05	Total/NA	Water	314.0	
500-103210-10	MW-10	Total/NA	Water	314.0	
500-103210-11	MW-11	Total/NA	Water	314.0	
LCS 320-91309/15	Lab Control Sample	Total/NA	Water	314.0	
MB 320-91309/14	Method Blank	Total/NA	Water	314.0	
MRL 320-91309/13	Lab Control Sample	Total/NA	Water	314.0	

Metals

Prep Batch: 310866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-1	MW-06	Dissolved	Water	7470A	
500-103210-2	MW-07	Dissolved	Water	7470A	
500-103210-3	MW-08	Dissolved	Water	7470A	
500-103210-4	MW-09	Dissolved	Water	7470A	
500-103210-5	DUP	Dissolved	Water	7470A	
500-103210-6	MW-02	Dissolved	Water	7470A	
500-103210-7	MW-03	Dissolved	Water	7470A	
500-103210-8	MW-04	Dissolved	Water	7470A	

Metals (Continued)

Prep Batch: 310866 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-9	MW-05	Dissolved	Water	7470A	
500-103210-10	MW-10	Dissolved	Water	7470A	
500-103210-11	MW-11	Dissolved	Water	7470A	
LCS 500-310866/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-310866/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 311050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-1	MW-06	Dissolved	Water	7470A	310866
500-103210-2	MW-07	Dissolved	Water	7470A	310866
500-103210-3	MW-08	Dissolved	Water	7470A	310866
500-103210-4	MW-09	Dissolved	Water	7470A	310866
500-103210-5	DUP	Dissolved	Water	7470A	310866
500-103210-6	MW-02	Dissolved	Water	7470A	310866
500-103210-7	MW-03	Dissolved	Water	7470A	310866
500-103210-8	MW-04	Dissolved	Water	7470A	310866
500-103210-9	MW-05	Dissolved	Water	7470A	310866
500-103210-10	MW-10	Dissolved	Water	7470A	310866
500-103210-11	MW-11	Dissolved	Water	7470A	310866
LCS 500-310866/13-A	Lab Control Sample	Total/NA	Water	7470A	310866
MB 500-310866/12-A	Method Blank	Total/NA	Water	7470A	310866

Prep Batch: 311525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-1	MW-06	Dissolved	Water	Soluble Metals	
500-103210-1 DU	MW-06	Dissolved	Water	Soluble Metals	
500-103210-1 MS	MW-06	Dissolved	Water	Soluble Metals	
500-103210-1 MSD	MW-06	Dissolved	Water	Soluble Metals	
500-103210-2	MW-07	Dissolved	Water	Soluble Metals	
500-103210-3	MW-08	Dissolved	Water	Soluble Metals	
500-103210-4	MW-09	Dissolved	Water	Soluble Metals	
500-103210-5	DUP	Dissolved	Water	Soluble Metals	
500-103210-6	MW-02	Dissolved	Water	Soluble Metals	
500-103210-7	MW-03	Dissolved	Water	Soluble Metals	
500-103210-8	MW-04	Dissolved	Water	Soluble Metals	
500-103210-9	MW-05	Dissolved	Water	Soluble Metals	
500-103210-10	MW-10	Dissolved	Water	Soluble Metals	
500-103210-11	MW-11	Dissolved	Water	Soluble Metals	
LCS 500-311525/2-A	Lab Control Sample	Soluble	Water	Soluble Metals	
MB 500-311525/1-A	Method Blank	Soluble	Water	Soluble Metals	

Analysis Batch: 311759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-1	MW-06	Dissolved	Water	6020A	311525
500-103210-1 DU	MW-06	Dissolved	Water	6020A	311525
500-103210-1 MS	MW-06	Dissolved	Water	6020A	311525
500-103210-1 MSD	MW-06	Dissolved	Water	6020A	311525
500-103210-2	MW-07	Dissolved	Water	6020A	311525
500-103210-3	MW-08	Dissolved	Water	6020A	311525
500-103210-4	MW-09	Dissolved	Water	6020A	311525
500-103210-5	DUP	Dissolved	Water	6020A	311525

Metals (Continued)

Analysis Batch: 311759 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-6	MW-02	Dissolved	Water	6020A	311525
500-103210-7	MW-03	Dissolved	Water	6020A	311525
500-103210-8	MW-04	Dissolved	Water	6020A	311525
500-103210-9	MW-05	Dissolved	Water	6020A	311525
500-103210-10	MW-10	Dissolved	Water	6020A	311525
500-103210-11	MW-11	Dissolved	Water	6020A	311525
LCS 500-311525/2-A	Lab Control Sample	Soluble	Water	6020A	311525
MB 500-311525/1-A	Method Blank	Soluble	Water	6020A	311525

General Chemistry

Analysis Batch: 310239

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-1	MW-06	Dissolved	Water	SM 4500 NO2 B	
500-103210-2	MW-07	Dissolved	Water	SM 4500 NO2 B	
500-103210-3	MW-08	Dissolved	Water	SM 4500 NO2 B	
500-103210-4	MW-09	Dissolved	Water	SM 4500 NO2 B	
500-103210-5	DUP	Dissolved	Water	SM 4500 NO2 B	
500-103210-5 MS	DUP	Dissolved	Water	SM 4500 NO2 B	
500-103210-5 MSD	DUP	Dissolved	Water	SM 4500 NO2 B	
LCS 500-310239/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-310239/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 310313

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-6	MW-02	Dissolved	Water	SM 4500 NO2 B	
500-103210-7	MW-03	Dissolved	Water	SM 4500 NO2 B	
500-103210-7 MS	MW-03	Dissolved	Water	SM 4500 NO2 B	
500-103210-7 MSD	MW-03	Dissolved	Water	SM 4500 NO2 B	
500-103210-8	MW-04	Dissolved	Water	SM 4500 NO2 B	
500-103210-9	MW-05	Dissolved	Water	SM 4500 NO2 B	
500-103210-10	MW-10	Dissolved	Water	SM 4500 NO2 B	
500-103210-11	MW-11	Dissolved	Water	SM 4500 NO2 B	
LCS 500-310313/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-310313/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 310328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-1	MW-06	Dissolved	Water	SM 2540C	
500-103210-1 DU	MW-06	Dissolved	Water	SM 2540C	
500-103210-2	MW-07	Dissolved	Water	SM 2540C	
500-103210-3	MW-08	Dissolved	Water	SM 2540C	
500-103210-4	MW-09	Dissolved	Water	SM 2540C	
500-103210-5	DUP	Dissolved	Water	SM 2540C	
500-103210-6	MW-02	Dissolved	Water	SM 2540C	
500-103210-7	MW-03	Dissolved	Water	SM 2540C	
500-103210-8	MW-04	Dissolved	Water	SM 2540C	
500-103210-9	MW-05	Dissolved	Water	SM 2540C	
500-103210-10	MW-10	Dissolved	Water	SM 2540C	
500-103210-11	MW-11	Dissolved	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 310328 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-310328/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-310328/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 310551

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-1	MW-06	Dissolved	Water	SM 4500 NO3 F	
500-103210-2	MW-07	Dissolved	Water	SM 4500 NO3 F	
500-103210-3	MW-08	Dissolved	Water	SM 4500 NO3 F	
LCS 500-310551/5	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-310551/4	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 310552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-4	MW-09	Dissolved	Water	SM 4500 NO3 F	
500-103210-5	DUP	Dissolved	Water	SM 4500 NO3 F	
500-103210-6	MW-02	Dissolved	Water	SM 4500 NO3 F	
500-103210-7	MW-03	Dissolved	Water	SM 4500 NO3 F	
500-103210-8	MW-04	Dissolved	Water	SM 4500 NO3 F	
500-103210-9	MW-05	Dissolved	Water	SM 4500 NO3 F	
500-103210-11	MW-11	Dissolved	Water	SM 4500 NO3 F	
LCS 500-310552/13	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-310552/12	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 310940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-10	MW-10	Dissolved	Water	SM 4500 NO3 F	
LCS 500-310940/13	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-310940/12	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 310966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-1	MW-06	Dissolved	Water	9038	
500-103210-2	MW-07	Dissolved	Water	9038	
500-103210-3	MW-08	Dissolved	Water	9038	
500-103210-3 MS	MW-08	Dissolved	Water	9038	
500-103210-3 MSD	MW-08	Dissolved	Water	9038	
500-103210-4	MW-09	Dissolved	Water	9038	
500-103210-5	DUP	Dissolved	Water	9038	
500-103210-5 MS	DUP	Dissolved	Water	9038	
500-103210-5 MSD	DUP	Dissolved	Water	9038	
500-103210-6	MW-02	Dissolved	Water	9038	
500-103210-7	MW-03	Dissolved	Water	9038	
500-103210-8	MW-04	Dissolved	Water	9038	
500-103210-9	MW-05	Dissolved	Water	9038	
500-103210-10	MW-10	Dissolved	Water	9038	
500-103210-11	MW-11	Dissolved	Water	9038	
LCS 500-310966/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-310966/3	Method Blank	Total/NA	Water	9038	

General Chemistry (Continued)

Analysis Batch: 310997

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-1	MW-06	Dissolved	Water	SM 4500 F C	
500-103210-1 MS	MW-06	Dissolved	Water	SM 4500 F C	
500-103210-1 MSD	MW-06	Dissolved	Water	SM 4500 F C	
500-103210-2	MW-07	Dissolved	Water	SM 4500 F C	
500-103210-3	MW-08	Dissolved	Water	SM 4500 F C	
500-103210-4	MW-09	Dissolved	Water	SM 4500 F C	
500-103210-5	DUP	Dissolved	Water	SM 4500 F C	
500-103210-6	MW-02	Dissolved	Water	SM 4500 F C	
500-103210-7	MW-03	Dissolved	Water	SM 4500 F C	
500-103210-8	MW-04	Dissolved	Water	SM 4500 F C	
500-103210-9	MW-05	Dissolved	Water	SM 4500 F C	
500-103210-10	MW-10	Dissolved	Water	SM 4500 F C	
500-103210-11	MW-11	Dissolved	Water	SM 4500 F C	
LCS 500-310997/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-310997/3	Method Blank	Total/NA	Water	SM 4500 F C	

Prep Batch: 311069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-1	MW-06	Dissolved	Water	9010B	
500-103210-1 MS	MW-06	Dissolved	Water	9010B	
500-103210-1 MSD	MW-06	Dissolved	Water	9010B	
500-103210-2	MW-07	Dissolved	Water	9010B	
500-103210-3	MW-08	Dissolved	Water	9010B	
500-103210-4	MW-09	Dissolved	Water	9010B	
500-103210-5	DUP	Dissolved	Water	9010B	
500-103210-6	MW-02	Dissolved	Water	9010B	
500-103210-7	MW-03	Dissolved	Water	9010B	
500-103210-8	MW-04	Dissolved	Water	9010B	
500-103210-9	MW-05	Dissolved	Water	9010B	
500-103210-10	MW-10	Dissolved	Water	9010B	
500-103210-11	MW-11	Dissolved	Water	9010B	
LCS 500-311069/2-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-311069/1-A	Method Blank	Total/NA	Water	9010B	

Analysis Batch: 311166

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-1	MW-06	Dissolved	Water	9014	311069
500-103210-1 MS	MW-06	Dissolved	Water	9014	311069
500-103210-1 MSD	MW-06	Dissolved	Water	9014	311069
500-103210-2	MW-07	Dissolved	Water	9014	311069
500-103210-3	MW-08	Dissolved	Water	9014	311069
500-103210-4	MW-09	Dissolved	Water	9014	311069
500-103210-5	DUP	Dissolved	Water	9014	311069
500-103210-6	MW-02	Dissolved	Water	9014	311069
500-103210-7	MW-03	Dissolved	Water	9014	311069
500-103210-8	MW-04	Dissolved	Water	9014	311069
500-103210-9	MW-05	Dissolved	Water	9014	311069
500-103210-10	MW-10	Dissolved	Water	9014	311069
500-103210-11	MW-11	Dissolved	Water	9014	311069
LCS 500-311069/2-A	Lab Control Sample	Total/NA	Water	9014	311069
MB 500-311069/1-A	Method Blank	Total/NA	Water	9014	311069

QC Association Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-103210-1

Analysis Batch: 311223

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-1	MW-06	Dissolved	Water	Nitrate by calc	
500-103210-2	MW-07	Dissolved	Water	Nitrate by calc	
500-103210-3	MW-08	Dissolved	Water	Nitrate by calc	
500-103210-4	MW-09	Dissolved	Water	Nitrate by calc	
500-103210-5	DUP	Dissolved	Water	Nitrate by calc	
500-103210-6	MW-02	Dissolved	Water	Nitrate by calc	
500-103210-7	MW-03	Dissolved	Water	Nitrate by calc	
500-103210-8	MW-04	Dissolved	Water	Nitrate by calc	
500-103210-9	MW-05	Dissolved	Water	Nitrate by calc	
500-103210-10	MW-10	Dissolved	Water	Nitrate by calc	
500-103210-11	MW-11	Dissolved	Water	Nitrate by calc	

Analysis Batch: 311704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-103210-1	MW-06	Dissolved	Water	9251	
500-103210-2	MW-07	Dissolved	Water	9251	
500-103210-2 MS	MW-07	Dissolved	Water	9251	
500-103210-2 MSD	MW-07	Dissolved	Water	9251	
500-103210-3	MW-08	Dissolved	Water	9251	
500-103210-4	MW-09	Dissolved	Water	9251	
500-103210-5	DUP	Dissolved	Water	9251	
500-103210-6	MW-02	Dissolved	Water	9251	
500-103210-7	MW-03	Dissolved	Water	9251	
500-103210-8	MW-04	Dissolved	Water	9251	
500-103210-9	MW-05	Dissolved	Water	9251	
500-103210-10	MW-10	Dissolved	Water	9251	
500-103210-11	MW-11	Dissolved	Water	9251	
500-103210-11 MS	MW-11	Dissolved	Water	9251	
500-103210-11 MSD	MW-11	Dissolved	Water	9251	
LCS 500-311704/13	Lab Control Sample	Total/NA	Water	9251	
MB 500-311704/12	Method Blank	Total/NA	Water	9251	

Surrogate Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-103210-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(75-125)	(75-120)	(75-120)	(75-120)
500-103210-1	MW-06	107	101	100	88
500-103210-2	MW-07	110	101	98	87
500-103210-3	MW-08	110	102	99	88
500-103210-4	MW-09	110	100	97	89
500-103210-5	DUP	110	101	101	89
500-103210-6	MW-02	110	101	100	91
500-103210-7	MW-03	112	102	101	89
500-103210-8	MW-04	109	102	100	87
500-103210-9	MW-05	110	100	101	91
500-103210-10	MW-10	112	101	101	91
500-103210-11	MW-11	109	100	102	90
500-103210-11 MS	MW-11	107	101	101	95
500-103210-11 MSD	MW-11	109	103	100	95
500-103210-12	Trip Blank	109	100	102	88
LCS 500-311283/4	Lab Control Sample	108	101	103	94
MB 500-311283/6	Method Blank	109	102	103	89

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-311283/6
Matrix: Water
Analysis Batch: 311283

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/05/15 22:16	1
Toluene	<0.00050		0.00050		mg/L			11/05/15 22:16	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/05/15 22:16	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/05/15 22:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*75 - 125*		*11/05/15 22:16*	*1*
Toluene-d8 (Surr)	*102*		*75 - 120*		*11/05/15 22:16*	*1*
4-Bromofluorobenzene (Surr)	*103*		*75 - 120*		*11/05/15 22:16*	*1*
Dibromofluoromethane	*89*		*75 - 120*		*11/05/15 22:16*	*1*

Lab Sample ID: LCS 500-311283/4
Matrix: Water
Analysis Batch: 311283

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.0500	0.0530		mg/L		106	70 - 120		
Toluene			0.0500	0.0526		mg/L		105	70 - 120		
Ethylbenzene			0.0500	0.0499		mg/L		100	70 - 125		
Xylenes, Total			0.100	0.105		mg/L		105	70 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 125*
Toluene-d8 (Surr)	*101*		*75 - 120*
4-Bromofluorobenzene (Surr)	*103*		*75 - 120*
Dibromofluoromethane	*94*		*75 - 120*

Lab Sample ID: 500-103210-11 MS
Matrix: Water
Analysis Batch: 311283

Client Sample ID: MW-11
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	<0.00050		0.0500	0.0544		mg/L		109	70 - 120		
Toluene	0.00094		0.0500	0.0548		mg/L		108	70 - 120		
Ethylbenzene	<0.00050		0.0500	0.0497		mg/L		99	70 - 125		
Xylenes, Total	<0.0010		0.100	0.107		mg/L		107	70 - 120		

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*75 - 125*
Toluene-d8 (Surr)	*101*		*75 - 120*
4-Bromofluorobenzene (Surr)	*101*		*75 - 120*
Dibromofluoromethane	*95*		*75 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-103210-11 MSD — **Client Sample ID: MW-11**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 311283

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00050		0.0500	0.0545		mg/L		109	70 - 120	0	20
Toluene	0.00094		0.0500	0.0536		mg/L		105	70 - 120	2	20
Ethylbenzene	<0.00050		0.0500	0.0491		mg/L		98	70 - 125	1	20
Xylenes, Total	<0.0010		0.100	0.105		mg/L		105	70 - 120	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*109*		*75 - 125*
Toluene-d8 (Surr)	*103*		*75 - 120*
4-Bromofluorobenzene (Surr)	*100*		*75 - 120*
Dibromofluoromethane	*95*		*75 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-91309/14 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 91309

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/03/15 19:46	1

Lab Sample ID: LCS 320-91309/15 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 91309

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	0.0500	0.0489		mg/L		98	85 - 115

Lab Sample ID: MRL 320-91309/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 91309

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.16		ug/L		104	75 - 125

Lab Sample ID: 500-103210-1 MS — **Client Sample ID: MW-06**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 91309

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	<0.0040		0.0500	0.0444		mg/L		89	80 - 120

Lab Sample ID: 500-103210-1 MSD — **Client Sample ID: MW-06**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 91309

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	<0.0040		0.0500	0.0439		mg/L		88	80 - 120	1	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: 500-103210-1 MS
Matrix: Water
Analysis Batch: 311759

Client Sample ID: MW-06
Prep Type: Dissolved
Prep Batch: 311525

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.559		mg/L		112	75 - 125
Arsenic	<0.0010		0.100	0.114		mg/L		113	75 - 125
Barium	0.12		0.500	0.650		mg/L		105	75 - 125
Beryllium	<0.0010		0.0500	0.0513		mg/L		103	75 - 125
Boron	0.22		1.00	1.25		mg/L		103	75 - 125
Cadmium	<0.00050		0.0500	0.0546		mg/L		109	75 - 125
Chromium	<0.0050		0.200	0.204		mg/L		101	75 - 125
Cobalt	<0.0010		0.500	0.509		mg/L		102	75 - 125
Copper	<0.0020		0.250	0.270		mg/L		108	75 - 125
Iron	<0.10		1.00	1.07		mg/L		107	75 - 125
Lead	<0.00050		0.100	0.110		mg/L		110	75 - 125
Manganese	<0.0025		0.500	0.510		mg/L		102	75 - 125
Nickel	0.0026		0.500	0.505		mg/L		101	75 - 125
Selenium	0.0035		0.100	0.121		mg/L		117	75 - 125
Silver	<0.00050	F1	0.0500	0.0358	F1	mg/L		72	75 - 125
Thallium	<0.0020		0.100	0.111		mg/L		111	75 - 125
Vanadium	<0.0050		0.500	0.520		mg/L		103	75 - 125
Zinc	<0.020		0.500	0.549		mg/L		110	75 - 125

Lab Sample ID: 500-103210-1 MSD
Matrix: Water
Analysis Batch: 311759

Client Sample ID: MW-06
Prep Type: Dissolved
Prep Batch: 311525

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.553		mg/L		111	75 - 125	1	20
Arsenic	<0.0010		0.100	0.114		mg/L		113	75 - 125	0	20
Barium	0.12		0.500	0.646		mg/L		104	75 - 125	1	20
Beryllium	<0.0010		0.0500	0.0525		mg/L		105	75 - 125	2	20
Boron	0.22		1.00	1.25		mg/L		103	75 - 125	0	20
Cadmium	<0.00050		0.0500	0.0534		mg/L		107	75 - 125	2	20
Chromium	<0.0050		0.200	0.206		mg/L		102	75 - 125	1	20
Cobalt	<0.0010		0.500	0.509		mg/L		102	75 - 125	0	20
Copper	<0.0020		0.250	0.269		mg/L		108	75 - 125	0	20
Iron	<0.10		1.00	1.08		mg/L		108	75 - 125	1	20
Lead	<0.00050		0.100	0.112		mg/L		112	75 - 125	2	20
Manganese	<0.0025		0.500	0.514		mg/L		103	75 - 125	1	20
Nickel	0.0026		0.500	0.507		mg/L		101	75 - 125	0	20
Selenium	0.0035		0.100	0.121		mg/L		118	75 - 125	1	20
Silver	<0.00050	F1	0.0500	0.0381		mg/L		76	75 - 125	6	20
Thallium	<0.0020		0.100	0.113		mg/L		113	75 - 125	2	20
Vanadium	<0.0050		0.500	0.520		mg/L		103	75 - 125	0	20
Zinc	<0.020		0.500	0.548		mg/L		110	75 - 125	0	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-103210-1 DU
Matrix: Water
Analysis Batch: 311759

Client Sample ID: MW-06
Prep Type: Dissolved
Prep Batch: 311525

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0030		<0.0030		mg/L		NC	20
Arsenic	<0.0010		<0.0010		mg/L		NC	20
Barium	0.12		0.127		mg/L		2	20
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Boron	0.22		0.233		mg/L		6	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Chromium	<0.0050		<0.0050		mg/L		NC	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20
Copper	<0.0020		<0.0020		mg/L		NC	20
Iron	<0.10		<0.10		mg/L		NC	20
Lead	<0.00050		<0.00050		mg/L		NC	20
Manganese	<0.0025		<0.0025		mg/L		NC	20
Nickel	0.0026		0.00261		mg/L		2	20
Selenium	0.0035		0.00346		mg/L		0.5	20
Silver	<0.00050	F1	<0.00050		mg/L		NC	20
Thallium	<0.0020		<0.0020		mg/L		NC	20
Vanadium	<0.0050		<0.0050		mg/L		NC	20
Zinc	<0.020		<0.020		mg/L		NC	20

Lab Sample ID: MB 500-311525/1-A
Matrix: Water
Analysis Batch: 311759

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 311525

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		11/06/15 14:20	11/06/15 16:38	1
Arsenic	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 16:38	1
Barium	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 16:38	1
Beryllium	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 16:38	1
Boron	<0.050		0.050		mg/L		11/06/15 14:20	11/06/15 16:38	1
Cadmium	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 16:38	1
Chromium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 16:38	1
Cobalt	<0.0010		0.0010		mg/L		11/06/15 14:20	11/06/15 16:38	1
Copper	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 16:38	1
Iron	<0.10		0.10		mg/L		11/06/15 14:20	11/06/15 16:38	1
Lead	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 16:38	1
Manganese	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 16:38	1
Nickel	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 16:38	1
Selenium	<0.0025		0.0025		mg/L		11/06/15 14:20	11/06/15 16:38	1
Silver	<0.00050		0.00050		mg/L		11/06/15 14:20	11/06/15 16:38	1
Thallium	<0.0020		0.0020		mg/L		11/06/15 14:20	11/06/15 16:38	1
Vanadium	<0.0050		0.0050		mg/L		11/06/15 14:20	11/06/15 16:38	1
Zinc	<0.020		0.020		mg/L		11/06/15 14:20	11/06/15 16:38	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-311525/2-A
Matrix: Water
Analysis Batch: 311759

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 311525

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.498		mg/L		100	80 - 120
Arsenic	0.100	0.0979		mg/L		98	80 - 120
Barium	0.500	0.507		mg/L		101	80 - 120
Beryllium	0.0500	0.0493		mg/L		99	80 - 120
Boron	1.00	0.996		mg/L		100	80 - 120
Cadmium	0.0500	0.0501		mg/L		100	80 - 120
Chromium	0.200	0.199		mg/L		100	80 - 120
Cobalt	0.500	0.510		mg/L		102	80 - 120
Copper	0.250	0.254		mg/L		101	80 - 120
Iron	1.00	1.05		mg/L		105	80 - 120
Lead	0.100	0.103		mg/L		103	80 - 120
Manganese	0.500	0.505		mg/L		101	80 - 120
Nickel	0.500	0.516		mg/L		103	80 - 120
Selenium	0.100	0.0982		mg/L		98	80 - 120
Silver	0.0500	0.0534		mg/L		107	80 - 120
Thallium	0.100	0.102		mg/L		102	80 - 120
Vanadium	0.500	0.497		mg/L		99	80 - 120
Zinc	0.500	0.506		mg/L		101	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-310866/12-A
Matrix: Water
Analysis Batch: 311050

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 310866

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/03/15 16:30	11/04/15 10:44	1

Lab Sample ID: LCS 500-310866/13-A
Matrix: Water
Analysis Batch: 311050

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 310866

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00235		mg/L		117	80 - 120

Method: 9014 - Cyanide

Lab Sample ID: MB 500-311069/1-A
Matrix: Water
Analysis Batch: 311166

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 311069

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/04/15 15:00	11/04/15 21:35	1

Method: 9014 - Cyanide (Continued)

Lab Sample ID: LCS 500-311069/2-A
Matrix: Water
Analysis Batch: 311166

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 311069

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.109		mg/L		109	80 - 120

Lab Sample ID: 500-103210-1 MS
Matrix: Water
Analysis Batch: 311166

Client Sample ID: MW-06
Prep Type: Dissolved
Prep Batch: 311069

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	<0.010		0.0400	0.0425		mg/L		106	75 - 125

Lab Sample ID: 500-103210-1 MSD
Matrix: Water
Analysis Batch: 311166

Client Sample ID: MW-06
Prep Type: Dissolved
Prep Batch: 311069

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	<0.010		0.0400	0.0447		mg/L		112	75 - 125	5	20

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 500-310966/3
Matrix: Water
Analysis Batch: 310966

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/04/15 00:52	1

Lab Sample ID: LCS 500-310966/4
Matrix: Water
Analysis Batch: 310966

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.6		mg/L		98	80 - 120

Lab Sample ID: 500-103210-3 MS
Matrix: Water
Analysis Batch: 310966

Client Sample ID: MW-08
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	41		80.0	117		mg/L		95	75 - 125

Lab Sample ID: 500-103210-3 MSD
Matrix: Water
Analysis Batch: 310966

Client Sample ID: MW-08
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	41		80.0	118		mg/L		95	75 - 125	1	20

Method: 9038 - Sulfate, Turbidimetric (Continued)

Lab Sample ID: 500-103210-5 MS
Matrix: Water
Analysis Batch: 310966

Client Sample ID: DUP
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	49		80.0	144		mg/L		119	75 - 125

Lab Sample ID: 500-103210-5 MSD
Matrix: Water
Analysis Batch: 310966

Client Sample ID: DUP
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	49		80.0	131		mg/L		102	75 - 125	10	20

Method: 9251 - Chloride

Lab Sample ID: MB 500-311704/12
Matrix: Water
Analysis Batch: 311704

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/08/15 11:51	1

Lab Sample ID: LCS 500-311704/13
Matrix: Water
Analysis Batch: 311704

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.1		mg/L		100	80 - 120

Lab Sample ID: 500-103210-2 MS
Matrix: Water
Analysis Batch: 311704

Client Sample ID: MW-07
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	110		50.0	158		mg/L		95	75 - 125

Lab Sample ID: 500-103210-2 MSD
Matrix: Water
Analysis Batch: 311704

Client Sample ID: MW-07
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	110		50.0	159		mg/L		98	75 - 125	1	20

Lab Sample ID: 500-103210-11 MS
Matrix: Water
Analysis Batch: 311704

Client Sample ID: MW-11
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	120		50.0	164		mg/L		90	75 - 125

Method: 9251 - Chloride (Continued)

Lab Sample ID: 500-103210-11 MSD — **Client Sample ID: MW-11**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 311704

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	120		50.0	167		mg/L		97	75 - 125	2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-310328/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 310328

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			10/29/15 20:45	1

Lab Sample ID: LCS 500-310328/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 310328

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			250	290		mg/L		116	80 - 120		

Lab Sample ID: 500-103210-1 DU — **Client Sample ID: MW-06**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 310328

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	650			632		mg/L				3	5

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-310997/3 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 310997

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			11/03/15 19:35	1

Lab Sample ID: LCS 500-310997/4 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 310997

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	10.1		mg/L		101	80 - 120		

Lab Sample ID: 500-103210-1 MS — **Client Sample ID: MW-06**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 310997

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.32		5.00	5.42		mg/L		102	75 - 125		

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 500-103210-1 MSD
Matrix: Water
Analysis Batch: 310997

Client Sample ID: MW-06
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.32		5.00	5.44		mg/L		102	75 - 125	0	20

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-310239/3
Matrix: Water
Analysis Batch: 310239

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/15 13:03	1

Lab Sample ID: LCS 500-310239/4
Matrix: Water
Analysis Batch: 310239

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.104		mg/L		104	80 - 120

Lab Sample ID: MB 500-310313/3
Matrix: Water
Analysis Batch: 310313

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/29/15 19:20	1

Lab Sample ID: LCS 500-310313/4
Matrix: Water
Analysis Batch: 310313

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.101		mg/L		101	80 - 120

Lab Sample ID: 500-103210-5 MS
Matrix: Water
Analysis Batch: 310239

Client Sample ID: DUP
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	<0.020		0.100	0.0976		mg/L		93	75 - 125

Lab Sample ID: 500-103210-5 MSD
Matrix: Water
Analysis Batch: 310239

Client Sample ID: DUP
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	<0.020		0.100	0.100		mg/L		96	75 - 125	3	20

Method: SM 4500 NO2 B - Nitrogen, Nitrite (Continued)

Lab Sample ID: 500-103210-7 MS
Matrix: Water
Analysis Batch: 310313

Client Sample ID: MW-03
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Nitrite	<0.020		0.100	0.0982		mg/L		94	75 - 125		

Lab Sample ID: 500-103210-7 MSD
Matrix: Water
Analysis Batch: 310313

Client Sample ID: MW-03
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	<0.020		0.100	0.0983		mg/L		94	75 - 125	0	20

Method: SM 4500 NO3 F - Nitrogen, Nitrate

Lab Sample ID: MB 500-310551/4
Matrix: Water
Analysis Batch: 310551

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			10/30/15 16:51	1

Lab Sample ID: LCS 500-310551/5
Matrix: Water
Analysis Batch: 310551

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	0.934		mg/L		93	80 - 120

Lab Sample ID: MB 500-310552/12
Matrix: Water
Analysis Batch: 310552

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			10/30/15 21:49	1

Lab Sample ID: LCS 500-310552/13
Matrix: Water
Analysis Batch: 310552

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	1.08		mg/L		108	80 - 120

Lab Sample ID: MB 500-310940/12
Matrix: Water
Analysis Batch: 310940

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			11/03/15 17:51	1

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-103210-1

Method: SM 4500 NO3 F - Nitrogen, Nitrate (Continued)

Lab Sample ID: LCS 500-310940/13
Matrix: Water
Analysis Batch: 310940

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	0.979		mg/L		98	80 - 120

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 604
708-534-5200
Fax. 708-534-5211

500-103210 COC

Report To:		Bill To:
Contact:	Rich Gnat	Contact:
Company:	KPRG & Associates Inc.	Company:
Address:	14665 W. Lisbon Rd. Suite 2B	Address:
	Brookfield, WI	
Phone:	262-781-0475	Phone:
Fax:		Fax:
Email:	richardg@kprginc.com	PO #:

Lab Lot # 500-103210

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	Samples Intact
Yes No	Yes No N/A

Temperature °C of Cooler: 0.6

Within Hold Time	Preserv. Indicated
Yes No	Yes No N/A
pH Check OK	Res Cl_2 Check OK
Yes No	Yes No N/A

Sample Labels and COC Agree: Yes No COC not present

Sampler Name:	Client Project #	Refrg #
Ian John Howieson	12313.0	# / Cont.
Project Name:	TestAmerica Project Number:	Volume
Joliet #29 Station Ash Ponds	50005078	Preserv.
Project Location:	Date Required	
Joliet IL	Hard Copy: ____/____/____	
Lab PM: Bonnie Stadelmann	Fax: ____/____/____	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	NO2	Additional Analyses / Remarks
1		MW-06	10-27-15	13:20	W	1	X	
2		MW-07	10-27-15	14:45	W	1	X	
3		MW-08	10-27-15	16:10	W	1	X	
4		MW-09	10-27-15	17:35	W	1	X	
5		DUP	10-27-15	—	W	1	X	

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
	KPRG	10-28-15	17:25	FEDEX			
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
					TA-CHI	10/29/15	1010

Matrix Key		Container Key	Preservative Key
WW = Wastewater	SE = Sediment	1. Plastic	1. HCl, Cool to 4°
W = Water	SO = Solid	2. VOA Vial	2. H_2SO_4, Cool to 4°
S = Soil	DL = Drum Liquid	3. Sterile Plastic	3. HNO_3, Cool to 4°
SL = Sludge	DS = Drum Solid	4. Amber Glass	4. NaOH, Cool to 4°
MS = Miscellaneous	L = Leachate	5. Widemouth Glass	5. NaOH/Zn, Cool to 4°
OL = Oil	W = Wipe	6. Other ____	6. Cool to 4° ____
A = Air	O = ____	____	7. None

COMMENTS:

Date Received ____/____/____
Courier:
Hand Delivered ☐
Bill of Lading:

PAGE 1 of 1

STL-8208 (0600)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

500-103210 COC

Report To:		Bill To:	
Contact:	Rich Gnat	Contact:	
Company:	KPRG & Associates Inc.	Company:	
Address:	14665 W. Llisbon Rd. Suite 2B	Address:	
	Brookfield, WI		
Phone:	262-781-0475	Phone:	
Fax:		Fax:	
Email:	richardg@kprginc.com	PO #:	

Lab Lot # 500-103210

Package Sealed	Samples Sealed
(Yes) No	(Yes) No
Received on Ice	**Samples Intact**
(Yes) No	(Yes) No N/A

Temperature °C of Cooler (3.9)(4.8)(2.6)(3.7)

Within Hold Time	Preserv. Indicated
(Yes) No	(Yes) No N/A
pH Check OK	**Res Cl_2 Check OK**
(Yes) No	(Yes) No N/A

Sample Labels and COC Agree
(Yes) No COC not present

Sampler Name:	Client Project #	Refrg #
Ian John Howieson	12313.0	# / Cont.
Project Name:	**TestAmerica Project Number:**	Volume
Joliet #29 Station Ash Ponds	50005078	Preserv.
Project Location:	**Date Required**	
Joliet,Illinois.	Hard Copy: ____/____/____	
Lab PM: Bonnie Stadelmann	Fax: ____/____/____	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# OF Containers	Metals dissolved	Cl, TDS, SO4, Fl, dissolved	NO2, dissolved	NO3+NO2, dissolved	Cyanide, dissolved	BTEX	Perchlorate	Additional Analyses / Remarks
6		MW-01	—	—	W	9	X	X	X	X	X	X	X	
6 7		MW-02	10-28-15	16:10	W	9	X	X	X	X	X	X	X	
7 8		MW-03	10-28-15	11:30	W	9	X	X	X	X	X	x	X	
8 9		MW-04	10-28-15	09:40	W	9	X	X	X	X	X	X	X	
9 10		MW-05	10-28-15	13:20	W	9	X	X	X	X	X	X	X	
1		MW-06	10-27-15	13:20	W	8	X	X	X	X	X	X	X	
2		MW-07	10-27-15	14:45	W	8	X	X	X	X	X	X	X	
3		MW-08	10-27-15	16:10	W	8	X	X	X	X	X	x	X	
4		MW-09	10-27-15	17:35	W	8	X	X	X	X	X	X	X	
10 11		MW-10	10-28-15	14:40	W	9	X	X	X	X	X	X	X	
11 12		MW-11	10-29-15	11:50	W	9	X	X	X	X	X	X	X	
5		Duplicates	10-27-15	N/A	W	8	X	X	X	X	X	X	X	
12 13		Trip Blank	N/A	N/A	W	2								

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	10-29-15			TAV	10/29/15	1335
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key
WW = Wastewater, SE = Sediment, W = Water, SO = Solid, S = Soil, DL = Drum Liquid, SL = Sludge, DS = Drum Solid, MS = Miscellaneous, L = Leachate, OL = Oil, W = Wipe, A = Air, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 10, 29, 15
Courier:
Hand Delivered ☑
Bill of Lading:
PAGE 1 of 1

STL-8208 (0600)

500-103210 Waybill

ORIGIN ID:DPAA (630) 325-1300
IAN JOHN HOWIESON
KPRG & ASSOCIATES INC
414 PLAZA DR STE 106

WESTMONT, IL 60559
UNITED STATES US

SHIP DATE: 28OCT15
ACTWGT: 20.50 LB
CAD: 6991054/SSF01621
DIMS: 24x15x14 IN

BILL THIRD PARTY

Part # 156297-435 RITE 08/15

TO **B. STADELMANN**
TEST AMERICA CHICAGO
2417 BOND ST

UNIVERSITY PARK IL 60484
(708) 634-6200 REF:
INV:
PO: DEPT:

FedEx Express

TRK# 0201 **7816 0774 9600**

THU - 29 OCT 10:30A
PRIORITY OVERNIGHT

79 JOTA

60484
IL-US **ORD**

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Stadelmann, Bonnie M	Carrier Tracking No(s)	COC No: 500-66892 1
Client Contact: Shipping/Receiving	Phone:	E-Mail: bonnie stadelmann@testamericainc.com		Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.				Job #: 500-103210-1
Address: 880 Riverside Parkway,	Due Date Requested: 11/10/2015			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #			
Email:	WO #			
Project Name: Joliet #29 Station Ash Ponds	Project #: 50005078			
Site: Ian John Howieson	SSOW#:			

Analysis Requested

Preservation Codes.

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
MW-06 (500-103210-1)	10/27/15	13:20 Central		Water			X	1	
MW-07 (500-103210-2)	10/27/15	14 45 Central		Water			X	1	
MW-08 (500-103210-3)	10/27/15	16:10 Central		Water			X	1	
MW-09 (500-103210-4)	10/27/15	17:35 Central		Water			X	1	
DUP (500-103210-5)	10/27/15	Central		Water			X	1	
MW-02 (500-103210-6)	10/28/15	16:10 Central		Water			X	1	
MW-03 (500-103210-7)	10/28/15	11 30 Central		Water			X	1	
MW-04 (500-103210-8)	10/28/15	09:40 Central		Water			X	1	
MW-05 (500-103210-9)	10/28/15	13:20 Central		Water			X	1	
MW-10 (500-103210-10)	10/28/15	14 40 Central		Water			X	1	
MW-11 (500-103210-11)	10/29/15	11.50 Central		Water			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	10/29/15 1600	TAL	[signature]	10/30/15 930	TAWS

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.6

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103210-1

Login Number: 103210
List Number: 1
Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-103210-1

Login Number: 103210
List Number: 2
Creator: Paguyo, Joyce A

List Source: TestAmerica Sacramento
List Creation: 10/30/15 01:03 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Headspace in 314.0
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Joliet #29 Station Ash Ponds

TestAmerica Job ID: 500-103210-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

Laboratory: TestAmerica Sacramento

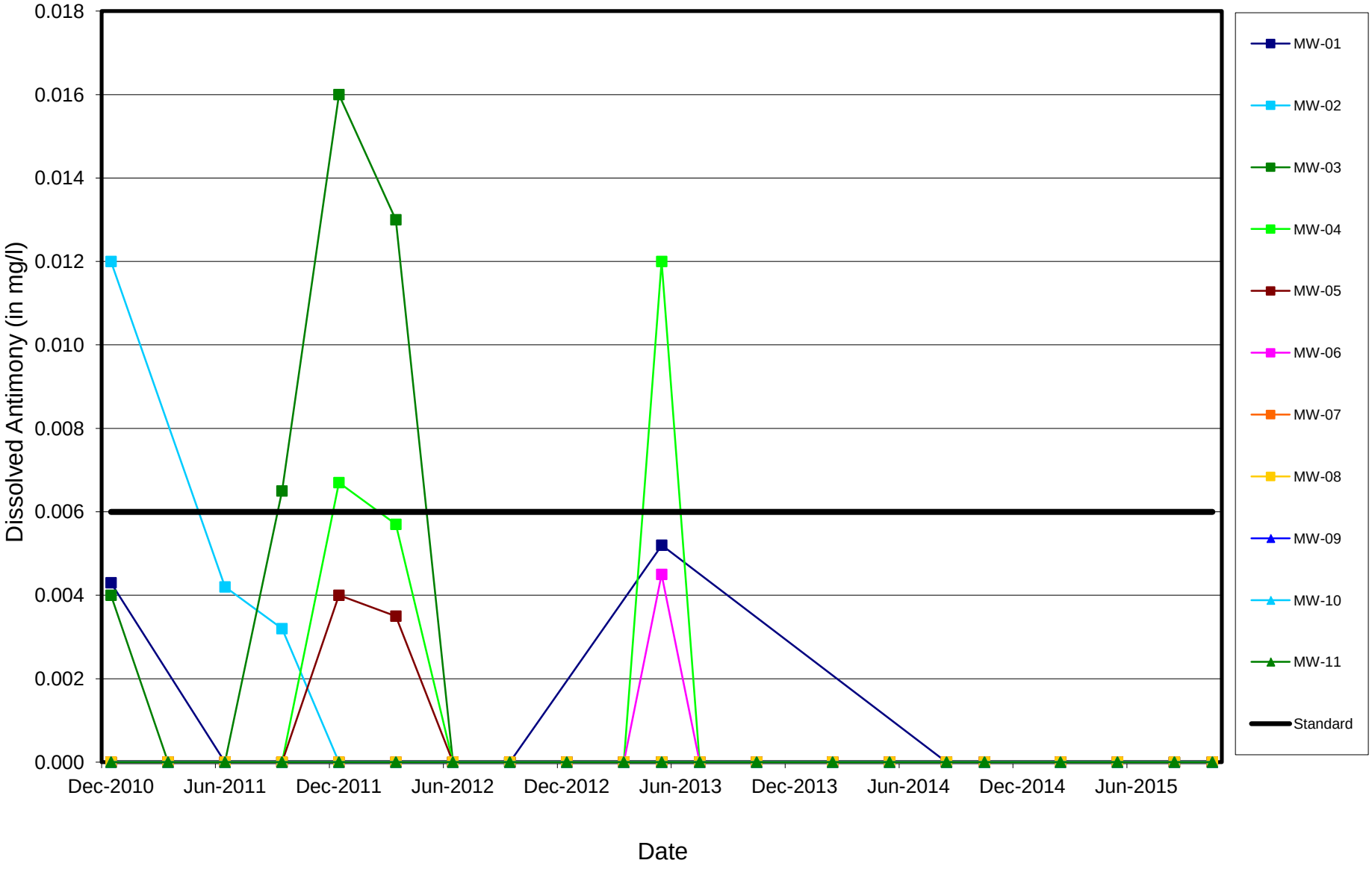
All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-16
Alaska (UST)	State Program	10	UST-055	12-18-15
Arizona	State Program	9	AZ0708	08-11-16
Arkansas DEQ	State Program	6	88-0691	06-17-16
California	State Program	9	2897	01-31-16
Colorado	State Program	8	N/A	08-31-16
Connecticut	State Program	1	PH-0691	06-30-17
Florida	NELAP	4	E87570	06-30-16
Hawaii	State Program	9	N/A	01-29-16
Illinois	NELAP	5	200060	03-17-16
Kansas	NELAP	7	E-10375	01-31-16
Louisiana	NELAP	6	30612	06-30-16
Michigan	State Program	5	9947	01-31-16
Nevada	State Program	9	CA44	07-31-16
New Jersey	NELAP	2	CA005	06-30-16
New York	NELAP	2	11666	04-01-16
Oregon	NELAP	10	CA200005	01-29-16
Pennsylvania	NELAP	3	9947	03-31-16
Texas	NELAP	6	T104704399-15-9	05-31-16
US Fish & Wildlife	Federal		LE148388-0	02-28-16
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-16
Utah	NELAP	8	QUAN1	02-28-16
Virginia	NELAP Secondary AB	3	460278	03-14-16
Washington	State Program	10	C581	05-04-16
West Virginia (DW)	State Program	3	9930C	12-31-15
Wyoming	State Program	8	8TMS-Q	01-29-16

ATTACHMENT 3
Time Vs. Concentration Curves

Midwest Generation Joliet Station #29, Joliet, IL

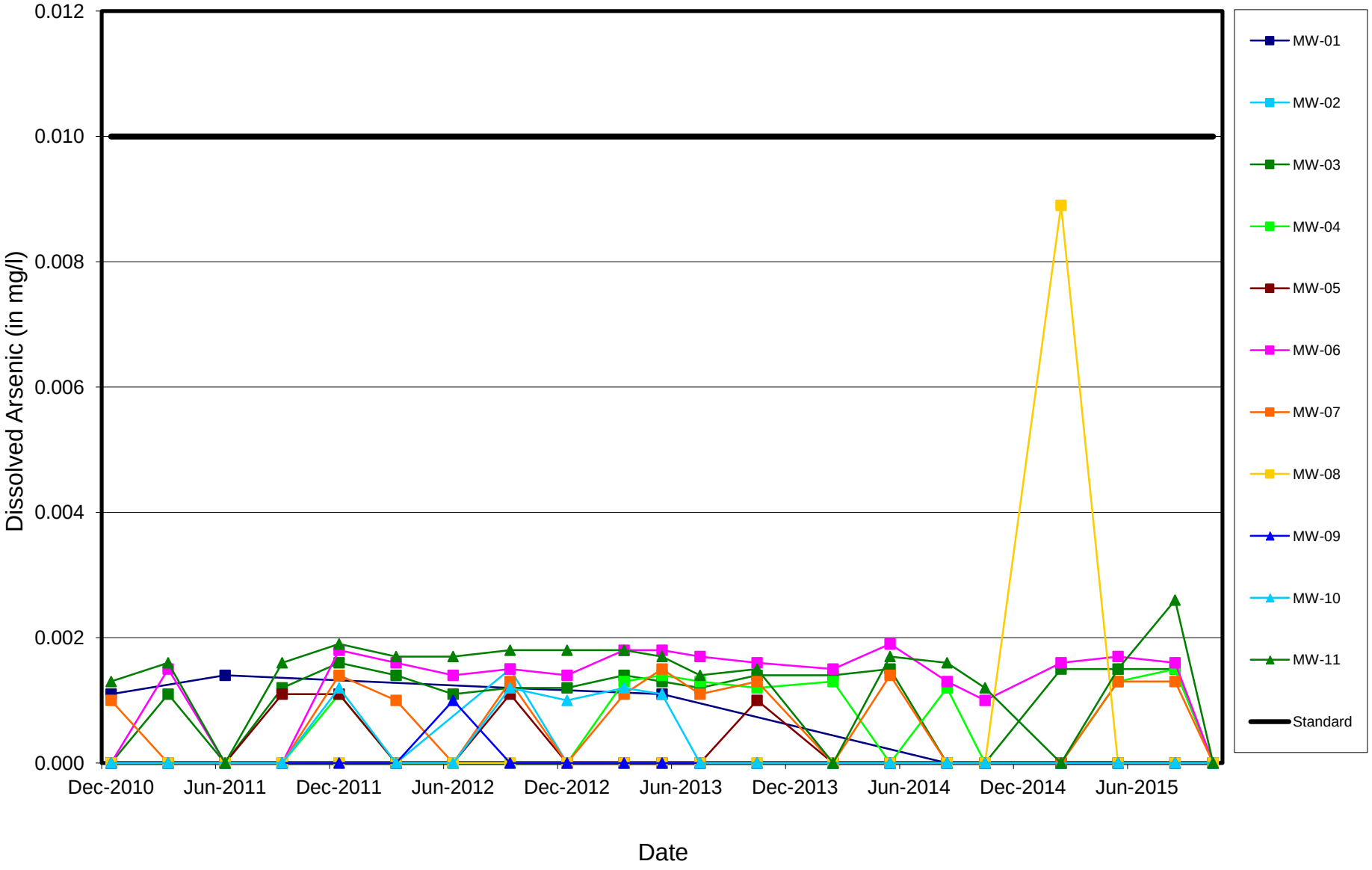
Dissolved Antimony vs. Time



MWG13-15_56407

Midwest Generation Joliet Station #29, Joliet, IL

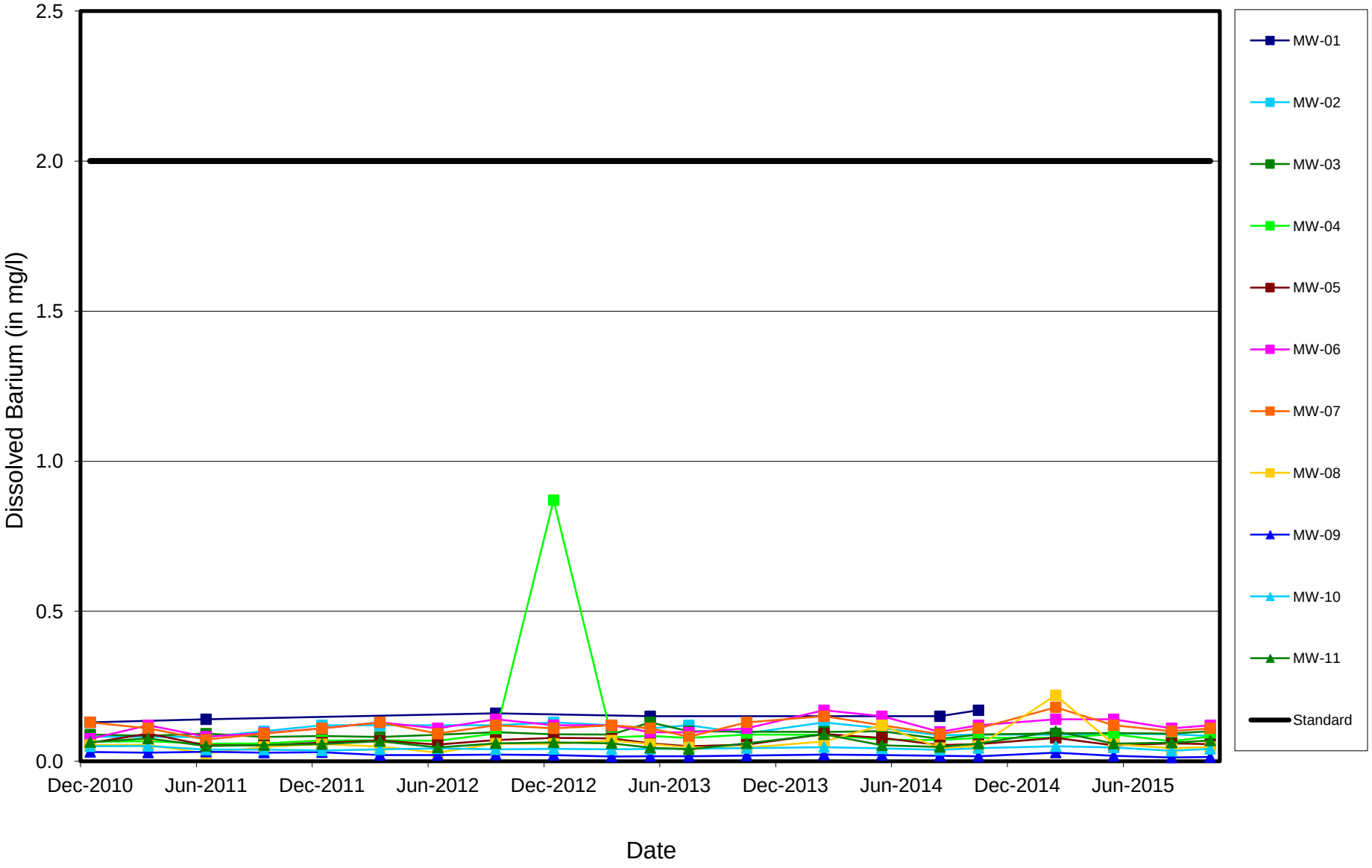
Dissolved Arsenic vs. Time



MWG13-15_56408

Midwest Generation Joliet Station #29, Joliet, IL

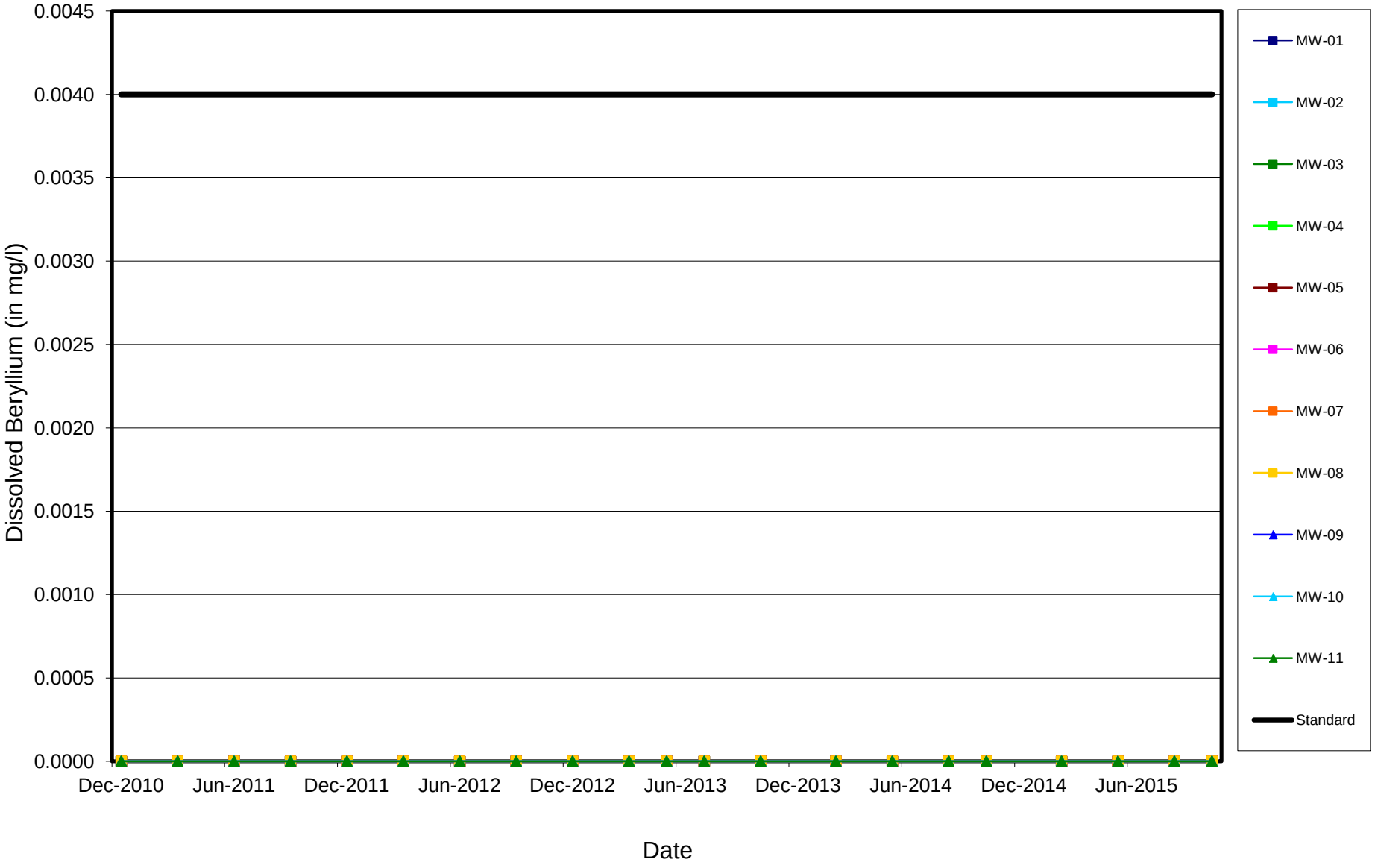
Dissolved Barium vs. Time



MWG13-15_56409

Midwest Generation Joliet Station #29, Joliet, IL

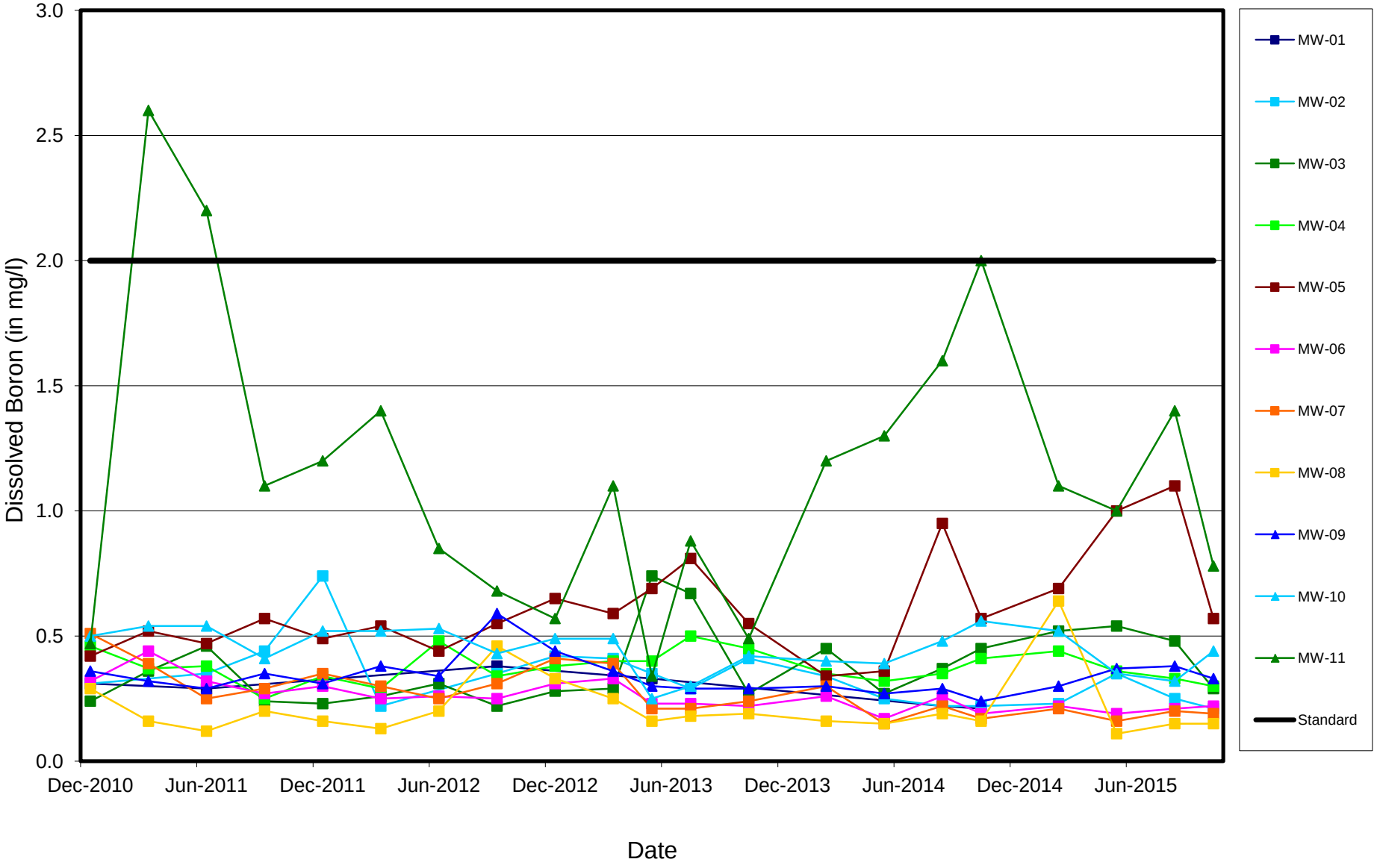
Dissolved Beryllium vs. Time



MWG13-15_56410

Midwest Generation Joliet Station #29, Joliet, IL

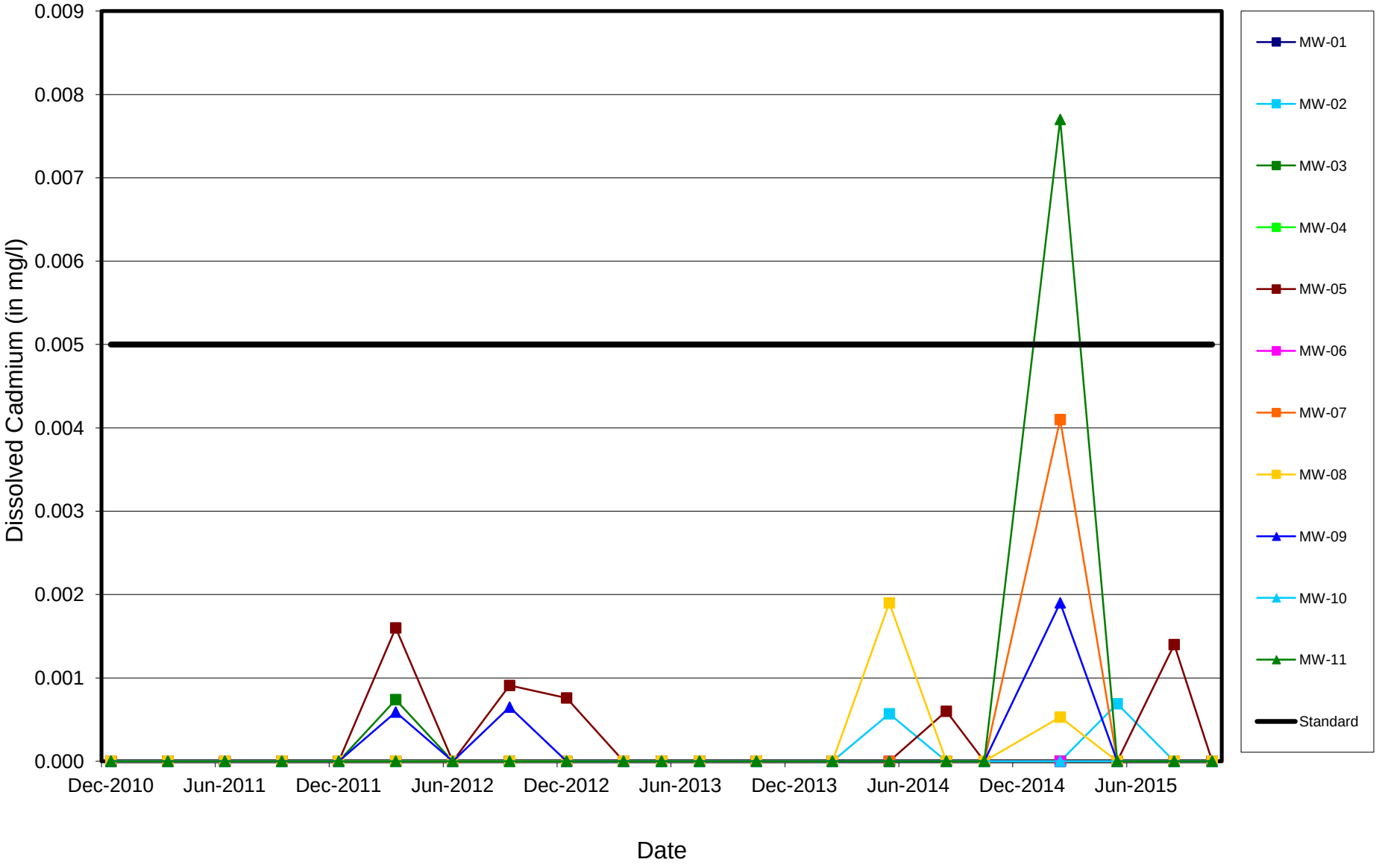
Dissolved Boron vs. Time



MWG13-15_56411

Midwest Generation Joliet Station #29, Joliet, IL

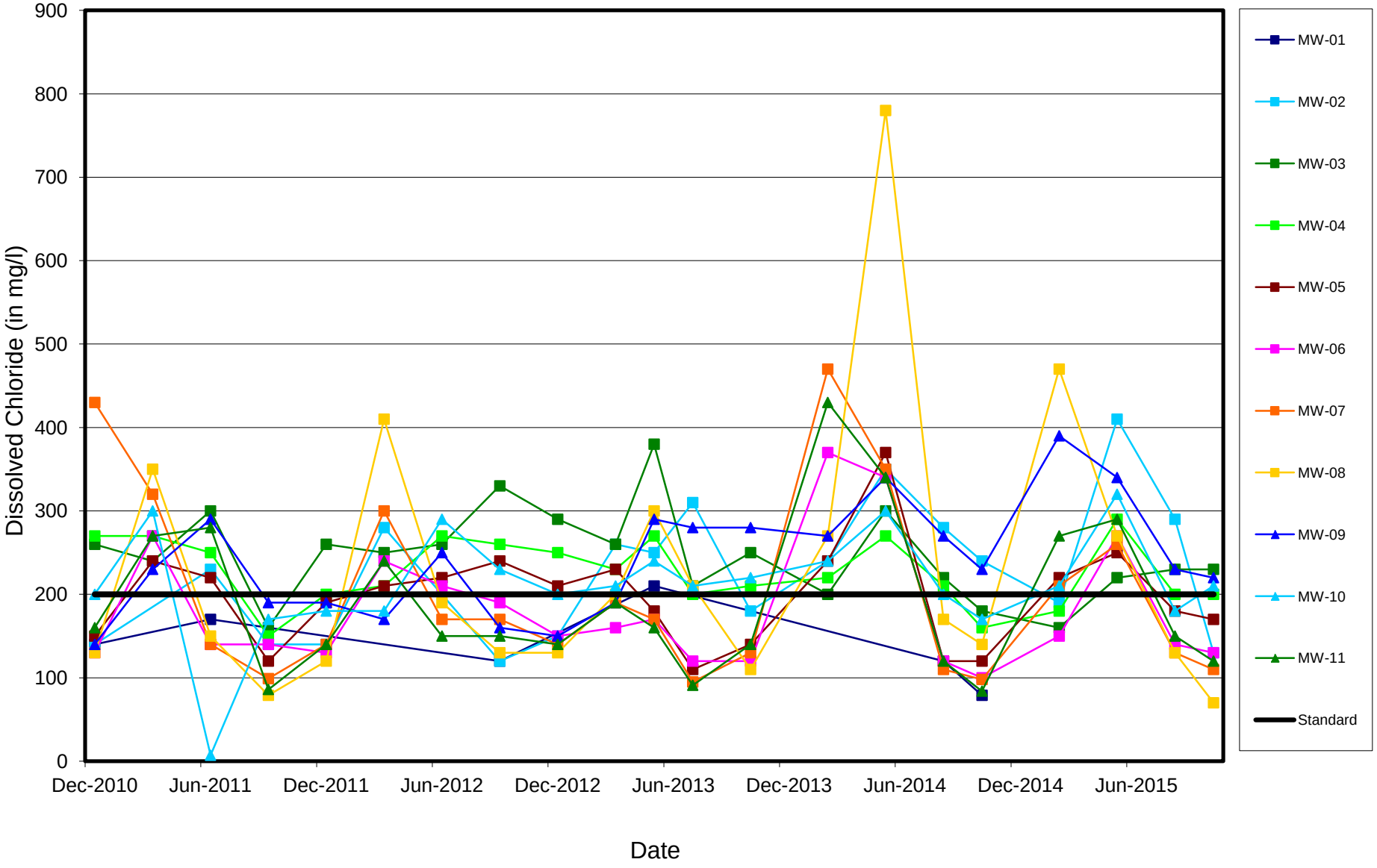
Dissolved Cadmium vs. Time



MWG13-15_56412

Midwest Generation Joliet Station #29, Joliet, IL

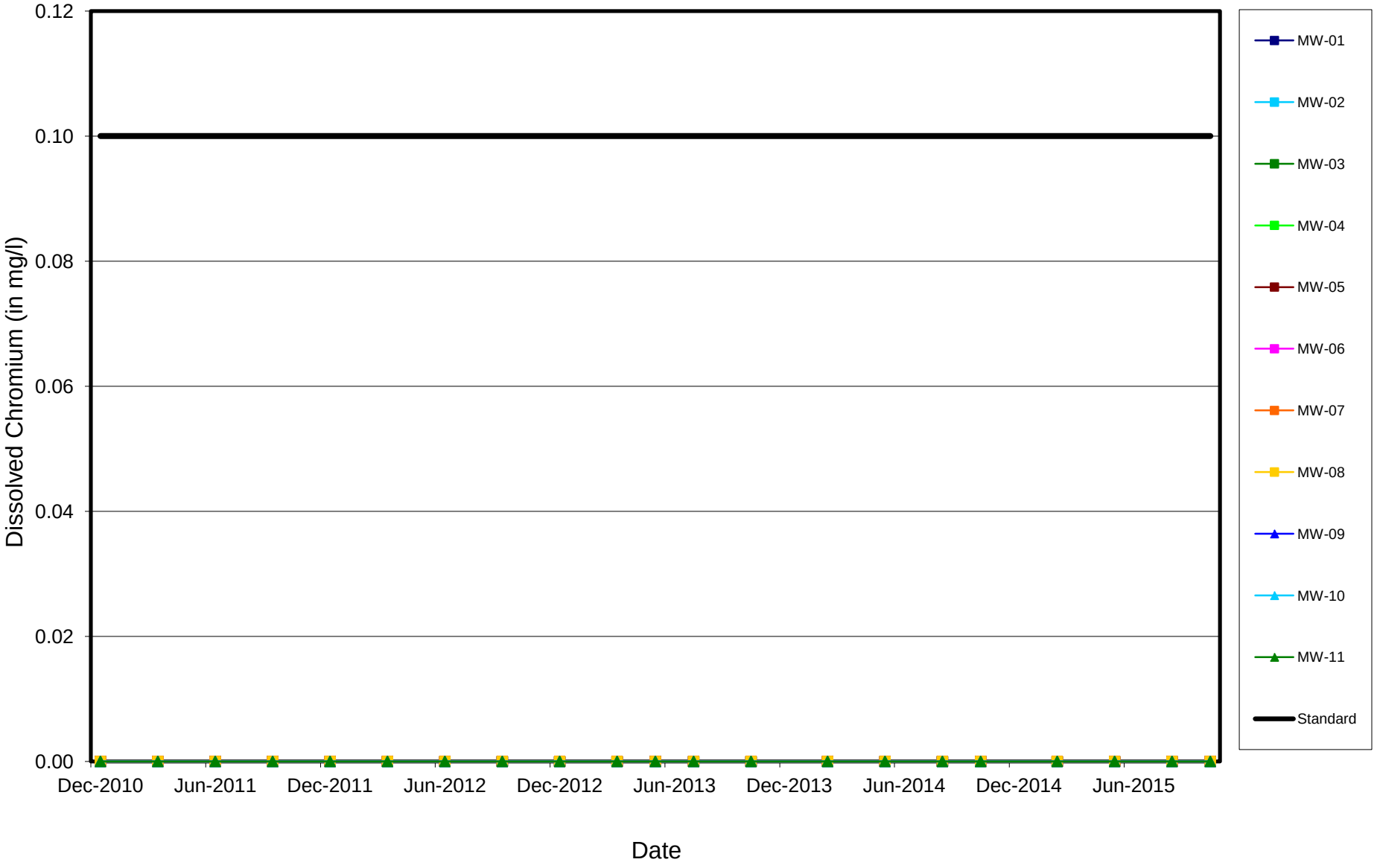
Dissolved Chloride vs. Time



MWG13-15_56413

Midwest Generation Joliet Station #29, Joliet, IL

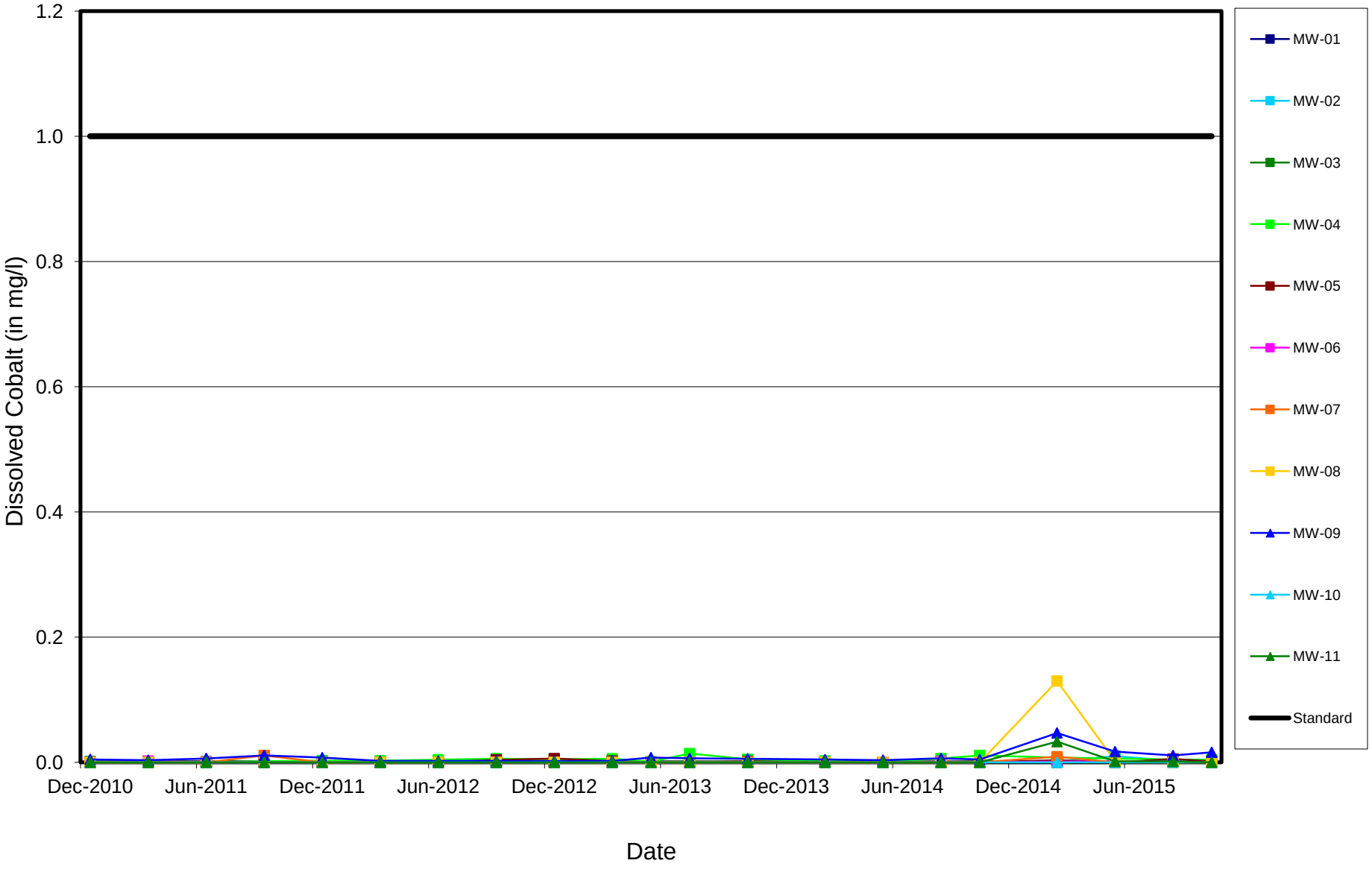
Dissolved Chromium vs. Time



MWG13-15_56414

Midwest Generation Joliet Station #29, Joliet, IL

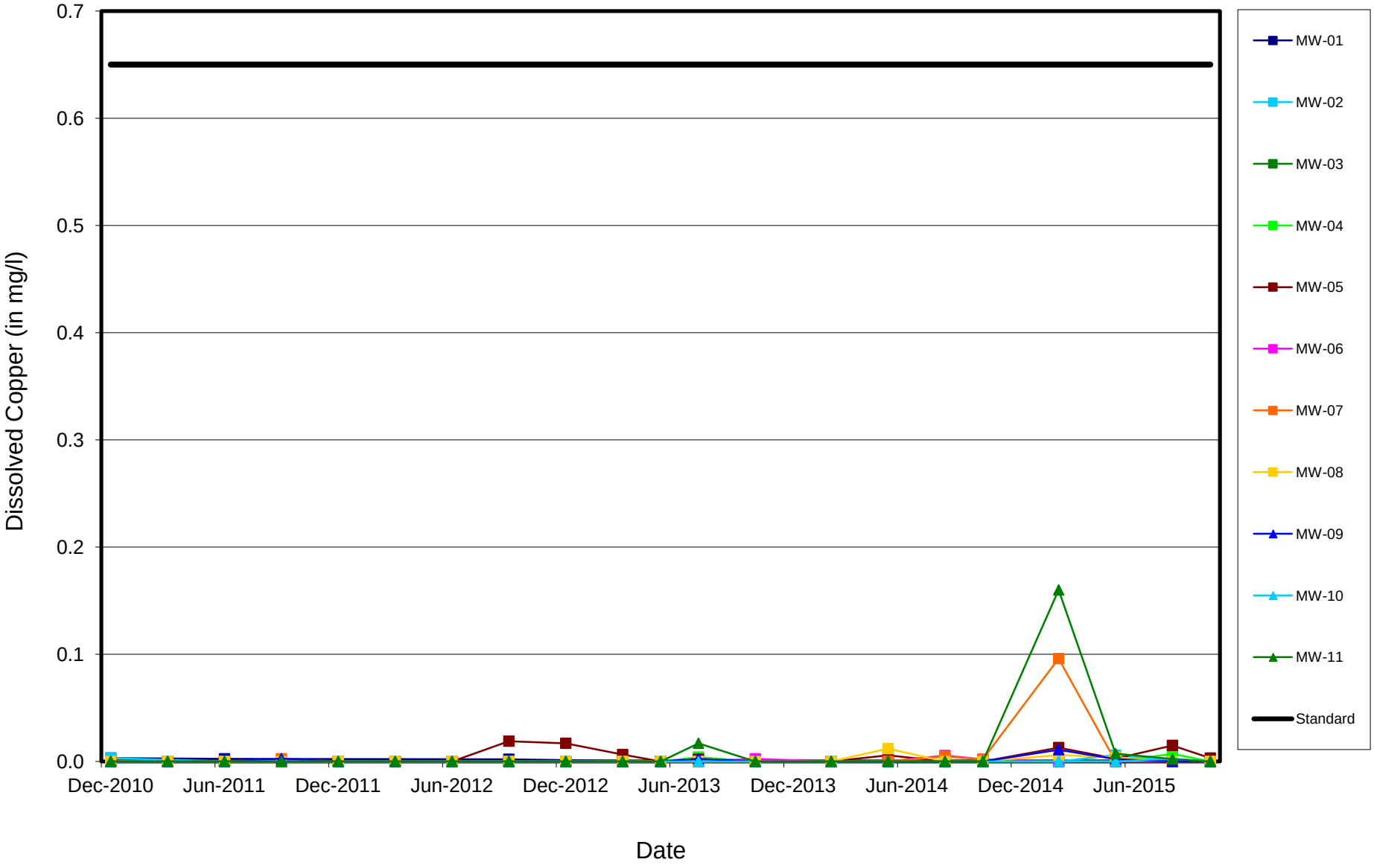
Dissolved Cobalt vs. Time



MWG13-15_56415

Midwest Generation Joliet Station #29, Joliet, IL

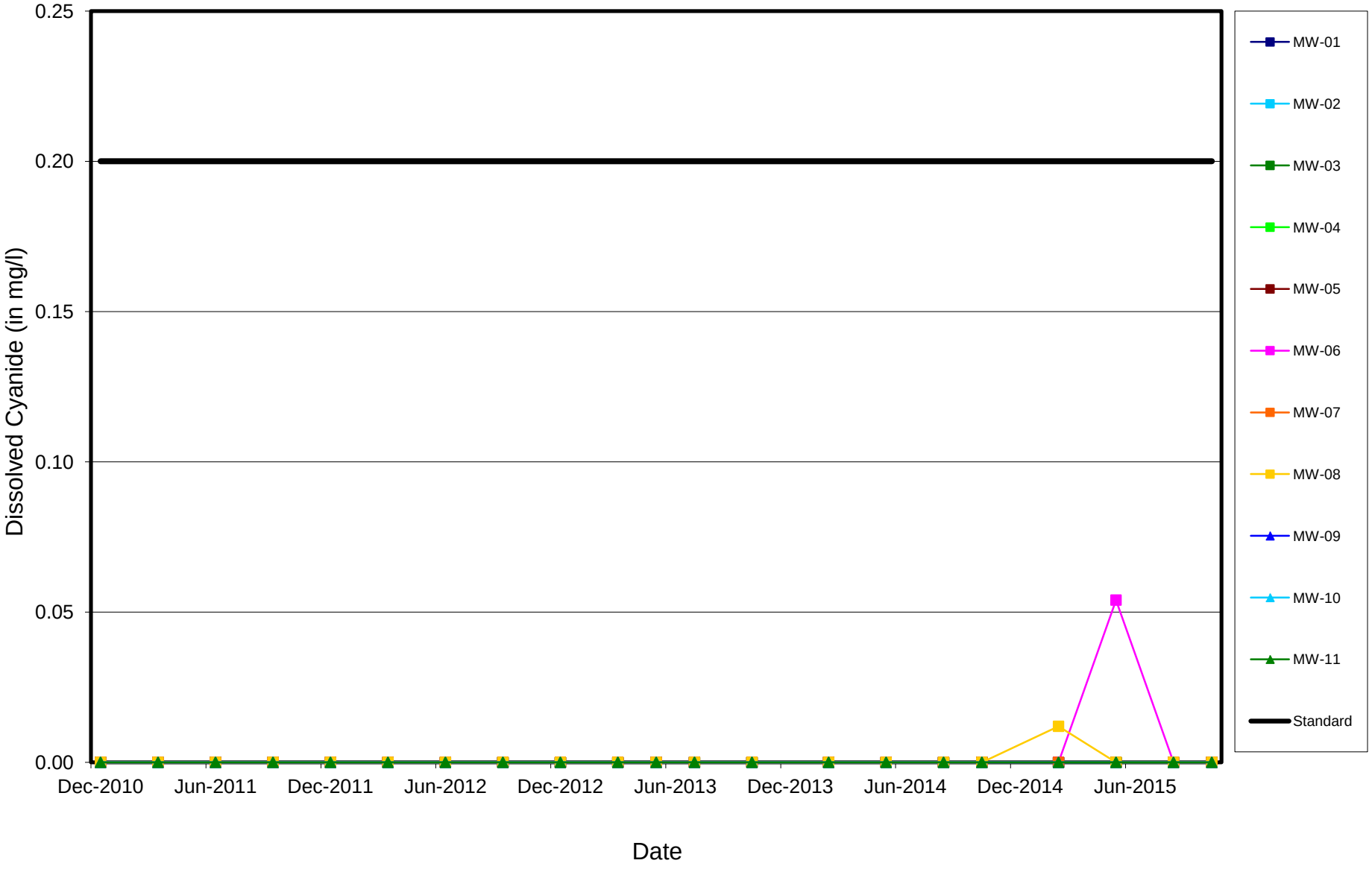
Dissolved Copper vs. Time



MWG13-15_56416

Midwest Generation Joliet Station #29, Joliet, IL

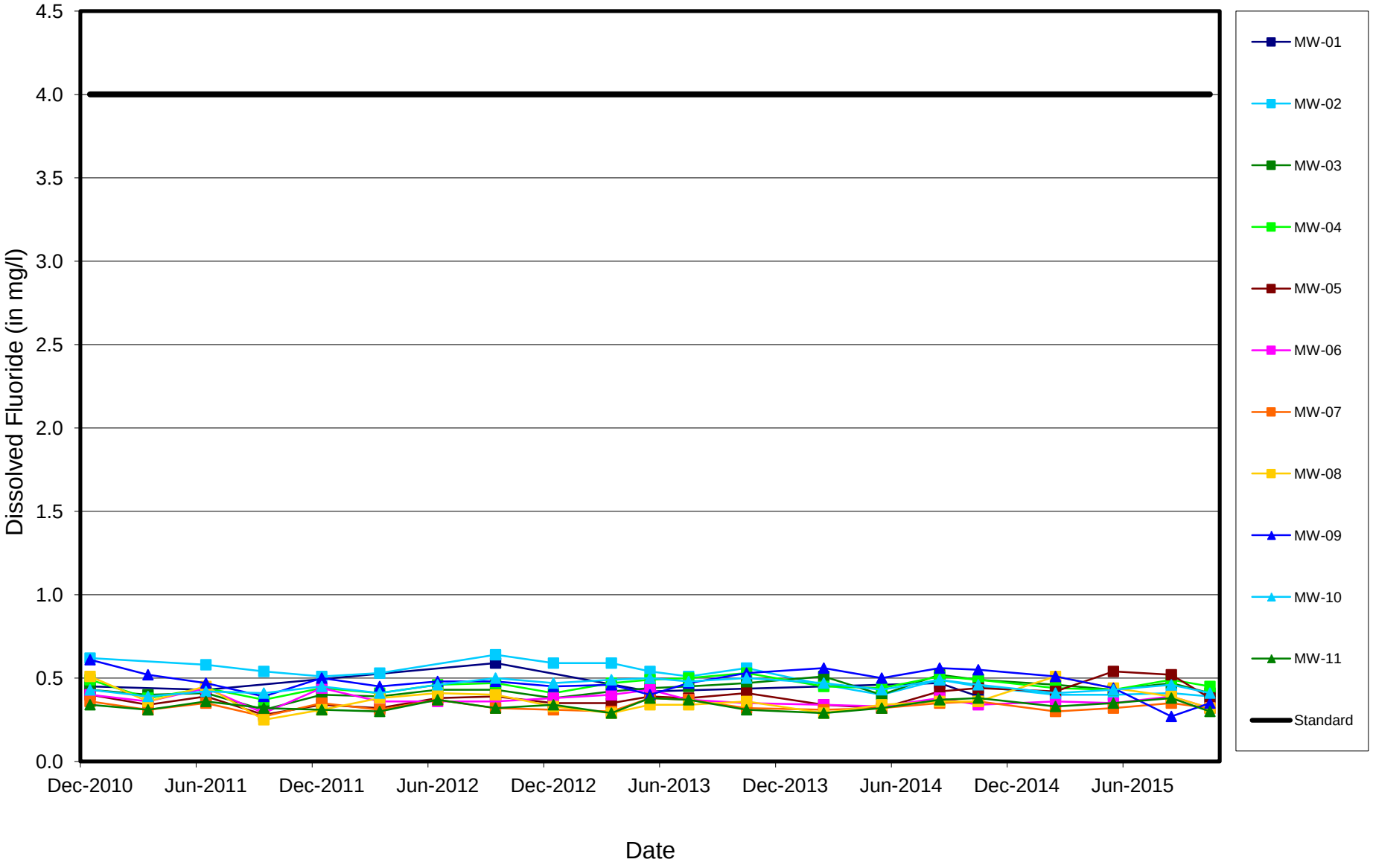
Dissolved Cyanide vs. Time



MWG13-15_56417

Midwest Generation Joliet Station #29, Joliet, IL

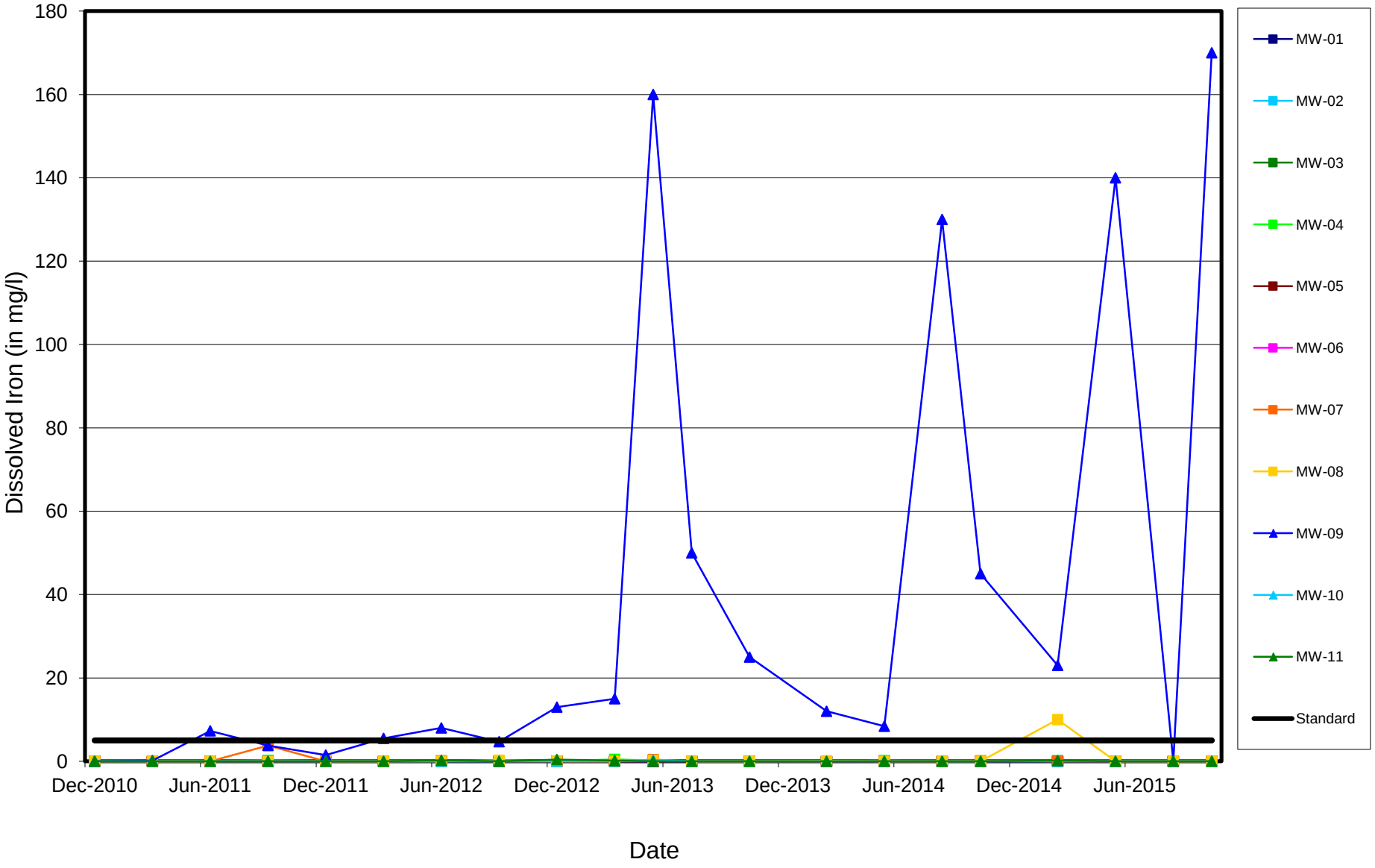
Dissolved Fluoride vs. Time



MWG13-15_56418

Midwest Generation Joliet Station #29, Joliet, IL

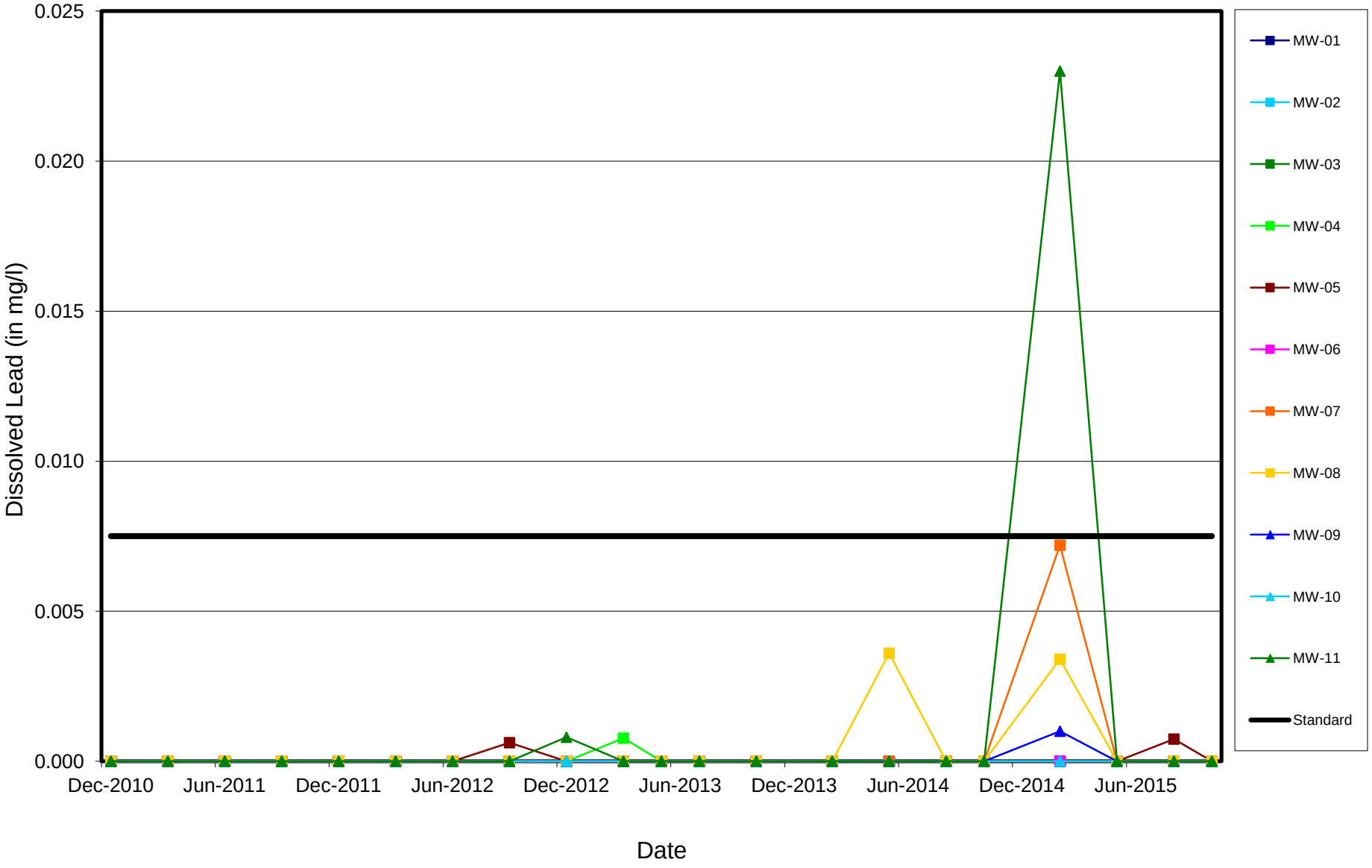
Dissolved Iron vs. Time



MWG13-15_56419

Midwest Generation Joliet Station #29, Joliet, IL

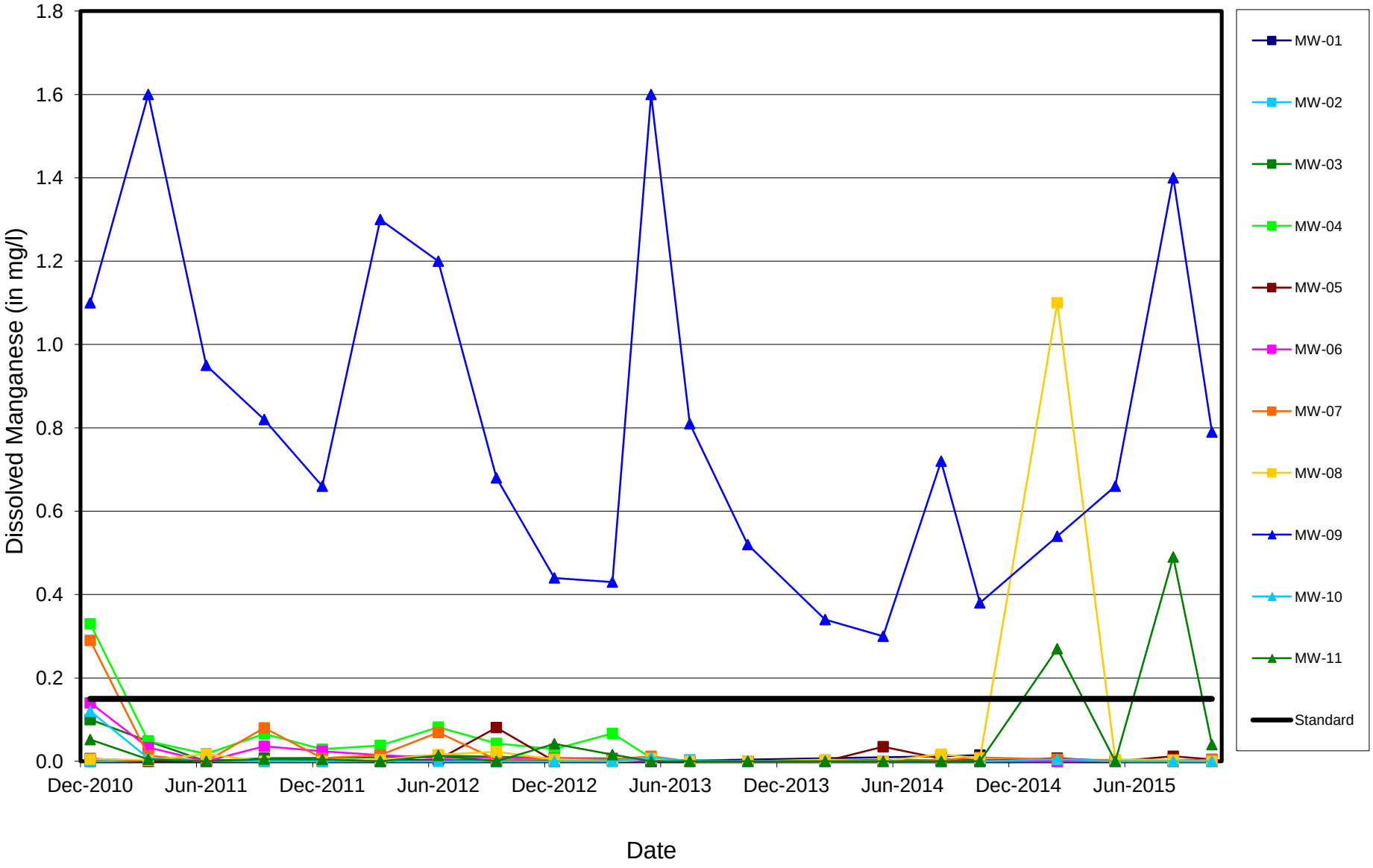
Dissolved Lead vs. Time



MWG13-15_56420

Midwest Generation Joliet Station #29, Joliet, IL

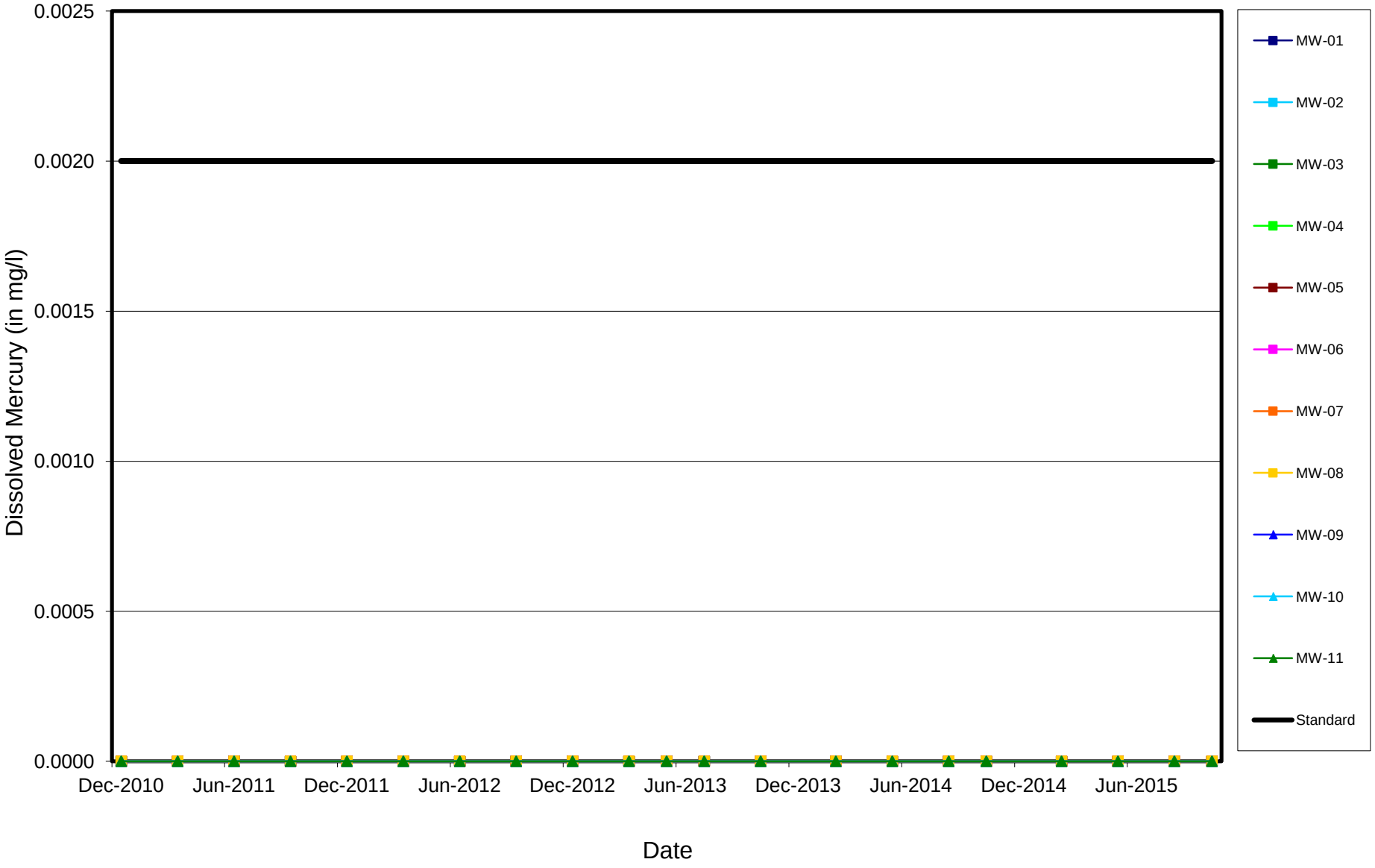
Dissolved Manganese vs. Time



MWG13-15_56421

Midwest Generation Joliet Station #29, Joliet, IL

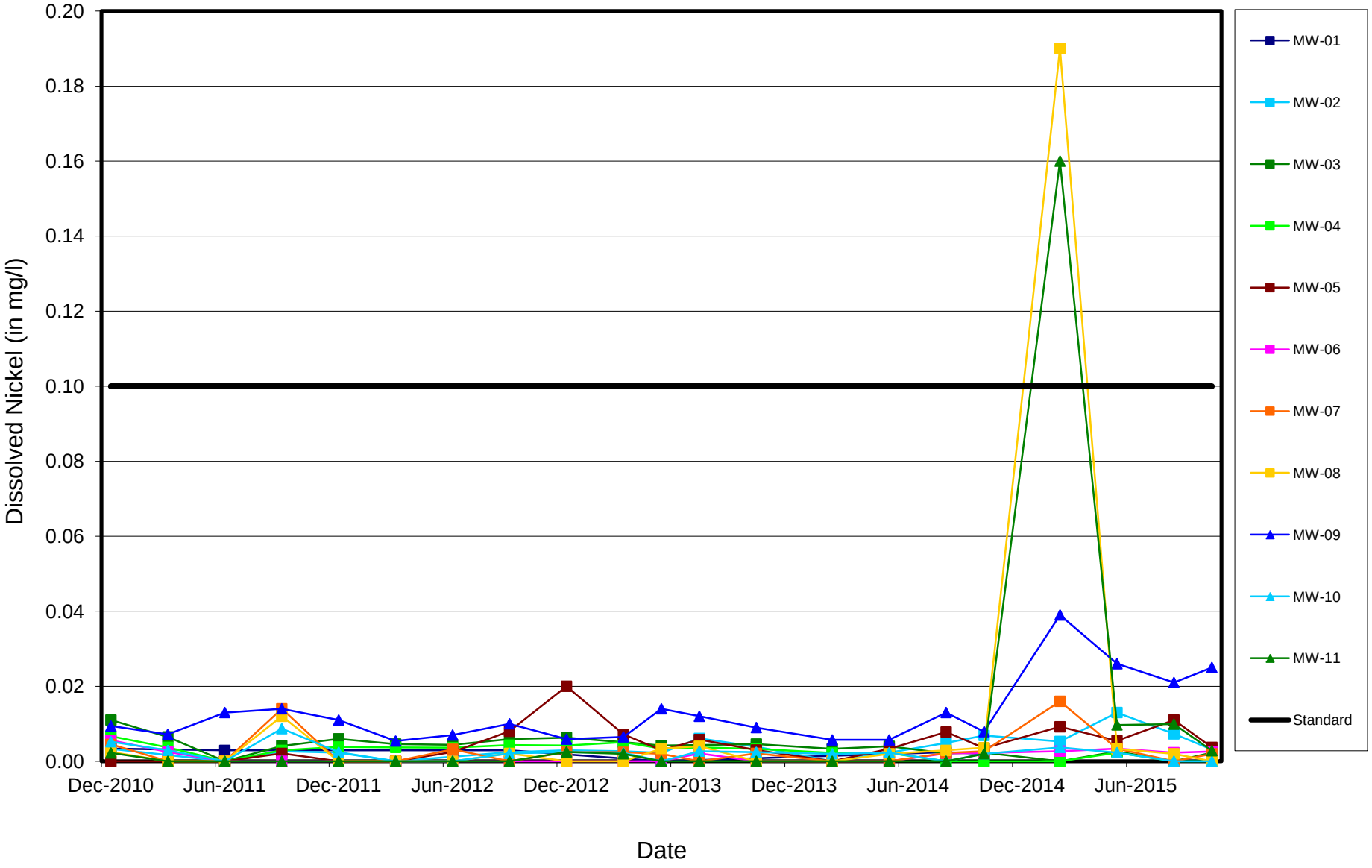
Dissolved Mercury vs. Time



MWG13-15_56422

Midwest Generation Joliet Station #29, Joliet, IL

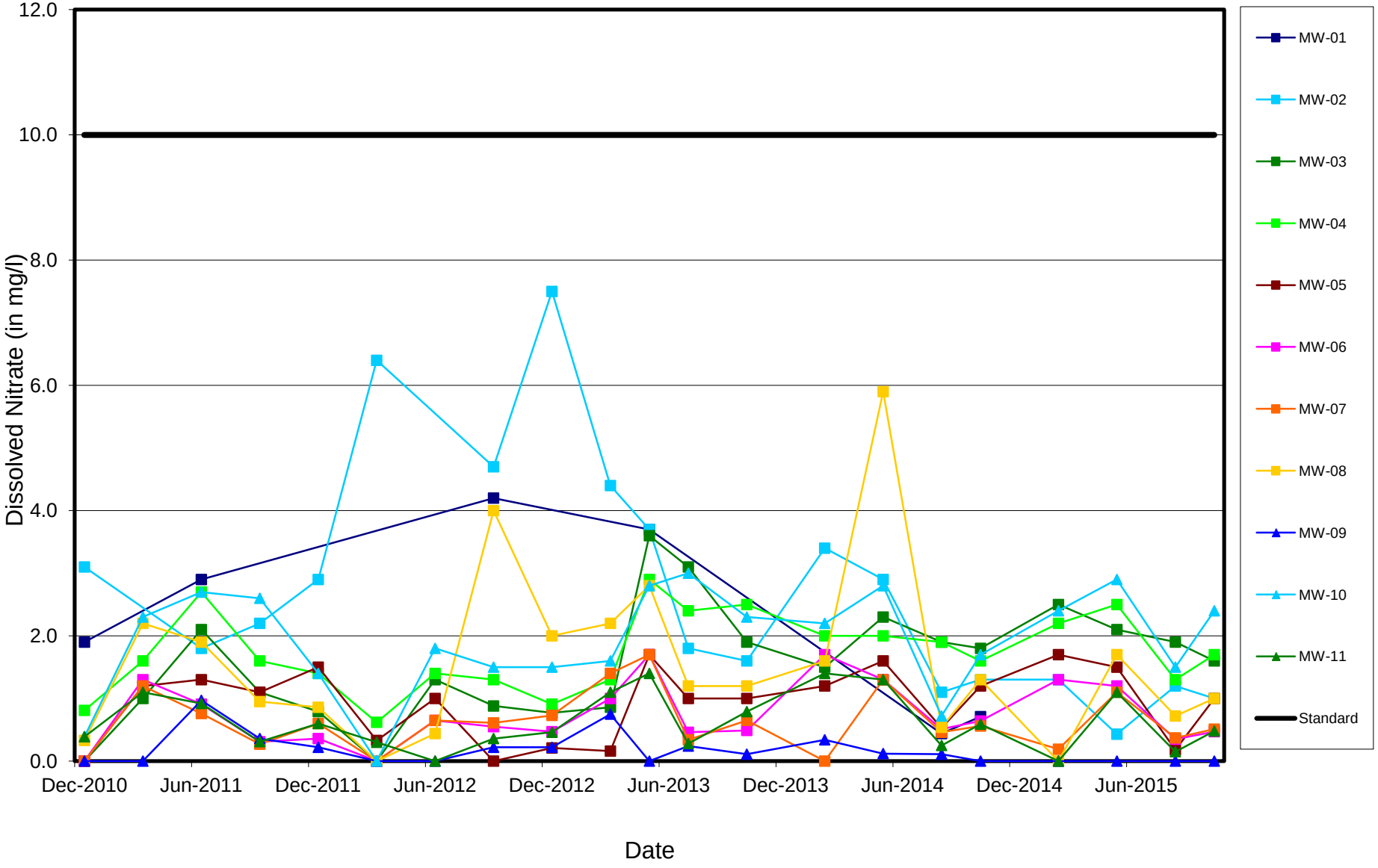
Dissolved Nickel vs. Time



MWG13-15_56423

Midwest Generation Joliet Station #29, Joliet, IL

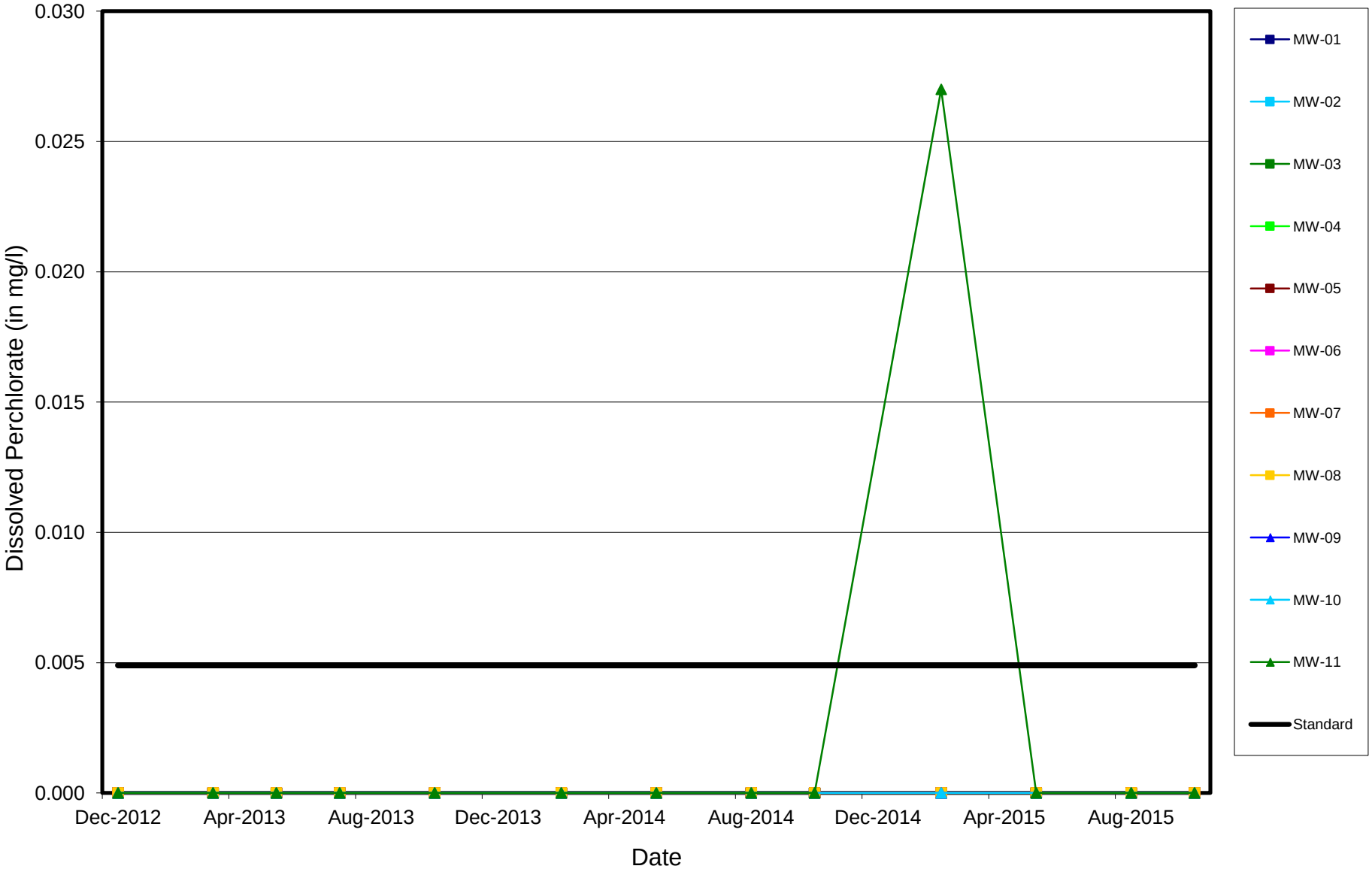
Dissolved Nitrate vs. Time



MWG13-15_56424

Midwest Generation Joliet Station #29, Joliet, IL

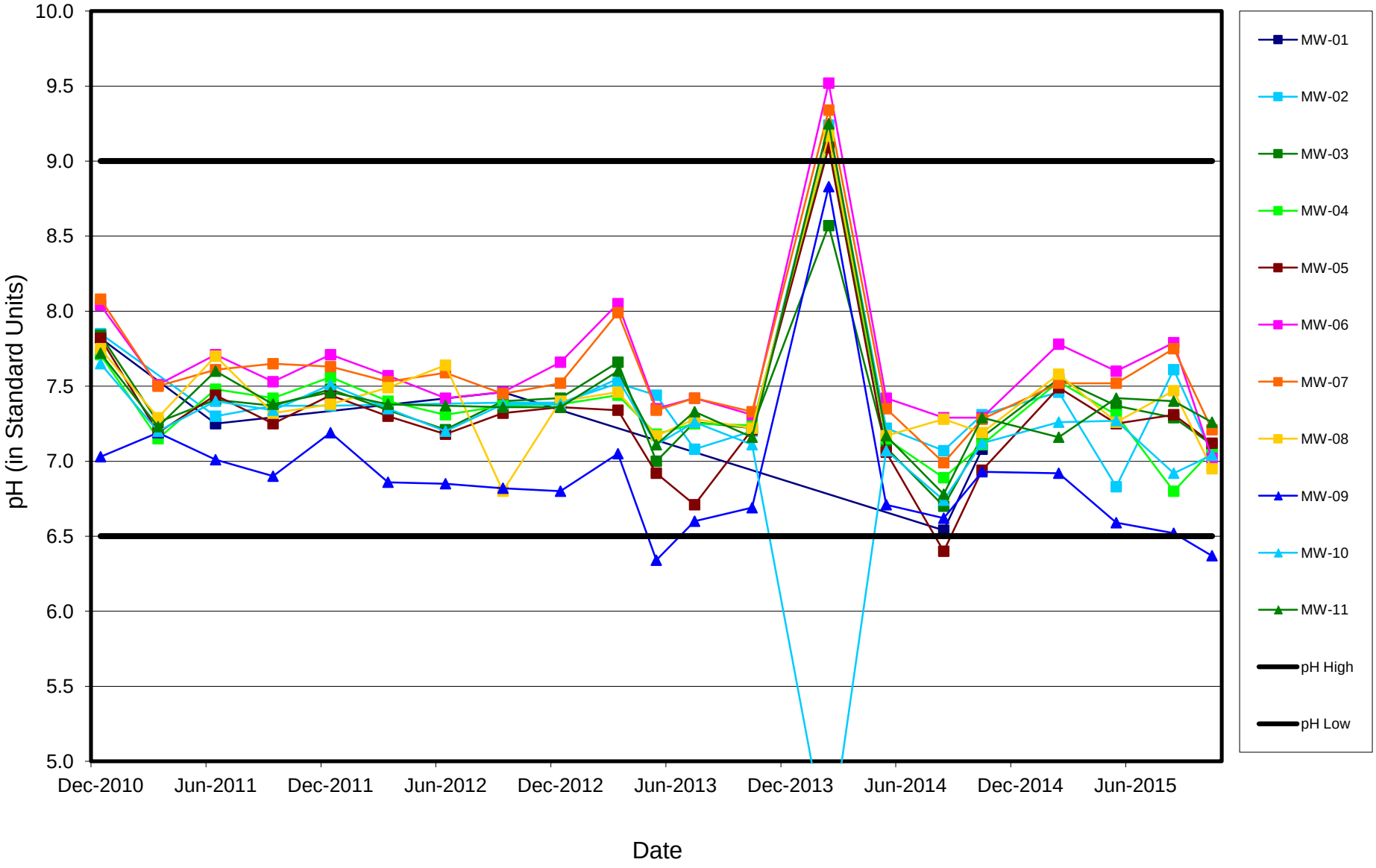
Dissolved Perchlorate vs. Time



MWG13-15_56425

Midwest Generation Joliet Station #29, Joliet, IL

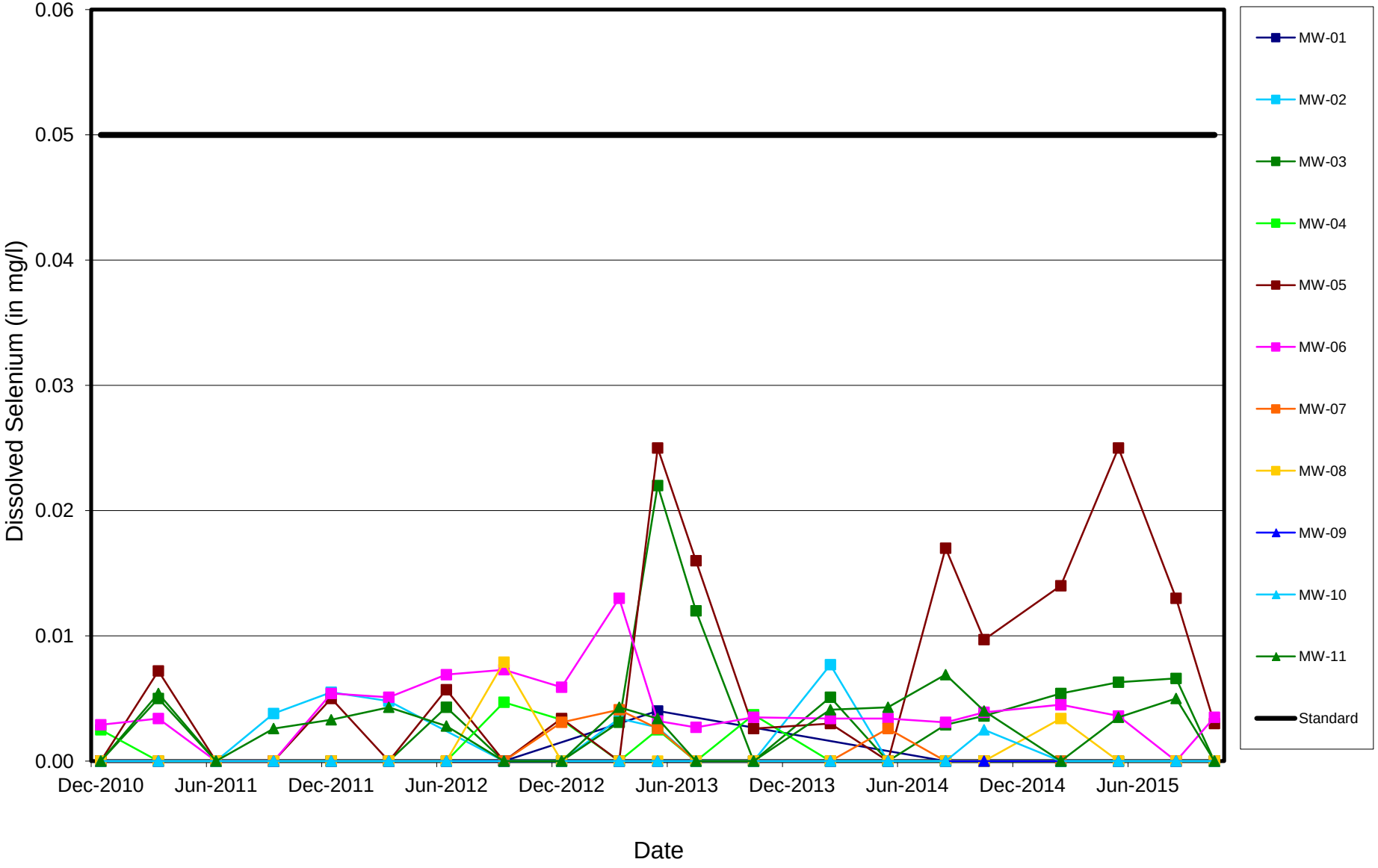
pH vs. Time



MWG13-15_56426

Midwest Generation Joliet Station #29, Joliet, IL

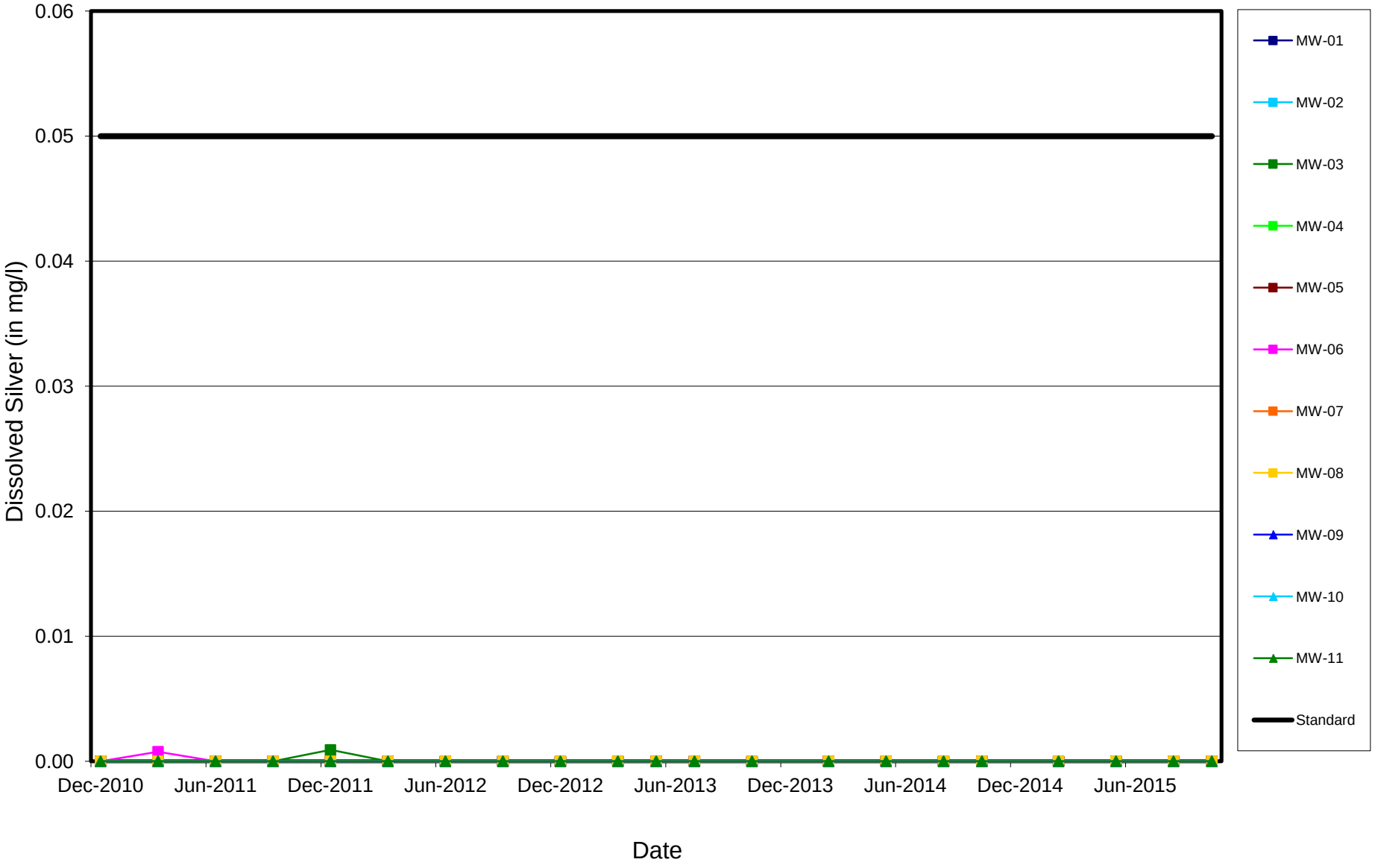
Dissolved Selenium vs. Time



MWG13-15_56427

Midwest Generation Joliet Station #29, Joliet, IL

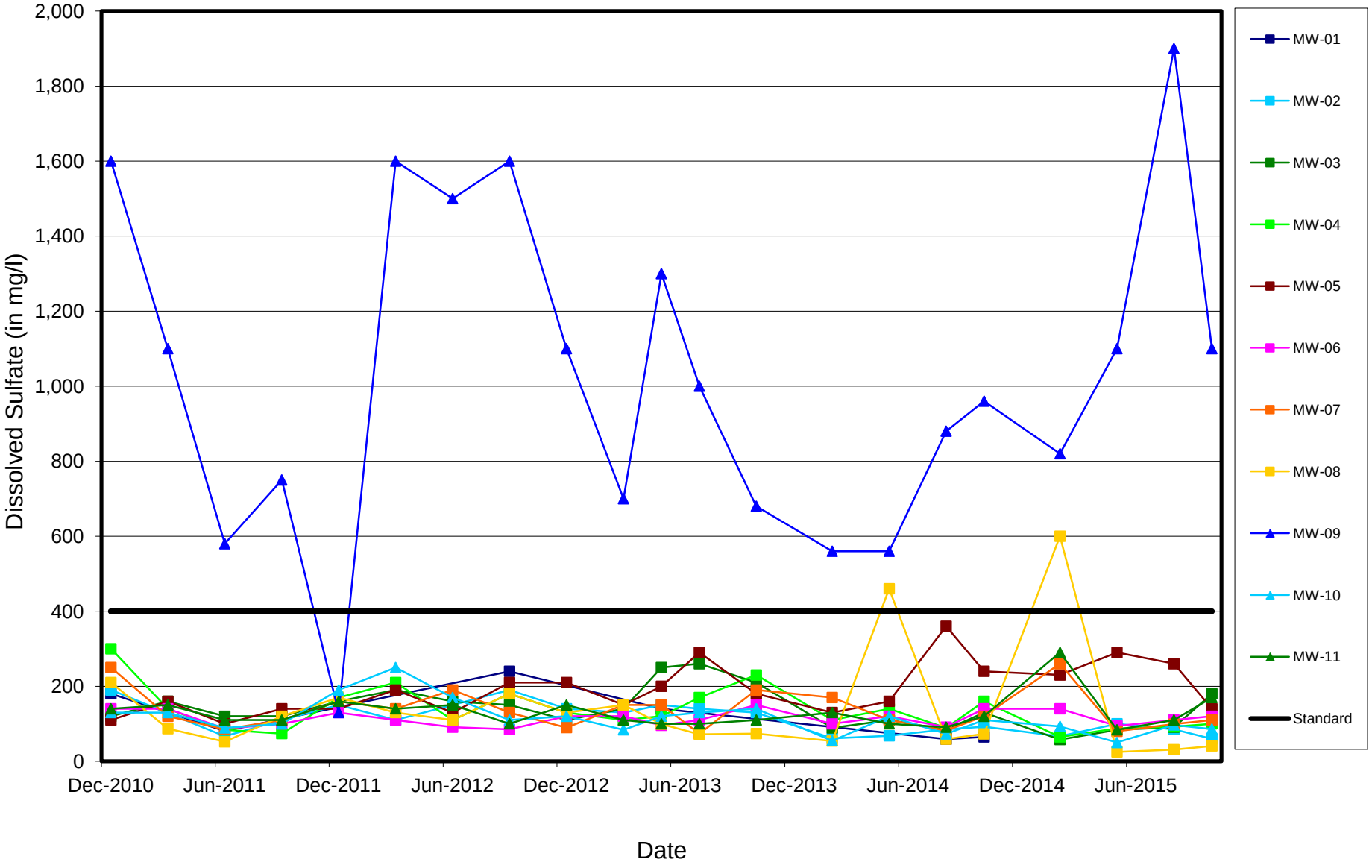
Dissolved Silver vs. Time



MWG13-15_56428

Midwest Generation Joliet Station #29, Joliet, IL

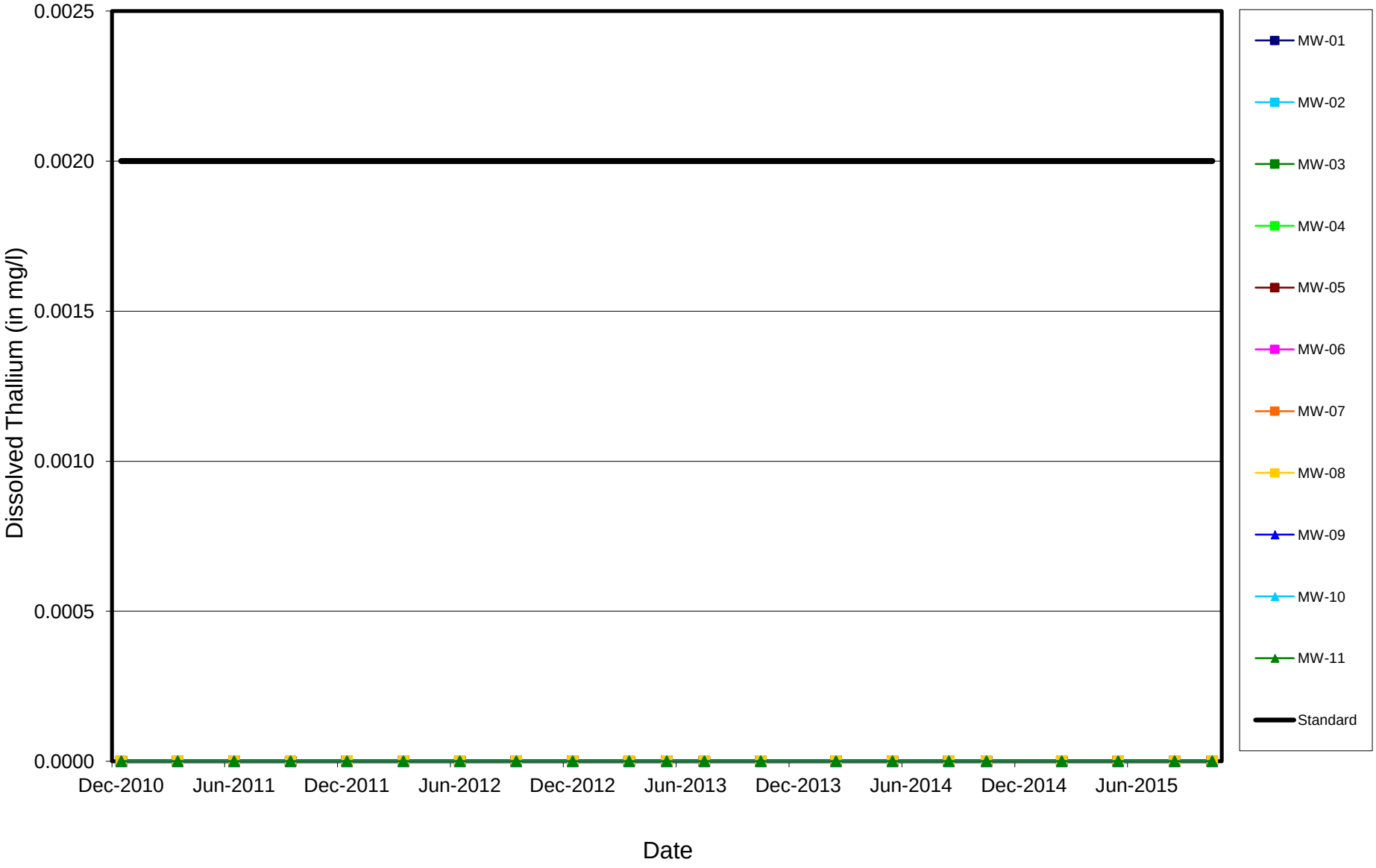
Dissolved Sulfate vs. Time



MWG13-15_56429

Midwest Generation Joliet Station #29, Joliet, IL

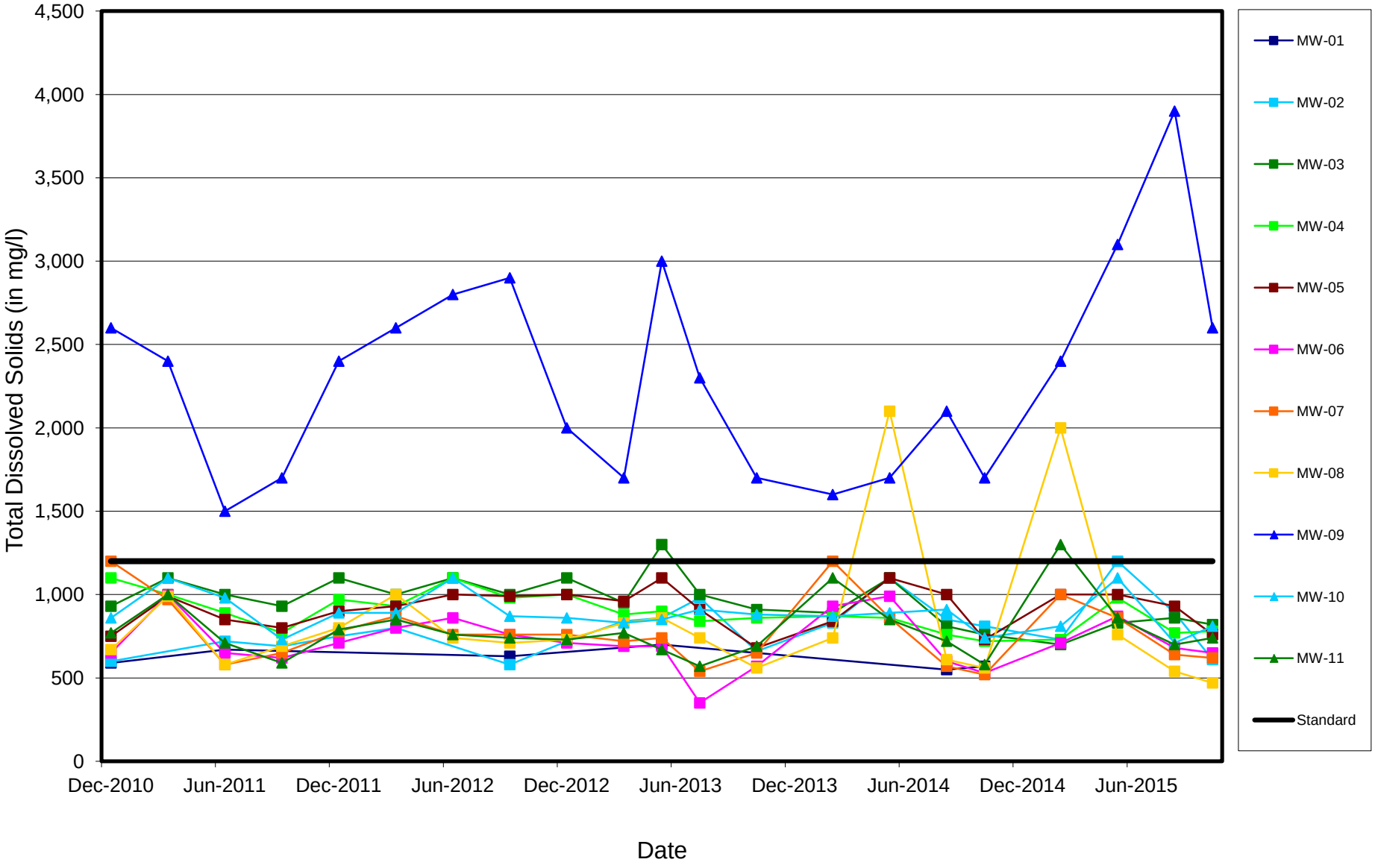
Dissolved Thallium vs. Time



MWG13-15_56430

Midwest Generation Joliet Station #29, Joliet, IL

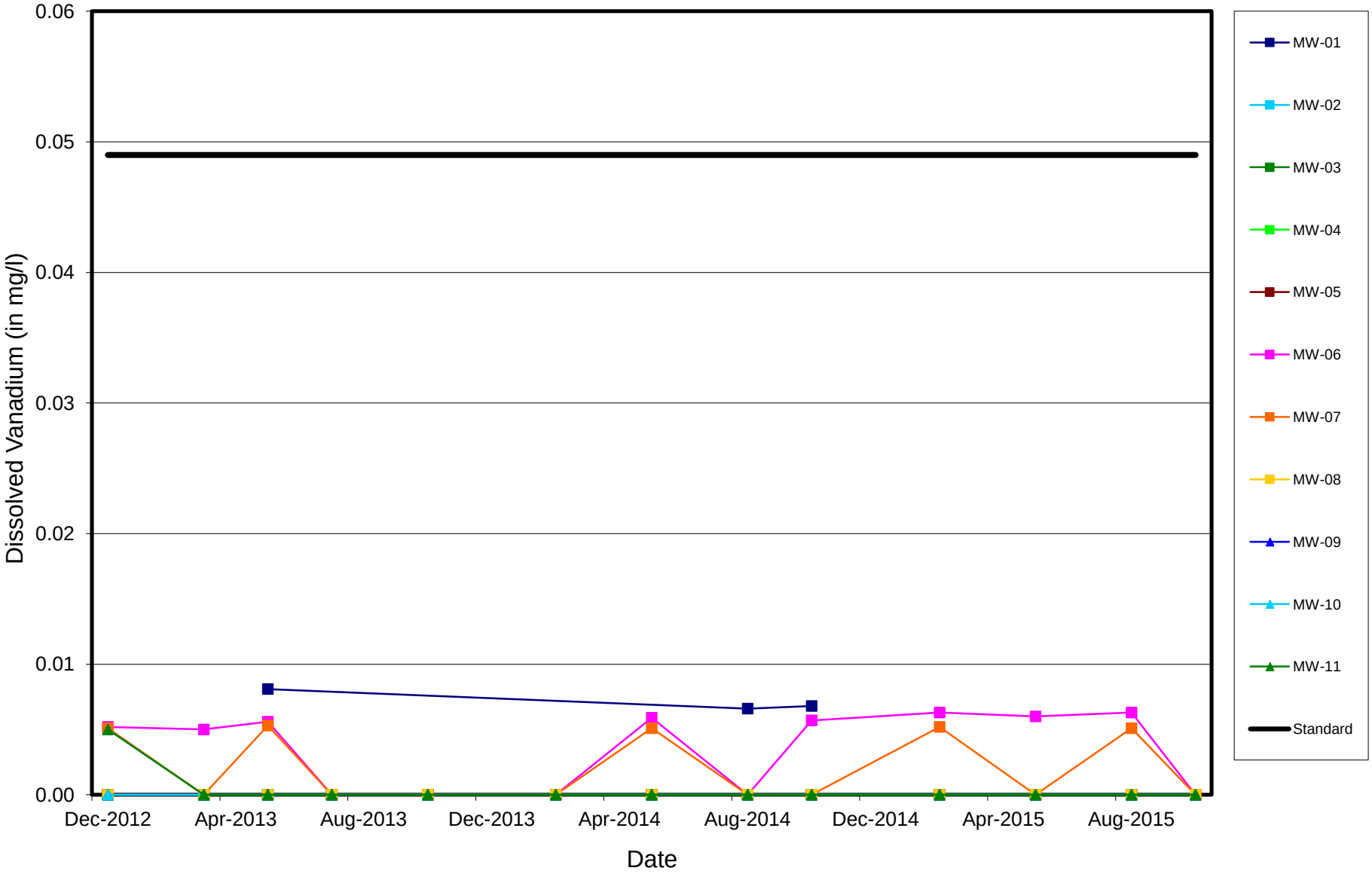
Total Dissolved Solids vs. Time



MWG13-15_56431

Midwest Generation Joliet Station #29, Joliet, IL

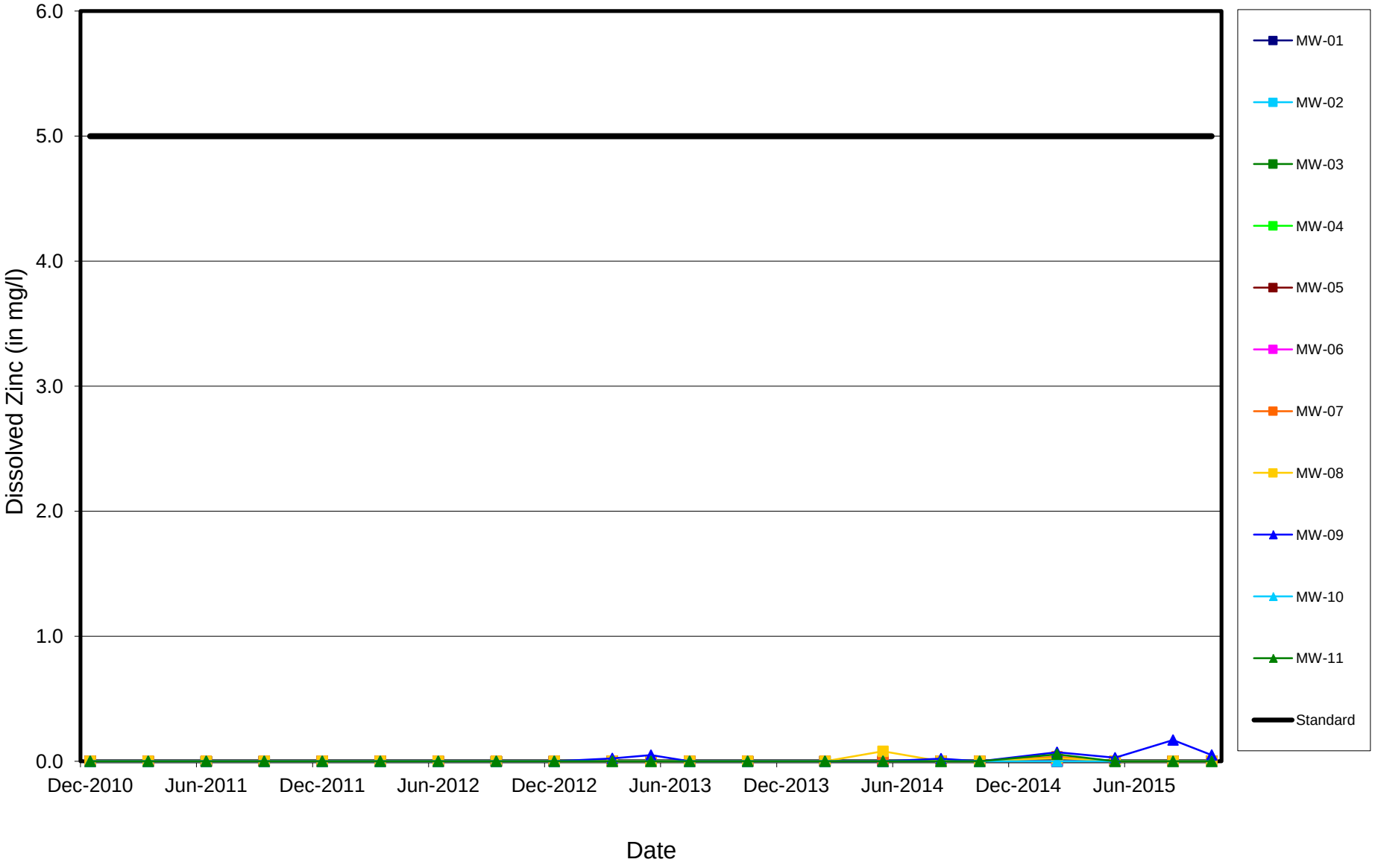
Dissolved Vanadium vs. Time



MWG13-15_56432

Midwest Generation Joliet Station #29, Joliet, IL

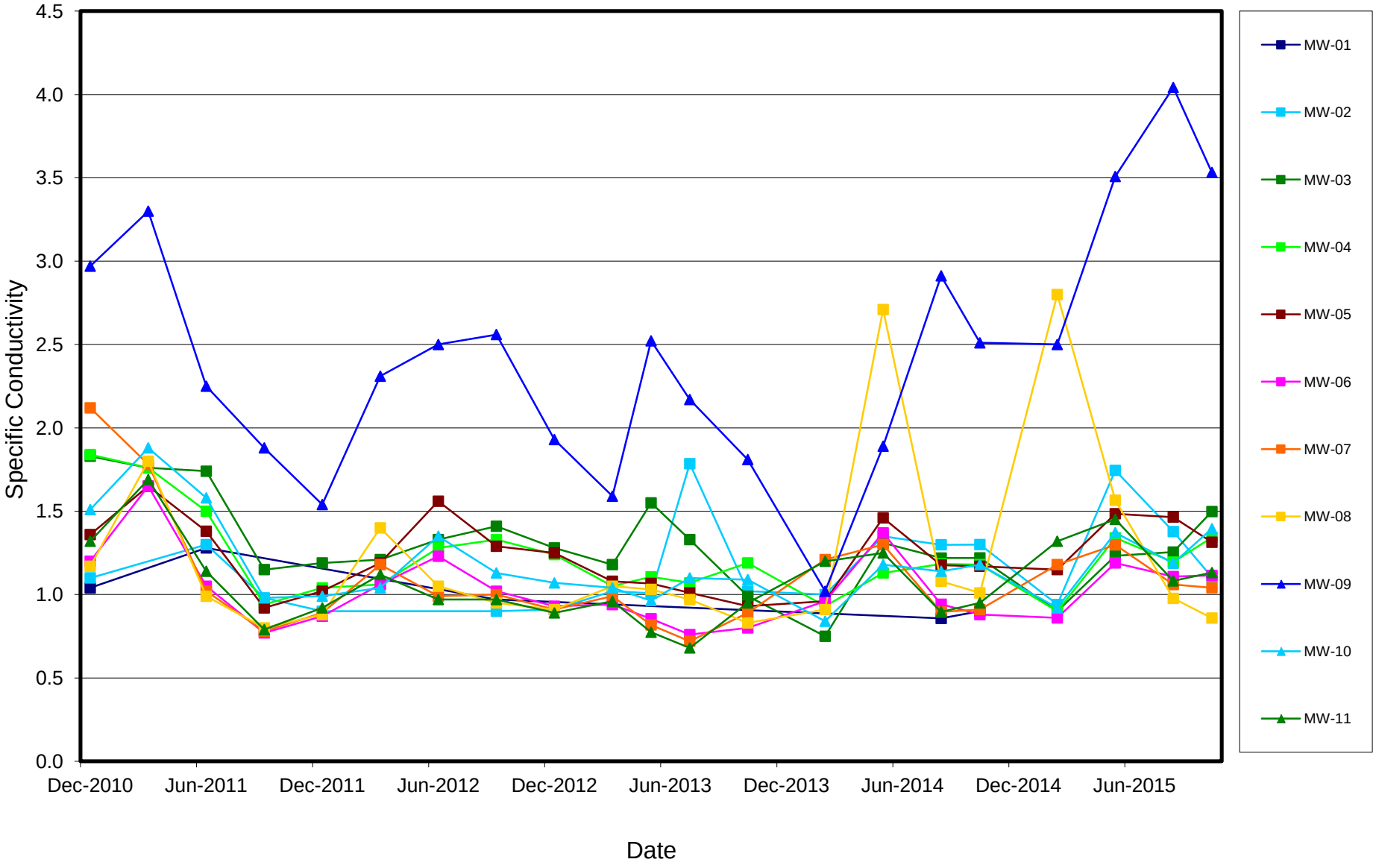
Dissolved Zinc vs. Time



MWG13-15_56433

Midwest Generation Joliet Station #29, Joliet, IL

Specific Conductivity vs. Time



MWG13-15_56434

Exhibit C12

Memorandum

ComEd

Date: April 4, 1995

To: B. A. Renwick

From: J. P. Smith JPM

Subject: The Abandoned Ash Landfill Area

In 1992, the abandoned ash landfill area located east of Joliet 29 was identified as a possible storm water discharge point, primarily due to exposed ash products. Subsequent sample collection taken during the storm water permitting process indicated that there was, indeed, moderate contamination of the runoff caused by contact with this exposed ash. Ash exposure was initially caused by eroded topsoil. This erosion was accelerated as a result of a grass fire that left the soil unprotected. In the September 29, 1992 storm water permit application, we stated that the portion of the landfill suffering erosion would have topsoil reapplied and would then be reseeded to stabilize the area.

The above mentioned work was completed and the ash landfill area became a separate outfall in the Station's NPDES permit. Recently, it has been observed that further erosion of topsoil has occurred near the previous area, and that ash is again exposed to surface runoff.

Due to commitments made in the initial storm water permit application regarding site stabilization of the ash landfill, as well as the highly acidic runoff that has historically occurred when precipitation is exposed to ash in this area (e.g. pH = 2.38 when measured in 1992), we recommend that the station make provisions to re-stabilize this area as soon as possible. Remedial action should again include application of topsoil and reseeding.

Since we now have terrestrial biologist, Jon Keener, on our staff, we will be happy to provide comments to proposals or provide additional guidance with respect to proposed site stabilization plans at the station.

In the meantime, should you have questions concerning this matter, please contact Max Cole of my staff at G.O. extension 2829.

JPS/dc

cc: E. Briette
File: W-29-PER-H2

Exhibit C13

Date: **April 20, 1995**

To: **Dave Cohn**

From: **Elsie Briette**

Subject: **Abandoned Ash Landfill Area**

The abandoned ash landfill area located east of Joliet 29 was identified as an EPA storm water discharge point. Erosion is occurring in the top soil and the ash is exposed, causing highly acidic runoff to the river during precipitation (see Environmental Services letter dated April 4, 1995).

The cost for the remedial action to that area is approximately $27,000.00 (this estimate is based on a proposal that was obtained by the station from Allied Landscaping). Please contact me if you need additional information.

E.B.

EB/sjk

Attachment

cc: B.A. Renwick
R.J. Schneider
T.G. Kosmatka
B.D. Alltop

OE276

MWG13-15_25369

Exhibit C14

HYDROGEOLOGIC ASSESSMENT PLAN
JOLIET GENERATING STATION NO. 29
ROCKDALE, ILLINOIS

SUBMITTED BY:
MIDWEST GENERATION, LLC
235 REMINGTON BLVD, SUITE A
BOLINGBROOK, IL 60440

SUBMITTED TO:
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 N GRAND AVENUE EAST
SPRINGFIELD, IL 62702

PREPARED BY:
PATRICK ENGINEERING INC.
4970 VARSITY DRIVE
LISLE, ILLINOIS 60532

PATRICK PROJECT NO. 21053.026

JULY 2010

PATRICK
ENGINEERING

MWG13-15_13870

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1.2 Site Location 1

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2.3 Evaluation of Contaminant Migration Potential 3
2.3.1 Installation of Groundwater Monitoring Wells 4
2.3.2 Groundwater Sampling and Analytical Testing 4
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Figure 2 – Site Vicinity Map
Figure 3 – Proposed Monitoring Well Location Map

ATTACHMENTS
Attachment A - Well Spacing Calculations

MWG13-15_13871

1.0 INTRODUCTION

1.1 Background

The Illinois Environmental Protection Agency (Illinois EPA) has requested of various owners/operators of facilities which include ash impoundment ponds in Illinois that hydrogeologic conditions associated with these ponds be investigated and reported to the Illinois EPA. Midwest Generation, LLC (MWG) owns and operates several of these facilities in Illinois, including the Joliet Generating Station No. 29 in Rockdale, Illinois.

This document presents the Hydrogeologic Assessment (HA) Plan for the on-site ash impoundment areas at the Joliet No. 29 facility. This Plan was developed as the result of numerous communications between MWG and the Illinois EPA, the most recent being a meeting held at Illinois EPA's offices in Springfield, Illinois on June 10, 2010. During that meeting, a conceptual approach to completing hydrogeologic assessments of MWG's ash ponds at a number of sites (including Joliet No. 29) was presented by MWG and was conceptually agreed to by the parties. MWG subsequently agreed to submit the substance of the proposed investigative plans in written form to the Illinois EPA by mid-July 2010 for each of the relevant sites.

This HA Plan for the Joliet No. 29 facility describes the goals of the assessment, the specific scope items that will achieve this result, and a description of the contents of the final report of the assessment.

1.2 Site Location

The Joliet No. 29 facility (the Site) is located in Section 19, Township 35 North, Range 10 East, in the Village of Rockdale, Will County, Illinois. Figure 1 provides a Site Location Map.

Major features of the Site include a coal-fired power plant, coal piles, and three active ash ponds. Two of the ponds are lined with a high-density polyethylene (HDPE) while the third is lined with

12" of geo-composite pavement on the bottom; the total area of the three ash ponds is approximately 10 acres. Figure 2 shows the locations of the various ash ponds.

2.0 SCOPE OF WORK

2.1 Hydrogeologic Assessment Objectives

The Scope of Work for this HA has been developed based upon the overall objectives of the investigative program. These objectives were defined by the Illinois EPA in their original informational request, and have been incorporated by MWG into the specific scope of work developed for the Site:

1. Identification of Potable Well Use within 2,500 Feet of the Ash Pond Areas
2. Evaluation of the Potential for Contaminant Migration from the Ash Pond Areas
3. Characterization of Subsurface Hydrogeology

Each of these objectives are discussed in more detail below, along with the specific scope of work developed to achieve each of these objectives individually.

2.2 Identification of Potable Well Use

An investigation of potable water well use within 2,500 feet of the ash pond areas has already been completed for the Site. MWG submitted a letter to the Illinois EPA with the results of this investigation in July 2009. The results of this investigative effort will also be incorporated in the final report of the HA to be submitted to the Illinois EPA after the assessment of the Site is complete.

2.3 Evaluation of Contaminant Migration Potential

Illinois EPA has requested that an evaluation of the potential for contaminant migration from the ash pond areas be performed, in accordance with the groundwater non-degradation standard of IAC Part 620, Subpart C. Evaluation of the non-degration standard will required the installation and sampling of monitoring wells located both up- and downgradient of the relevant ash ponds. These investigative tasks are described briefly below.

2.3.1 Installation of Groundwater Monitoring Wells

MWG will install eleven (11) permanent groundwater monitoring wells spaced approximately 150 feet apart around the perimeter of the ash disposal ponds. The well locations have been selected so that both up and downgradient wells are represented. The spacing of the well locations at the Site has been calculated so that the downgradient well network would be very likely to intercept any groundwater plume emanating from a point source beneath the ash pond. Specific calculations of this well spacing can be found in Attachment A.

Three of the wells will be up-gradient of the ponds; the other eight wells will be down-gradient wells. Figure 3 shows the location of the proposed monitoring wells. The well borings will be advanced using hollow-stem augers to an approximate depth of 20 feet below ground surface, so as to intersect with the groundwater table approximately 10 feet. Soil lithology will be inspected and logged by the geologist/engineer during the boring process. The final depth of the wells will be determined in the field by an experienced geologist/engineer based upon the depth that groundwater is encountered. Upon termination of the borings, a 2-inch diameter, PVC well will be installed in order to collect samples of the groundwater in the uppermost aquifer. The actual depth of the screened interval will be determined in the field. The wells will be completed to approximately 3 feet above grade with PVC casing and covered with a stick-up, steel well protector.

2.3.2 Groundwater Sampling and Analytical Testing

MWG will measure the groundwater elevation in each of the ten wells and collect pH and conductivity measurements using a portable meter. Groundwater samples will be collected from each of the wells with a peristaltic pump, using low-flow sampling techniques. The groundwater samples will be filtered in the field using a disposable, 0.45µm, in-line filter to allow for the analytical testing of dissolved compounds. The samples will be immediately placed on ice in a cooler and kept at a temperature of no higher than 4° F. The samples will be transported to

TestAmerica, an Illinois-EPA accredited analytical laboratory, under strict chain-of-custody procedures.

The analytical laboratory will test groundwater samples from each of the wells for the compounds listed in Table 1. Proposed analytes include the inorganic compounds listed in IAC 620.410(a), excluding radium and poly-aromatic hydrocarbons (PAHs) listed in IAC 620.410(b).

2.4 Characterization of Subsurface Hydrogeology

The subsurface hydrogeology beneath the ash pond areas will be characterized by determining Site lithology (determined during the installation the wells), and the groundwater flow patterns in the vicinity of the ash ponds. In order to determine the local groundwater flow patterns, information will be collected with respect to local hydraulic gradients and permeability, as described in the sections below.

2.4.1 Topographic and Water Elevation Surveys

A survey crew will measure the top-of-casing and ground surface elevations of all installed monitoring wells as well as groundwater elevations within each of the monitoring wells. The survey crew will concurrently measure the water elevation in all of the ash ponds and the Des Plaines River. This data will assist MWG in determining the hydrogeologic flow characteristics of the Site. The survey data will also assist MWG in constructing geologic cross-sections of the Site.

2.4.2 Hydraulic Testing of Selected Wells

MWG will develop all wells using either a down-hole or peristaltic pump or by hand bailing until the at least three well volumes have been removed or the removed water appears clear. Five of the eleven wells will be selected for hydraulic conductivity testing using rising- and falling-head slug tests. Each slug test will be performed by inserting a 'slug' into the well, displacing the water in the well. A down-hole water level measuring and recording device will measure the

rate at which the water level returns to its static level. The slug will then be removed from the well, lowering the water level in the well. MWG will again measure the rate at which the water level recovers to its static level. This data will allow MWG to calculate the hydraulic conductivity of the uppermost aquifer at the Site.

2.5 Assessment Reporting

MWG will develop a summary report detailing the field methods employed and results of the assessment investigation. This report will include soil boring logs and monitoring well construction diagrams, geologic cross-sections, analytical data tables, hydraulic conductivity testing results, a potentiometric surface map, and a map detailing locations of nearby potable water wells. A proposed Table of Contents for this final report is shown below:

1. Introduction
2. Site Location and Regional Hydrogeology
3. Ash Pond Descriptions
4. Investigation Methodology
5. Investigation Results
    a. Results of Potable Water Use Investigation
    b. Groundwater Elevation Data
    c. Local Lithology
    d. Groundwater Analytical Results
    e. Permeability Testing Data
6. Conclusions of Hydrogeologic Assessment

FIGURES AND TABLES

TABLE 1
PROPOSED SAMPLING AND ANALYSIS PLAN
Midwest Generation, LLC
Joliet Generating Station No. 29
Rockdale, Illinois
July 2010

PARAMETER	NOTES
pH	Field Parameter
Specific Conductance	Field Parameter
Groundwater Depth	Field Parameter
Well Depth	Field Parameter
Boron[a]	Laboratory Parameter
Sulfate[b]	Laboratory Parameter
Iron[a]	Laboratory Parameter
Manganese[a]	Laboratory Parameter
Total Dissolved Solids[c]	Laboratory Parameter
Antimony[a]	Laboratory Parameter
Arsenic[a]	Laboratory Parameter
Barium[a]	Laboratory Parameter
Beryllium[a]	Laboratory Parameter
Cadmium[a]	Laboratory Parameter
Chloride[d]	Laboratory Parameter
Chromium[a]	Laboratory Parameter
Cobalt[a]	Laboratory Parameter
Copper[a]	Laboratory Parameter
Cyanide[a]	Laboratory Parameter
Fluoride[a]	Laboratory Parameter
Lead[a]	Laboratory Parameter
Mercury[e]	Laboratory Parameter
Nickel[a]	Laboratory Parameter
Nitrate as N[f]	Laboratory Parameter
Selenium[a]	Laboratory Parameter
Silver[a]	Laboratory Parameter
Thallium[a]	Laboratory Parameter
Zinc[a]	Laboratory Parameter

NOTES:

[a] Dissolved metals analyzed by SW-846 Method 6020

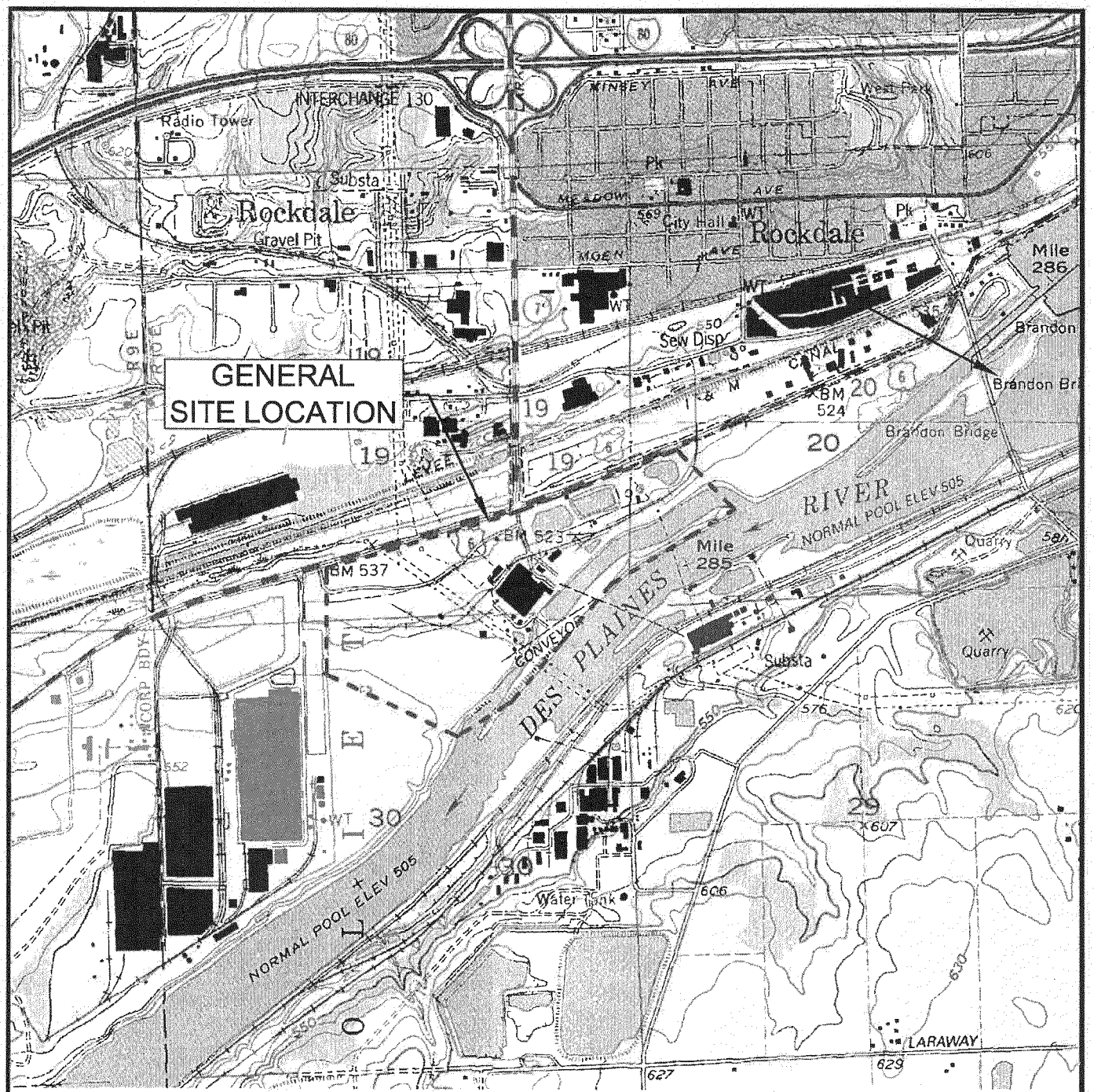
[b] Dissolved sulfate analyzed by SW-846 Method 9038

[c] Total dissolved solids analyzed by SW-846 Method 2540C

[d] Dissolved chloride analyzed by SW-846 Method 9251

[e] Dissolved mercury analyzed by SW-846 Method 7470A

[f] Dissolved nitrate analyzed by SW-846 Method 4500 NO2 and NO3



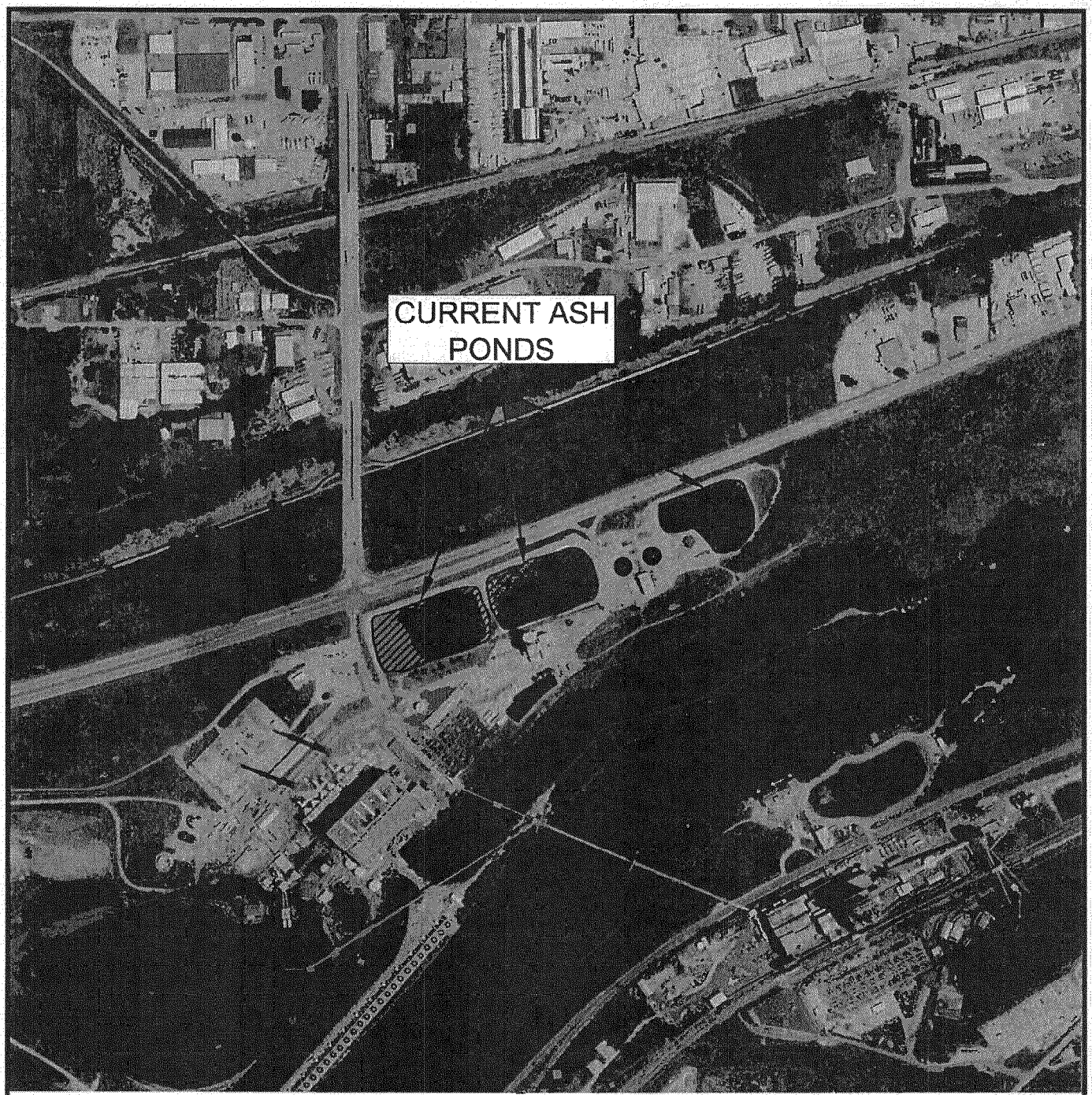
NOTE:
THIS DRAWING WAS PREPARED USING ILLINOIS' PLAINFIELD (1993), JOLIET (1993), CHANNAHON (1993), AND ELWOOD (1993) 7.5 MINUTE-SERIES TOPOGRAPHIC QUADRANGLE MAP.

N

1" = 2,000'

Date: JULY 2010	FIGURE 1 SITE LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 2B053.567	JOLIET STATION NO. 29 ROCKDALE, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_13880



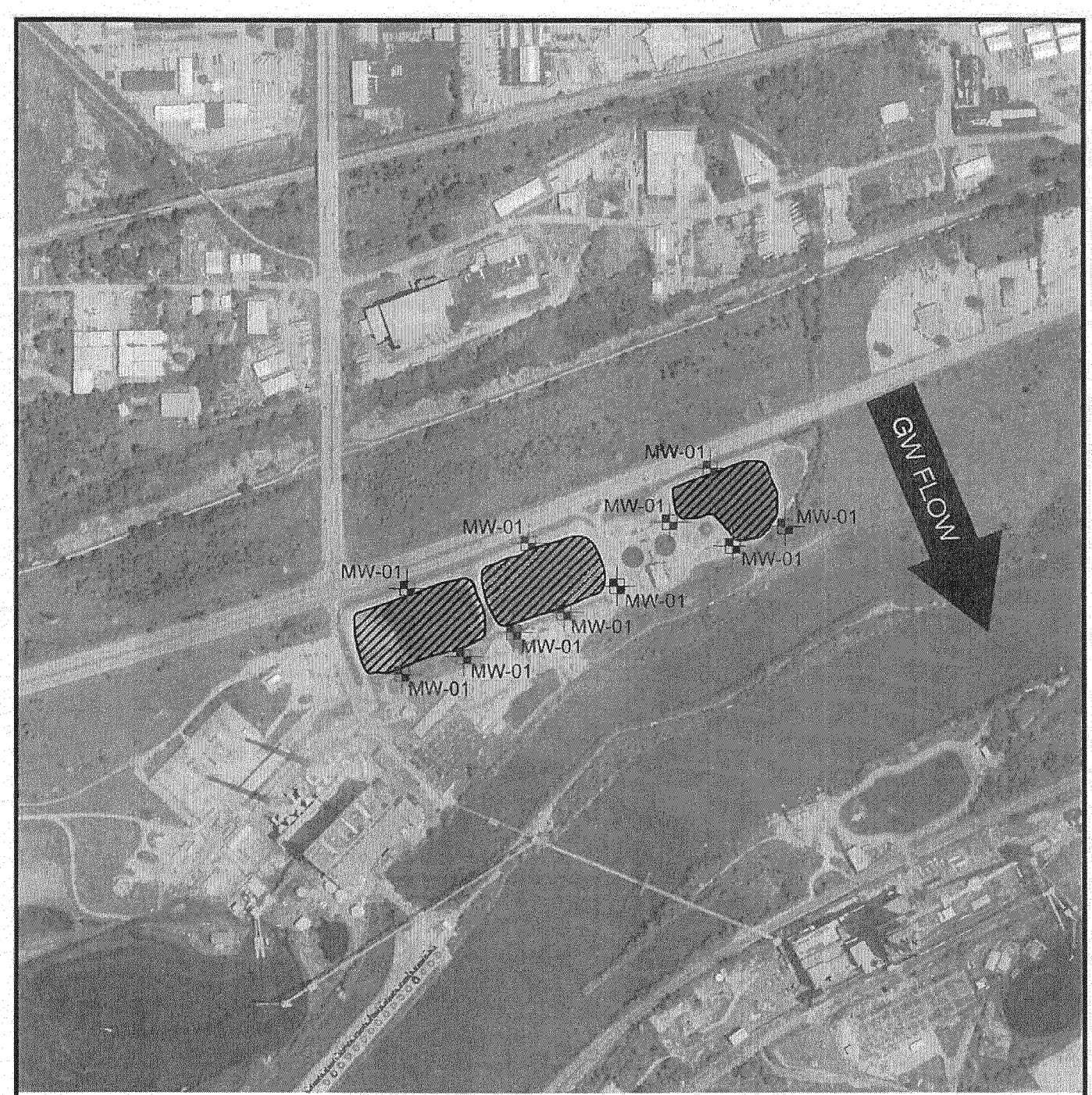
N

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

1" = 600'

Date: JULY 2010	FIGURE 2 SITE VICINITY MAP	PATRICK ENGINEERING INC.
Proj No.: 2B053.567	JOLIET STATION NO. 29 ROCKDALE, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681
App. By: RMF		PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409

MWG13-15_13881



LEGEND

MW-01 Proposed Monitoring Well Location

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

N

1" = 600'

Date: JULY 2010	FIGURE 3 PROPOSED MONITORING WELL LOCATION PLAN	PATRICK ENGINEERING INC.
Proj No.: 2B053.567	JOLIET STATION NO. 29 ROCKDALE, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_13882

ATTCHEMENT A
WELL SPACING CALCULATIONS

ATTACHMENT A
WELL SPACING CALCULATIONS

Purpose of Calculation

An estimate of the of theoretical contaminant plume widths at the Site was calculated in order to determine the appropriate number and spacing of monitoring wells around the ash pond(s) for the initial hydrogeologic assessments. The objective of this calculation is to determine the approximately well spacing of the downgradient monitoring well network, located 25 feet downgradient edge of the ash pond(s) which would result in the likely detection of a groundwater plume emanating from a point-source beneath the ash pond(s).

Methodology

The width of a contaminant plume is dependent upon the transverse dispersitivity of the aquifer (the mechanical mixing of a solute perpendicular to the direction of flow due to diverging flow paths at the pore scale). The coefficient of transverse dispersion can be estimated using the average linear velocity and the transverse dispersivity (which is estimated based upon the length of the flow path). The distribution of contamination in an ideal plume will follow a normal distribution; therefore, 99.7% of the mass of contamination should be contained within three standard deviations away from the center of mass, where the standard deviation is a function of the coefficient of transverse dispersion. (Fetter, 1999)

The process of calculating the theoretical plume widths and well spacing is presented below:

1. Determine the Darcy velocity (q) of the aquifer:

   $q = KI$, where:

   K = hydraulic conductivity of aquifer (estimated from soil/rock type)
   I = hydraulic gradient (calculated from groundwater elevations in Phase II reports for each site)

2. Determine the average linear velocity (v) of the aquifer:

   $v = q/n$, where

   q = Darcy velocity (from above)
   n = effective porosity (estimated from soil/rock type)

3. Determine the transverse dispersivity (α_T) of the aquifer:

   $\alpha_T = \alpha_X/3$ (from 35 IAC Part 742, Appendix C, Table C) where:

   α_X = longitudinal dispersivity = 0.10 * X, where:

   X = distance along the centerline of the plume from the source (X was measured from the approximate center of the ash pond(s) to a point 25 feet downgradient from the downgradient edge of the ash pond(s).)

4. Determine the coefficient of transverse dispersion (D_T):

   $D_T = \alpha_T * v + D^*$, where:

   α_T = transverse dispersivity (from above)

   v = average linear velocity (from above)

   D* = molecular diffusion (insignificant under most conditions, so not included in calculation, see Fetter, 1999)

5. Determine the standard deviation of the contaminant distribution normal to flow (σ_y):

   $\sigma_y = \sqrt{2D_T t}$, where:

   D_T = coefficient of transverse dispersion (from above)

   t = time for contaminant to travel from source to distance X = X/v

6. Determine the approximate well spacing:

   Spacing = $3\sigma_y$ (distance from center of plume to edge of plume normal to groundwater flow)

All of the equations are taken from *Contaminant Hydrogeology, 2nd Edition* by C.W. Fetter, 1999 except where noted.

Results

After applying the above equations using Site-specific input parameters (as shown in the following table), an approximate downgradient well spacing of 150 feet (rounded up from 140

feet) was found to be appropriate for a monitoring well network located 25 feet downgradient of the edge of the ash ponds.

Well Spacing Calculations Table

Calculations	Result	Units
$q = KI$	0.0001	ft/day
$v = q/n$	0.0014	ft/day
$\alpha T = \alpha X/3$	5.83	ft
$DT = \alpha T * v + D^*$	0.01	ft2/day
$\sigma y = \sqrt{2DTt}$	45.18	ft
Approximate well spacing	140	ft

Variables	Value	Source
K (ft/day)	0.456	literature value for soil type
I (ft/ft)	0.0003	from Phase II groundwater elevations
n (unitless)	0.1	estimated from soil type
X (feet)	175	measured from center of ash pond
$3\sigma y$	135.55	calculated

Exhibit C15

HYDROGEOLOGIC ASSESSMENT REPORT
JOLIET GENERATING STATION NO. 29
JOLIET, ILLINOIS

SUBMITTED BY:
MIDWEST GENERATION, LLC
235 REMINGTON BLVD, SUITE A
BOLINGBROOK, ILLINOIS 60440

SUBMITTED TO:
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 N GRAND AVENUE EAST
SPRINGFIELD, ILLINOIS 62702

PREPARED BY:
PATRICK ENGINEERING INC.
4970 VARSITY DRIVE
LISLE, ILLINOIS 60532

PATRICK PROJECT NO. 21053.070

FEBRUARY 2011

PATRICK ENGINEERING

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1.3 Regional Setting.....1

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Appendix B – Figure - Potable Wells Within 2,500 Feet (NRT – July 2009)
Appendix C – Laboratory Analytical Reports
Appendix D – Hydraulic Conductivity Testing Data

1.0 INTRODUCTION

1.1 Background

Pursuant to the request of the Illinois Environmental Protection Agency (Illinois EPA), this document presents the Hydrogeologic Assessment Report for the on-site ash pond areas at the Midwest Generation, LLC (MWG) Joliet Generating Station No. 29 in Joliet, Illinois. This hydrogeologic assessment was performed in accordance with the Hydrogeologic Assessment Plan, approved by the Illinois EPA, dated September 3, 2010.

As defined by the Hydrogeologic Assessment Plan, the purpose of this investigation was to: (i) evaluate the potential, if any, for migration of ash-related constituents from the on-site ash ponds and to conduct monitoring for groundwater constituents regulated by the Illinois Part 620 groundwater standards, as requested by the Illinois EPA; (ii) characterize the subsurface hydrogeology; and (iii) identify potable well use within 2,500 feet of the ash ponds. The results of this investigation are described in this Hydrogeologic Assessment Report.

1.2 Site Location and Description

The Joliet No. 29 facility (the Site) is located in Section 19, Township 35 North, Range 10 East, in the City of Joliet, Will County, Illinois. Figure 1 provides a Site Location Map.

The Site includes three active ash ponds (Ash Pond 1, Ash Pond 2, and Ash Pond 3). Two of the ponds are lined with a high-density polyethylene (HDPE), while the third is lined with 12" of geo-composite material on the bottom; the total area of the three ash ponds is approximately 10 acres. Figure 2 shows the locations of the three ash ponds.

1.3 Regional Settng

The Site is located along the Des Plaines River just to the south of the city of Joliet. The surrounding land use is almost entirely industrial with some parcels of undeveloped land. It is important to note that industrial properties are located hydraulically upgradient of the Site.

Patrick Engineering Inc. (Patrick) conducted a review of publically available geological information from the Illinois State Geological Survey website. Based upon water well logs from the area, the geology beneath the Site consists of approximately 5-30 feet of sandy loam, underlain by Silurian Dolomite to approximately 176 feet below ground surface, and Maquoketa shale from approximately 176 to 241 feet below ground surface. The Maquoketa shale is generally considered to be an aquitard that separates the shallow groundwater in the unconsolidated units and the Silurian dolomite from the underlying aquifers.

Groundwater flow in the shallow, unconsolidated aquifer should be largely controlled by the Des Plaines River with groundwater flowing towards the river during most periods of the year. Groundwater flow in the deeper aquifers is controlled by the regional hydraulic gradient in these aquifers, which is to the northeast. The Site lies within the Joliet Depression, which is a cone of depression of the groundwater surface caused by the large withdrawals of the groundwater from the deeper aquifers due to industrial and municipal use in the area.

2.0 HYDROGEOLOGIC ASSESSMENT METHODOLOGY

The following sections present the methodologies used to evaluate the potential for migration of ash-related constituents from the ash ponds and to monitor for all Part 620-regulated constituents, to characterize the subsurface hydrogeology, and to identify potable well use within 2,500 feet of the Site.

2.1 Evaluation of Ash-Related Constituent Migration Potential

The Illinois EPA requested that an evaluation of the potential for migration of ash-related constituents from the ash ponds and that monitoring for all Part 620-regulated constituents be performed in accordance with the groundwater standards included in 35 Illinois Administrative Code (IAC) Part 620, Subparts C and D. Accordingly, groundwater monitoring wells were installed at the Site in locations both upgradient and downgradient of the three ash ponds.

2.1.1 Installation of Groundwater Monitoring Wells

Patrick installed eleven (11) groundwater monitoring wells spaced approximately 150 to 300 feet apart around the perimeter of the ash ponds. The well locations were selected so that both upgradient and downgradient wells were represented, based upon available data regarding the expected groundwater flow direction. The spacing of the well locations at the Site along the downgradient edge of the ash ponds was calculated so as to detect a groundwater plume emanating from a point source beneath the ash ponds. Figure 3 shows the location of the eleven monitoring wells.

Three of the installed monitoring wells are located upgradient of the ash ponds; the additional eight wells are located downgradient of the ash ponds. The well borings were advanced using hollow-stem augers to depths ranging from 27.5 to 42 feet below ground surface (bgs). Borings were terminated after the field geologist determined that the boring was installed approximately 10 feet past the first intersection of the groundwater table in order to ensure that a representative

groundwater sample could be obtained. Upon termination of each boring, a 2-inch diameter, PVC well was installed in order to collect samples of the groundwater in the uppermost aquifer. The monitoring wells were completed to approximately 3 feet above grade, with PVC casing, and were covered with a stick-up, steel well protector with a locking cap. Soil lithology was inspected and logged by an experienced geologist during the boring process. Boring logs with well construction information are included as Appendix A.

2.1.2 Initial Groundwater Sampling and Analytical Testing

The groundwater sampling event for the Site took place on December 6, 2010. The groundwater elevation in each of the eleven wells was measured prior to sampling. For all but one of the eleven wells, MW-09, the depth to groundwater was outside the effective range of the peristaltic pump. Groundwater samples were collected from MW-09 with a peristaltic pump, using established low-flow sampling techniques. For the remaining ten (10) wells, groundwater samples were collected using a disposable polyethylene bailer; a different bailer was used for each well to prevent cross-contamination. Each well was purged until at least three well volumes had been extracted or until the groundwater was observed to be clear. Groundwater was then baled into a decontaminated, stainless steel container and thereafter transferred to the sampling containers via peristaltic pump. Temperature, pH, and conductivity measurements were taken using a portable meter in all wells; refer to Table 1 for these field parameter results. All groundwater samples were filtered in the field using a disposable, 0.45µm, in-line filter to allow for the analytical testing of dissolved compounds. The samples were immediately placed on ice in a cooler and kept at a temperature no higher than 4º F. The samples were transported to TestAmerica, an Illinois-EPA accredited analytical laboratory, in accordance with chain-of-custody procedures to maintain the integrity of the samples.

The analytical laboratory tested groundwater samples from each of the wells for the compounds listed in Table 2. Analytes tested include the inorganic compounds listed in 35 IAC 620.410(a), excluding both radium and the poly-aromatic hydrocarbons (PAHs) listed in 35 IAC 620.410(b).

2.2 Characterization of Subsurface Hydrogeology

The subsurface hydrogeology beneath the ash ponds was characterized by determining Site lithology and the groundwater flow patterns in the vicinity of the ash ponds as described below.

2.2.1 Site Lithology

The Site lithology was determined by logging soil samples collected from the soil borings created during the installation of the groundwater monitoring wells. The soil borings were installed under the direction of an experienced geologist. Each boring was sampled at 2-foot intervals using a 2-inch O.D. split-spoon sampler (ASTM D 1586). Each soil sample was inspected and logged by the geologist during the boring process. Boring logs with well construction information are provided as Appendix A.

2.2.2 Topographic and Water Elevation Surveys

A survey crew measured both the top-of-casing and ground surface elevations of all installed monitoring wells and the groundwater elevations within each of the monitoring wells on December 6, 2010. The survey crew concurrently measured the water elevation in two of the three of the ash ponds and the Des Plaines River. The water surface of Ash Pond 2 was inaccessible the day of the survey due to a low water elevation in the pond. However, the remaining groundwater elevation data collected from the Site was sufficient in determining groundwater flow characteristics for the purposes of this assessment.

2.2.3 Hydraulic Testing of Selected Wells

Patrick conducted four *in situ* hydraulic conductivity tests on wells MW-4, MW-6, MW-9, and MW-11 on December 21, 2010. The testing consisted of one rising-head and one falling-head slug test performed at each well. Using a data-logging pressure transducer, Patrick measured the rate of groundwater level recovery in the wells after either inserting a slug into, or removing a slug from, each monitoring well.

2.3 Identification of Potable Well Use

Natural Resource Technology, Inc. (NRT) has previously completed an investigation of potable water well use within 2,500 feet of the Joliet No. 29 ash ponds. MWG submitted the results of this investigation to the Illinois EPA by letter dated July 15, 2009. These results are summarized in Appendix B.

The following databases and sources of information were used in order to identify local community water sources and water well locations in the vicinity of the Site:

- Illinois State Geological Survey (ISGS) -Water Well Database Query;
- Illinois State Water Survey (ISWS) Private Well Database and water well construction report request; and
- Illinois Division of Public Water Supply web-based Geographic System (GIS) files.

3.0 HYDROGEOLOGIC ASSESSMENT RESULTS

3.1 Evaluation of Ash-Related Constituent Migration Potential

The analytical laboratory results for the hydrogeologic assessment are presented in Table 2. Full laboratory data packages from TestAmerica are provided as Appendix C. Antimony, chloride, manganese, sulfate, and total dissolved solids (TDS) were detected in one or more monitoring wells at concentrations exceeding the Part 620 Class I Groundwater Quality Standards. In some cases, the highest concentrations of a given compound were found in the upgradient wells. Beryllium, cadmium, chromium, cyanide, iron, lead, mercury, silver, thallium, zinc, and nitrogen/nitrite were not detected in any of the groundwater samples.

A determination of the potential for the individual ash ponds to be contributing to the distribution of analytes in the underlying groundwater and the extent, if any, of such contribution cannot be made from the results of this single sampling event alone. To develop a true, statistically-significant upgradient background concentration for the various compounds will require a number of sequential sampling events over time. Based on a statistically-developed background value, downgradient concentrations can be compared to the background value over time to determine the likelihood and extent of any constituent migration from the on-site ash ponds. A plan to develop such an analytical database through additional sampling is presented in the last section of this report.

3.2 Characterization of Subsurface Hydrogeology

The lithology of the Site is predominantly sand and gravel with intermittent seams of clay and gravel. Auger refusal was encountered throughout the Site at depths ranging from 35 to 42 feet below ground surface. Split spoon samples from these depth returned fragments of limestone, indicating the top of the bedrock layer. Refer to Figure 4 for a geologic cross-section of the Site.

The results of the topographic and water elevation surveys are presented in Table 3.

The uppermost groundwater unit at the Site is found at depths ranging from 29 to 34 feet bgs. The direction of groundwater flow is to the south towards the Des Plaines River, which runs along the southern boundary of the Site. The hydraulic gradient is approximately 0.0009 based upon the groundwater elevation data collected on December 6, 2010. A potentiometric surface map is provided as Figure 5.

Patrick used the hydraulic testing data to calculate the hydraulic conductivity of the uppermost aquifer using the Bouwer and Rice method. Hydraulic conductivity calculations are provided in Appendix D. The hydraulic conductivity of Site soils ranged from 1.948×10^{-3} to 6.949×10^{-3} ft/second. The average hydraulic conductivity was 3.896×10^{-3} ft/second. Using the highest calculated hydraulic conductivity and the measured hydraulic gradient, Patrick calculated the maximum groundwater velocity to be approximately 0.30 ft/day (3.896×10^{-3} ft/sec x 0.0009 x 60 sec/min x 60 min/hour x 24 hours/day).

3.3 Identification of Potable Well Use

As stated above, NRT has previously completed an investigation of potable water well use within 2,500 feet of the Joliet No. 29 ash ponds. MWG submitted the results of this investigation to the Illinois EPA by letter dated July 15, 2009. According to this letter, seventeen potable/industrial use wells are located within a 2,500-foot radius of the Site's ash ponds (refer to Appendix B.) However, most of these wells are screened in much deeper aquifers. Only two of the wells (Numbers 19 and 4) are located downgradient from the ash impoundments. Both of these industrial use wells are owned by MWG, and are drilled at 1,525 feet below ground surface and are screened below the Maquoketa shale, a significant aquitard separating shallower aquifers from the screened interval of the MWG wells.

4.0 LONG-TERM MONITORING PLAN

In order to properly assess the groundwater monitoring data collected in this single sampling event, MWG will conduct a quarterly groundwater sampling program in which the same monitoring wells described in this report will be sampled for the identical analyte list employed during this investigation. MWG proposes to begin this quarterly monitoring program in March 2011, and will submit the results of the sampling program to the Illinois EPA on an ongoing, quarterly basis. MWG proposes to continue this program until sufficient statistically-significant data is available to properly assess the groundwater data. If the quarterly sampling results continue to show non-detect results for certain of the analytes, as was the case in this single sampling event, MWG may propose to Illinois EPA that these analytes be eliminated from future sampling events.

Table 1
GROUNDWATER FIELD PARAMETER DATA
Joliet #29 Station, Joliet, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

Groundwater Field Paramter Data - Joliet # 29 Station

Monitoring Well	Date	Time	Conductance (S/cm)*	Temperature °C	pH
MW-01	12/6/2010	14:20	1.04	7.52	7.82
MW-02	12/6/2010	13:41	1.10	9.30	7.85
MW-03	12/6/2010	10:14	7.83	10.91	7.84
MW-04	12/6/2010	10:55	1.84	10.69	7.71
MW-05	12/6/2010	11:40	1.36	8.86	7.82
MW-06	12/6/2010	9:26	1.20	8.53	8.04
MW-07	12/6/2010	8.53	2.12	9.72	8.08
MW-08	12/6/2010	14:52	1.17	12.70	7.75
MW-09	12/6/2010	11:00	2.97	11.94	7.03
MW-09	12/6/2010	11:03	2.93	12.57	6.99
MW-09	12/6/2010	11:06	2.94	12.51	6.97
MW-09	12/6/2010	11:09	2.97	12.24	7.01
MW-09	12/6/2010	11:12	2.99	11.57	7.03
MW-10	12/6/2010	15:17	1.51	9.26	7.65
MW-11	12/6/2010	15.54	1.32	11.97	7.72

Notes:

* (S/cm) = Specific Conductivity measured in Seconds/Centimeters

Table 2
GROUNDWATER ANALYTICAL RESULTS
Joliet Station #29, Illinois
Midwest Generation
21053.070
February 28, 2011

Chemical Name	Sample Analysis Method	Groundwater Remediation Objective (mg/L) Class I*	MW-1 mg/L 12/6/10	MW-2 mg/L 12/6/10	MW-3 mg/L 12/7/10	MW-4 mg/L 12/7/10	MW-5 mg/L 12/7/10	MW-6 mg/L 12/7/10	MW-7 mg/L 12/7/10
Antimony	Metals 6020	0.006	0.0043	**0.012**	0.004	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.0011	ND	ND	ND	ND	ND	0.001
Barium	Metals 6020	2.0	0.13	0.082	0.089	0.065	0.061	0.075	0.13
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	0.0013	ND	ND	ND	ND
Copper	Metals 6020	0.65	0.0032	0.0032	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	ND	ND	0.1	**0.33**	0.0065	0.14	**0.29**
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.0034	0.0033	0.011	0.0067	ND	0.0056	0.0045
Selenium	Metals 6020	0.05	ND	ND	ND	0.0025	ND	0.0029	ND
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	0.31	0.31	0.24	0.46	0.42	0.32	0.51
Sulfate	Dissolved 9038	400	180	190	120	300	110	140	250
Chloride	Dissolved 9251	200	140	140	**260**	**270**	150	130	**430**
Nitrogen/Nitrate	Nitrogen By calc	10	ND	3.1	ND	0.81	ND	ND	ND
Total Dissolved Solids	Dissolved 2540C	1,200	590	600	930	1100	750	650	1200
Fluoride	Dissolved 4500 FC	4	0.45	0.62	0.43	0.49	0.4	0.4	0.36
Nitrogen/Nitrite	Dissolved 4500 NO2	NA	ND	ND	ND	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	NA	1.9	3.1	ND	0.81	ND	ND	ND

Notes:
Class I Groundwater Standards from 35 IAC Part 620
Bold Values areas exceed groundwater objectives
mg/L = Milligrams per Liter
ND-non detect

-Determination of the potential for the individual ash ponds to be contributing to the distribution of analytes in the underlying groundwater cannot be made from the results of this single sampling event alone. To develop a true, statistically-significant upgradient background concentration for the various compounds will require a number of sequential sampling events over time. After a statistically developed background value is available, the downgradient concentrations can be compared to this background value over time to determine the likelihood of contaminant migration from the on-site ash ponds. A plan to develop such an analytical database through additional sampling is discussed in the last section of this report.

Table 2
GROUNDWATER ANALYTICAL RESULTS
Joliet Station #29, Illinois
Midwest Generation
21053.070
February 28, 2011

Chemical Name	Sample Analysis Method	Groundwater Remediation Objective (mg/L)	MW-8 mg/L	MW-9 mg/L	MW-10 mg/L	MW-11 mg/L
		Class I*	**12/6/10**	**12/6/10**	**12/6/10**	**12/6/10**
Antimony	Metals 6020	0.006	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	ND	ND	ND	0.0013
Barium	Metals 6020	2.0	0.0054	0.031	0.05	0.064
Beryllium	Metals 6020	0.004	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	0.0047	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	ND	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND
Manganese	Metals 6020	0.15	0.0051	**1.1**	0.12	0.052
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.0025	0.0094	0.0052	0.0022
Selenium	Metals 6020	0.05	ND	ND	ND	ND
Silver	Metals 6020	0.05	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND
Boron	Metals 6020	2	0.29	0.36	0.5	0.47
Sulfate	Dissolved 9038	400	210	**1600**	130	140
Chloride	Dissolved 9251	200	130	140	**200**	160
Nitrogen/Nitrate	Nitrogen By calc	10	0.33	ND	0.39	0.39
Total Dissolved Solids	Dissolved 2540C	1,200	670	**2600**	860	770
Fluoride	Dissolved 4500 FC	4	0.51	0.61	0.43	0.34
Nitrogen/Nitrite	Dissolved 4500 NO2	NA	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	NA	0.33	ND	0.39	0.39

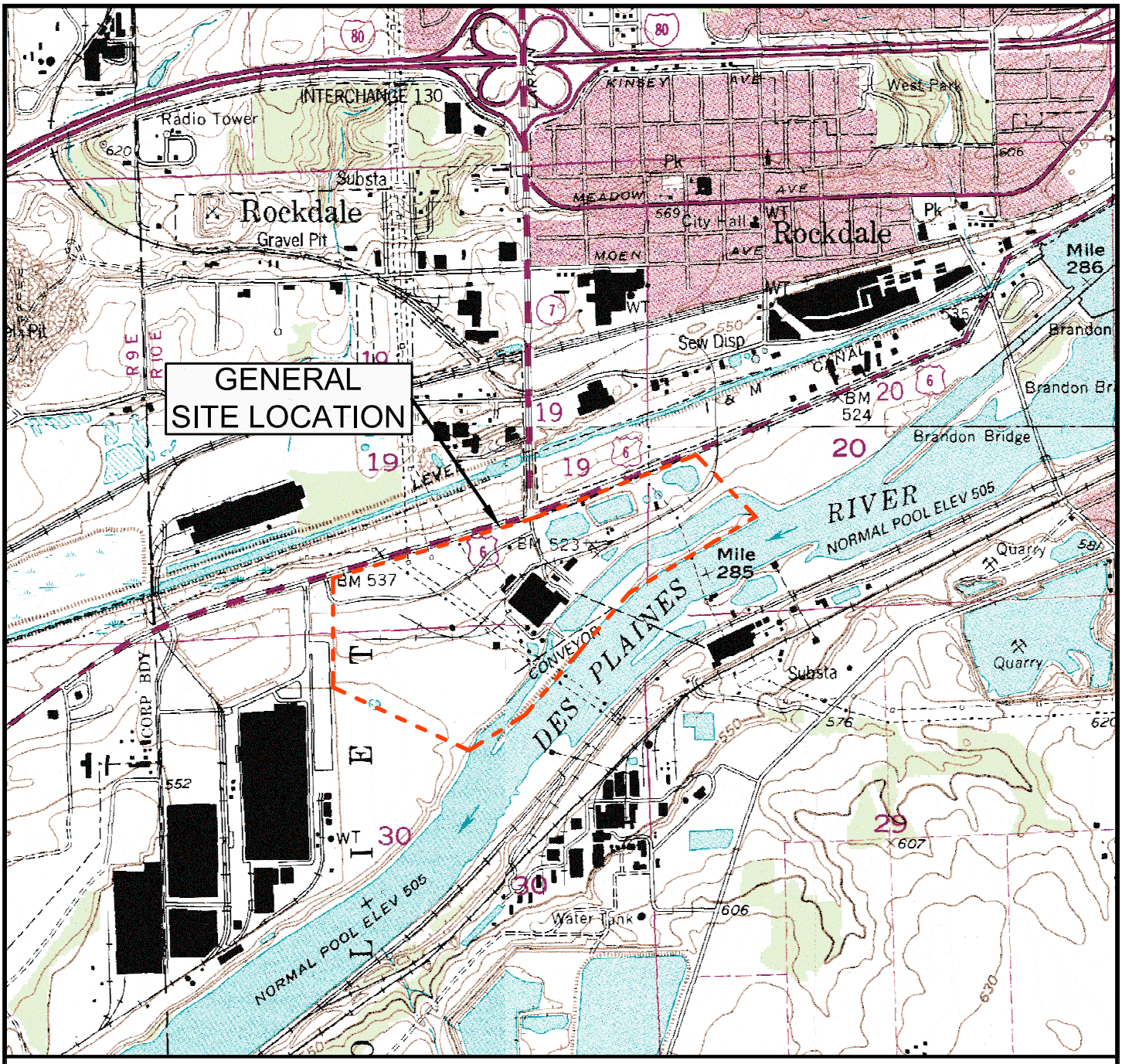
Notes:
Class I Groundwater Standards from 35 IAC Part 620
Bold Values areas exceed groundwater objectives
mg/L = Milligrams per Liter
ND-non detect

-Determination of the potential for the individual ash ponds to be contributing to the distribution of analytes in the underlying groundwater cannot be made from the results of this single sampling event alone. To develop a true, statistically-significant upgradient background concentration for the various compounds will require a number of sequential sampling events over time. After a statistically developed background value is available, the downgradient concentrations can be compared to this background value over time to determine the likelihood of contaminant migration from the on-site ash ponds. A plan to develop such an analytical database through additional sampling is discussed in the last section of this report.

Table 3
GROUNDWATER ELEVATION SURVEY DATA
Joliet #29 Station, Joliet, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

PATRICK ENGINEERING	Water Elevation (feet)	Depth to Water (feet bgs)	Lid Elevation (feet)	Ground Elevation (feet)	Top of Riser Elevation (feet)
MONITORING WELLS					
MW-1	505.460	29.30	535.222	531.464	534.760
MW-2	505.083	29.20	534.799	531.186	534.283
MW-3	505.082	33.70	539.255	535.540	538.782
MW-4	504.926	34.10	539.503	535.800	539.026
MW-5	504.987	34.70	540.149	536.428	539.687
MW-6	505.061	34.00	539.550	535.858	539.061
MW-7	505.050	34.30	539.792	535.862	539.350
MW-8	505.173	31.70	537.347	533.720	536.873
MW-9	505.238	29.20	534.941	531.126	534.438
MW-10	505.227	34.80	540.532	536.949	540.027
MW-11	505.173	34.30	539.960	536.521	539.473
ASH PONDS					
East Pond	530.127	NS	NS	NS	NS
Mid Pond	NS	NS	NS	NS	NS
West Pond	533.112	NS	NS	NS	NS
RIVER					
Des Plaines River	504.827	NS	NS	NS	NS

Notes:
*Survey data taken on 12/6/10
NS = not surveyed
bgs = below ground surface
Elevations are leveled from site control points per Commonwealth Edison Drawing
"Coordinates & Elevations for Coal Monuments & Test Borings-Joliet Station 29" revised



LEGEND

SITE BOUNDARY

N

0 2,000'

GRAPHIC SCALE

NOTE:
THIS DRAWING WAS PREPARED USING ILLINOIS' PLAINFIELD (1993), JOLIET (1993), CHANNAHON (1993), AND ELWOOD (1993) 7.5 MINUTE-SERIES TOPOGRAPHIC QUADRANGLE MAP.

Date: FEB. 2011	FIGURE 1 SITE LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21053.070	JOLIET STATION NO. 29 JOLIET, ILLINOIS	
App. By: RMF		

4970 Varsity Drive
Lisle, Illinois 60532-4101
TEL. (630) 795-7200
FAX (630) 724-1681
PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409

MWG13-15_6979



LEGEND

ASH POND

N

0 300'

GRAPHIC SCALE

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

Date: FEB. 2011	FIGURE 2 ASH POND LOCATIONS MAP	PATRICK ENGINEERING INC.
Proj No.: 21053.070	JOLIET STATION NO. 29 JOLIET, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681
App. By: RMF		PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409

MWG13-15_6980



LEGEND

MW-01 Monitoring Well Location (November 2010)

N

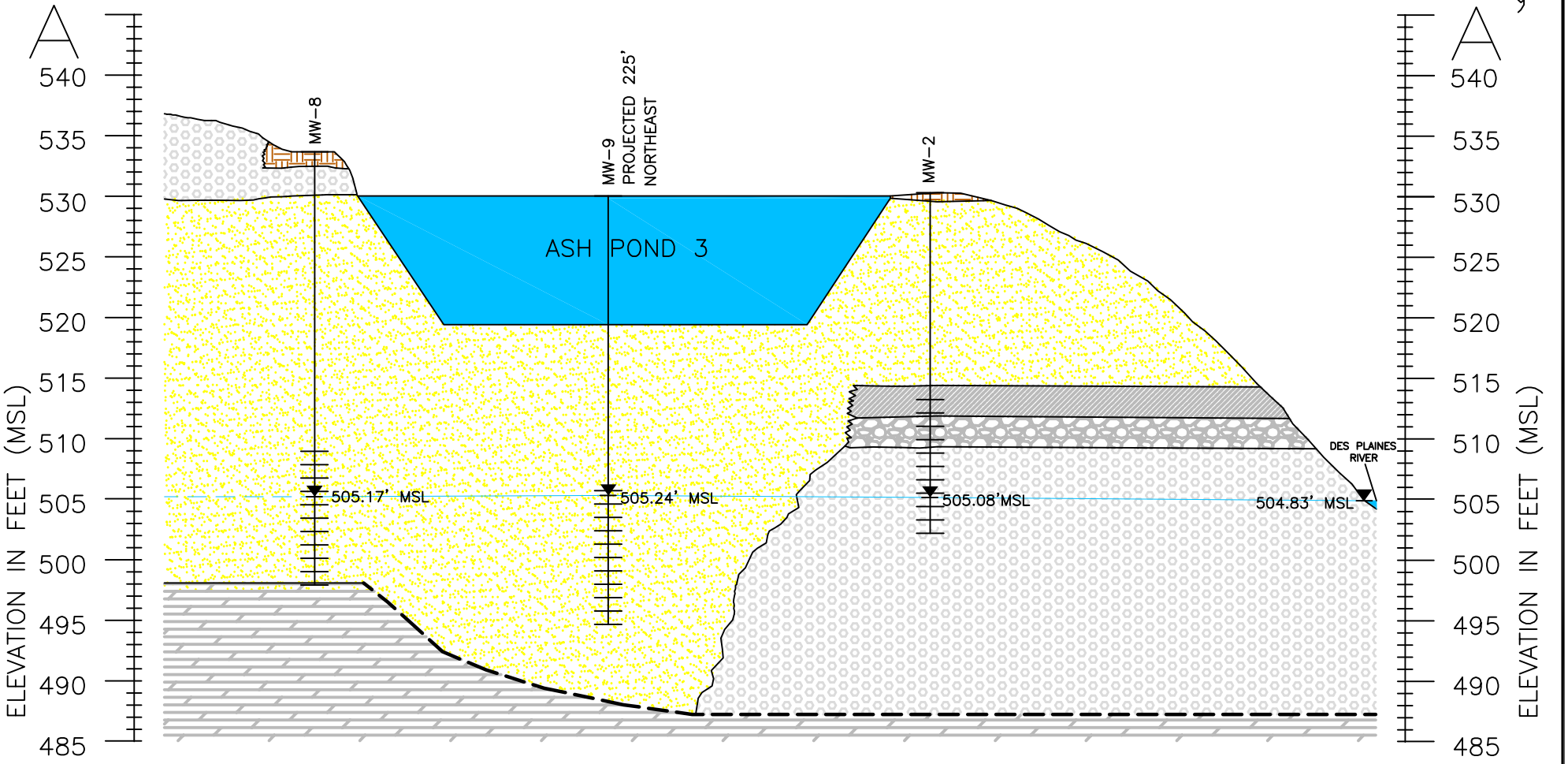
0 300'

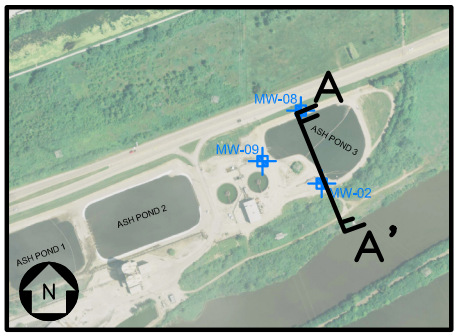
GRAPHIC SCALE

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

Date: FEB. 2011	FIGURE 3 MONITORING WELL LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21053.070	JOLIET STATION NO. 29 JOLIET, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_6981





CROSS SECTION A-A'
NOT TO SCALE

LEGEND

- FILL
- CLAYEY GRAVEL
- SANDY GRAVEL
- GROUNDWATER ELEVATION (FT. / MSL)
- GRAVEL
- SILTY CLAY
- DOLOMITIC LIMESTONE

VERTICAL SCALE 10' 0

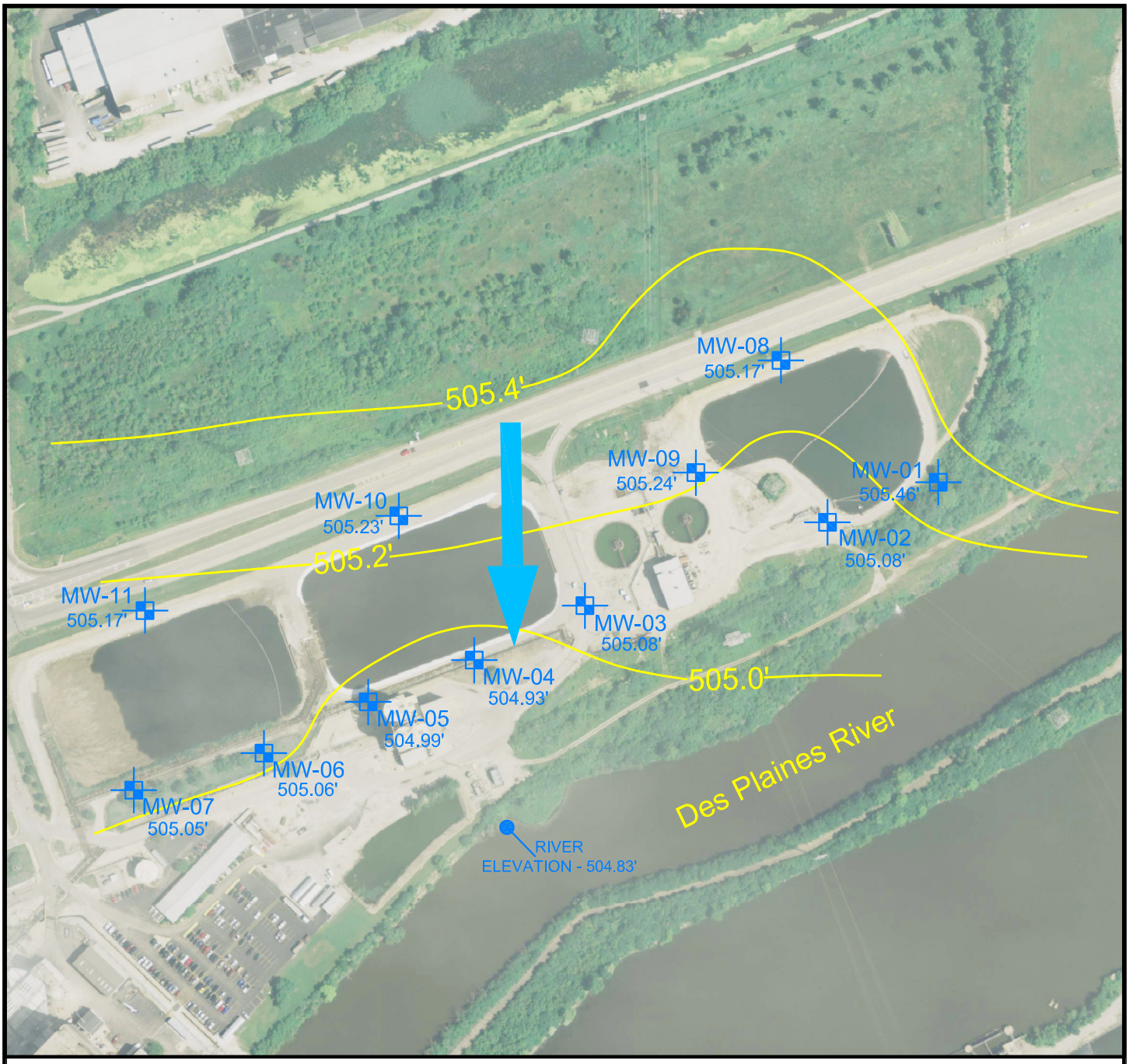
0 75'
HORIZONTAL SCALE

PATRICK ENGINEERING INC.
4970 Varsity Drive TEL. (630) 795-7200
Lisle, Illinois 60532-4101 FAX (630) 724-1681
http://www.patrickengineering.com
PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409

FIGURE 4
CROSS SECTION A-A' - SITE LITHOLOGY

JOLIET STATION NO. 29
JOLIET, ILLINOIS

DATE: FEBRUARY 2011
PROJ. NO.: 21053.070
APP. BY: RMF
MWG13-15_6982



LEGEND

MW-01
505.46'
Monitoring Well Location (November 2010) with Groundwater Elevation (ft. / MSL)

Groundwater Flow Direction

550.0
Potentiometric Surface Contour (ft. / MSL)

N

0 300'

GRAPHIC SCALE

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

Date: FEB. 2011	FIGURE 5 POTENTIOMETRIC SURFACE MAP	PATRICK ENGINEERING INC.
Proj No.: 21053.070	JOLIET STATION NO. 29 JOLIET, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_6983

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-1** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **531.5**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
531.5	0.0		Topsoil with fine to coarse gravel, moist				
			1' to 2' rounded coarse gravel at surface	SS-1 1.0-2.5 8"R	8 10 5		Bentonite seal 2.0'-14.0'. Stickup protective cover installed.
				SS-2 3.5-5.0 10"R	12 32 14		
			Fine to coarse sand and gravel, limestone fragments				
				SS-3 6.0-7.5 10"R	12 12 7		
			Limestone fragments, wet	SS-4 8.5-10.0 0.5"	8 4 4		
520.5	11.0		Fine to coarse sand and gravel, some black clay, limestone fragments, wet	SS-5 11.0-12.5 8"R	5 5 5		
				SS-6 13.5-15.0 6"R	45 6 10		Sand pack 14.0'-26.25'
514.5	17.0		▽ Saturated	SS-7 16.0-17.5 10"R	8 6 8		Set screen (slot 0.010) 16.25'-26.25'
			Limestone fragments, saturated	SS-8 18.5-20.0 6"R	14 10 11		
511.5	20.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **10/27/10** ENDED **10/27/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **17.0**
▼ **15.0'**
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-1** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **531.5**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
511.5	20.0		Fine to coarse sand and gravel, with limestone fragments, weathered, saturated				
				SS-9 21.0-22.5 8"R	22 25 13		
				SS-10 23.5-25.0 8"R	15 11 10		
			Wet to saturated				
				SS-11 26.0-27.5 10"R	12 16 18		
504.0	27.5		Saturated				
			End of Boring at 27.5'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **10/27/10** ENDED **10/27/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **17.0**
▼ **15.0'**
▼

MWG13-15_6985

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-2** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **531.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
531.2	0.0		Fine to coarse gravel (CA-6)				1" - 6" cobbles at surface
530.2	1.0		Brown fine to coarse sand and gravel, moist	SS-1 1.0-2.5 6"R	5 7 5		
							Bentonite seal 2.0'-14.0'. Stickup protective cover installed.
			1" limestone fragments	SS-2 3.5-5.0 0.5"R	8 12 6		
525.2	6.0		Brown fine to coarse sand and gravel, moist	SS-3 6.0-7.5 3"R	5 9 6		
			1" limestone fragments	SS-4 8.5-10.0 9"R	11 8 10		
			Little silty clay, moist to wet	SS-5 11.0-12.5 3"R	6 37 11		
517.7	13.5		Coarse gravel with black silty clay, trace roots, trace coarse sand, moist	SS-6 13.5-15.0 4"R	15 4 3		Sand pack 14.0'-26.5'
515.2	16.0		Black silty clay, with fine to coarse sand and gravel, moist	SS-7 16.0-17.5 8"R	12 6 12		Set screen 16.5'-26.5'
512.7	18.5	▽	Brown silty fine to coarse sand, trace fine gravel, saturated	SS-8 18.5-20.0 6"R	3 4 3		

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **10/29/10** ENDED **10/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **18.5**
▼ **21.5'**
▼

MWG13-15_6986

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-2** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **531.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
511.2	20.0						
510.2	21.0		Limestone fragments, trace light brown silty clay, moist	SS-9 21.0-22.5 8"R	13 16 13		
				SS-10 23.5-25.0 4"R	14 13 13		
			Limestone fragments, saturated				
502.7	28.5		End of Boring at 28.5'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **10/29/10** ENDED **10/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **18.5**
▼ **21.5'**
▼

MWG13-15_6987

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-3** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **535.5**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
535.5	0.0		Coarse gravel (CA-6)				
				SS-1 1.0-2.5			Bentonite seal 2.0'-30.5'. Stickup protective cover installed.
				SS-2 3.5-5.0	8 10 12		
			Fine to coarse sand and gravel, dry	SS-3 6.0-7.5			
				SS-4 8.5-10.0	12 11 10		
				SS-5 11.0-12.5			
				SS-6 13.5-15.0	9 12 13		
				SS-7 16.0-17.5			
517.0	18.5		Tan fine to coarse sand, with coarse gravel, dry	SS-8 18.5-20.0	12 17 23		

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **11/1/10** ENDED **11/1/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.0**

MWG13-15_6988

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-3** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **535.5**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
514.5	21.0		Tan fine to coarse sand, with coarse gravel, dry	SS-9 21.0-22.5			
				SS-10 23.5-25.0	14 32 36		
				SS-11 26.0-27.5			
				SS-12 28.5-30.0	21 16 15		Sand pack 28.0'-40.5'
504.5	31.0		▽ Saturated	SS-13 31.0-32.5	15 11 12		Set screen (slat 0.010) 30.5'-40.5'
				SS-14 33.5-35.0			
				S-15 36.0-37.5			
				SS-16 38.5-40.0	50/0.5'		
494.5	41.0		End of Boring at 41.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **11/1/10** ENDED **11/1/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.0**

MWG13-15_6989

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-4** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **535.8**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
535.8	0.0		Coarse gravel (CA-6), dry				
534.8	1.0		Brown silty clay, trace coarse sand, stiff, dry	SS-1 1.0-2.5 6"R	6 6 7		Bentonite seal 2.0'-27.5'. Stickup protective cover installed.
				SS-2 3.5-5.0 10"R	4 7 9		
529.8	6.0		Brown fine to coarse sand and gravel, trace limestone fragments	SS-3 6.0-7.5 6"R	20 22 12		
				SS-4 8.5-10.0 6"R	10 12 16		
				SS-5 11.0-12.5 8"R	11 20 23		
				SS-6 13.5-15.0 4"R	9 8 9		
			Limestone fragments, dry	SS-7 16.0-17.5 2"R	31 31		
				SS-8 18.5-20.0 4"R	24 40		

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **11/1/10** ENDED **11/1/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.5**
▼
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-4** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **535.8**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
515.8	20.0		Brown fine to coarse sand and gravel, trace limestone fragments				
				SS-9 21.0-22.5 4"R	60/6"		
			Fine to coarse sand and gravel, dry				
				SS-10 23.5-25.0 6"R	35 36		
				SS-11 26.0-27.5 10"R	28 21 10		
							Sand pack 27.5'-39.5'
				SS-12 28.5-30.0 6"R	12 8 8		Set screen (slot 0.010) 29.5'-39.5'
504.3	31.5	▽	Saturated	SS-13 31.0-32.5 8"R	13 17 13		
502.8	33.0		Fine to coarse sand, saturated				
				SS-14 33.5-35.0 18"R	13 24 24		
			Fine to coarse sand and gravel, with limestone fragments				
				SS-15 36.0-37.5			
				SS-16 38.5-40.0 10"R	21 50/3"		
495.8	40.0		End of Boring at 40.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **11/1/10** ENDED **11/1/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.5**
▽
▽

MWG13-15_6991

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-5** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **536.4**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
536.4	0.0		Fine to coarse gravel, topsoil, dry				
				SS-1 1.0-2.5			Bentonite seal 2.0'-32.0'. Stickup protective cover installed.
				SS-2 3.5-5.0			
				SS-3 6.0-7.5			
527.9	8.5		Black silty clay, coarse sand, moist to wet	SS-4 8.5-10.0 1"R	2 4 2		
				SS-5 13.5-15.0 8"R	2 4 3		
				SS-6 16.0-17.5			
			Coarse gravel fragments	SS-7 18.5-20.0 0.5"R	4 3 3		
				SS-8 21.0-22.5			

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **11/2/10** ENDED **11/2/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.0**
▽
▽

MWG13-15_6992

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-5** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **536.4**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
513.9 513.4	22.5 23.0						
			Tan to light brown fine to coarse sand, little coarse gravel, dry	SS-9 23.5-25.0 12"R	27 35 38		
				SS-10 26.0-27.5	42 49		
				SS-11 28.5-30.0 8"R	7 8 9		
							Sand pack 30.0'-42.0'
505.4	31.0		▽ Fine to coarse sand and gravel, saturated	SS-12 31.0-32.5 4"R	7 10 27		
							Set screen (slot 0.010") 32.0'-42.0'
				SS-13 33.5-35.0			
				SS-14 36.0-37.5			
				SS-15 38.5-40.0	29 18		
			Tan to light brown fine to coarse sand, little coarse gravel, dry				
494.4	42.0		End of Boring at 42.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **11/2/10** ENDED **11/2/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.0**
▼
▼

MWG13-15_6993

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-6** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **535.9**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
535.9	0.0		Gravel (CA-6), topsoil, dry				
				SS-1 1.0-2.5			Bentonite seal 2.0'-30.5'. Stickup protective cover installed.
				SS-2 3.5-5.0			
				SS-3 6.0-7.5			
527.4	8.5		Brown to tan fine to coarse sand and gravel, trace limestone, gravel seams, dry	SS-4 8.5-10.0 12"R	12 12 12		
				SS-5 11.0-12.5			
				SS-6 13.5-15.0 14"R	23 30 27		
				SS-7 16.0-17.5			
				SS-8 18.5-20.0 12"R	18 28 24		

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **11/3/10** ENDED **11/3/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.0**
▽
▽

MWG13-15_6994

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-6** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **535.9**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
514.9	21.0		Brown to tan fine to coarse sand and gravel, trace limestone, gravel seams, dry	SS-9 21.0-22.5			
				SS-10 23.5-25.0 14"R	23 34 18/3"		
				SS-11 26.0-27.5			
				SS-12 28.5-30.0 12"R	33 21 27		Sand pack 28.0'-40.5'
504.9	31.0	▽	Fine to coarse sand and gravel, saturated	SS-13 31.0-32.5 12"R			Set screen (slot 0.010) 30.5'-40.5'
				SS-14 33.5-35.0			
				SS-15 36.0-37.5			
497.4	38.5		Limestone bedrock	SS-16 38.5-40.0 0.5"R	50/0.5"		
495.4	40.5		End of Boring at 40.5'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **11/3/10** ENDED **11/3/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.0**

MWG13-15_6995

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-7** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **535.9**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
535.9	0.0		Gravel (CA-6), topsoil, dry				
				SS-1 1.0-2.5			Bentonite seal 2.0'-28.75'. Stickup protective cover installed.
				SS-2 3.5-5.0			
				SS-3 6.0-7.5			
527.4	8.5		Tan to brown fine to coarse sand and gravel, dry	SS-4 8.5-10.0 8"R	32 16 17		
				SS-5 11.0-12.5			
				SS-6 13.5-15.0	13 21		
				SS-7 16.0-17.5			
				SS-8 18.5-20.0	28 17		

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **11/3/10** ENDED **11/3/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.0**
▼
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-7** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **535.9**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
515.9	20.0		Tan to brown fine to coarse sand and gravel, dry				
				SS-9 21.0-22.5			
				SS-10 23.5-25.0 8"R	21 28 1		
				SS-11 26.0-27.5			Sand pack 26.5'-38.75'
				SS-12 28.5-30.0 12"R	22 31 37		Set screen (slot 0.010) 28.75'-38.75'
504.9	31.0		▽ Saturated	SS-13 31.0-32.5 10"R	12 8 5		
496.4	39.5		End of Boring at 39.5'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **11/3/10** ENDED **11/3/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.0**

MWG13-15_6997

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-8** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **533.7**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
533.7	0.0		Fine to coarse gravel fill, dry				
532.7	1.0		Dark brown silty clay, some fine to coarse sand, stiff, moist	SS-1 1.0-2.5 6"R	2 5 9		Bentonite seal 2.0'-25.5'. Stickup protective cover installed.
530.2	3.5		Black/brown fine to coarse sand and gravel, moist	SS-2 3.5-5.0 6"R	5 5 10		
			Limestone fragments, dry	SS-3 6.0-7.5 8"R	13 16 14		
				SS-4 8.5-10.0 8"R	7 15 22		
				SS-5 11.0-12.5 8"R	15 13 13		
				SS-6 13.5-15.0 8"R	17 14 12		
				SS-7 16.0-17.5 8"R	5 12 8		
				SS-8 18.5-20.0 3"R	12 9 9		

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **10/27/10** ENDED **10/27/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **27.0**
▽
▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-8** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **533.7**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
513.7	20.0		Black/brown fine to coarse sand and gravel, moist				
				SS-9 21.0-22.5 4"R	5 4 5		
			Moist to wet	SS-10 23.5-25.0 6"R	6 9 18		Sand pack 23.0'-35.5'
							Screen set (slot 0.010) 25.5'-35.5'
				SS-11 26.0-27.5 8"R	6 9 8		
506.7	27.0	▽	Saturated				
				SS-12 28.5-30.0 6"R	4 8 8		
				SS-13 33.5-35.0 2"R	50/1"		
498.2	35.5		End of Boring at 35.5'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **10/27/10** ENDED **10/27/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **27.0**

MWG13-15_6999

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-9** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **531.1**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
531.1	0.0		Coarse sand and gravel (CA-6), dry				
530.1	1.0		Coarse gravel, with black silty clay, trace root seams, moist	SS-1 1.0-2.5 6"R	15 14 13		Bentonite seal 2.0'-34.75'. Stickup protective cover installed.
527.6	3.5		Coarse gravel fragments, with fine to coarse sand, dry	SS-2 3.5-5.0 2"R	4 5 6		
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
520.1	11.0		Limestone fragments, with light brown silty fine to coarse sand, dry	SS-5 11.0-12.5 8"R	34 37		
				SS-6 13.5-15.0 10"R	20 16 16		
				SS-7 16.0-17.5 6"R	10 15 23		
512.6	18.5		Limestone fragments, with light brown to dark orange fine to coarse sand, moist	SS-8 18.5-20.0 10"R	15 24 28		

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **10/29/10** ENDED **10/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **26.0**

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-9** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **531.1**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
511.1	20.0		Limestone fragments, with light brown to dark orange fine to coarse sand, moist				
				SS-9 21.0-22.5			
							Sand pack 22.5'-34.75'
507.6	23.5		Light brown/orange fine to coarse sand, with coarse gravel, moist	SS-10 23.5-25.0 12"R	15 29 36		
							Screen set (slot 0.010) 24.75'-34.75'
505.1	26.0	▽		SS-11 26.0-27.5 1"R	16 10 8		
502.6	28.5		Light brown coarse sand, some fine to coarse gravel, little fine sand, saturated	SS-12 28.5-30.0 10"R	6 10 13		
				SS-13 31.0-32.5			
				SS-14 33.5-35.0 6"R	18 50/4"		
496.1	35.0		End of Boring at 35.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **10/29/10** ENDED **10/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **26.0**

MWG13-15_7001

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-10** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **536.9**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
536.9	0.0		Coarse gravel, dry				
				SS-1 1.0-2.5 10"R	5 4 5		Bentonite seal 2.0'-28.0'. Stickup protective cover installed.
			Brown clay				
				SS-2 3.5-5.0 10"R	3 2 2		
				SS-3 6.0-7.5 16"R	2 1 1		
529.9	7.0		Black/gray sandy silt, moist				
				SS-4 8.5-10.0 12"R	1 3 1		
				SS-5 11.0-12.5 18"R	1 1 1		
				SS-6 13.5-15.0 18"R	1 2 2		
				SS-7 16.0-17.5 18"R	1 3 2		
517.9	19.0		Gray silty clay, trace coarse sand, soft, wet	SS-8 18.5-20.0 18"R	2 3 4		

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **11/2/10** ENDED **11/2/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.0**

PATRICK ENGINEERING INC.	BORING NUMBER	B-MW-10	SHEET 2 OF 2
	CLIENT	Midwest Generation	
	PROJECT & NO.	21053.070	
	LOCATION	Joliet No. 29	

LOGGED BY **AFG**

GROUND ELEVATION **536.9**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
515.9	21.0		Gray silty clay, trace coarse sand, soft, wet	SS-9 21.0-22.5 8"R	12 28 31		
				SS-10 23.5-25.0 10"R	11 24 21		
				SS-11 26.0-27.5 12"R	6 13 17		
				SS-12 28.5-30.0 18"R	13 19 24		Sand pack 28.0'-40.5'
505.9	31.0		▽	SS-13 31.0-32.5 10"R	28 24 14		Screen set (slot 0.010) 30.5'-40.5'
				SS-14 33.5-35.0 18"R	16 63 12		
				SS-15 36.0-37.5			
				SS-16 38.5-40.0 18"R	9 14		
495.9	41.0		End of Boring at 41.0'				

DRILLING CONTRACTOR **Groff Testing**

DRILLING METHOD **4.25" I.D. HSA**

DRILLING EQUIPMENT **CME**

DRILLING STARTED **11/2/10** ENDED **11/2/10**

REMARKS

Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)

▽ **31.0**

▼

▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-11** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Joliet No. 29**

LOGGED BY **AFG**
GROUND ELEVATION **536.5**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
536.5	0.0		Fine to coarse sand and gravel, fill, dry				
				SS-1 1.0-2.5			Bentonite seal 2.0'-27.0'. Stickup protective cover installed.
				SS-2 3.5-5.0	3 2 2		
				SS-3 6.0-7.5			
			Grades to dark gray clayey silt	SS-4 8.5-10.0	3 2 2		
				SS-5 11.0-12.5			
522.5	14.0		Dark gray clayey silt, soft, moist	SS-6 13.5-15.0	1 2 2		
				SS-7 16.0-17.5			
				SS-8 18.5-20.0	1 3 5		

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME**
DRILLING STARTED **11/4/10** ENDED **11/4/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.0**
▽
▽

PATRICK ENGINEERING INC.	BORING NUMBER	B-MW-11	SHEET 2 OF 2
	CLIENT	Midwest Generation	
	PROJECT & NO.	21053.070	
	LOCATION	Joliet No. 29	

LOGGED BY **AFG**

GROUND ELEVATION **536.5**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
516.5	20.0		Dark gray clayey silt, soft, moist				
				SS-9 21.0-22.5			
			Light brown fine to coarse silt and gravel, moist	SS-10 23.5-25.0	9 11 12		
				SS-11 26.0-27.5			Sand pack 27.0'-39.5'
				SS-12 28.5-30.0	1 3 13		Screen set (slot 0.010) 29.5'-39.5'
505.5	31.0		▽	SS-13 31.0-32.5	8 7 8		
				SS-14 33.5-35.0			
				SS-15 36.0-37.5			
497.0	39.5			SS-16 38.5-40.0	36 50/2"		
			End of Boring at 39.5'				

DRILLING CONTRACTOR **Groff Testing**

DRILLING METHOD **4.25" I.D. HSA**

DRILLING EQUIPMENT **CME**

DRILLING STARTED **11/4/10** ENDED **11/4/10**

REMARKS

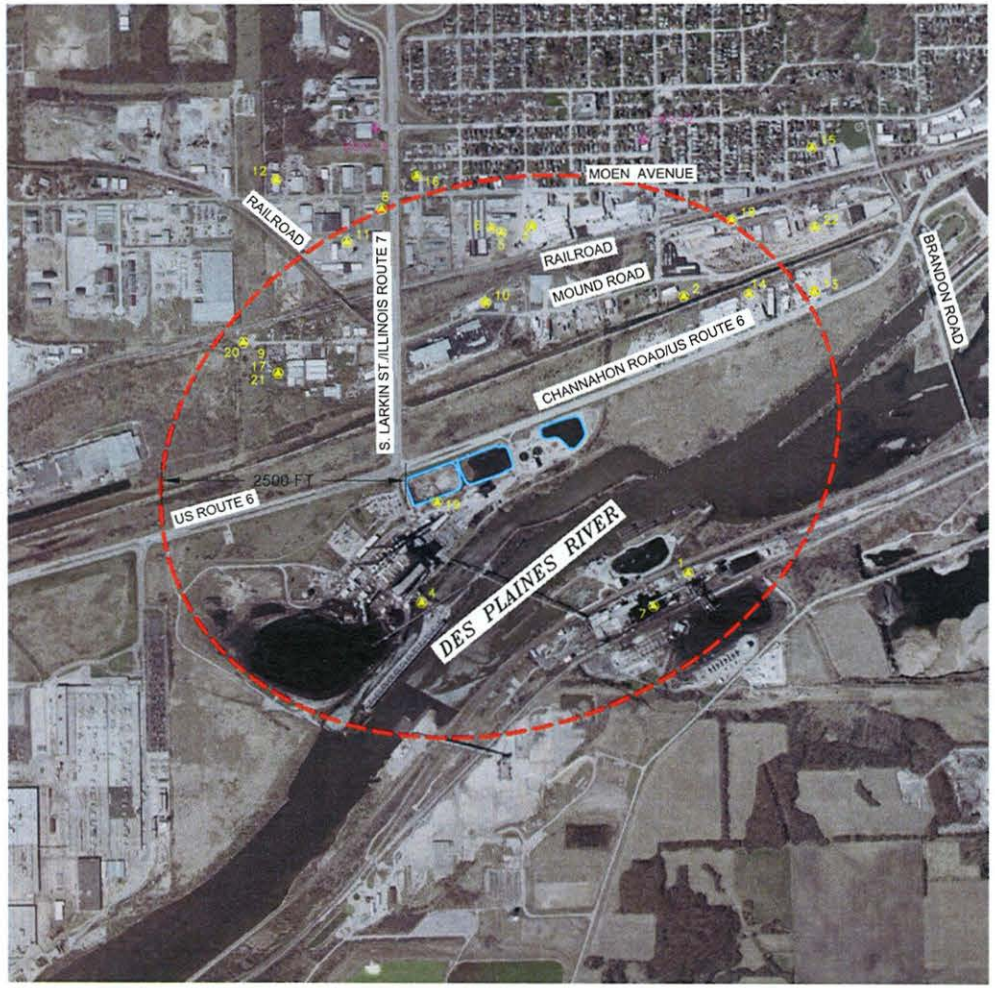
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)

▽ **31.0**

▼

▼



LEGEND

- CWS-1 — COMMUNITY WELL LOCATION
- POTABLE WELL LOCATION (APPROXIMATE)
- ASH POND
- 2,500 FOOT RADIUS OF ASH POND SYSTEMS

NOTE:
REFER TO SUMMARY TABLE FOR SPECIFIC WELL INFORMATION.

SOURCE:
2005 DIGITAL ORTHOPHOTO FROM ILLINOIS NATURAL RESOURCES GEOSPATIAL DATA CLEARINGHOUSE
WELL LOCATIONS FROM ILLINOIS STATE GEOLOGICAL SURVEY, ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, AND ILLINOIS STATE WATER SURVEY.

N

0 600 1200
SCALE IN FEET

DRAWN BY: RLH/KNW DATE: 05/20/09
CHECKED BY: HMS DATE: 05/22/09
APPROVED BY: HMS DATE: 07/07/09
DRAWING NO: 1792-3-B03
REFERENCE: 16TDL050930.sid, 050945.sid, 065930.sid, 065945.sid.

POTABLE WATER WELLS

JOLIET STATION NO. 29
MIDWEST GENERATION
ROCKDALE, WILL COUNTY, ILLINOIS

NATURAL RESOURCE TECHNOLOGY

PROJECT NO.
1792/3.0

FIGURE NO.
1

MWG13-15_7006

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 500-29703-1

Job Description: Joliet Ash Pond Assessments

For:
Midwest Generation EME LLC
1800 Channahon Road
Joliet, IL 60436

Attention: James DiCola

Approved for release.
Cindy R Pritchard
Project Mgmt. Assistant
12/17/2010 1:46 PM

Designee for
Bonnie M Stadelmann
Project Manager II
bonnie.stadelmann@testamericainc.com
12/17/2010

cc: Andrew Gagnon
Ms. Maria Race

These test results meet all the requirements of NELAC for accredited parameters.

The Lab Certification ID#:
TestAmerica Chicago 100201

All questions regarding this test report should be directed to the TestAmerica Project Manager whose signature appears on this report. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

Job Narrative
500-29703-1

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

Metals
The matrix spike / matrix spike duplicate (MS/MSD) recoveries for sample 500-29703-1 were outside control limits for Ag. The MSD was also out for Se. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Field Service / Mobile Lab
No analytical or quality issues were noted.

General Chemistry
Method(s) 353.2, SM 4500 NO3 F: The nitrate continuing calibration verification (CCV) for 101888 recovered above the upper control limit. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. MW-06 (500-29703-6), MW-07 (500-29703-7), MW-09 (500-29703-9)

No other analytical or quality issues were noted.

EXECUTIVE SUMMARY - Detections

Client: Midwest Generation EME LLC Job Number: 500-29703-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
500-29703-1	**MW-01**				
Dissolved					
Antimony		0.0043	0.0030	mg/L	6020
Arsenic		0.0011	0.0010	mg/L	6020
Barium		0.13	0.0025	mg/L	6020
Boron		0.31	0.050	mg/L	6020
Copper		0.0032	0.0020	mg/L	6020
Nickel		0.0034	0.0020	mg/L	6020
Sulfate-Dissolved		180	50	mg/L	9038
Chloride-Dissolved		140	10	mg/L	9251
Nitrogen, Nitrate-Dissolved		1.9	0.10	mg/L	Nitrate by calc
Total Dissolved Solids-Dissolved		590	10	mg/L	SM 2540C
Fluoride-Dissolved		0.45	0.10	mg/L	SM 4500 F C
Nitrogen, Nitrate Nitrite-Dissolved		1.9	0.20	mg/L	SM 4500 NO3 F
500-29703-2	**MW-02**				
Dissolved					
Antimony		0.012	0.0030	mg/L	6020
Barium		0.082	0.0025	mg/L	6020
Boron		0.31	0.050	mg/L	6020
Copper		0.0032	0.0020	mg/L	6020
Nickel		0.0033	0.0020	mg/L	6020
Sulfate-Dissolved		190	50	mg/L	9038
Chloride-Dissolved		140	10	mg/L	9251
Nitrogen, Nitrate-Dissolved		3.1	0.10	mg/L	Nitrate by calc
Total Dissolved Solids-Dissolved		600	10	mg/L	SM 2540C
Fluoride-Dissolved		0.62	0.10	mg/L	SM 4500 F C
Nitrogen, Nitrate Nitrite-Dissolved		3.1	0.20	mg/L	SM 4500 NO3 F
500-29703-3	**MW-03**				
Dissolved					
Antimony		0.0040	0.0030	mg/L	6020
Barium		0.089	0.0025	mg/L	6020
Boron		0.24	0.050	mg/L	6020
Cobalt		0.0013	0.0010	mg/L	6020
Manganese		0.10	0.0025	mg/L	6020
Nickel		0.011	0.0020	mg/L	6020
Sulfate-Dissolved		120	50	mg/L	9038
Chloride-Dissolved		260	10	mg/L	9251
Total Dissolved Solids-Dissolved		930	10	mg/L	SM 2540C
Fluoride-Dissolved		0.43	0.10	mg/L	SM 4500 F C

EXECUTIVE SUMMARY - Detections

Client: Midwest Generation EME LLC Job Number: 500-29703-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
500-29703-4	**MW-04**				
Dissolved					
Barium		0.065	0.0025	mg/L	6020
Boron		0.46	0.050	mg/L	6020
Manganese		0.33	0.0025	mg/L	6020
Nickel		0.0067	0.0020	mg/L	6020
Selenium		0.0025	0.0025	mg/L	6020
Sulfate-Dissolved		300	50	mg/L	9038
Chloride-Dissolved		270	10	mg/L	9251
Nitrogen, Nitrate-Dissolved		0.81	0.10	mg/L	Nitrate by calc
Total Dissolved Solids-Dissolved		1100	10	mg/L	SM 2540C
Fluoride-Dissolved		0.49	0.10	mg/L	SM 4500 F C
Nitrogen, Nitrate Nitrite-Dissolved		0.81	0.10	mg/L	SM 4500 NO3 F
500-29703-5	**MW-05**				
Dissolved					
Barium		0.061	0.0025	mg/L	6020
Boron		0.42	0.050	mg/L	6020
Manganese		0.0065	0.0025	mg/L	6020
Sulfate-Dissolved		110	25	mg/L	9038
Chloride-Dissolved		150	10	mg/L	9251
Total Dissolved Solids-Dissolved		750	10	mg/L	SM 2540C
Fluoride-Dissolved		0.40	0.10	mg/L	SM 4500 F C
500-29703-6	**MW-06**				
Dissolved					
Barium		0.075	0.0025	mg/L	6020
Boron		0.32	0.050	mg/L	6020
Manganese		0.14	0.0025	mg/L	6020
Nickel		0.0056	0.0020	mg/L	6020
Selenium		0.0029	0.0025	mg/L	6020
Sulfate-Dissolved		140	50	mg/L	9038
Chloride-Dissolved		130	10	mg/L	9251
Total Dissolved Solids-Dissolved		650	10	mg/L	SM 2540C
Fluoride-Dissolved		0.40	0.10	mg/L	SM 4500 F C

EXECUTIVE SUMMARY - Detections

Client: Midwest Generation EME LLC Job Number: 500-29703-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
500-29703-7	**MW-07**				
Dissolved					
Arsenic		0.0010	0.0010	mg/L	6020
Barium		0.13	0.0025	mg/L	6020
Boron		0.51	0.050	mg/L	6020
Manganese		0.29	0.0025	mg/L	6020
Nickel		0.0045	0.0020	mg/L	6020
Sulfate-Dissolved		250	50	mg/L	9038
Chloride-Dissolved		430	50	mg/L	9251
Total Dissolved Solids-Dissolved		1200	10	mg/L	SM 2540C
Fluoride-Dissolved		0.36	0.10	mg/L	SM 4500 F C
500-29703-8	**MW-08**				
Dissolved					
Barium		0.054	0.0025	mg/L	6020
Boron		0.29	0.050	mg/L	6020
Manganese		0.0051	0.0025	mg/L	6020
Nickel		0.0025	0.0020	mg/L	6020
Sulfate-Dissolved		210	50	mg/L	9038
Chloride-Dissolved		130	10	mg/L	9251
Nitrogen, Nitrate-Dissolved		0.33	0.10	mg/L	Nitrate by calc
Total Dissolved Solids-Dissolved		670	10	mg/L	SM 2540C
Fluoride-Dissolved		0.51	0.10	mg/L	SM 4500 F C
Nitrogen, Nitrate Nitrite-Dissolved		0.33	0.10	mg/L	SM 4500 NO3 F
500-29703-9	**MW-09**				
Dissolved					
Barium		0.031	0.0025	mg/L	6020
Boron		0.36	0.050	mg/L	6020
Cobalt		0.0047	0.0010	mg/L	6020
Manganese		1.1	0.0025	mg/L	6020
Nickel		0.0094	0.0020	mg/L	6020
Sulfate-Dissolved		1600	250	mg/L	9038
Chloride-Dissolved		140	10	mg/L	9251
Total Dissolved Solids-Dissolved		2600	10	mg/L	SM 2540C
Fluoride-Dissolved		0.61	0.10	mg/L	SM 4500 F C

EXECUTIVE SUMMARY - Detections

Client: Midwest Generation EME LLC Job Number: 500-29703-1

Lab Sample ID / Analyte	Client Sample ID	Result / Qualifier	Reporting Limit	Units	Method
500-29703-10	**MW-10**				
Dissolved					
Barium		0.050	0.0025	mg/L	6020
Boron		0.50	0.050	mg/L	6020
Manganese		0.12	0.0025	mg/L	6020
Nickel		0.0052	0.0020	mg/L	6020
Sulfate-Dissolved		130	50	mg/L	9038
Chloride-Dissolved		200	10	mg/L	9251
Nitrogen, Nitrate-Dissolved		0.39	0.10	mg/L	Nitrate by calc
Total Dissolved Solids-Dissolved		860	10	mg/L	SM 2540C
Fluoride-Dissolved		0.43	0.10	mg/L	SM 4500 F C
Nitrogen, Nitrate Nitrite-Dissolved		0.39	0.10	mg/L	SM 4500 NO3 F
500-29703-11	**MW-11**				
Dissolved					
Arsenic		0.0013	0.0010	mg/L	6020
Barium		0.064	0.0025	mg/L	6020
Boron		0.47	0.050	mg/L	6020
Manganese		0.052	0.0025	mg/L	6020
Nickel		0.0022	0.0020	mg/L	6020
Sulfate-Dissolved		140	50	mg/L	9038
Chloride-Dissolved		160	10	mg/L	9251
Nitrogen, Nitrate-Dissolved		0.39	0.10	mg/L	Nitrate by calc
Total Dissolved Solids-Dissolved		770	10	mg/L	SM 2540C
Fluoride-Dissolved		0.34	0.10	mg/L	SM 4500 F C
Nitrogen, Nitrate Nitrite-Dissolved		0.39	0.10	mg/L	SM 4500 NO3 F

METHOD SUMMARY

Client: Midwest Generation EME LLC Job Number: 500-29703-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Metals (ICP/MS)	TAL CHI	SW846 6020	
Preparation, Soluble	TAL CHI		Soluble Metals
Sample Filtration, Field			FIELD_FLTRD
Mercury (CVAA)	TAL CHI	SW846 7470A	
Preparation, Mercury	TAL CHI		SW846 7470A
Sample Filtration, Field			FIELD_FLTRD
Cyanide	TAL CHI	SW846 9014	
Cyanide, Distillation	TAL CHI		SW846 9010B
Sample Filtration, Field			FIELD_FLTRD
Sulfate, Turbidimetric	TAL CHI	SW846 9038	
Sample Filtration, Field			FIELD_FLTRD
Chloride	TAL CHI	SW846 9251	
Sample Filtration, Field			FIELD_FLTRD
Nitrogen, Nitrate-Nitrite	TAL CHI	SM Nitrate by calc	
Sample Filtration, Field			FIELD_FLTRD
Solids, Total Dissolved (TDS)	TAL CHI	SM SM 2540C	
Sample Filtration, Field			FIELD_FLTRD
Fluoride	TAL CHI	SM SM 4500 F C	
Sample Filtration, Field			FIELD_FLTRD
Nitrogen, Nitrite	TAL CHI	SM SM 4500 NO2 B	
Sample Filtration, Field			FIELD_FLTRD
Nitrogen, Nitrate	TAL CHI	SM SM 4500 NO3 F	
Sample Filtration, Field			FIELD_FLTRD

Lab References:

TAL CHI = TestAmerica Chicago

Method References:

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Midwest Generation EME LLC Job Number: 500-29703-1

Method	Analyst	Analyst ID
SW846 6020	Kolarczyk, Paul F	PFK
SW846 7470A	Roach, Jessica	JR
SW846 9014	Moore, Colleen L	CLM
SW846 9038	Boyd, Cheryl L	CLB
SW846 9251	Deb, Khona	KD
SM Nitrate by calc	Ficarello, Peter M	PMF
SM SM 2540C	Boyd, Cheryl L	CLB
SM SM 4500 F C	Moore, Colleen L	CLM
SM SM 4500 NO2 B	Moore, Colleen L	CLM
SM SM 4500 NO3 F	Ficarello, Peter M	PMF

SAMPLE SUMMARY

Client: Midwest Generation EME LLC Job Number: 500-29703-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
500-29703-1	MW-01	Water	12/06/2010 1425	12/07/2010 1250
500-29703-2	MW-02	Water	12/06/2010 1345	12/07/2010 1250
500-29703-3	MW-03	Water	12/07/2010 1010	12/07/2010 1250
500-29703-4	MW-04	Water	12/07/2010 1100	12/07/2010 1250
500-29703-5	MW-05	Water	12/07/2010 1145	12/07/2010 1250
500-29703-6	MW-06	Water	12/07/2010 0930	12/07/2010 1250
500-29703-7	MW-07	Water	12/07/2010 0855	12/07/2010 1250
500-29703-8	MW-08	Water	12/06/2010 1455	12/07/2010 1250
500-29703-9	MW-09	Water	12/06/2010 1115	12/07/2010 1250
500-29703-10	MW-10	Water	12/06/2010 1520	12/07/2010 1250
500-29703-11	MW-11	Water	12/06/2010 1600	12/07/2010 1250

SAMPLE RESULTS

James DiCola
Midwest Generation EME LLC
1800 Channahon Road
Joliet, IL 60436

Job Number: 500-29703-1

Client Sample ID: MW-01
Lab Sample ID: 500-29703-1

Date Sampled: 12/06/2010 1425
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/13/2010 2048	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Beryllium	<0.0010	mg/L	0.0010	1.0
Boron	0.31	mg/L	0.050	1.0
Method: Dissolved-6020		Date Analyzed:	12/14/2010 1936	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Arsenic	0.0011	mg/L	0.0010	1.0
Barium	0.13	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	0.0032	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	<0.0025	mg/L	0.0025	1.0
Nickel	0.0034	mg/L	0.0020	1.0
Selenium	<0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1023	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Antimony	0.0043	mg/L	0.0030	1.0
Method: Dissolved-7470A		Date Analyzed:	12/08/2010 1305	
Prep Method: 7470A		Date Prepared:	12/08/2010 0920	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/09/2010 1608	
Prep Method: 9010B		Date Prepared:	12/09/2010 1250	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/09/2010 0609	
Sulfate	180	mg/L	50	10
Method: Dissolved-9251		Date Analyzed:	12/13/2010 1704	
Chloride	140	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/15/2010 1641	
Nitrogen, Nitrate	1.9	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/08/2010 2329	

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Job Number: 500-29703-1

Client Sample ID: MW-01
Lab Sample ID: 500-29703-1

Date Sampled: 12/06/2010 1425
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Total Dissolved Solids	590	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/13/2010 1218	
Fluoride	0.45	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/08/2010 1043	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/14/2010 1610	
Nitrogen, Nitrate Nitrite	1.9	mg/L	0.20	2.0

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Job Number: 500-29703-1

Client Sample ID: MW-02
Lab Sample ID: 500-29703-2

Date Sampled: 12/06/2010 1345
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/13/2010 2056	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Beryllium	<0.0010	mg/L	0.0010	1.0
Boron	0.31	mg/L	0.050	1.0
Method: Dissolved-6020		Date Analyzed:	12/14/2010 1955	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Arsenic	<0.0010	mg/L	0.0010	1.0
Barium	0.082	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	0.0032	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	<0.0025	mg/L	0.0025	1.0
Nickel	0.0033	mg/L	0.0020	1.0
Selenium	<0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1028	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Antimony	0.012	mg/L	0.0030	1.0
Method: Dissolved-7470A		Date Analyzed:	12/08/2010 1312	
Prep Method: 7470A		Date Prepared:	12/08/2010 0920	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/09/2010 1609	
Prep Method: 9010B		Date Prepared:	12/09/2010 1250	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/09/2010 0610	
Sulfate	190	mg/L	50	10
Method: Dissolved-9251		Date Analyzed:	12/13/2010 1705	
Chloride	140	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/15/2010 1641	
Nitrogen, Nitrate	3.1	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/08/2010 2335	

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Job Number: 500-29703-1

Client Sample ID: MW-02
Lab Sample ID: 500-29703-2

Date Sampled: 12/06/2010 1345
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Total Dissolved Solids	600	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/13/2010 1226	
Fluoride	0.62	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/08/2010 1044	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/14/2010 1611	
Nitrogen, Nitrate Nitrite	3.1	mg/L	0.20	2.0

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Job Number: 500-29703-1

Client Sample ID: MW-03
Lab Sample ID: 500-29703-3

Date Sampled: 12/07/2010 1010
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/13/2010 2057	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Beryllium	<0.0010	mg/L	0.0010	1.0
Boron	0.24	mg/L	0.050	1.0
Method: Dissolved-6020		Date Analyzed:	12/14/2010 1957	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Arsenic	<0.0010	mg/L	0.0010	1.0
Barium	0.089	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	0.0013	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	0.10	mg/L	0.0025	1.0
Nickel	0.011	mg/L	0.0020	1.0
Selenium	<0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1029	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Antimony	0.0040	mg/L	0.0030	1.0
Method: Dissolved-7470A		Date Analyzed:	12/08/2010 1313	
Prep Method: 7470A		Date Prepared:	12/08/2010 0920	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/09/2010 1609	
Prep Method: 9010B		Date Prepared:	12/09/2010 1250	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/09/2010 0611	
Sulfate	120	mg/L	50	10
Method: Dissolved-9251		Date Analyzed:	12/13/2010 1705	
Chloride	260	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/15/2010 1641	
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/08/2010 2337	

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Job Number: 500-29703-1

Client Sample ID: MW-03
Lab Sample ID: 500-29703-3

Date Sampled: 12/07/2010 1010
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Total Dissolved Solids	930	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/13/2010 1230	
Fluoride	0.43	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/08/2010 1045	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/15/2010 1450	
Nitrogen, Nitrate Nitrite	<0.10	mg/L	0.10	1.0

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Job Number: 500-29703-1

Client Sample ID: MW-04
Lab Sample ID: 500-29703-4

Date Sampled: 12/07/2010 1100
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/13/2010 2058	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Beryllium	<0.0010	mg/L	0.0010	1.0
Boron	0.46	mg/L	0.050	1.0
Method: Dissolved-6020		Date Analyzed:	12/14/2010 2000	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Arsenic	<0.0010	mg/L	0.0010	1.0
Barium	0.065	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	0.33	mg/L	0.0025	1.0
Nickel	0.0067	mg/L	0.0020	1.0
Selenium	0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1046	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Antimony	<0.0030	mg/L	0.0030	1.0
Method: Dissolved-7470A		Date Analyzed:	12/08/2010 1318	
Prep Method: 7470A		Date Prepared:	12/08/2010 0920	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/09/2010 1609	
Prep Method: 9010B		Date Prepared:	12/09/2010 1250	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/09/2010 0707	
Sulfate	300	mg/L	50	10
Method: Dissolved-9251		Date Analyzed:	12/13/2010 1706	
Chloride	270	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/15/2010 1641	
Nitrogen, Nitrate	0.81	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/08/2010 2339	

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Job Number: 500-29703-1

Client Sample ID: MW-04
Lab Sample ID: 500-29703-4

Date Sampled: 12/07/2010 1100
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Total Dissolved Solids	1100	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/13/2010 1233	
Fluoride	0.49	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/08/2010 1046	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/15/2010 1452	
Nitrogen, Nitrate Nitrite	0.81	mg/L	0.10	1.0

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Job Number: 500-29703-1

Client Sample ID: MW-05
Lab Sample ID: 500-29703-5

Date Sampled: 12/07/2010 1145
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/13/2010 2059	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Beryllium	<0.0010	mg/L	0.0010	1.0
Boron	0.42	mg/L	0.050	1.0
Method: Dissolved-6020		Date Analyzed:	12/14/2010 2003	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Arsenic	<0.0010	mg/L	0.0010	1.0
Barium	0.061	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	0.0065	mg/L	0.0025	1.0
Nickel	<0.0020	mg/L	0.0020	1.0
Selenium	<0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1039	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Antimony	<0.0030	mg/L	0.0030	1.0
Method: Dissolved-7470A		Date Analyzed:	12/08/2010 1320	
Prep Method: 7470A		Date Prepared:	12/08/2010 0920	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/09/2010 1609	
Prep Method: 9010B		Date Prepared:	12/09/2010 1250	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/09/2010 0708	
Sulfate	110	mg/L	25	5.0
Method: Dissolved-9251		Date Analyzed:	12/13/2010 1706	
Chloride	150	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/15/2010 1641	
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/08/2010 2341	

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Job Number: 500-29703-1

Client Sample ID: MW-05
Lab Sample ID: 500-29703-5

Date Sampled: 12/07/2010 1145
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Total Dissolved Solids	750	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/13/2010 1237	
Fluoride	0.40	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/08/2010 1046	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/15/2010 1458	
Nitrogen, Nitrate Nitrite	<0.10	mg/L	0.10	1.0

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Job Number: 500-29703-1

Client Sample ID: MW-06
Lab Sample ID: 500-29703-6

Date Sampled: 12/07/2010 0930
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/13/2010 2100	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Beryllium	<0.0010	mg/L	0.0010	1.0
Boron	0.32	mg/L	0.050	1.0
Method: Dissolved-6020		Date Analyzed:	12/14/2010 2005	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Arsenic	<0.0010	mg/L	0.0010	1.0
Barium	0.075	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	0.14	mg/L	0.0025	1.0
Nickel	0.0056	mg/L	0.0020	1.0
Selenium	0.0029	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1040	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Antimony	<0.0030	mg/L	0.0030	1.0
Method: Dissolved-7470A		Date Analyzed:	12/08/2010 1322	
Prep Method: 7470A		Date Prepared:	12/08/2010 0920	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/09/2010 1610	
Prep Method: 9010B		Date Prepared:	12/09/2010 1250	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/09/2010 0709	
Sulfate	140	mg/L	50	10
Method: Dissolved-9251		Date Analyzed:	12/13/2010 1707	
Chloride	130	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/15/2010 1641	
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/08/2010 2343	

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Job Number: 500-29703-1

Client Sample ID: MW-06
Lab Sample ID: 500-29703-6

Date Sampled: 12/07/2010 0930
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier		Unit	RL	Dilution
Total Dissolved Solids	650		mg/L	10	1.0
Method: Dissolved-SM 4500 F C			Date Analyzed:	12/13/2010 1240	
Fluoride	0.40		mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B			Date Analyzed:	12/08/2010 1046	
Nitrogen, Nitrite	<0.020		mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F			Date Analyzed:	12/14/2010 1534	
Nitrogen, Nitrate Nitrite	<0.10	^	mg/L	0.10	1.0

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Job Number: 500-29703-1

Client Sample ID: MW-07
Lab Sample ID: 500-29703-7

Date Sampled: 12/07/2010 0855
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/13/2010 2101	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Beryllium	<0.0010	mg/L	0.0010	1.0
Boron	0.51	mg/L	0.050	1.0
Method: Dissolved-6020		Date Analyzed:	12/14/2010 2008	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Arsenic	0.0010	mg/L	0.0010	1.0
Barium	0.13	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	0.29	mg/L	0.0025	1.0
Nickel	0.0045	mg/L	0.0020	1.0
Selenium	<0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1040	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Antimony	<0.0030	mg/L	0.0030	1.0
Method: Dissolved-7470A		Date Analyzed:	12/08/2010 1324	
Prep Method: 7470A		Date Prepared:	12/08/2010 0920	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/09/2010 1610	
Prep Method: 9010B		Date Prepared:	12/09/2010 1250	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/09/2010 0710	
Sulfate	250	mg/L	50	10
Method: Dissolved-9251		Date Analyzed:	12/13/2010 1707	
Chloride	430	mg/L	50	25
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/15/2010 1641	
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/08/2010 2345	

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Job Number: 500-29703-1

Client Sample ID: MW-07
Lab Sample ID: 500-29703-7

Date Sampled: 12/07/2010 0855
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier		Unit	RL	Dilution
Total Dissolved Solids	1200		mg/L	10	1.0
Method: Dissolved-SM 4500 F C			Date Analyzed:	12/13/2010 1244	
Fluoride	0.36		mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B			Date Analyzed:	12/08/2010 1047	
Nitrogen, Nitrite	<0.020		mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F			Date Analyzed:	12/14/2010 1536	
Nitrogen, Nitrate Nitrite	<0.10	^	mg/L	0.10	1.0

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Job Number: 500-29703-1

Client Sample ID: MW-08
Lab Sample ID: 500-29703-8

Date Sampled: 12/06/2010 1455
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/13/2010 2102	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Beryllium	<0.0010	mg/L	0.0010	1.0
Boron	0.29	mg/L	0.050	1.0
Method: Dissolved-6020		Date Analyzed:	12/14/2010 2011	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Arsenic	<0.0010	mg/L	0.0010	1.0
Barium	0.054	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	0.0051	mg/L	0.0025	1.0
Nickel	0.0025	mg/L	0.0020	1.0
Selenium	<0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1041	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Antimony	<0.0030	mg/L	0.0030	1.0
Method: Dissolved-7470A		Date Analyzed:	12/08/2010 1325	
Prep Method: 7470A		Date Prepared:	12/08/2010 0920	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/09/2010 1610	
Prep Method: 9010B		Date Prepared:	12/09/2010 1250	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/09/2010 0711	
Sulfate	210	mg/L	50	10
Method: Dissolved-9251		Date Analyzed:	12/13/2010 1708	
Chloride	130	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/15/2010 1641	
Nitrogen, Nitrate	0.33	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/08/2010 2347	

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Job Number: 500-29703-1

Client Sample ID: MW-08
Lab Sample ID: 500-29703-8

Date Sampled: 12/06/2010 1455
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Total Dissolved Solids	670	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/13/2010 1247	
Fluoride	0.51	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/08/2010 1047	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/14/2010 1612	
Nitrogen, Nitrate Nitrite	0.33	mg/L	0.10	1.0

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Job Number: 500-29703-1

Client Sample ID: MW-09
Lab Sample ID: 500-29703-9

Date Sampled: 12/06/2010 1115
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/13/2010 2105	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Beryllium	<0.0010	mg/L	0.0010	1.0
Boron	0.36	mg/L	0.050	1.0
Method: Dissolved-6020		Date Analyzed:	12/14/2010 2013	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Arsenic	<0.0010	mg/L	0.0010	1.0
Barium	0.031	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	0.0047	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	1.1	mg/L	0.0025	1.0
Nickel	0.0094	mg/L	0.0020	1.0
Selenium	<0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1042	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Antimony	<0.0030	mg/L	0.0030	1.0
Method: Dissolved-7470A		Date Analyzed:	12/08/2010 1327	
Prep Method: 7470A		Date Prepared:	12/08/2010 0920	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/09/2010 1611	
Prep Method: 9010B		Date Prepared:	12/09/2010 1250	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/09/2010 0712	
Sulfate	1600	mg/L	250	50
Method: Dissolved-9251		Date Analyzed:	12/13/2010 1708	
Chloride	140	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/15/2010 1641	
Nitrogen, Nitrate	<0.10	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/08/2010 2349	

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Job Number: 500-29703-1

Client Sample ID: MW-09
Lab Sample ID: 500-29703-9

Date Sampled: 12/06/2010 1115
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier		Unit	RL	Dilution
Total Dissolved Solids	2600		mg/L	10	1.0
Method: Dissolved-SM 4500 F C			Date Analyzed:	12/13/2010 1300	
Fluoride	0.61		mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B			Date Analyzed:	12/08/2010 1048	
Nitrogen, Nitrite	<0.020		mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F			Date Analyzed:	12/14/2010 1538	
Nitrogen, Nitrate Nitrite	<0.10	^	mg/L	0.10	1.0

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Job Number: 500-29703-1

Client Sample ID: MW-10
Lab Sample ID: 500-29703-10

Date Sampled: 12/06/2010 1520
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/13/2010 2106	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Beryllium	<0.0010	mg/L	0.0010	1.0
Boron	0.50	mg/L	0.050	1.0
Method: Dissolved-6020		Date Analyzed:	12/14/2010 2016	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Arsenic	<0.0010	mg/L	0.0010	1.0
Barium	0.050	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	0.12	mg/L	0.0025	1.0
Nickel	0.0052	mg/L	0.0020	1.0
Selenium	<0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1043	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Antimony	<0.0030	mg/L	0.0030	1.0
Method: Dissolved-7470A		Date Analyzed:	12/08/2010 1329	
Prep Method: 7470A		Date Prepared:	12/08/2010 0920	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/09/2010 1611	
Prep Method: 9010B		Date Prepared:	12/09/2010 1250	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/09/2010 0713	
Sulfate	130	mg/L	50	10
Method: Dissolved-9251		Date Analyzed:	12/13/2010 1709	
Chloride	200	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/15/2010 1641	
Nitrogen, Nitrate	0.39	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/08/2010 2351	

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Job Number: 500-29703-1

Client Sample ID: MW-10
Lab Sample ID: 500-29703-10

Date Sampled: 12/06/2010 1520
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Total Dissolved Solids	860	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/13/2010 1303	
Fluoride	0.43	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/08/2010 1048	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/15/2010 1505	
Nitrogen, Nitrate Nitrite	0.39	mg/L	0.10	1.0

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Job Number: 500-29703-1

Client Sample ID: MW-11
Lab Sample ID: 500-29703-11

Date Sampled: 12/06/2010 1600
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Method: Dissolved-6020		Date Analyzed:	12/13/2010 2108	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Beryllium	<0.0010	mg/L	0.0010	1.0
Boron	0.47	mg/L	0.050	1.0
Method: Dissolved-6020		Date Analyzed:	12/14/2010 2019	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Arsenic	0.0013	mg/L	0.0010	1.0
Barium	0.064	mg/L	0.0025	1.0
Cadmium	<0.00050	mg/L	0.00050	1.0
Chromium	<0.0050	mg/L	0.0050	1.0
Cobalt	<0.0010	mg/L	0.0010	1.0
Copper	<0.0020	mg/L	0.0020	1.0
Iron	<0.10	mg/L	0.10	1.0
Lead	<0.00050	mg/L	0.00050	1.0
Manganese	0.052	mg/L	0.0025	1.0
Nickel	0.0022	mg/L	0.0020	1.0
Selenium	<0.0025	mg/L	0.0025	1.0
Silver	<0.00050	mg/L	0.00050	1.0
Thallium	<0.0020	mg/L	0.0020	1.0
Zinc	<0.020	mg/L	0.020	1.0
Method: Dissolved-6020		Date Analyzed:	12/17/2010 1044	
Prep Method: Soluble Metals		Date Prepared:	12/08/2010 1252	
Antimony	<0.0030	mg/L	0.0030	1.0
Method: Dissolved-7470A		Date Analyzed:	12/08/2010 1330	
Prep Method: 7470A		Date Prepared:	12/08/2010 0920	
Mercury	<0.00020	mg/L	0.00020	1.0
Method: Dissolved-9014		Date Analyzed:	12/09/2010 1611	
Prep Method: 9010B		Date Prepared:	12/09/2010 1250	
Cyanide, Total	<0.010	mg/L	0.010	1.0
Method: Dissolved-9038		Date Analyzed:	12/09/2010 0714	
Sulfate	140	mg/L	50	10
Method: Dissolved-9251		Date Analyzed:	12/13/2010 1710	
Chloride	160	mg/L	10	5.0
Method: Dissolved-Nitrate by calc		Date Analyzed:	12/15/2010 1641	
Nitrogen, Nitrate	0.39	mg/L	0.10	1.0
Method: Dissolved-SM 2540C		Date Analyzed:	12/08/2010 2353	

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Job Number: 500-29703-1

Client Sample ID: MW-11
Lab Sample ID: 500-29703-11

Date Sampled: 12/06/2010 1600
Date Received: 12/07/2010 1250
Client Matrix: Water

Analyte	Result/Qualifier	Unit	RL	Dilution
Total Dissolved Solids	770	mg/L	10	1.0
Method: Dissolved-SM 4500 F C		Date Analyzed:	12/13/2010 1307	
Fluoride	0.34	mg/L	0.10	1.0
Method: Dissolved-SM 4500 NO2 B		Date Analyzed:	12/08/2010 1048	
Nitrogen, Nitrite	<0.020	mg/L	0.020	1.0
Method: Dissolved-SM 4500 NO3 F		Date Analyzed:	12/15/2010 1507	
Nitrogen, Nitrate Nitrite	0.39	mg/L	0.10	1.0

DATA REPORTING QUALIFIERS

Client: Midwest Generation EME LLC Job Number: 500-29703-1

Lab Section	Qualifier	Description
Metals		
	F	MS or MSD exceeds the control limits
General Chemistry		
	^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

QUALITY CONTROL RESULTS

Client: Midwest Generation EME LLC Job Number: 500-29703-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Prep Batch: 500-101452					
LCS 500-101452/8-A	Lab Control Sample	T	Water	7470A	
MB 500-101452/7-A	Method Blank	T	Water	7470A	
500-29703-1	MW-01	D	Water	7470A	
500-29703-1DU	Duplicate	D	Water	7470A	
500-29703-1MS	Matrix Spike	D	Water	7470A	
500-29703-1MSD	Matrix Spike Duplicate	D	Water	7470A	
500-29703-2	MW-02	D	Water	7470A	
500-29703-3	MW-03	D	Water	7470A	
500-29703-4	MW-04	D	Water	7470A	
500-29703-5	MW-05	D	Water	7470A	
500-29703-6	MW-06	D	Water	7470A	
500-29703-7	MW-07	D	Water	7470A	
500-29703-8	MW-08	D	Water	7470A	
500-29703-9	MW-09	D	Water	7470A	
500-29703-10	MW-10	D	Water	7470A	
500-29703-11	MW-11	D	Water	7470A	
Prep Batch: 500-101483					
LCS 500-101483/2-A	Lab Control Sample	S	Water	Soluble Metals	
MB 500-101483/1-A	Method Blank	S	Water	Soluble Metals	
500-29703-1	MW-01	D	Water	Soluble Metals	
500-29703-1DU	Duplicate	D	Water	Soluble Metals	
500-29703-1MS	Matrix Spike	D	Water	Soluble Metals	
500-29703-1MSD	Matrix Spike Duplicate	D	Water	Soluble Metals	
500-29703-2	MW-02	D	Water	Soluble Metals	
500-29703-3	MW-03	D	Water	Soluble Metals	
500-29703-4	MW-04	D	Water	Soluble Metals	
500-29703-5	MW-05	D	Water	Soluble Metals	
500-29703-6	MW-06	D	Water	Soluble Metals	
500-29703-7	MW-07	D	Water	Soluble Metals	
500-29703-8	MW-08	D	Water	Soluble Metals	
500-29703-9	MW-09	D	Water	Soluble Metals	
500-29703-10	MW-10	D	Water	Soluble Metals	
500-29703-11	MW-11	D	Water	Soluble Metals	

Client: Midwest Generation EME LLC Job Number: 500-29703-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:500-101510					
LCS 500-101452/8-A	Lab Control Sample	T	Water	7470A	500-101452
MB 500-101452/7-A	Method Blank	T	Water	7470A	500-101452
500-29703-1	MW-01	D	Water	7470A	500-101452
500-29703-1DU	Duplicate	D	Water	7470A	500-101452
500-29703-1MS	Matrix Spike	D	Water	7470A	500-101452
500-29703-1MSD	Matrix Spike Duplicate	D	Water	7470A	500-101452
500-29703-2	MW-02	D	Water	7470A	500-101452
500-29703-3	MW-03	D	Water	7470A	500-101452
500-29703-4	MW-04	D	Water	7470A	500-101452
500-29703-5	MW-05	D	Water	7470A	500-101452
500-29703-6	MW-06	D	Water	7470A	500-101452
500-29703-7	MW-07	D	Water	7470A	500-101452
500-29703-8	MW-08	D	Water	7470A	500-101452
500-29703-9	MW-09	D	Water	7470A	500-101452
500-29703-10	MW-10	D	Water	7470A	500-101452
500-29703-11	MW-11	D	Water	7470A	500-101452
Analysis Batch:500-101835					
LCS 500-101483/2-A	Lab Control Sample	S	Water	6020	500-101483
MB 500-101483/1-A	Method Blank	S	Water	6020	500-101483
500-29703-1	MW-01	D	Water	6020	500-101483
500-29703-1DU	Duplicate	D	Water	6020	500-101483
500-29703-1MS	Matrix Spike	D	Water	6020	500-101483
500-29703-1MSD	Matrix Spike Duplicate	D	Water	6020	500-101483
500-29703-2	MW-02	D	Water	6020	500-101483
500-29703-3	MW-03	D	Water	6020	500-101483
500-29703-4	MW-04	D	Water	6020	500-101483
500-29703-5	MW-05	D	Water	6020	500-101483
500-29703-6	MW-06	D	Water	6020	500-101483
500-29703-7	MW-07	D	Water	6020	500-101483
500-29703-8	MW-08	D	Water	6020	500-101483
500-29703-9	MW-09	D	Water	6020	500-101483
500-29703-10	MW-10	D	Water	6020	500-101483
500-29703-11	MW-11	D	Water	6020	500-101483

Client: Midwest Generation EME LLC Job Number: 500-29703-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
Metals					
Analysis Batch:500-101913					
LCS 500-101483/2-A	Lab Control Sample	S	Water	6020	500-101483
MB 500-101483/1-A	Method Blank	S	Water	6020	500-101483
500-29703-1	MW-01	D	Water	6020	500-101483
500-29703-1DU	Duplicate	D	Water	6020	500-101483
500-29703-1MS	Matrix Spike	D	Water	6020	500-101483
500-29703-1MSD	Matrix Spike Duplicate	D	Water	6020	500-101483
500-29703-2	MW-02	D	Water	6020	500-101483
500-29703-3	MW-03	D	Water	6020	500-101483
500-29703-4	MW-04	D	Water	6020	500-101483
500-29703-5	MW-05	D	Water	6020	500-101483
500-29703-6	MW-06	D	Water	6020	500-101483
500-29703-7	MW-07	D	Water	6020	500-101483
500-29703-8	MW-08	D	Water	6020	500-101483
500-29703-9	MW-09	D	Water	6020	500-101483
500-29703-10	MW-10	D	Water	6020	500-101483
500-29703-11	MW-11	D	Water	6020	500-101483
Analysis Batch:500-102128					
LCS 500-101483/2-A	Lab Control Sample	S	Water	6020	500-101483
MB 500-101483/1-A	Method Blank	S	Water	6020	500-101483
500-29703-1	MW-01	D	Water	6020	500-101483
500-29703-1DU	Duplicate	D	Water	6020	500-101483
500-29703-1MS	Matrix Spike	D	Water	6020	500-101483
500-29703-1MSD	Matrix Spike Duplicate	D	Water	6020	500-101483
500-29703-2	MW-02	D	Water	6020	500-101483
500-29703-3	MW-03	D	Water	6020	500-101483
500-29703-4	MW-04	D	Water	6020	500-101483
500-29703-5	MW-05	D	Water	6020	500-101483
500-29703-6	MW-06	D	Water	6020	500-101483
500-29703-7	MW-07	D	Water	6020	500-101483
500-29703-8	MW-08	D	Water	6020	500-101483
500-29703-9	MW-09	D	Water	6020	500-101483
500-29703-10	MW-10	D	Water	6020	500-101483
500-29703-11	MW-11	D	Water	6020	500-101483

Report Basis
D = Dissolved
S = Soluble
T = Total

Client: Midwest Generation EME LLC Job Number: 500-29703-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:500-101499					
LCS 500-101499/4	Lab Control Sample	T	Water	SM 4500 NO2 B	
MB 500-101499/3	Method Blank	T	Water	SM 4500 NO2 B	
500-29703-1	MW-01	D	Water	SM 4500 NO2 B	
500-29703-1MS	Matrix Spike	D	Water	SM 4500 NO2 B	
500-29703-1MSD	Matrix Spike Duplicate	D	Water	SM 4500 NO2 B	
500-29703-2	MW-02	D	Water	SM 4500 NO2 B	
500-29703-3	MW-03	D	Water	SM 4500 NO2 B	
500-29703-4	MW-04	D	Water	SM 4500 NO2 B	
500-29703-5	MW-05	D	Water	SM 4500 NO2 B	
500-29703-6	MW-06	D	Water	SM 4500 NO2 B	
500-29703-7	MW-07	D	Water	SM 4500 NO2 B	
500-29703-8	MW-08	D	Water	SM 4500 NO2 B	
500-29703-9	MW-09	D	Water	SM 4500 NO2 B	
500-29703-10	MW-10	D	Water	SM 4500 NO2 B	
500-29703-11	MW-11	D	Water	SM 4500 NO2 B	
Analysis Batch:500-101531					
LCS 500-101531/2	Lab Control Sample	T	Water	SM 2540C	
MB 500-101531/1	Method Blank	T	Water	SM 2540C	
500-29703-1	MW-01	D	Water	SM 2540C	
500-29703-1DU	Duplicate	D	Water	SM 2540C	
500-29703-1MS	Matrix Spike	D	Water	SM 2540C	
500-29703-2	MW-02	D	Water	SM 2540C	
500-29703-3	MW-03	D	Water	SM 2540C	
500-29703-4	MW-04	D	Water	SM 2540C	
500-29703-5	MW-05	D	Water	SM 2540C	
500-29703-6	MW-06	D	Water	SM 2540C	
500-29703-7	MW-07	D	Water	SM 2540C	
500-29703-8	MW-08	D	Water	SM 2540C	
500-29703-9	MW-09	D	Water	SM 2540C	
500-29703-10	MW-10	D	Water	SM 2540C	
500-29703-11	MW-11	D	Water	SM 2540C	
Analysis Batch:500-101547					
LCS 500-101547/4	Lab Control Sample	T	Water	9038	
MB 500-101547/3	Method Blank	T	Water	9038	
500-29703-1	MW-01	D	Water	9038	
500-29703-2	MW-02	D	Water	9038	
500-29703-3	MW-03	D	Water	9038	

Client: Midwest Generation EME LLC Job Number: 500-29703-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Prep Batch: 500-101579					
HLCS 500-101579/3-A	High Level Control Sample	T	Water	9010B	
LCS 500-101579/2-A	Lab Control Sample	T	Water	9010B	
LLCS 500-101579/4-A	Low Level Control Sample	T	Water	9010B	
MB 500-101579/1-A	Method Blank	T	Water	9010B	
500-29703-1	MW-01	D	Water	9010B	
500-29703-2	MW-02	D	Water	9010B	
500-29703-3	MW-03	D	Water	9010B	
500-29703-4	MW-04	D	Water	9010B	
500-29703-5	MW-05	D	Water	9010B	
500-29703-6	MW-06	D	Water	9010B	
500-29703-7	MW-07	D	Water	9010B	
500-29703-8	MW-08	D	Water	9010B	
500-29703-9	MW-09	D	Water	9010B	
500-29703-10	MW-10	D	Water	9010B	
500-29703-11	MW-11	D	Water	9010B	
Analysis Batch:500-101622					
HLCS 500-101579/3-A	High Level Control Sample	T	Water	9014	500-101579
LCS 500-101579/2-A	Lab Control Sample	T	Water	9014	500-101579
LLCS 500-101579/4-A	Low Level Control Sample	T	Water	9014	500-101579
MB 500-101579/1-A	Method Blank	T	Water	9014	500-101579
500-29703-1	MW-01	D	Water	9014	500-101579
500-29703-2	MW-02	D	Water	9014	500-101579
500-29703-3	MW-03	D	Water	9014	500-101579
500-29703-4	MW-04	D	Water	9014	500-101579
500-29703-5	MW-05	D	Water	9014	500-101579
500-29703-6	MW-06	D	Water	9014	500-101579
500-29703-7	MW-07	D	Water	9014	500-101579
500-29703-8	MW-08	D	Water	9014	500-101579
500-29703-9	MW-09	D	Water	9014	500-101579
500-29703-10	MW-10	D	Water	9014	500-101579
500-29703-11	MW-11	D	Water	9014	500-101579
Analysis Batch:500-101632					
LCS 500-101632/4	Lab Control Sample	T	Water	9038	
MB 500-101632/3	Method Blank	T	Water	9038	
500-29703-4	MW-04	D	Water	9038	
500-29703-5	MW-05	D	Water	9038	
500-29703-6	MW-06	D	Water	9038	
500-29703-7	MW-07	D	Water	9038	
500-29703-8	MW-08	D	Water	9038	
500-29703-9	MW-09	D	Water	9038	
500-29703-10	MW-10	D	Water	9038	
500-29703-11	MW-11	D	Water	9038	

Client: Midwest Generation EME LLC Job Number: 500-29703-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:500-101787					
LCS 500-101787/4	Lab Control Sample	T	Water	SM 4500 F C	
MB 500-101787/3	Method Blank	T	Water	SM 4500 F C	
500-29703-1	MW-01	D	Water	SM 4500 F C	
500-29703-1MS	Matrix Spike	D	Water	SM 4500 F C	
500-29703-1MSD	Matrix Spike Duplicate	D	Water	SM 4500 F C	
500-29703-2	MW-02	D	Water	SM 4500 F C	
500-29703-3	MW-03	D	Water	SM 4500 F C	
500-29703-4	MW-04	D	Water	SM 4500 F C	
500-29703-5	MW-05	D	Water	SM 4500 F C	
500-29703-6	MW-06	D	Water	SM 4500 F C	
500-29703-7	MW-07	D	Water	SM 4500 F C	
500-29703-8	MW-08	D	Water	SM 4500 F C	
500-29703-9	MW-09	D	Water	SM 4500 F C	
500-29703-10	MW-10	D	Water	SM 4500 F C	
500-29703-11	MW-11	D	Water	SM 4500 F C	
Analysis Batch:500-101815					
LCS 500-101815/40	Lab Control Sample	T	Water	9251	
MB 500-101815/39	Method Blank	T	Water	9251	
500-29703-1	MW-01	D	Water	9251	
500-29703-2	MW-02	D	Water	9251	
500-29703-3	MW-03	D	Water	9251	
500-29703-4	MW-04	D	Water	9251	
500-29703-5	MW-05	D	Water	9251	
500-29703-6	MW-06	D	Water	9251	
500-29703-7	MW-07	D	Water	9251	
500-29703-8	MW-08	D	Water	9251	
500-29703-9	MW-09	D	Water	9251	
500-29703-10	MW-10	D	Water	9251	
500-29703-11	MW-11	D	Water	9251	
Analysis Batch:500-101888					
LCS 500-101888/38	Lab Control Sample	T	Water	SM 4500 NO3 F	
MB 500-101888/19	Method Blank	T	Water	SM 4500 NO3 F	
500-29703-1	MW-01	D	Water	SM 4500 NO3 F	
500-29703-2	MW-02	D	Water	SM 4500 NO3 F	
500-29703-6	MW-06	D	Water	SM 4500 NO3 F	
500-29703-7	MW-07	D	Water	SM 4500 NO3 F	
500-29703-8	MW-08	D	Water	SM 4500 NO3 F	
500-29703-9	MW-09	D	Water	SM 4500 NO3 F	
500-29703-9MS	Matrix Spike	D	Water	SM 4500 NO3 F	
500-29703-9MSD	Matrix Spike Duplicate	D	Water	SM 4500 NO3 F	

Client: Midwest Generation EME LLC Job Number: 500-29703-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
General Chemistry					
Analysis Batch:500-101968					
LCS 500-101968/13	Lab Control Sample	T	Water	SM 4500 NO3 F	
LCS 500-101968/26	Lab Control Sample	T	Water	SM 4500 NO3 F	
MB 500-101968/12	Method Blank	T	Water	SM 4500 NO3 F	
MB 500-101968/25	Method Blank	T	Water	SM 4500 NO3 F	
500-29703-3	MW-03	D	Water	SM 4500 NO3 F	
500-29703-4	MW-04	D	Water	SM 4500 NO3 F	
500-29703-5	MW-05	D	Water	SM 4500 NO3 F	
500-29703-10	MW-10	D	Water	SM 4500 NO3 F	
500-29703-11	MW-11	D	Water	SM 4500 NO3 F	
Analysis Batch:500-101971					
500-29703-1	MW-01	D	Water	Nitrate by calc	
500-29703-2	MW-02	D	Water	Nitrate by calc	
500-29703-3	MW-03	D	Water	Nitrate by calc	
500-29703-4	MW-04	D	Water	Nitrate by calc	
500-29703-5	MW-05	D	Water	Nitrate by calc	
500-29703-6	MW-06	D	Water	Nitrate by calc	
500-29703-7	MW-07	D	Water	Nitrate by calc	
500-29703-8	MW-08	D	Water	Nitrate by calc	
500-29703-9	MW-09	D	Water	Nitrate by calc	
500-29703-10	MW-10	D	Water	Nitrate by calc	
500-29703-11	MW-11	D	Water	Nitrate by calc	

Report Basis
D = Dissolved
T = Total

Client: Midwest Generation EME LLC Job Number: 500-29703-1

Method Blank - Batch: 500-101483

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: MB 500-101483/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/13/2010 2046
Date Prepared: 12/08/2010 1252

Analysis Batch: 500-101835
Prep Batch: 500-101483
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2121310E.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Beryllium	<0.0010		0.0010
Boron	<0.050		0.050

Method Blank - Batch: 500-101483

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: MB 500-101483/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/14/2010 1930
Date Prepared: 12/08/2010 1252

Analysis Batch: 500-101913
Prep Batch: 500-101483
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2121410B.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Arsenic	<0.0010		0.0010
Barium	<0.0025		0.0025
Cadmium	<0.00050		0.00050
Chromium	<0.0050		0.0050
Cobalt	<0.0010		0.0010
Copper	<0.0020		0.0020
Iron	<0.10		0.10
Lead	<0.00050		0.00050
Manganese	<0.0025		0.0025
Nickel	<0.0020		0.0020
Selenium	<0.0025		0.0025
Silver	<0.00050		0.00050
Thallium	<0.0020		0.0020
Zinc	<0.020		0.020

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Method Blank - Batch: 500-101483

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: MB 500-101483/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/17/2010 1021
Date Prepared: 12/08/2010 1252

Analysis Batch: 500-102128
Prep Batch: 500-101483
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2121710A.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Antimony	<0.0030		0.0030

Client: Midwest Generation EME LLC Job Number: 500-29703-1

Lab Control Sample - Batch: 500-101483

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: LCS 500-101483/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/13/2010 2047
Date Prepared: 12/08/2010 1252

Analysis Batch: 500-101835
Prep Batch: 500-101483
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2121310E.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Beryllium	0.0500	0.0488	98	80 - 120	
Boron	1.00	1.01	101	80 - 120	

Lab Control Sample - Batch: 500-101483

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: LCS 500-101483/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/14/2010 1933
Date Prepared: 12/08/2010 1252

Analysis Batch: 500-101913
Prep Batch: 500-101483
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2121410B.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	0.100	0.0999	100	80 - 120	
Barium	0.500	0.488	98	80 - 120	
Cadmium	0.0500	0.0529	106	80 - 120	
Chromium	0.200	0.204	102	80 - 120	
Cobalt	0.500	0.517	103	80 - 120	
Copper	0.250	0.270	108	80 - 120	
Iron	1.00	0.965	96	80 - 120	
Lead	0.100	0.0997	100	80 - 120	
Manganese	0.500	0.519	104	80 - 120	
Nickel	0.500	0.539	108	80 - 120	
Selenium	0.100	0.104	104	80 - 120	
Silver	0.0500	0.0522	104	80 - 120	
Thallium	0.100	0.103	103	80 - 120	
Zinc	0.500	0.548	110	80 - 120	

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Lab Control Sample - Batch: 500-101483

Method: 6020
Preparation: Soluble Metals Soluble

Lab Sample ID: LCS 500-101483/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/17/2010 1022
Date Prepared: 12/08/2010 1252

Analysis Batch: 500-102128
Prep Batch: 500-101483
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2121710A.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Antimony	0.500	0.432	86	80 - 120	

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-101483

Method: 6020
Preparation: Soluble Metals Dissolved

MS Lab Sample ID:	500-29703-1	Analysis Batch:	500-101835	Instrument ID:	ICPMS2
Client Matrix:	Water	Prep Batch:	500-101483	Lab File ID:	MS2121310E.csv
Dilution:	1.0			Initial Weight/Volume:	1.0 mL
Date Analyzed:	12/13/2010 2054			Final Weight/Volume:	1.0 mL
Date Prepared:	12/08/2010 1252				

MSD Lab Sample ID:	500-29703-1	Analysis Batch:	500-101835	Instrument ID:	ICPMS2
Client Matrix:	Water	Prep Batch:	500-101483	Lab File ID:	MS2121310E.csv
Dilution:	1.0			Initial Weight/Volume:	1.0 mL
Date Analyzed:	12/13/2010 2055			Final Weight/Volume:	1.0 mL
Date Prepared:	12/08/2010 1252				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Beryllium	95	95	75 - 125	0	20		
Boron	98	99	75 - 125	1	20		

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-101483

Method: 6020
Preparation: Soluble Metals Dissolved

MS Lab Sample ID:	500-29703-1	Analysis Batch:	500-101913	Instrument ID:	ICPMS2
Client Matrix:	Water	Prep Batch:	500-101483	Lab File ID:	MS2121410B.csv
Dilution:	1.0			Initial Weight/Volume:	1.0 mL
Date Analyzed:	12/14/2010 1944			Final Weight/Volume:	1.0 mL
Date Prepared:	12/08/2010 1252				

MSD Lab Sample ID:	500-29703-1	Analysis Batch:	500-101913	Instrument ID:	ICPMS2
Client Matrix:	Water	Prep Batch:	500-101483	Lab File ID:	MS2121410B.csv
Dilution:	1.0			Initial Weight/Volume:	1.0 mL
Date Analyzed:	12/14/2010 1946			Final Weight/Volume:	1.0 mL
Date Prepared:	12/08/2010 1252				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Arsenic	107	111	75 - 125	3	20		
Barium	94	96	75 - 125	2	20		
Cadmium	102	103	75 - 125	1	20		
Chromium	95	101	75 - 125	6	20		
Cobalt	95	100	75 - 125	6	20		
Copper	96	103	75 - 125	6	20		
Iron	90	98	75 - 125	9	20		
Lead	98	99	75 - 125	1	20		
Manganese	98	104	75 - 125	6	20		
Nickel	97	103	75 - 125	7	20		
Selenium	121	126	75 - 125	5	20		F
Silver	64	62	75 - 125	2	20	F	F
Thallium	102	103	75 - 125	1	20		
Zinc	105	113	75 - 125	7	20		

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-101483

Method: 6020
Preparation: Soluble Metals Dissolved

MS Lab Sample ID:	500-29703-1	Analysis Batch:	500-102128	Instrument ID:	ICPMS2
Client Matrix:	Water	Prep Batch:	500-101483	Lab File ID:	MS2121710A.csv
Dilution:	1.0			Initial Weight/Volume:	1.0 mL
Date Analyzed:	12/17/2010 1026			Final Weight/Volume:	1.0 mL
Date Prepared:	12/08/2010 1252				

MSD Lab Sample ID:	500-29703-1	Analysis Batch:	500-102128	Instrument ID:	ICPMS2
Client Matrix:	Water	Prep Batch:	500-101483	Lab File ID:	MS2121710A.csv
Dilution:	1.0			Initial Weight/Volume:	1.0 mL
Date Analyzed:	12/17/2010 1027			Final Weight/Volume:	1.0 mL
Date Prepared:	12/08/2010 1252				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Antimony	87	91	75 - 125	4	20		

Client: Midwest Generation EME LLC Job Number: 500-29703-1

Duplicate - Batch: 500-101483

Method: 6020
Preparation: Soluble Metals Dissolved

Lab Sample ID: 500-29703-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/13/2010 2053
Date Prepared: 12/08/2010 1252

Analysis Batch: 500-101835
Prep Batch: 500-101483
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2121310E.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Beryllium	<0.0010	<0.0010	NC	20	
Boron	0.31	0.307	0.7	20	

Duplicate - Batch: 500-101483

Method: 6020
Preparation: Soluble Metals Dissolved

Lab Sample ID: 500-29703-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/14/2010 1941
Date Prepared: 12/08/2010 1252

Analysis Batch: 500-101913
Prep Batch: 500-101483
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2121410B.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Arsenic	0.0011	<0.0010	NC	20	
Barium	0.13	0.130	2	20	
Cadmium	<0.00050	<0.00050	NC	20	
Chromium	<0.0050	<0.0050	NC	20	
Cobalt	<0.0010	<0.0010	NC	20	
Copper	0.0032	0.00325	2	20	
Iron	<0.10	<0.10	NC	20	
Lead	<0.00050	<0.00050	NC	20	
Manganese	<0.0025	<0.0025	NC	20	
Nickel	0.0034	0.00317	7	20	
Selenium	<0.0025	<0.0025	NC	20	
Silver	<0.00050	<0.00050	NC	20	
Thallium	<0.0020	<0.0020	NC	20	
Zinc	<0.020	<0.020	NC	20	

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Duplicate - Batch: 500-101483

Method: 6020
Preparation: Soluble Metals Dissolved

Lab Sample ID: 500-29703-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/17/2010 1025
Date Prepared: 12/08/2010 1252

Analysis Batch: 500-102128
Prep Batch: 500-101483
Units: mg/L

Instrument ID: ICPMS2
Lab File ID: MS2121710A.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Antimony	0.0043	<0.0030	NC	20	

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Method Blank - Batch: 500-101452

Method: 7470A
Preparation: 7470A

Lab Sample ID: MB 500-101452/7-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 1248
Date Prepared: 12/08/2010 0920

Analysis Batch: 500-101510
Prep Batch: 500-101452
Units: mg/L

Instrument ID: HG6
Lab File ID: 120810R.CSV
Initial Weight/Volume: 25 mL
Final Weight/Volume: 25 mL

Analyte	Result	Qual	RL
Mercury	<0.00020		0.00020

Lab Control Sample - Batch: 500-101452

Method: 7470A
Preparation: 7470A

Lab Sample ID: LCS 500-101452/8-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 1250
Date Prepared: 12/08/2010 0920

Analysis Batch: 500-101510
Prep Batch: 500-101452
Units: mg/L

Instrument ID: HG6
Lab File ID: 120810R.CSV
Initial Weight/Volume: 25 mL
Final Weight/Volume: 25 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.00200	0.00203	101	80 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-101452

Method: 7470A
Preparation: 7470A
Dissolved

MS Lab Sample ID: 500-29703-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 1308
Date Prepared: 12/08/2010 0920

Analysis Batch: 500-101510
Prep Batch: 500-101452

Instrument ID: HG6
Lab File ID: 120810R.CSV
Initial Weight/Volume: 25 mL
Final Weight/Volume: 25 mL

MSD Lab Sample ID: 500-29703-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 1310
Date Prepared: 12/08/2010 0920

Analysis Batch: 500-101510
Prep Batch: 500-101452

Instrument ID: HG6
Lab File ID: 120810R.CSV
Initial Weight/Volume: 25 mL
Final Weight/Volume: 25 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Mercury	125	116	75 - 125	7	20		

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Duplicate - Batch: 500-101452

Method: 7470A
Preparation: 7470A
Dissolved

Lab Sample ID: 500-29703-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 1306
Date Prepared: 12/08/2010 0920

Analysis Batch: 500-101510
Prep Batch: 500-101452
Units: mg/L

Instrument ID: HG6
Lab File ID: 120810R.CSV
Initial Weight/Volume: 25 mL
Final Weight/Volume: 25 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Mercury	<0.00020	<0.00020	NC	20	

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Method Blank - Batch: 500-101579

Method: 9014
Preparation: 9010B

Lab Sample ID: MB 500-101579/1-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/09/2010 1605
Date Prepared: 12/09/2010 1250

Analysis Batch: 500-101622
Prep Batch: 500-101579
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Cyanide, Total-Dissolved	<0.010		0.010

Client: Midwest Generation EME LLC Job Number: 500-29703-1

Lab Control Sample - Batch: 500-101579

Method: 9014
Preparation: 9010B

Lab Sample ID: LCS 500-101579/2-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/09/2010 1605
Date Prepared: 12/09/2010 1250

Analysis Batch: 500-101622
Prep Batch: 500-101579
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cyanide, Total-Dissolved	0.100	0.105	105	80 - 120	

High Level Control Sample - Batch: 500-101579

Method: 9014
Preparation: 9010B

Lab Sample ID: HLCS 500-101579/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/09/2010 1606
Date Prepared: 12/09/2010 1250

Analysis Batch: 500-101622
Prep Batch: 500-101579
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cyanide, Total-Dissolved	0.400	0.405	101	90 - 110	

Low Level Control Sample - Batch: 500-101579

Method: 9014
Preparation: 9010B

Lab Sample ID: LLCS 500-101579/4-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/09/2010 1606
Date Prepared: 12/09/2010 1250

Analysis Batch: 500-101622
Prep Batch: 500-101579
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cyanide, Total-Dissolved	0.0400	0.0437	109	75 - 125	

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Method Blank - Batch: 500-101547

Method: 9038
Preparation: N/A

Lab Sample ID: MB 500-101547/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/09/2010 0550
Date Prepared: N/A

Analysis Batch: 500-101547
Prep Batch: N/A
Units: mg/L

Instrument ID: SPEC3
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Sulfate-Dissolved	<5.0		5.0

Lab Control Sample - Batch: 500-101547

Method: 9038
Preparation: N/A

Lab Sample ID: LCS 500-101547/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/09/2010 0551
Date Prepared: N/A

Analysis Batch: 500-101547
Prep Batch: N/A
Units: mg/L

Instrument ID: SPEC3
Lab File ID: N/A
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate-Dissolved	20.0	18.4	92	80 - 120	

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Method Blank - Batch: 500-101632

Method: 9038
Preparation: N/A

Lab Sample ID: MB 500-101632/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/09/2010 0654
Date Prepared: N/A

Analysis Batch: 500-101632
Prep Batch: N/A
Units: mg/L

Instrument ID: SPEC3
Lab File ID: N/A
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Sulfate-Dissolved	<5.0		5.0

Lab Control Sample - Batch: 500-101632

Method: 9038
Preparation: N/A

Lab Sample ID: LCS 500-101632/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/09/2010 0655
Date Prepared: N/A

Analysis Batch: 500-101632
Prep Batch: N/A
Units: mg/L

Instrument ID: SPEC3
Lab File ID: N/A
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfate-Dissolved	20.0	19.6	98	80 - 120	

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Method Blank - Batch: 500-101815

Method: 9251
Preparation: N/A

Lab Sample ID: MB 500-101815/39
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/13/2010 1654
Date Prepared: N/A

Analysis Batch: 500-101815
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-12-13-17-30-12.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Chloride-Dissolved	<2.0		2.0

Lab Control Sample - Batch: 500-101815

Method: 9251
Preparation: N/A

Lab Sample ID: LCS 500-101815/40
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/13/2010 1655
Date Prepared: N/A

Analysis Batch: 500-101815
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-12-13-17-30-12.csv
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Chloride-Dissolved	50.0	52.1	104	80 - 120	

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Method Blank - Batch: 500-101531

Method: SM 2540C
Preparation: N/A

Lab Sample ID: MB 500-101531/1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 2321
Date Prepared: N/A

Analysis Batch: 500-101531
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Total Dissolved Solids-Dissolved	<10		10

Lab Control Sample - Batch: 500-101531

Method: SM 2540C
Preparation: N/A

Lab Sample ID: LCS 500-101531/2
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 2323
Date Prepared: N/A

Analysis Batch: 500-101531
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Total Dissolved Solids-Dissolved	250	260	104	80 - 120	

Matrix Spike - Batch: 500-101531

Method: SM 2540C
Preparation: N/A

Lab Sample ID: 500-29703-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 2333
Date Prepared: N/A

Analysis Batch: 500-101531
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Spike Amount	Result	% Rec.	Limit	Qual
Total Dissolved Solids-Dissolved	590	250	854	105	75 - 125	

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Duplicate - Batch: 500-101531

Method: SM 2540C
Preparation: N/A

Lab Sample ID: 500-29703-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 2331
Date Prepared: N/A

Analysis Batch: 500-101531
Prep Batch: N/A
Units: mg/L

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
Total Dissolved Solids-Dissolved	590	598	1	20	

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Method Blank - Batch: 500-101787

Method: SM 4500 F C
Preparation: N/A

Lab Sample ID: MB 500-101787/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/13/2010 1131
Date Prepared: N/A

Analysis Batch: 500-101787
Prep Batch: N/A
Units: mg/L

Instrument ID: PC-Titrate
Lab File ID: 10121300.txt
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Fluoride-Dissolved	<0.10		0.10

Lab Control Sample - Batch: 500-101787

Method: SM 4500 F C
Preparation: N/A

Lab Sample ID: LCS 500-101787/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/13/2010 1134
Date Prepared: N/A

Analysis Batch: 500-101787
Prep Batch: N/A
Units: mg/L

Instrument ID: PC-Titrate
Lab File ID: 10121300.txt
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Fluoride-Dissolved	10.0	10.3	103	80 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-101787

Method: SM 4500 F C
Preparation: N/A

MS Lab Sample ID: 500-29703-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/13/2010 1221
Date Prepared: N/A

Analysis Batch: 500-101787
Prep Batch: N/A

Instrument ID: PC-Titrate
Lab File ID: 10121300.txt
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

MSD Lab Sample ID: 500-29703-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/13/2010 1224
Date Prepared: N/A

Analysis Batch: 500-101787
Prep Batch: N/A

Instrument ID: PC-Titrate
Lab File ID: 10121300.txt
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Fluoride-Dissolved	107	105	75 - 125	1	20		

Client: Midwest Generation EME LLC Job Number: 500-29703-1

Method Blank - Batch: 500-101499

Method: SM 4500 NO2 B
Preparation: N/A

Lab Sample ID: MB 500-101499/3
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 1040
Date Prepared: N/A

Analysis Batch: 500-101499
Prep Batch: N/A
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	RL
Nitrogen, Nitrite-Dissolved	<0.020		0.020

Lab Control Sample - Batch: 500-101499

Method: SM 4500 NO2 B
Preparation: N/A

Lab Sample ID: LCS 500-101499/4
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 1041
Date Prepared: N/A

Analysis Batch: 500-101499
Prep Batch: N/A
Units: mg/L

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrogen, Nitrite-Dissolved	0.100	0.0995	100	80 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-101499

Method: SM 4500 NO2 B
Preparation: N/A

MS Lab Sample ID: 500-29703-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 1043
Date Prepared: N/A

Analysis Batch: 500-101499
Prep Batch: N/A

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

MSD Lab Sample ID: 500-29703-1
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/08/2010 1044
Date Prepared: N/A

Analysis Batch: 500-101499
Prep Batch: N/A

Instrument ID: SPEC5
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Nitrogen, Nitrite-Dissolved	93	94	75 - 125	1	20		

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Method Blank - Batch: 500-101888

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: MB 500-101888/19
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/14/2010 1515
Date Prepared: N/A

Analysis Batch: 500-101888
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-12-14-16-16-11.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Nitrogen, Nitrate Nitrite-Dissolved	<0.10	^	0.10

Lab Control Sample - Batch: 500-101888

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: LCS 500-101888/38
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/14/2010 1606
Date Prepared: N/A

Analysis Batch: 500-101888
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 2010-12-14-16-16-11.csv
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrogen, Nitrate Nitrite-Dissolved	1.00	1.08	108	80 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 500-101888

Method: SM 4500 NO3 F
Preparation: N/A

MS Lab Sample ID: 500-29703-9
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/14/2010 1613
Date Prepared: N/A

Analysis Batch: 500-101888
Prep Batch: N/A

Instrument ID: AQ2
Lab File ID: 2010-12-14-16-16-11.csv
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

MSD Lab Sample ID: 500-29703-9
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/14/2010 1614
Date Prepared: N/A

Analysis Batch: 500-101888
Prep Batch: N/A

Instrument ID: AQ2
Lab File ID: 2010-12-14-16-16-11.csv
Initial Weight/Volume: 10 mL
Final Weight/Volume: 10 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Nitrogen, Nitrate Nitrite-Dissolved	91	97	75 - 125	5	20		

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Method Blank - Batch: 500-101968

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: MB 500-101968/12
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/15/2010 1433
Date Prepared: N/A

Analysis Batch: 500-101968
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 20101215.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Nitrogen, Nitrate Nitrite-Dissolved	<0.10		0.10

Method Blank - Batch: 500-101968

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: MB 500-101968/25
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/15/2010 1501
Date Prepared: N/A

Analysis Batch: 500-101968
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 20101215.csv
Initial Weight/Volume: 1.0 mL
Final Weight/Volume: 1.0 mL

Analyte	Result	Qual	RL
Nitrogen, Nitrate Nitrite-Dissolved	<0.10		0.10

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Lab Control Sample - Batch: 500-101968

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: LCS 500-101968/13
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/15/2010 1435
Date Prepared: N/A

Analysis Batch: 500-101968
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 20101215.csv
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrogen, Nitrate Nitrite-Dissolved	1.00	1.15	115	80 - 120	

Lab Control Sample - Batch: 500-101968

Method: SM 4500 NO3 F
Preparation: N/A

Lab Sample ID: LCS 500-101968/26
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 12/15/2010 1503
Date Prepared: N/A

Analysis Batch: 500-101968
Prep Batch: N/A
Units: mg/L

Instrument ID: AQ2
Lab File ID: 20101215.csv
Initial Weight/Volume: 100 mL
Final Weight/Volume: 100 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Nitrogen, Nitrate Nitrite-Dissolved	1.00	1.14	114	80 - 120	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

Chain of Custody Record

Lab Job #: 500-29703

Chain of Custody Number:

Page ____ of ____

Temperature °C of Cooler: (3.4)(2.9)

Report To (optional)		Bill To (optional)	
Contact:	Andrew Gaynor	Contact:	
Company:	Patrick Eng.	Company:	
Address:	4985 Varsity Dr.	Address:	
Address:	Lisle IL 60532	Address:	
Phone:	630-795-7359	Phone:	
Fax:	630-724-9290	Fax:	
E-Mail:	AGaynor@patrickengineering.com	PO#/Reference#	

Client: Patrick Engineering	Client Project #: 21053.070	Preservative	
Project Name: Midwest Gen. Ash pond		Parameter	
Project Location/State: Joliet, IL	Lab Project #		
Sampler: DM	Lab PM		

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Dissolved NO3-NO2	Dissolved TDS, F, SO4, Cl	Dissolved organic C	Nitric Acid	Dissolved NO2	Comments
1		MW-01	12/6/10	14:25	5	W	X	X	X	X	X	
2		MW-02	12/6/10	13:45								
3		MW-03	12/7/10	10:10								
4		MW-04	12/7/10	11:00								
5		MW-05	12/7/10	11:45								
6		MW-06	12/7	9:30								
7		MW-07	12/7/10	8:55								
8		MW-08	12/6/10	14:55								
9		MW-09	12/6/10	11:15								
10		MW-10	12/6/10	15:20								
11		MW-11	12/6/10	16:05								

Turnaround Time Required (Business Days)

___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days X 15 Days ___ Other

Requested Due Date: ____

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
DM	Patrick Eng	12/7/10	1250		TestAmerica	12/7/10	1250
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier: ____ Shipped: ____ Hand Delivered: ____

Matrix Key

WW – Wastewater	SE – Sediment
W – Water	SO – Soil
S – Soil	L – Leachate
SL – Sludge	WI – Wipe
MS – Miscellaneous	DW – Drinking Water
OL – Oil	O – Other
A – Air	

Client Comments:

Lab Comments:

12/17/2010

TAL-4124 (1208)

MWG13-15_7071

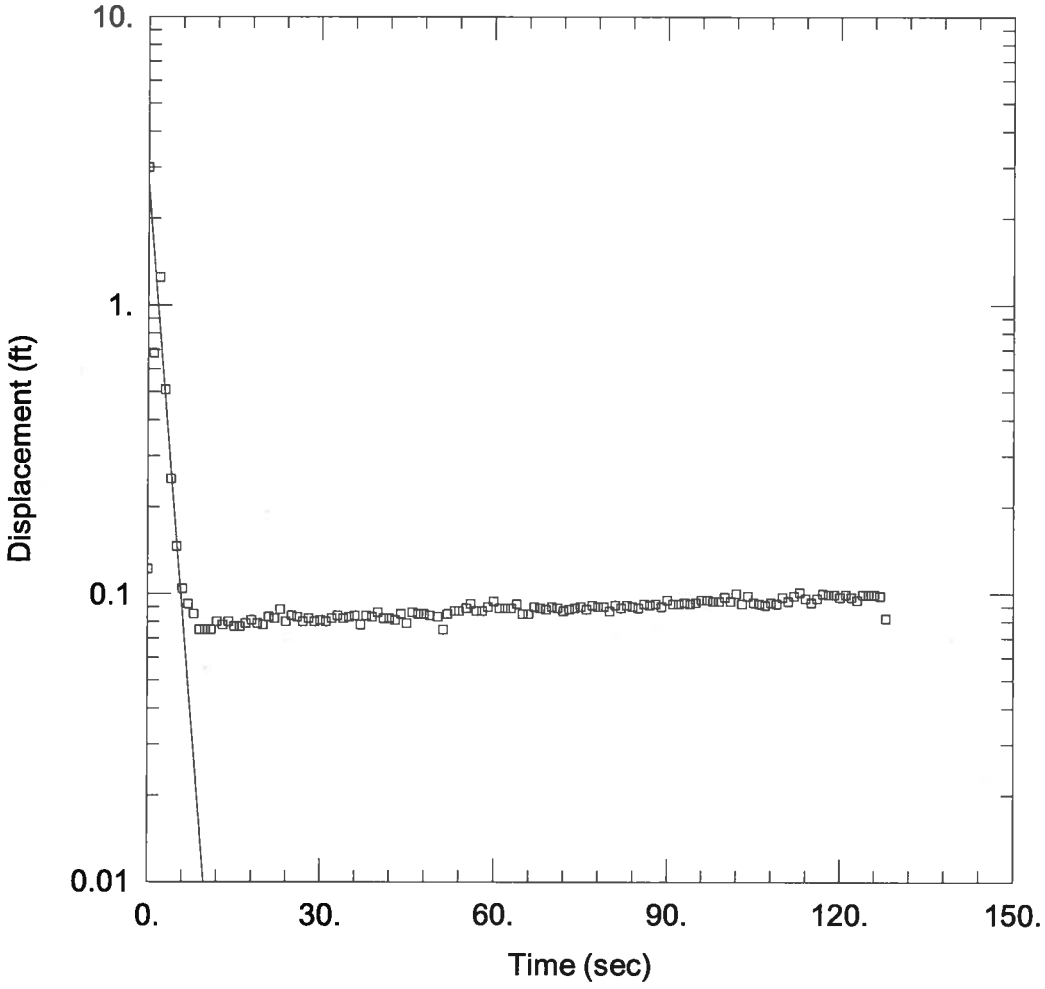
Login Sample Receipt Check List

Client: Midwest Generation EME LLC

Job Number: 500-29703-1

Login Number: 29703
List Source: TestAmerica Chicago
Creator: Kelsey, Shawn M
List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	



WELL TEST ANALYSIS

Data Set: P:\...\Joliet 29 mw-11 u2.aqt
Date: 02/17/11 Time: 09:38:17

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Joliet #29
Test Well: MW-11 (u2)
Test Date: 12/22/10

AQUIFER DATA

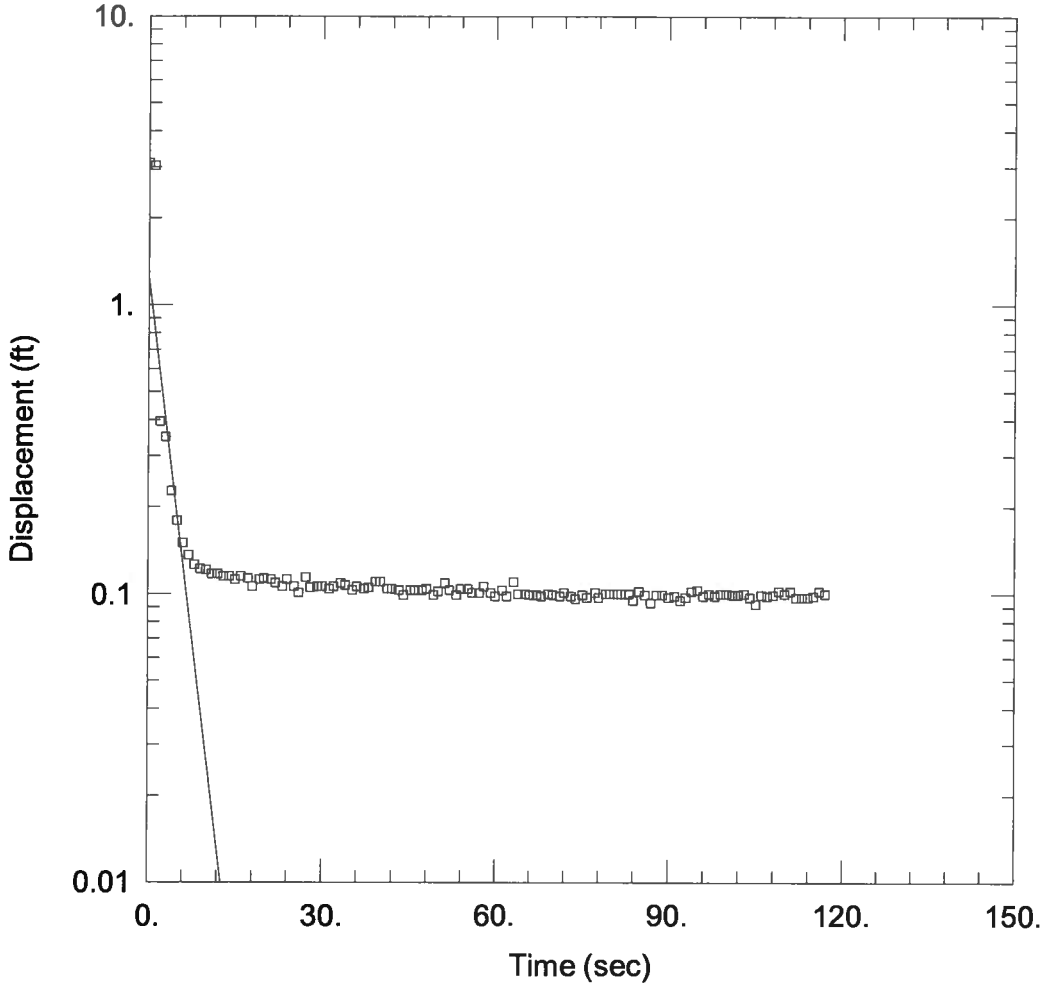
Saturated Thickness: 8.22 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-11 (u2))

Initial Displacement: 3. ft
Total Well Penetration Depth: 42.35 ft
Casing Radius: 0.2 ft
Static Water Column Height: 8.22 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.004685 ft/sec
y0 = 2.66 ft



WELL TEST ANALYSIS

Data Set: P:\...\Joliet 29 mw-11 d1.aqt
Date: 02/17/11 Time: 09:42:17

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Joliet #29
Test Well: MW-11 (d1)
Test Date: 12/22/10

AQUIFER DATA

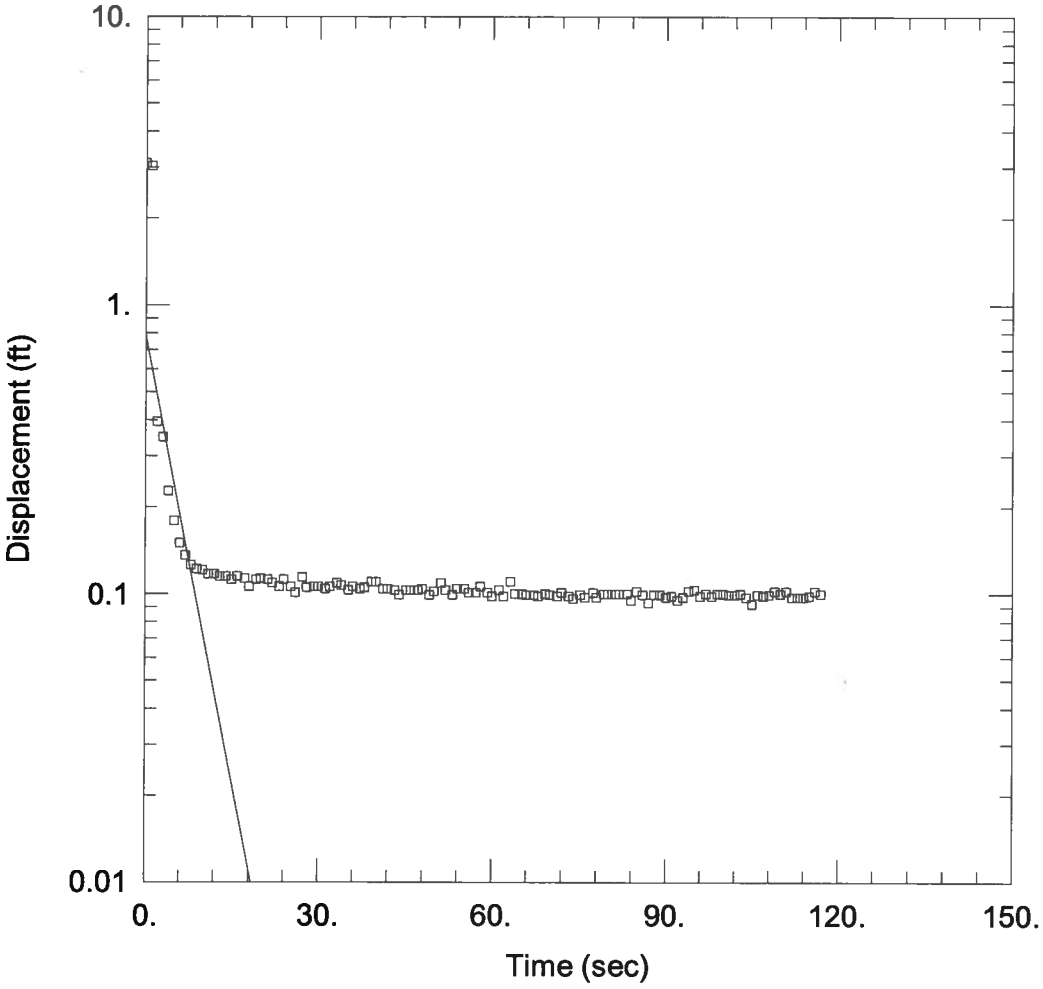
Saturated Thickness: 8.22 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-11 (d1))

Initial Displacement: 3.1 ft
Total Well Penetration Depth: 42.35 ft
Casing Radius: 0.2 ft
Static Water Column Height: 8.22 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.003131 ft/sec
y0 = 1.243 ft



WELL TEST ANALYSIS

Data Set: P:\...\Joliet 29 mw-9 u2.aqt
Date: 02/17/11 Time: 09:10:24

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Joliet #29
Test Well: MW-9 (u2)
Test Date: 12/22/10

AQUIFER DATA

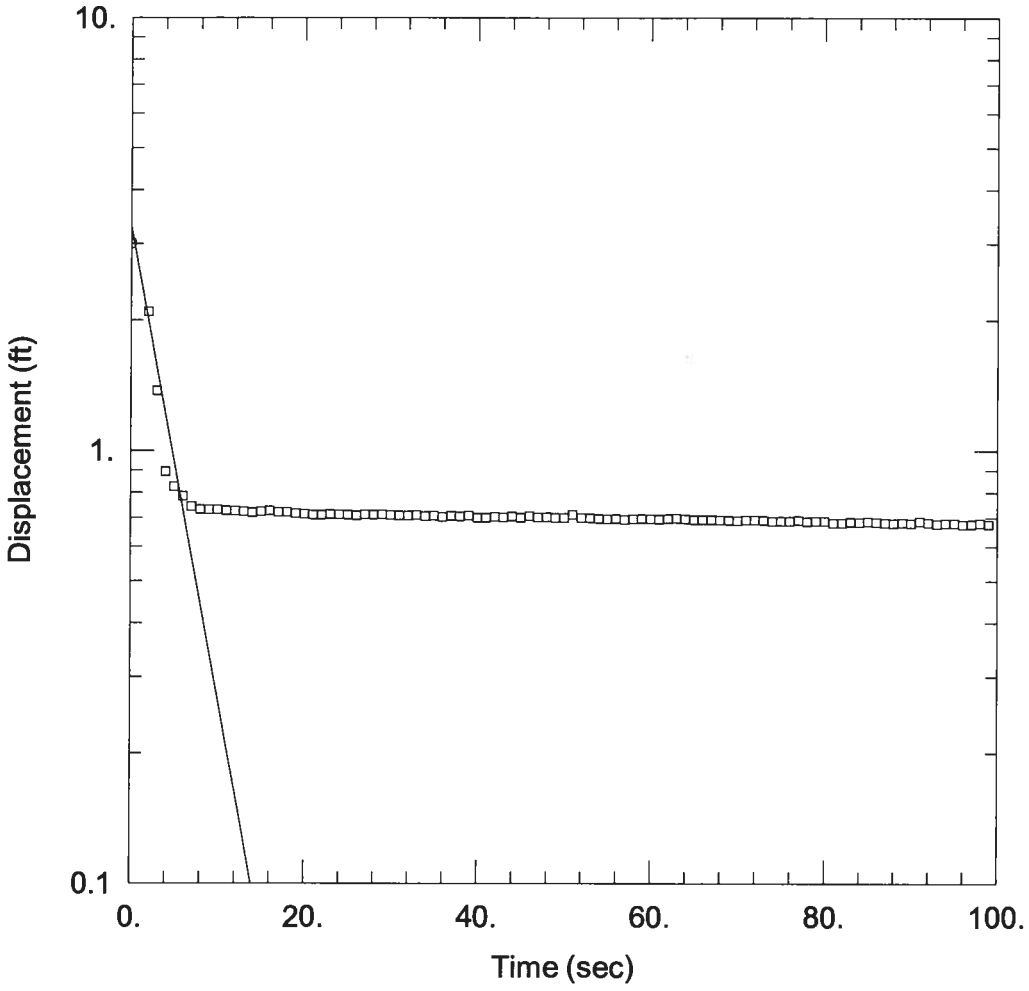
Saturated Thickness: 8.22 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-9 (u2))

Initial Displacement: 3.1 ft
Total Well Penetration Depth: 42.35 ft
Casing Radius: 0.2 ft
Static Water Column Height: 8.22 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.001948 ft/sec
y0 = 0.787 ft



WELL TEST ANALYSIS

Data Set: P:\...\Joliet 29 mw-9 d1.aqt
Date: 02/17/11 Time: 09:10:52

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Joliet#29
Test Well: MW-9 (d1)
Test Date: 12/22/10

AQUIFER DATA

Saturated Thickness: 8.7 ft Anisotropy Ratio (Kz/Kr): 1.

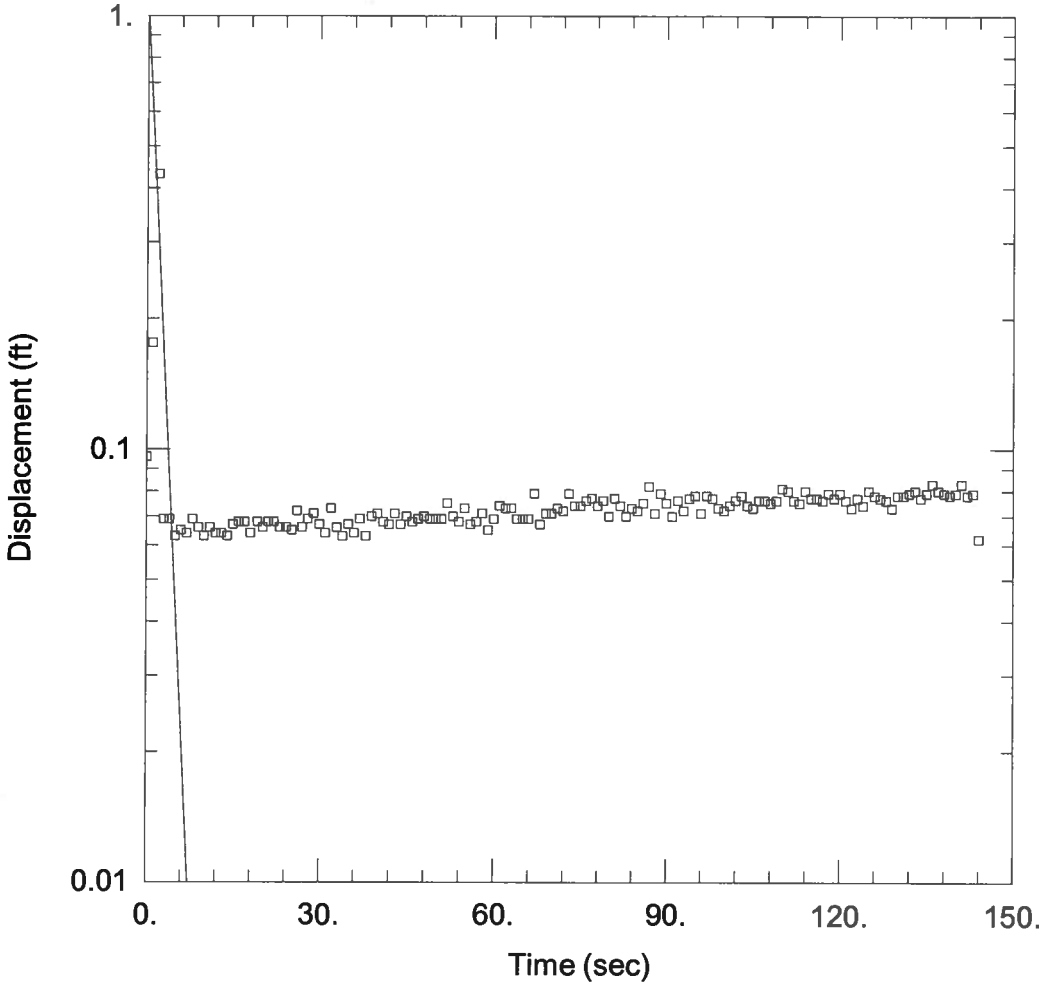
WELL DATA (MW-9 (d1))

Initial Displacement: 3. ft
Total Well Penetration Depth: 38. ft
Casing Radius: 0.2 ft
Static Water Column Height: 8.7 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.001934 ft/sec y0 = 3.316 ft



WELL TEST ANALYSIS

Data Set: P:\...\Joliet 29 mw-6 u1.aqt
Date: 02/17/11 Time: 09:11:59

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Joliet #29
Test Well: MW-6 (u1)
Test Date: 12/22/10

AQUIFER DATA

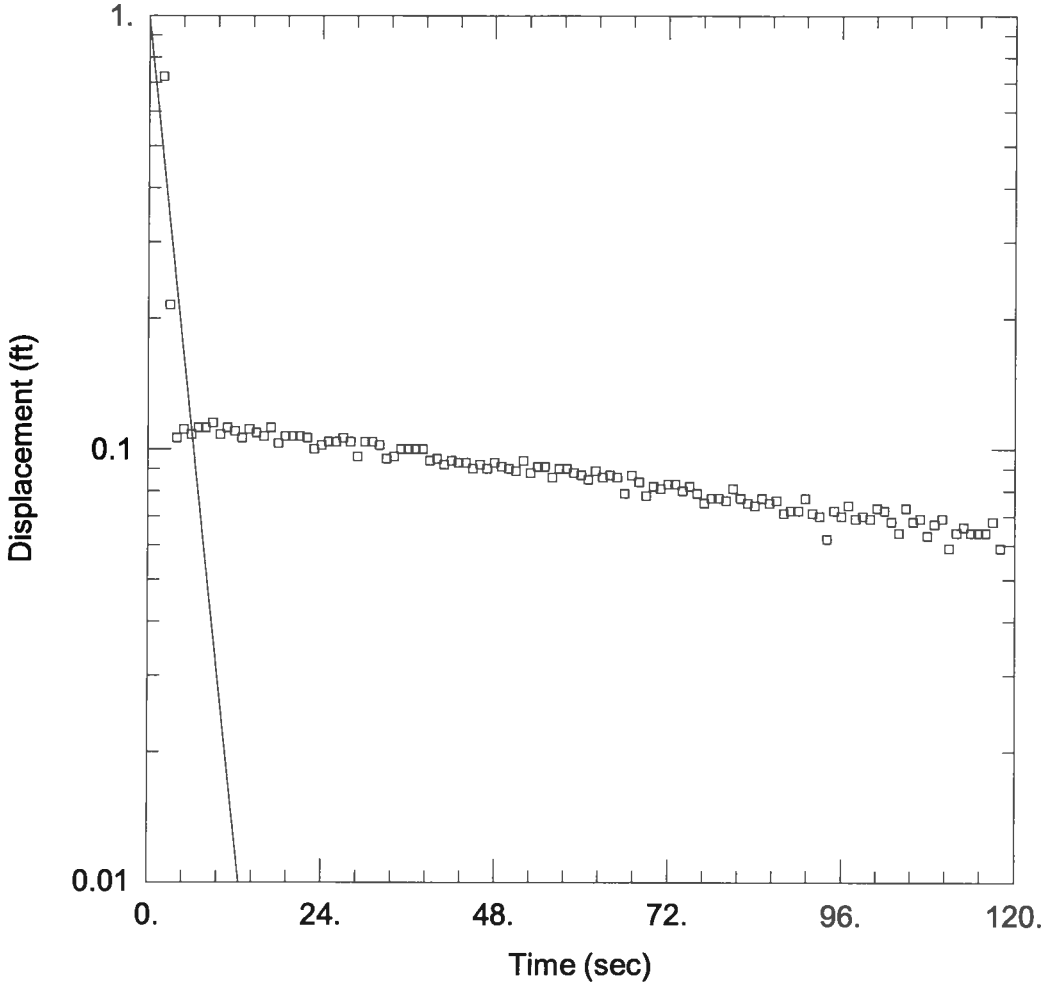
Saturated Thickness: 8.22 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-6 (u1))

Initial Displacement: 3. ft
Total Well Penetration Depth: 42.2 ft
Casing Radius: 0.2 ft
Static Water Column Height: 8.22 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.005274 ft/sec
y0 = 1.109 ft



WELL TEST ANALYSIS

Data Set: P:\...\Joliet 29 mw-6 d2.aqt
Date: 02/17/11 Time: 09:13:14

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Joliet #29
Test Well: MW-6 (d2)
Test Date: 12/22/10

AQUIFER DATA

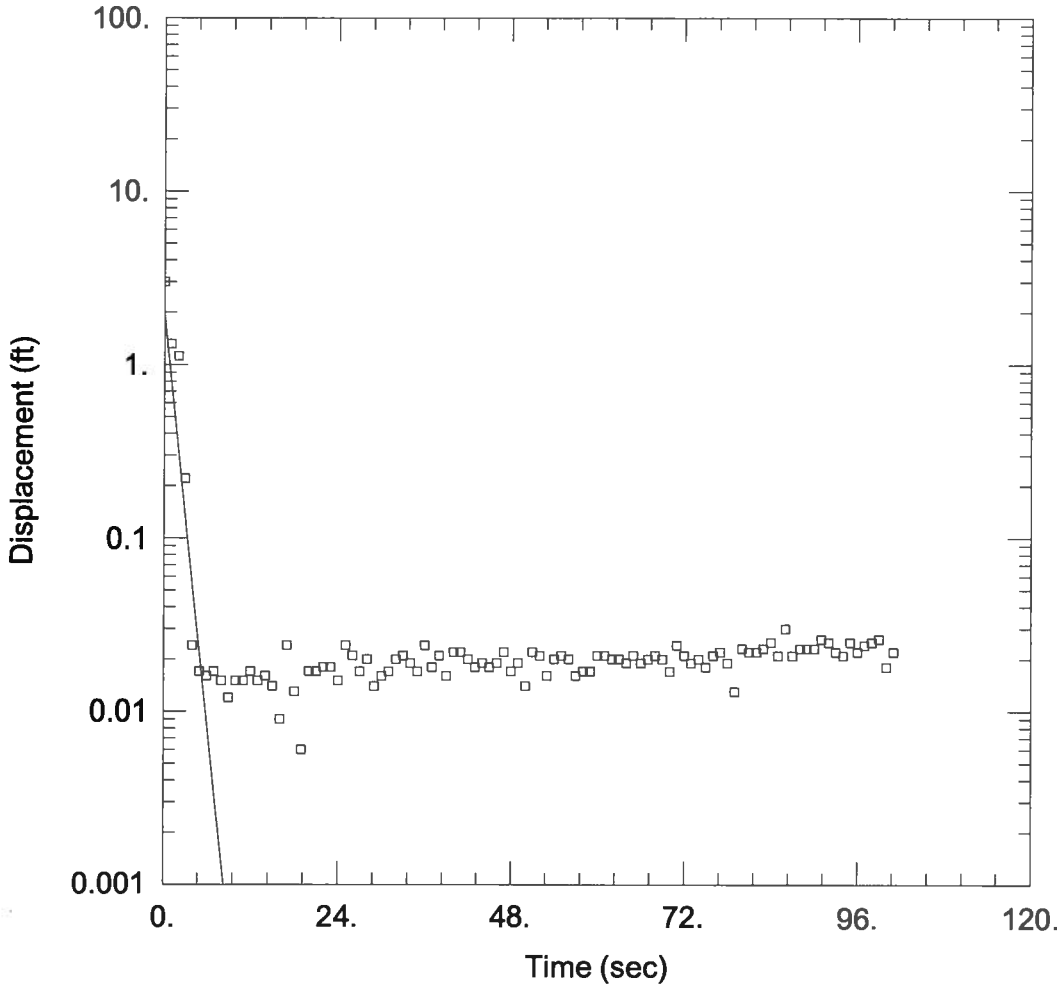
Saturated Thickness: 8.22 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-6 (d2))

Initial Displacement: 3. ft
Total Well Penetration Depth: 42.2 ft
Casing Radius: 0.2 ft
Static Water Column Height: 8.22 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.002987 ft/sec
y0 = 0.9913 ft



WELL TEST ANALYSIS

Data Set: P:\...\Joliet 29 mw-4 u2.aqt
Date: 02/17/11 Time: 09:47:55

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Joliet #29
Test Well: MW-4 (u2)
Test Date: 12/22/10

AQUIFER DATA

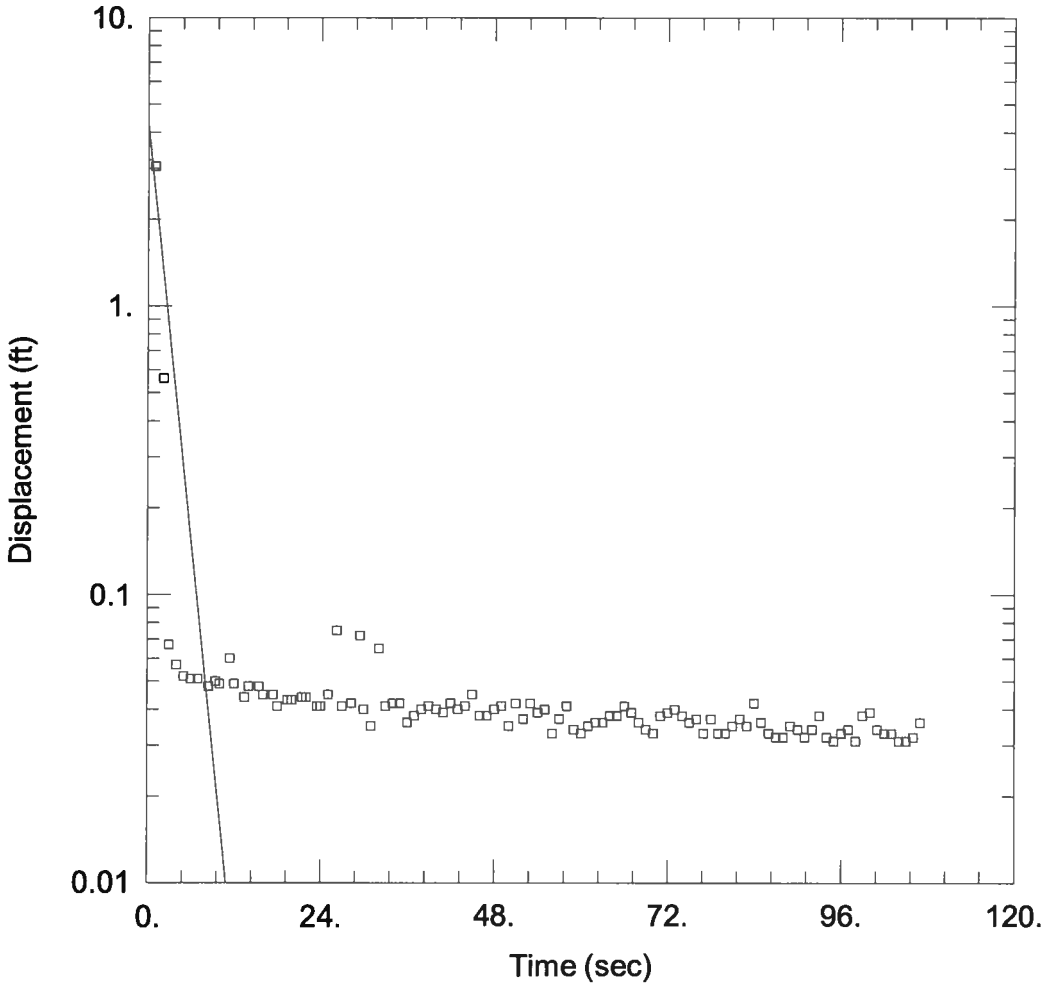
Saturated Thickness: 8.86 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-4 (u2))

Initial Displacement: 3. ft
Total Well Penetration Depth: 42.9 ft
Casing Radius: 0.2 ft
Static Water Column Height: 8.86 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.006949 ft/sec
y0 = 1.978 ft



WELL TEST ANALYSIS

Data Set: P:\...\Joliet 29 mw-4 d1.aqt
Date: 02/17/11 Time: 09:13:56

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Joliet #29
Test Well: MW-4 (d1)
Test Date: 12/22/10

AQUIFER DATA

Saturated Thickness: 8.86 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-4 (d1))

Initial Displacement: 3.1 ft
Total Well Penetration Depth: 42.9 ft
Casing Radius: 0.2 ft
Static Water Column Height: 8.86 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice
K = 0.004267 ft/sec y0 = 4.312 ft

Exhibit D1



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

SITE MAP

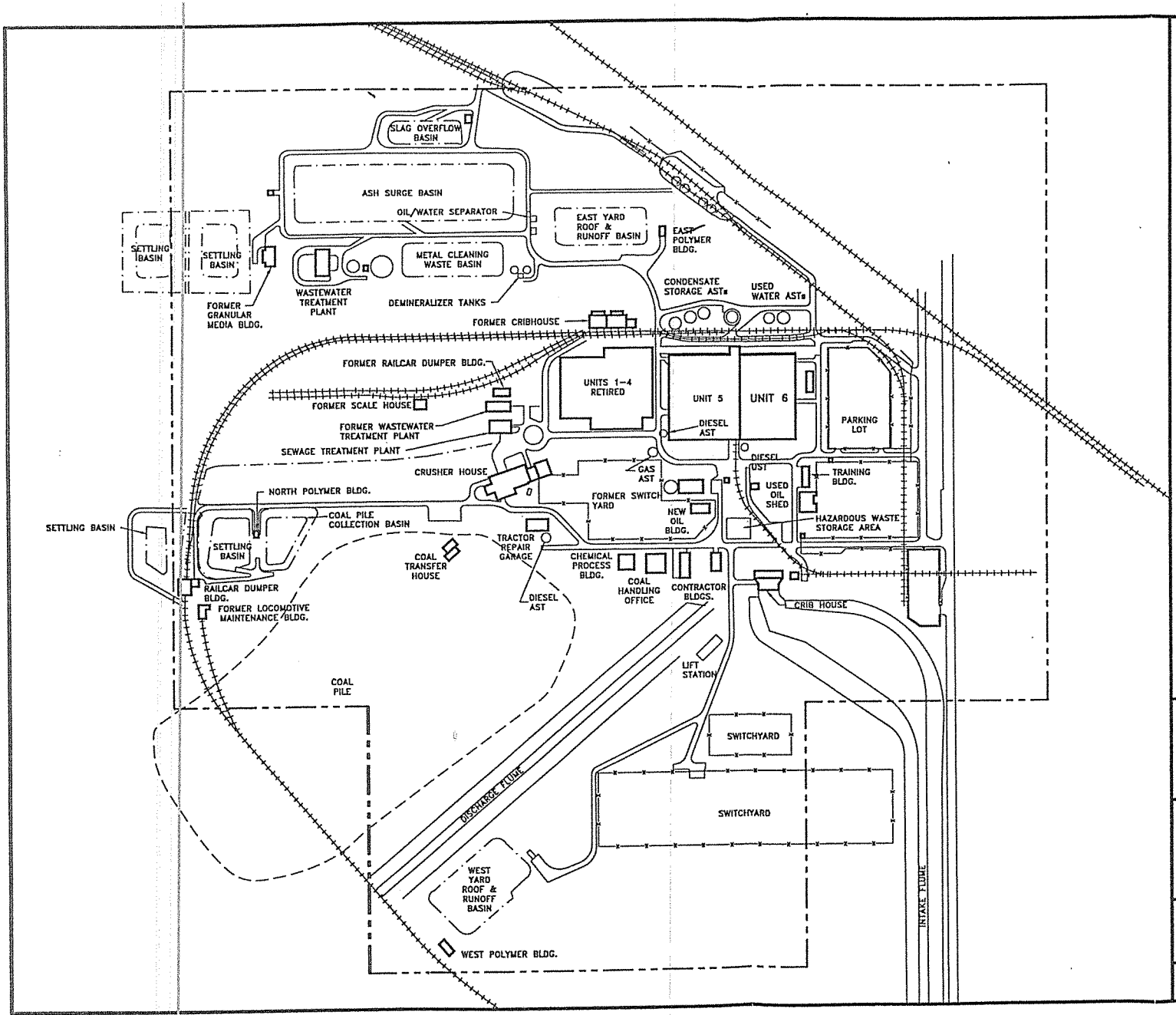
POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: January 23, 2015

KPRG Project No. 12313.1 | FIGURE 1

MWG13-15_30201

W:\c-p&p projects\midwest generation\groundwater sampling\powerton\powerton station gw map.dwg



LEGEND:

- PROPERTY BOUNDARY
- BASIN BOUNDARY
- FENCE
- RAILROAD TRACK

MWG13-15_3294

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No:

POWERTON GENERATING STATION
ROUTE 29 AND MANITO ROAD
PEKIN, ILLINOIS

COMMONWEALTH EDISON

November 1998 File No: 1801-023-51

SITE PLAN

N

NOT TO SCALE

FIGURE 2

ENSR

Exhibit D2

Former Ash Pond at Powerton
Frendt, Richard to: Race, Maria 08/09/2012 05:14 PM

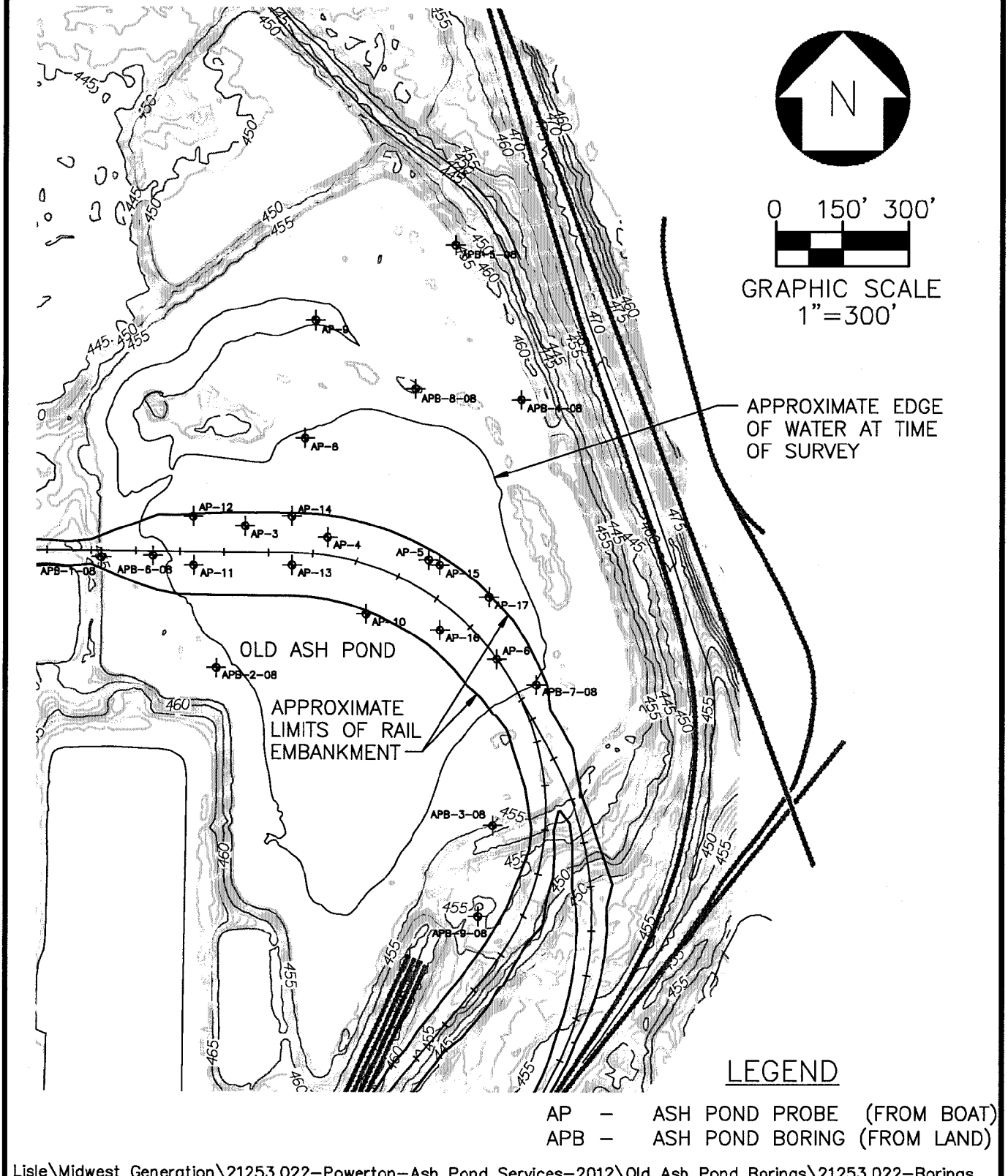
Maria:

I am attaching a boring location plan, and the relevant boring logs for the geotechnical work that was done in the vicinity of the former ash pond at Powerton. Overall, it was essentially what I remembered, with ash being found up to around 10 feet thick in places (though not everywhere). Hope this is helpful
---

Regards,
Rick

Richard M. Frendt, P.E.
PATRICK ENGINEERING INC.
4970 Varsity Drive
Lisle, Illinois 60532-4101
Tel: 630.795.7464
Cell: 708.359.0806

Old Ash Pond - Location plan and borings.pdf



Lisle\Midwest Generation\21253.022–Powerton–Ash Pond Services–2012\Old Ash Pond Borings\21253.022–Borings

Date: 08/09/12	**MIDWEST GENERATION LLC OLD ASH POND BORINGS**	**PATRICK ENGINEERING INC.**
Proj No.: 21253.022	**POWERTON STATION PEKIN, ILLINOIS**	4970 Varsity Drive, Lisle, Illinois 60532-4101, TEL. (630) 795-7200, FAX (630) 724-1681
App. By: MDB		PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409

MWG13-15_14226

PATRICK ENGINEERING INC.

BORING NUMBER **AP-3** SHEET 1 OF 2
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Ash Pond**

LOGGED BY **MPG**
GROUND ELEVATION **444.0**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
444.0	0.0		Water				Borings were completed from a pontoon on the Ash Pond. Soils were logged from hand auger cuttings and piston sampler cores.
435.5	8.5						
434.8	9.3		Dark brown/black organic silt, very soft, saturated, sediment OH				
432.8	11.3		Black medium sand, trace coarse, trace fine, loose, poorly graded, angular, saturated, coal cinders SP				
			Dark gray silty clay, trace roots, medium stiff, medium plasticity, saturated CL			3.9 ○	S.G.=3.01 at 11.6'
			Soft				
			Medium stiff				

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **7/23/08** ENDED **7/23/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▽
▼

PATRICK ENGINEERING INC.

BORING NUMBER **AP-3** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Ash Pond**

LOGGED BY **MPG**
GROUND ELEVATION **444.0**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
424.0	20.0		Silt and clay, medium stiff			43 ○	LL=42 PL=20
421.0	23.0		Hand Auger Refusal at 23.0'				

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **7/23/08** ENDED **7/23/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▼
▼

MWG13-15_14228

PATRICK ENGINEERING INC.

BORING NUMBER **AP-4** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Ash Pond**

LOGGED BY **MPG**
GROUND ELEVATION **444.0**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
444.0	0.0		Water				Borings were completed from a pontoon on the Ash Pond. Soils were logged from hand auger cuttings and piston sampler cores.
434.0	10.0		Black medium sand, trace coarse, trace fine, loose, poorly graded, angular, saturated, coal cinders SP				
425.0	19.0						
424.5	19.5		Dark gray/black silty clay, trace roots, soft CL				
			End of Boring at 19.5'				

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **7/24/08** ENDED **7/24/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▼
▼

MWG13-15_14229

PATRICK ENGINEERING INC.

BORING NUMBER **AP-5** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Ash Pond**

LOGGED BY **MPG**
GROUND ELEVATION **444.0**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
444.0	0.0		Water				Borings were completed from a pontoon on the Ash Pond. Soils were logged from hand auger cuttings and piston sampler cores.
434.8	9.3						
434.3	9.8		Gray/black organic silt, very soft, saturated, sediment OH				
			Black medium sand, trace coarse, trace fine, loose, poorly graded, angular, saturated, coal cinders SP				
424.5	19.5						

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **7/24/08** ENDED **7/24/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▼
▼

MWG13-15_14230

PATRICK ENGINEERING INC.

BORING NUMBER **AP-5** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Ash Pond**

LOGGED BY **MPG**
GROUND ELEVATION **444.0**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
424.5	19.5		Dark gray silty clay, trace roots, soft, medium plasticity, saturated CL			43 ○	LL=36 PL=21 S.G.=2.65
422.0	22.0		No roots End of Boring at 22.0'				

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **7/24/08** ENDED **7/24/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▼
▼

PATRICK ENGINEERING INC.

BORING NUMBER **AP-6** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Ash Pond**

LOGGED BY **MPG**
GROUND ELEVATION **444.0**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL; Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
444.0	0.0		Water				Borings were completed from a pontoon on the Ash Pond. Soils were logged from hand auger cuttings and piston sampler cores.
435.5	8.5						
435.0	9.0		Gray/black organic silt, very soft, saturated, sediment OH				
			Black medium sand, trace coarse, trace fine, loose, poorly graded, angular, saturated, coal cinders SP				
425.0	19.0						
424.5	19.5		Dark gray silty clay, medium plasticity, saturated CL				
			End of Boring at 19.5'				

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **7/24/08** ENDED **7/24/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted

MWG13-15_14232

PATRICK ENGINEERING INC.

BORING NUMBER **AP-8** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Ash Pond**

LOGGED BY **MPG**
GROUND ELEVATION **444.0**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
444.0	0.0		Water				Borings were completed from a pontoon on the Ash Pond. Soils were logged from hand auger cuttings and piston sampler cores.
438.5	5.5		Black medium sand, trace coarse, trace fine, loose, poorly graded, angular, saturated, coal cinders SP				
433.3	10.8					32 ○	
432.5	11.5		Dark gray clayey silt, medium stiff, low plasticity, saturated CL-ML				
			End of Boring at 11.5'				

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **7/24/08** ENDED **7/24/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▼
▼

MWG13-15_14233

PATRICK ENGINEERING INC.

BORING NUMBER **AP-9** SHEET 1 OF 1
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Ash Pond**

LOGGED BY **MPG**
GROUND ELEVATION **444.0**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
444.0	0.0		Water				Borings were completed from a pontoon on the Ash Pond. Soils were logged from hand auger cuttings and piston sampler cores.
442.0	2.0						
441.5	2.5		Gray/black organic silt, very soft, saturated, sediment OH				
			Black medium sand, trace coarse, trace fine, loose, poorly graded, angular, saturated, coal cinders SP				
			Black/dark gray silty clay seam				
434.0	10.0		Dark gray/black silty clay, trace roots, soft, medium plasticity, saturated CL			○	
432.0	12.0		End of Boring at 12.0'				

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **7/23/08** ENDED **7/23/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▼
▼

MWG13-15_14234

PATRICK ENGINEERING INC.

BORING NUMBER **AP-10** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Ash Pond**

LOGGED BY **MPG**
GROUND ELEVATION **444.0**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
444.0	0.0		Water				Borings were completed from a pontoon on the Ash Pond. Soils were logged from hand auger cuttings and piston sampler cores.
435.0	9.0						
434.5	9.5		Gray/black organic silt, very soft, saturated, sediment OH				
			Black medium sand, trace coarse, trace fine, loose, poorly graded, angular, saturated, coal cinders SP				
			2" silty clay seam				
425.0	19.0						

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **7/24/08** ENDED **7/24/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▼
▼

MWG13-15_14235

PATRICK ENGINEERING INC.

BORING NUMBER **AP-10** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Ash Pond**

LOGGED BY **MPG**
GROUND ELEVATION **444.0**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
425.0	19.0		Dark gray silty clay, some silt, trace roots, medium stiff, medium plasticity, moist			45 ○	
			No roots				
423.0	21.0		End of Boring at 21.0'				

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **7/24/08** ENDED **7/24/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▼
▼

MWG13-15_14236

PATRICK ENGINEERING INC.

BORING NUMBER **AP-11** SHEET 1 OF 1
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Ash Pond**

LOGGED BY **AFG**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
	0.0		Brown/gray coarse sand and gravel, little fine to medium sand, organic odor, wet SP				Soils were logged from hand auger cuttings.
	5.0		Saturated at approx. 5.0'				
			End of Boring at 5.0'				

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger**
DRILLING EQUIPMENT **Hand Auger**
DRILLING STARTED **8/12/08** ENDED **8/12/08**

REMARKS

WATER LEVEL (ft.)
▽ **5.0'**
▽
▽

MWG13-15_14237

PATRICK ENGINEERING INC.

BORING NUMBER **AP-12** SHEET 1 OF 1
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Powerton Plant**

LOGGED BY **AFG**
GROUND ELEVATION **439.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL 10 20 30 40 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
439.2	0.0		Water				Borings were completed from a pontoon boat on Ash Pond. Soils were logged from hand auger cuttings
436.5	2.8		Black medium sand, trace coarse, trace fine, loose, poorly graded, angular, saturated, coal cinders SP				
433.5	5.8		Refusal at 5.8'				

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **8/12/08** ENDED **8/12/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▼
▼

MWG13-15_14238

PATRICK ENGINEERING INC.

BORING NUMBER **AP-13** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Powerton Plant**

LOGGED BY **AFG**
GROUND ELEVATION **439.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
439.2	0.0		Water				Borings were completed from a pontoon boat on the Ash Pond Soils were logged from hand auger cuttings and piston sampler cores
432.2	7.0		Black medium sand, trace coarse, trace fine, loose poorly graded, angular, saturated, coal cinders SP				
424.2	15.0		Gray silty clay, medium stiff, medium plasticity, saturated CL	PS-1 15.0-15.5			17.0 ft: Vane shear Su=750psf

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **8/12/08** ENDED **8/12/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▼
▼

MWG13-15_14239

PATRICK ENGINEERING INC.

BORING NUMBER **AP-13** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Powerton Plant**

LOGGED BY **AFG**
GROUND ELEVATION **439.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
419.2	20.0		Gray silty clay, medium stiff, medium plasticity, saturated CL	PS-2 20.0-20.5			
				PS-3 24.0-24.5			
414.2	25.0						qu=0.5 (disturbed)
413.7	25.5		Brown coarse to fine sand, trace coarse to fine gravel, trace silt, loose, poorly graded, saturated SP	PS-4 25.0-25.5			Undisturbed soil sampler pounded to 25.5' - tube damaged - refusal confirmed with bailer Hand auger refusal at 25.5'
			End of Boring 25.5'				

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **8/12/08** ENDED **8/12/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted

MWG13-15_14240

PATRICK ENGINEERING INC.

BORING NUMBER **AP-14** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Powerton Plant**

LOGGED BY **AFG**
GROUND ELEVATION **439.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
439.2	0.0		Water				Borings were completed from a pontoon boat on the Ash Pond Soils were logged from hand auger cuttings and piston sampler cores
432.2	7.0		Black medium sand, trace coarse, trace fine, loose poorly graded, angular, saturated, coal cinders SP				
424.7	14.5		Gray silty clay, medium stiff, medium plasticity, saturated CL	PS-1 15.0-15.5			17.0 ft: Vane shear Su=625 psf
			Clayey silt				

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **8/13/08** ENDED **8/13/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▽
▼

MWG13-15_14241

PATRICK ENGINEERING INC.

BORING NUMBER **AP-14** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Powerton Plant**

LOGGED BY **AFG**
GROUND ELEVATION **439.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
419.2	20.0		Gray silty clay, medium stiff, medium plasticity, saturated CL	PS-2 20.0-20.5			
417.2	22.0		Brown coarse to fine gravel, loose, poorly graded, saturated SP	PS-3 22.0-22.5			
416.2	23.0		End of Boring at 23.0'				

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **8/13/08** ENDED **8/13/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▼
▼

MWG13-15_14242

PATRICK ENGINEERING INC.

BORING NUMBER **AP-15** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Ash Pond**

LOGGED BY **AFG**
GROUND ELEVATION **439.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
439.2	0.0		Water				Borings were completed from a pontoon boat on the Ash Pond Soils were logged from hand auger cuttings and piston sampler cores
432.2	7.0		Black, medium sand, trace coarse, trace fine, loose poorly graded, angular, saturated, coal cinders SP				
427.2	12.0		Gray silty clay, medium stiff, medium plasticity, saturated CL				
425.2	14.0		Gray silty clay, medium stiff, saturated CL	PS-1 15.0-15.5			17.0 ft: Vane shear Su=625 psf
				PS-2 19.0-19.5			

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **8/13/08** ENDED **8/13/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▼
▼

MWG13-15_14243

PATRICK ENGINEERING INC.

BORING NUMBER **AP-15** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Ash Pond**

LOGGED BY **AFG**
GROUND ELEVATION **439.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
419.2	20.0		Gray silty clay, medium stiff, saturated CL				
				PS-3 21.5-22.0			21.0 ft: Vane shear Su=525 psf
				PS-4 26.0-27.0			
412.2	27.0		End of Boring at 27.0'				Confirmed gravel at 27.0'

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **8/13/08** ENDED **8/13/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▼
▼

MWG13-15_14244

PATRICK ENGINEERING INC.

BORING NUMBER **AP-16** SHEET 1 OF 2
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Ash Pond**

LOGGED BY **AFG**
GROUND ELEVATION **439.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
439.2	0.0		Water				Borings were completed from a pontoon boat on the Ash Pond Soils were logged from hand auger cuttings and piston sampler cores
432.7	6.5		Black medium sand, trace coarse, trace fine, loose poorly graded, angular, saturated, coal cinders SP				
423.7	15.5		Gray silty clay, medium stiff, medium plasticity, saturated CL	PS-1 16.5-17.0			

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **8/14/08** ENDED **8/14/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▼
▼

MWG13-15_14245

PATRICK ENGINEERING INC.

BORING NUMBER **AP-16** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL Ash Pond**

LOGGED BY **AFG**
GROUND ELEVATION **439.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
419.2	20.0		Gray silty clay, medium stiff, medium plasticity, saturated CL	PS-2 20.0-21.0			
				PS-3 22.0-23.0			
				PS-4 24.5-25.5			
412.2	27.0		End of Boring at 27.0'				Confirmed sand and gravel at 27.0'

DRILLING CONTRACTOR **Patrick Engineering**
DRILLING METHOD **Hand Auger/Piston Sampler**
DRILLING EQUIPMENT **Eijkelkamp**
DRILLING STARTED **8/14/08** ENDED **8/14/08**

REMARKS

WATER LEVEL (ft.)
▽ As noted
▼
▼

MWG13-15_14246

PATRICK ENGINEERING INC.

BORING NUMBER **APB-1-08** SHEET **1** OF **3**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
	0.0		Gravel				
	1.0		Dark brown silty clay fill with sand, cinders, gravel, very stiff FILL	SS-1 1.0-2.5 R=10"	4 4 5		qu=3.5*tsf
				SS-2 3.5-5.0 R=6"	7 6 8		qu=1.0*tsf
	6.5		Cinders, black FILL	SS-3 6.0-7.5	6 10 12		
			Cinders, some clay	SS-4 8.5-10.0 R=15"	2 8 6		qu=3.0*tsf
			Moist	SS-5 11.0-12.5 R=15"	3 3 6		
			Wet	SS-6 13.5-15.0	3 2 2		
	17.5		Dark gray silty clay with cinders, soft CL/FILL	ST-7 18.5-20.0 R=30"			

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **4 1/4" HS**
DRILLING STARTED **8/7/08** ENDED **8/7/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽
▼
▼

MWG13-15_14247

PATRICK ENGINEERING INC.

BORING NUMBER **APB-1-08** SHEET **2** OF **3**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 50 LL / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
	20.0		Dark gray silty clay with cinders, soft CL/FILL	ST-8 20.0-22.0 30" tube			
				SS-9 23.5-25.0 R=18"	1 2 2	44	qu=1.0*tsf
				SS-10 28.5-30.0 R=15"	2 3 2	23	qu=2.0*tsf
	31.0		Coarse sand, with gravel, loose to medium dense SP/GP	SS-11 33.5-35.0	1 1 1		
				SS-12 38.5-40.0	4 6 6		

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **4 1/4" HS**
DRILLING STARTED **8/7/08** ENDED **8/7/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽
▼
▼

MWG13-15_14248

PATRICK ENGINEERING INC.

BORING NUMBER **APB-1-08** SHEET **3** OF **3**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
	40.0		Coarse sand, with gravel, loose to medium dense SP/GP				
				SS-13 43.5-45.0	2 5 6		
				SS-14 48.5-50.0	5 7 7		
	51.0		End of Boring at 51.0'				

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **4 1/4" HS**
DRILLING STARTED **8/7/08** ENDED **8/7/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽
▼
▼

MWG13-15_14249

PATRICK ENGINEERING INC.

BORING NUMBER **APB-2-08** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
	0.0		Topsoil				
	1.0		Brown silty clay with cinders, some gravel, very stiff FILL	SS-1 1.0-2.5 R=10"	9 15 17		qu=3.0*tsf
				SS-2 3.5-5.0 R=8"	5 6 8		qu=3.5*tsf
				SS-3 6.0-7.5 R=8"	3 3 18		
				SS-4 8.5-10.0 R=13"	5 12 13		
	10.5		Black silty clay with cinders, some gravel, very stiff FILL	SS-5 11.0-12.5 R=12"	6 18 22		qu=3.0*tsf
				SS-6 13.5-15.0	16 20 22		qu=4.0*tsf
				ST-7 18.0-20.0			

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **4 1/4" HS**
DRILLING STARTED **8/7/08** ENDED **8/7/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽ **20.0'** While Drilling

MWG13-15_14250

PATRICK ENGINEERING INC.

BORING NUMBER **APB-2-08** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
	20.5		Black silty clay with cinders, some gravel, very stiff FILL				
				ST-8 22.0-24.0			
	23.0		Gray silty clay CL				
				ST-9 24.0-26.0			
	27.0		Black organic clay, trace sand, very stiff OL				
				SS-10 28.5-30.0 R=18"	0 0 3		qu=2.5*tsf
	32.0		Gray silty clay with gravel, stiff CL				
				SS-11 33.5-35.0 R=16"	2 3 3		qu=1.0*tsf
	35.0		Sand with clay, loose SP				
	38.0		Sand and gravel, loose SP/GP				
				SS-12 38.5-40.0	2 2 4		
	40.0		End of Boring at 40.0'				

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **4 1/4" HS**
DRILLING STARTED **8/7/08** ENDED **8/7/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽ **20.0'** While Drilling
▽
▼

MWG13-15_14251

PATRICK ENGINEERING INC.

BORING NUMBER **APB-3-08** SHEET 1 OF 4
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
	0.0		Brown sand and gravel, loose SP/GP				
				SS-1 1.0-2.5 R=8"	6 4 4		
	3.0		Brown medium to coarse sand, trace gravel, medium dense SP				
				SS-2 3.5-5.0 R=10"	4 8 10		% Sand=90 % Gravel=6.6 % Fines=3.5
				SS-3 6.0-7.5 R=16"	4 5 8		
				SS-4 8.5-10.0 R=16"	4 5 7		
				SS-5 11.0-12.5 R=14"	3 6 6		
				SS-6 13.5-15.0 R=16"	4 5 7		
				SS-7 18.5-20.0	3 4 4		

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **HS**
DRILLING STARTED **8/8/08** ENDED **8/8/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽ **24.0** While Drilling
▼
▼

MWG13-15_14252

PATRICK ENGINEERING INC.

BORING NUMBER **APB-3-08** SHEET **2** OF **4**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
	20.0		Brown medium to coarse sand, trace gravel, medium dense SP				
	24.0		▽ Coarse sand, some gravel, saturated SP	SS-8 23.5-25.0 R=16"	5 6 6		
				SS-9 28.5-30.0 R=16"	6 11 12		
				SS-10 33.5-35.0	4 5 3		% Sand=95.8 % Gravel=3.3 % Fines=0.9
				SS-11 38.5-40.0 R=14"	3 4 8		

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **HS**
DRILLING STARTED **8/8/08** ENDED **8/8/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽ **24.0** While Drilling

MWG13-15_14253

PATRICK ENGINEERING INC.

BORING NUMBER **APB-3-08** SHEET **3** OF **4**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL; Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
	40.0		Coarse sand, some gravel, saturated SP				
				SS-12 43.5-45.0 R=0"	6 11 11		
				SS-13 48.5-50.0 R=16"	3 5 7		
			Blind drilling started at 50.0'				

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **HS**
DRILLING STARTED **8/8/08** ENDED **8/8/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽ **24.0** While Drilling
▼
▼

MWG13-15_14254

PATRICK ENGINEERING INC.

BORING NUMBER **APB-3-08** SHEET **4** OF **4**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
	60.0		Possible cobbles/weathered rock at 61.0'				
	67.0		Auger Refusal at 67.0' End of Boring at 67.0'				

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **HS**
DRILLING STARTED **8/8/08** ENDED **8/8/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽ **24.0** While Drilling
▼
▼

MWG13-15_14255

PATRICK ENGINEERING INC.

BORING NUMBER **APB-4-08** SHEET 1 OF 4
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**
LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
	0.0		Brown medium sand with gravel fill, medium dense FILL				
				SS-1 1.0-2.5 R=10"	4 4 5		
				SS-2 3.5-5.0 R=12"	3 3 5		
				SS-3 6.0-7.5 R=12"	4 5 7		
	9.0		Tan medium to coarse sand, with gravel, loose to medium dense SP/GP	SS-4 8.5-10.0 R=13"	6 9 13		
				SS-5 11.0-12.5 R=12"	4 3 4		% Sand=81.3 % Gravel=10.5 % Fines=8.2
				SS-6 13.5-15.0 R=12"	4 3 4		
	17.0		Brown clay with silt, stiff CL Rust stains	SS-14 16.0-17.5 R=12"	4 3 3		qu=1.5*tsf
				SS-7 18.5-20.0 R=16"	2 3 5		qu=1.5*tsf

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **4 1/4" HS**
DRILLING STARTED **8/11/08** ENDED **8/11/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽ **28.5** While Drilling
▼
▼

MWG13-15_14256

PATRICK ENGINEERING INC.

BORING NUMBER **APB-4-08** SHEET **2** OF **4**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
	20.0		Brown clay with silt, stiff				
	21.0		CL				
			Brown medium to coarse sand, loose to very loose, wet	SS-16 21.0-22.5	4 4 4		
			SP				
				SS-8 23.5-25.0 R=10"	1 2 2		
	28.5		▽				
			Saturated	SS-9 28.5-30.0 R=12"	2 2 1		
				SS-10 33.5-35.0	3 1 1		
				SS-11 38.5-40.0	2 2 4		

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **4 1/4" HS**
DRILLING STARTED **8/11/08** ENDED **8/11/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽ **28.5** While Drilling
▽
▽

MWG13-15_14257

PATRICK ENGINEERING INC.

BORING NUMBER **APB-4-08** SHEET **3** OF **4**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
	40.0		Brown medium to coarse sand, loose to very loose, wet SP				
				SS-12 43.5-45.0 R=18"	4 6 6		% Sand=96.9 % Gravel=2.3 % Fines=0.8
			Coarse sand	SS-13 48.5-50.0 R=16"	0 4 6		
			Blind drilling started at 50.0'				

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **4 1/4" HS**
DRILLING STARTED **8/11/08** ENDED **8/11/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽ **28.5** While Drilling
▽
▽

MWG13-15_14258

PATRICK ENGINEERING INC.

BORING NUMBER **APB-4-08** SHEET **4** OF **4**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
	60.0						
	72.0		Auger Refusal at 72.0' on apparent bedrock End of Boring at 72.0'				

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **4 1/4" HS**
DRILLING STARTED **8/11/08** ENDED **8/11/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽ **28.5** While Drilling
▼
▼

MWG13-15_14259

PATRICK ENGINEERING INC.

BORING NUMBER **APB-5-08** SHEET **1** OF **4**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
	0.0		Brown medium coarse sand, loose SP				
				SS-1 1.0-2.5 R=14"	4 4 4		
				SS-2 3.5-5.0 R=16"	4 3 3		
				SS-3 6.0-7.5 R=14"	2 1 3		
				SS-4 8.5-10.0 R=14"	2 3 2		% Sand=96.4 % Gravel=2.2 % Fines=1.4
				SS-5 11.0-12.5 R=14"	1 1 3		
				SS-6 13.5-15.0 R=14"	3 4 6		
	16.0		Brown medium to coarse sand, with trace gravel, loose	SS-7 16.0-17.5 R=10"	2 2 2		
				SS-8 18.5-20.0 R=12"	3 3 3		

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **4 1/4" HS**
DRILLING STARTED **8/11/08** ENDED **8/11/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽ **24.0** While Drilling
▽
▼

MWG13-15_14260

PATRICK ENGINEERING INC.

BORING NUMBER **APB-5-08** SHEET **2** OF **4**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
	20.0		Brown medium to coarse sand, with trace gravel, loose				
	22.0		Brown coarse to medium sand, with gravel, loose, saturated SP				
	24.0		▽	SS-9 23.5-25.0 R=12"	3 2 3		
				SS-10 28.5-30.0 R=12"	5 7 3		% Sand=95.7 % Gravel=1.6 % Fines=2.8
				SS-11 33.5-35.0 R=8"	1 1 1		
				SS-12 38.5-40.0 R=16"	1 2 5		
	40.0						

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **4 1/4" HS**
DRILLING STARTED **8/11/08** ENDED **8/11/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽ **24.0** While Drilling
▼
▼

MWG13-15_14261

PATRICK ENGINEERING INC.

BORING NUMBER **APB-5-08** SHEET **3** OF **4**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
	40.0		Medium to coarse sand, with gravel, loose SP				
				SS-13 43.5-45.0 R=8"	2 1 3		
			Blind drilling began at 45.0'				

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **4 1/4" HS**
DRILLING STARTED **8/11/08** ENDED **8/11/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽ **24.0** While Drilling
▽
▽

MWG13-15_14262

PATRICK ENGINEERING INC.

BORING NUMBER **APB-5-08** SHEET **4** OF **4**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL 10 20 30 40 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
	60.0						
	70.5		Auger refusal at 70.5' on apparent bedrock End of Boring at 70.5'				

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **4 1/4" HS**
DRILLING STARTED **8/11/08** ENDED **8/11/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽ **24.0** While Drilling
▼
▼

MWG13-15_14263

PATRICK ENGINEERING INC.

BORING NUMBER **APB-6-08** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
	0.0		Brown fine to coarse sand, with gravel, medium dense				
			SP	SS-1 1.0-2.5 R=10"	6 4 5		
	4.0		▽	SS-2 3.5-5.0 R=12"	8 8 5		
				SS-3 6.0-7.5 R=8"	3 3 4		% Sand=60 % Gravel=35.3 % Fines=4.7
			Saturated	SS-4 8.5-10.0 R=14"	8 5 4		
			Medium to coarse sand	SS-5 11.0-12.5 R=13"	11 10 6		
			Coarse sand	SS-6 13.5-15.0 R=18"	5 5 6		% Sand=85.7 % Gravel=12.5 % Fines=1.9
				SS-7 16.0-17.5	12 6 6		
				SS-8 18.5-20.0	11 6 6		
	20.0		End of Boring at 20.0'				

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **4 1/4" HS**
DRILLING STARTED **8/13/08** ENDED **8/13/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽ **4.0** While Drilling
▽
▽

MWG13-15_14264

PATRICK ENGINEERING INC.

BORING NUMBER **APB-7-08** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	NOTES & TEST RESULTS
	0.0		Gray silty clay, high plasticity, medium stiff CH			
				SS-1 1.0-2.5 R=18"	1 3 2	qu=0.5*tsf LL=40 PI=19
				ST-2 3.5-5.0		qu=1.0*tsf LL=53 PI=28 % Clay=54 % Silt=45.4
	5.5		Gray silty clay with sand seams, medium stiff			
				SS-3 6.0-7.5 R=18"	1 1 1	qu=1.0*tsf % Clay=44.9 % Sand=25.2 % Silt=29.9
	8.0		Dark gray silty clay, with sand seams, high plasticity, medium stiff, wet CH			
				SS-4 8.5-10.0 R=18"	1 2 3	qu=0.5*tsf % Clay=45.7 % Silt=45.7 % Sand=8.5
				SS-5 11.0-12.5 R=18"	2 3 5	qu=1.0*tsf LL=49 PI=30
	13.5		Gray silty sand, loose SM	SS-6 13.5-15.0 R=16"	2 3 4	% Sand=74.3 % Silt=11.1 % Clay=13.1
	15.0		Dark gray silty clay, medium stiff CL			
				SS-7 16.0-17.5 R=15"	2 3 3	qu=0.5*tsf LL=40 PI=25
	17.5		Fine to coarse sand, with gravel, medium dense SP			
				SS-8 18.5-20.0	8 10 9	
	20.0		End of Boring at 20.0'			

Water Content: PL 10 20 30 40 LL 50
Unconfined Compressive Strength (TSF) ✳: 1 2 3 4 5

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **HS**
DRILLING STARTED **8/13/08** ENDED **8/13/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)

MWG13-15_14265

PATRICK ENGINEERING INC.

BORING NUMBER **APB-8-08** SHEET **1** OF **1**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
	0.0		Brown fine to coarse sand, some gravel, loose to medium dense				
			SP	SS-1 1.0-2.5 R=12"	6 4 6		
				SS-2 3.5-5.0 R=12"	2 2 4		% Sand=82.5 % Gravel=8.7 % Fines=8.9
				SS-3 6.0-7.5 R=6"	3 4 4		
				SS-4 8.5-10.0 R=4"	4 6 7		
	10.5		Brown and gray coarse sand, gravel, loose to medium dense, wet				
	12.0	▽		SS-5 11.0-12.5 R=12"	3 3 5		
				SS-6 13.5-15.0	8 7 6		% Sand=75 % Gravel=19.1 % Fines=5.9
				SS-7 16.0-17.5	9 8 7		
				SS-8 18.5-20.0	3 4 5		
	20.0		End of Boring at 20.0'				

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **HS**
DRILLING STARTED **8/14/08** ENDED **8/14/08**

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽ **12.0** While Drilling
▽
▽

MWG13-15_14266

PATRICK ENGINEERING INC.

BORING NUMBER **APB-9-08** SHEET 1 OF 1
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **KRM**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
	0.0		Brown clay and sand FILL	SS-1 0.0-1.5 R=10"	2 4 2		
	1.0		Cinders, sand and slag FILL	SS-2 1.5-3.0 R=5"	3 2 2		
				SS-3 3.0-4.5 R=10"	2 1 1		
	4.5		End of Boring at 4.5'				

DRILLING CONTRACTOR **Terracon**
DRILLING METHOD **D90**
DRILLING EQUIPMENT **HS**
DRILLING STARTED ENDED

REMARKS
Boring backfilled with grout slurry.

WATER LEVEL (ft.)
▽
▼
▼

MWG13-15_14267

PATRICK ENGINEERING INC.

BORING NUMBER **APB-10-08** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**
LOGGED BY **JK**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
	0.0		Organic silt				
	1.0		Light tan silt, trace sand and clay, medium stiff, moist ML	SS-1 1.0-2.5 12"R	4 3 2		
				SS-2 3.5-5.0 18"R	6 4 5		
				SS-3 6.0-7.5 18"R	6 5 8		
	8.0		Dark brown silty sand to sandy silt, with some gravel, loose, moist SM	SS-4 8.5-10.0 18"R	7 5 4		
				SS-5 11.0-12.5 18"R	3 3 3		
	13.0		Dark brown sandy silty clay, with some gravel, medium stiff, moist SC/CL	SS-6 13.5-15.0 18"R	2 4 4		
	19.0		Light tan to brown silty sand, some gravel, loose, wet	SS-7 18.5-20.0 14"R	2 2 2		
	20.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **CME-75**
DRILLING EQUIPMENT **3.25" I.D. HSA**
DRILLING STARTED **8/18/08** ENDED **8/18/08**

REMARKS
Borehole sealed with cuttings and bentonite chips.

WATER LEVEL (ft.)
▽ **9.0'** While Drilling

MWG13-15_14268

PATRICK ENGINEERING INC.

BORING NUMBER **APB-10-08** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **20803.041**
LOCATION **Pekin, IL**

LOGGED BY **JK**
GROUND ELEVATION

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
	20.0		Tan fine to coarse sand, lose, wet SP				
				SS-8 21.0-22.5 12"R	2 2 3		
	23.0		Multi-color very sandy gravel, loose, wet SP/GP				
				SS-9 23.5-25.0 10"R	2 2 2		
				SS-10 26.0-27.5 12"R	3 5 3		
				SS-11 28.5-30.0 12"R	2 2 2		
	30.0		End of Boring at 30.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **CME-75**
DRILLING EQUIPMENT **3.25" I.D. HSA**
DRILLING STARTED **8/18/08** ENDED **8/18/08**

REMARKS
Borehole sealed with cuttings and bentonite chips.

WATER LEVEL (ft.)
▽ **9.0'** While Drilling
▽
▼

MWG13-15_14269

Exhibit D3

COMMONWEALTH EDISON COMPANY

PHASE II ENVIRONMENTAL SITE ASSESSMENT

Powerton Generating Station
Route 29 & Mantino Road
Pekin, Illinois

ENSR
Consulting * Engineering * Remediation

December 1998
File Number 1801-023-510

PHASE II ENVIRONMENTAL SITE ASSESSMENT

Powerton Generating Station
Route 29 & Mantino Road
Pekin, Illinois

December 7, 1998

Prepared for:

Commonwealth Edison Company
One First National Plaza
10 South Dearborn, 35 FNW
Chicago, Illinois 60603

Prepared by:

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EXECUTIVE SUMMARY

This report presents the results of the Phase II Environmental Site Assessment (Phase II ESA) conducted by ENSR Corporation (ENSR) in October 1998 at the Commonwealth Edison Company (ComEd) Powerton Generating Station, located at Route 29 & Mantino Road in Pekin, Illinois. Phase II ESA activities consisted of advancement of soil borings, installation of monitoring wells, and collection of surface and subsurface soil, sediment, and groundwater samples. The purpose of the Phase II ESA was to investigate the potential presence of contamination in the areas of environmental concern identified in the Phase I Environmental Site Assessment (Phase I ESA).

Based on the results of the Phase I ESA, 19 potential areas of concern were identified for further investigation. These areas of concern are identified in **Section 2.0**. Each of these areas of concern were investigated during the Phase II ESA activities. Twenty-eight soil borings were advanced and 6 monitoring wells were installed. Soil samples were collected from the borings and groundwater samples were collected from the monitoring wells. In addition, 22 surface soil samples and 12 sediment samples were collected at the facility.

These samples were submitted for analysis of benzene, toluene, ethyl benzene, and total xylenes (BTEX) using EPA Method 8260; polynuclear aromatic hydrocarbons (PNAs) using EPA Method 8310; polychlorinated biphenyls (PCBs) using EPA Method 8081; Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) using EPA Method series 6000 and 7000; and pH using EPA Method 9045.

In addition, the surface soil samples and sediment samples were also submitted for analysis of total petroleum hydrocarbons (TPH) using EPA Method 8015. Water quality field parameters, consisting of pH, specific conductivity, and temperature, were also recorded from the groundwater samples collected.

PNA constituents were detected above the Illinois Environmental Protection Agency (IEPA) cleanup objectives primarily in the surface soil samples collected at the facility. These surface soil samples were collected directly from a "stained" location in the identified potential areas of concern. Therefore, it was determined that the impact from these PNA constituents is relatively localized. However, PNA constituents were detected in the soil sample collected from B-5 at approximately 4 feet below grade.

Arsenic was detected above the IEPA cleanup objective of 3 milligrams per kilogram (mg/kg) in samples collected throughout the facility. However, the majority of concentrations of arsenic are within the range of arsenic detected by the EPA during a state wide soil survey in 1992. Arsenic was detected at concentrations greater than the background range in 6 locations at the facility. These locations are at the transformers located on the north side of the western portion of the main building, the Wastewater Treatment Plant, the materials storage area located south of the main building, the area west of the former Car Dumper, the ash/slag disposal area south of the Wastewater Treatment Plant, and the Coal Handling Tractor Repair Building.

In addition, lead was detected above the IEPA cleanup objective of 400 mg/kg in the samples collected from the transformers located on the north and south side of the western portion of the main building.

PCBs were detected above the IEPA cleanup objective of 1 mg/kg in samples collected adjacent to the former Switch Yard and the turbine oil aboveground storage tank (AST) located in the eastern portion of the main building. The PCBs were only detected in the first 2 feet of soil.

It should be noted that TPH was detected throughout the site. Although a cleanup objective has not been established by the IEPA, TPH was detected at elevated concentrations (greater than 1,000 mg/kg) and would indicate impact by petroleum hydrocarbon compounds.

Based on the relatively low volatility of the constituents of concern detected above the IEPA cleanup objectives, the soil inhalation exposure pathway is not a likely contaminant exposure pathway. In addition, due to the fact that no constituents of concern were detected at concentrations above the IEPA cleanup objectives in the groundwater samples collected, the groundwater ingestion is not a potential contaminant exposure pathway. However, the soil ingestion pathway is a potential exposure pathway during construction activities. Therefore, this pathway would need to allow for protection/prevention for the construction worker scenario.

Based on the current land use (industrial) and site conditions (analytical results and soil types), it is judged that the potential for human exposure to the constituents of concern from this facility is low. It should be noted that there is no requirement under Illinois environmental law to further investigate or remediate this property.

1.0 INTRODUCTION

1.1 General

ENSR Corporation (ENSR) was retained by Commonwealth Edison Company (ComEd) to conduct Phase II Environmental Site Assessment (Phase II ESA) activities on a "limited" portion of the 1,710 acre Powerton Generating Station, located at Route 29 & Mantino Road in Pekin, Illinois (**Figure 1, Site Location Map**).

The scope of the Phase II ESA activities were based on the preliminary results of the Phase I Environmental Site Assessment (Phase I ESA), with concurrence between ENSR and ComEd. Phase II ESA activities were conducted from October 5 to November 3, 1998, and included advancement of soil borings, installation of monitoring wells, and collection of surface and subsurface soil, sediment, and groundwater samples. **Figure 2** illustrates the layout of the facility.

1.2 Objectives and Scope

The purpose of the Phase II ESA was to investigate the potential presence of contamination in the areas of environmental concern identified in the Phase I ESA. The Phase II ESA adequately assessed the surface and/or subsurface conditions in the locations where sampling was conducted. The Phase II ESA is a tool for developing a conceptual site model to identify the presence and nature of potential contamination, describe potential contaminant migration pathways, and define potential exposure pathways in sampled areas. Based upon this and the information gathered during the Phase II ESA, and using the Illinois Environmental Protection Agency (IEPA) Tiered Approach to Cleanup Objectives (TACO) as guidance, it can be determined whether remediation is warranted in the locations sampled. The Phase II ESA alone is not an exhaustive investigation which can be used to determine the extent of contamination, nor the cost of any suggested remediation.

The objective of the Phase II ESA was to develop a conceptual site model to identify the presence and nature of potential contamination, describe potential contaminant migration pathways, and define potential exposure pathways. To meet this objective, ENSR implemented a "phased" assessment designed to provide increasing levels of information based upon obtained data. Recognizing that existing information for the facility and potential contamination was limited, the principal tasks completed during the Phase II ESA included the following:

- Soil boring advancement and soil sample collection;
- Monitoring well installation and groundwater sample collection;
- Collection of surface soil and sediment samples;
- Laboratory analysis of samples; and,
- Evaluation of analytical results and comparison to the IEPA Tier 1 Industrial/Commercial Soil Cleanup Objectives and IEPA Tier 1 Groundwater Cleanup Objectives.

The investigation consisted of the advancement of 28 soil borings and the installation of 6 monitoring wells at the potential areas of concern identified during the Phase I ESA. Soil samples were collected from the borings and groundwater samples were collected from the monitoring wells. These samples were submitted for analysis of benzene, toluene, ethyl benzene, and total xylenes (BTEX) using EPA Method 8260, polynuclear aromatic hydrocarbons (PNAs) using EPA Method 8310, polychlorinated biphenyls (PCBs) using EPA Method 8081, Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) using EPA Method series 6000 and 7000, and pH by EPA Method 9045. Water quality field parameters, consisting of pH, specific conductivity, and temperature, were also recorded from the groundwater samples collected.

In addition, 22 surface soil samples were collected from the identified potential areas of concern and 12 sediment samples were collected from selected ash/coal settling ponds or drainage ditches located at the facility. These samples were submitted for analysis of the previously referenced constituents as well as total petroleum hydrocarbons (TPH) using EPA Method 8015.

1.3 Report Organization

Section 1 introduces the principal subjects covered in this report, describes the purpose and scope of the Phase II ESA, and presents limitations of the Phase II ESA. **Section 2** provides information regarding the identified potential areas of concern and the methodologies used during the investigation. **Section 3** presents the results of the Phase II ESA. **Section 4** presents the data assessment of the Phase II ESA. **Tables** summarizing the analytical results and **Figures** illustrating the facility location and layout, as well as sampling locations, have been included under the appropriate headings.

Appendix A contains laboratory analytical reports. **Appendix B** contains boring logs and monitoring well construction diagrams. **Appendix C** contains monitoring well gauging and survey data.

1.4 Limitations

This report, including all attachments thereto, describes the results of ENSR's Phase II ESA conducted at the Powerton Generating Station, which took place between October 5 and November 3, 1998. Many of the facts and conditions pertaining to this Phase II ESA are subject to change over time; accordingly, the evaluations and conclusions must be viewed within this context.

ENSR has performed this Phase II ESA in a professional manner using that degree of skill and care exercised for similar projects under similar conditions by reputable and competent environmental consultants. ENSR shall not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time this Phase II ESA was performed.

This report and all field data, notes, and laboratory test data (hereinafter collectively "Information") were prepared by ENSR solely for the benefit of ENSR's Client, ComEd. ENSR's Client may release this Information to third parties, who may use and rely upon the Information at their own discretion. However, any use of or reliance upon this Information by a party other than parties identified shall be solely at the risk of such third party and without legal recourse against ENSR, or its subsidiaries and affiliates, or their respective employees, officers or directors, regardless of whether the action in which recovery of damages is sought is based upon contract, tort (including the sole, concurrent or other negligence and strict liability of ENSR), statute or otherwise. This Information shall not be used or relied upon by a party which does not agree to be bound by the above statement.

2.0 INVESTIGATION METHODS

Prior to initiation of field investigations, a site reconnaissance was performed during the Phase I ESA to define the study area. Field investigation activities were subsequently conducted to obtain site specific information and data pertaining to site geology and hydrogeology, groundwater quality, soil properties, and potential contaminant source(s).

The sampling locations were recommended based on the preliminary Phase I ESA findings. A sampling location summary listing is presented in **Table 1**. A summary of the identified potential areas of concern is presented below.

1. **Yard & Roof Runoff Basins.** Two Yard & Roof Runoff Basins are located at the facility. These ponds collect surface water runoff from the surrounding area. The East Yard & Roof Runoff Basin is located in the northeastern portion of the facility. Two sediment samples (X-2 and X-3) were collected and one monitoring well (MW-1) was installed. In addition, one sediment sample (X-1) was collected from a drainage ditch located east of the East Yard & Roof Runoff Basin. The West Yard & Roof Runoff Basin is located in the southwestern portion of the facility. One sediment sample (X-10) was collected.

2. **Transformers.** Transformers with oil staining were observed throughout the facility. Soil samples were collected in 7 locations with the most significant staining. The first location contains the transformers on the eastern portion of the south side of the main building. One soil boring (B-1) was advanced and one surface soil sample (S-1) was collected. The second location contains the transformers on the western portion of the south side of the main building. Two surface soil samples (S-3 and S-4) were collected. The third location contains the transformers on the western portion of the north side of the main building. One soil boring (B-6) was advanced and three surface soil samples (S-6, S-7, and S-12) were collected. The fourth location contains the transformers on the south side of the former main building. Two surface soil samples (S-5 and S-14) were collected. The fifth location contains the transformers on the north side of the former main building. One soil boring (B-19) was advanced. The sixth location contains the transformers at the Coal Handling Tractor Repair Garage, located on the northeast side of the coal pile. One surface soil sample (S-16) was collected. The seventh location contains the transformers on the east side of the West Yard & Roof Runoff Basin. One surface soil sample (S-20) was collected.

3. **Petroleum Aboveground Storage Tanks.** Two aboveground storage tanks (ASTs), which are used for the storage of diesel fuel, are located at the facility. One diesel AST is located near the southwestern corner of the main building. Two soil borings (B-5 and B-35) were advanced. The second diesel AST is located at the Coal Handling Tractor Repair Garage, located on the northeast side of the coal pile. One surface soil sample (S-19) was collected. One AST, used for the storage of turbine oil, is located in the eastern portion of the main building. One surface soil sample (S-22) was collected. In addition, an abandoned gasoline AST is also located near the southwestern corner of the

main building. Two soil borings (B-4 and B-18) were advanced.

4. **Diesel Underground Storage Tank.** One underground storage tank (UST) is located at the eastern portion of the south side of the main building. One surface soil sample (S-2) was collected.

5. **Used Oil UST.** One used oil UST is located near the Used Oil Shed, which is south of the main building. One soil boring (B-15) was advanced.

6. **Wastewater ASTs.** There are three areas containing wastewater ASTs at the facility. These ASTs are used to store water that has been processed prior to disposal. The first wastewater AST area is located to the north of the eastern portion of the main building. One soil boring (B-9) was advanced. The second wastewater AST area is located to the north of the western portion of the main building. One surface soil sample (S-9) was collected. The third wastewater AST area is located to the northwest of the former main building. One soil boring (B-10) was advanced.

7. **Oil/Water Separators.** Two oil/water separators are located at the facility. The northern oil/water separator is located adjacent to the East Yard & Roof Runoff Basin. One soil boring (B-11) was advanced and one surface soil sample (S-10) was collected. The southern oil/water separator is located adjacent to the West Yard & Roof Runoff Basin. One soil boring (B-33) was advanced and one monitoring well (MW-7) was installed.

8. **Ash/Slag Disposal Area.** Two ash/slag disposal areas are located at the facility. These areas are used to store ash/slag prior to having it transported off-site. One disposal area is at northwestern corner of the facility. One soil boring (B-12) was advanced and one monitoring well (MW-2) was installed. The second disposal area is to the south of the Wastewater Treatment Plant. One soil boring (B-23) was advanced.

9. **Ash/Slag Ponds.** There are 4 ponds at the facility which are used to collect ash/slag wastewater. The ponds are located at the northwestern corner of the facility. One Ash Surge Basin is located to the west of the East Yard & Roof Runoff Basin. One sediment sample (X-4) was collected. Two Ash Settling Basins are located to the west of the Ash Surge Basin. One sediment sample (X-12) was collected from the western pond, and one sediment sample (X-6) was collected from the eastern pond. In addition, two soil borings (B-13 and B-36) were advanced, one monitoring well (MW-3) was installed, and one surface soil sample (S-23) was collected. One Slag Overflow Basin is located to the north of the Ash Surge Basin. One sediment sample (X-5) was collected.

10. **Wastewater Treatment Plant.** A Wastewater Treatment Plant is located to the south of the Ash Surge Basin. One soil boring (B-14) was advanced and one surface soil sample (S-11) was collected.

11. **Metal Cleaning Waste Basin.** There is one pond at the facility which is used to collect metal cleaning wastewater. One sediment sample (X-11) was collected.

12. **Former Switch Yard.** A former Switch Yard is located to the south of the former main building. Three surface soil samples (S-17, S-18, and S-24) were collected.

13. **Coal Handling Area.** Coal is received at the facility via railroad. The coal is unloaded and is transported to the coal pile at the southwestern end of the facility. One soil boring (B-25) was advanced to the northwest of the coal pile, one soil boring (B-27) was advanced to the northeast of the coal pile, and one soil boring (B-26) was advanced to the north of the coal pile. In addition, one monitoring well (MW-5) was installed to the southeast of the coal pile.

14. **Coal Pile Runoff Ponds.** Three coal pile collection basins are located at the northwestern corner of the coal pile. One sediment sample (X-7) was collected from the western pond, one sediment sample (X-8) was collected from the center pond, and one sediment sample (X-9) was collected from the eastern pond.

15. **Coal Handling Area Buildings.** These buildings are associated with the transporting of coal, as well as housing and maintaining the coal handling tractors. These buildings are located at the north end of the coal pile. One soil boring (B-30) was advanced to the north of the Coal Handling Tractor Repair Building. One soil boring (B-21) was advanced to the west of the former Car Dumper, and one soil boring (B-22) was advanced adjacent to a former locomotive house.

16. **Switch Yard.** The Switch Yard is located to the southeast of the coal pile. One soil boring (B-32) was advanced to the north of the Switch Yard.

17. **Lift Station.** A lift station is located to the north of the Switch Yard. Soil staining from the pumping equipment was observed. One soil boring (B-31) was advanced and one surface soil sample (S-21) was collected.

18. **Crib House.** The Crib House is located south of the main building. The Crib House is used to filter and treat intake cooling water from the Lake Powerton prior to being pumped into the plant. One soil boring (B-34) was advanced and one surface soil sample (S-25) was collected.

19. **Materials Storage Areas.** There are two materials storage area located at the facility. One area is used for the storage of waste solvent and is located to the north of the Crib House. One soil boring (B-16) was advanced. The second area is used for the storage of waste oil and is located to the south of the main building. One soil boring (B-17) was advanced.

It should be noted that due to heavy concentrations of buried utility lines or other underground obstructions, eight planned soil borings (B-2, B-3, B-7, B-8, B-20, B-24, B-28, and B-29) were not advanced and one monitoring well (MW-4) was not installed. Surface soil samples were not collected at these locations due to the areas being covered with concrete/asphalt.

2.1 Sampling Methods

All soil (surface and subsurface), sediment, and groundwater samples collected were submitted for analysis of BTEX and PNA constituents using EPA Methods 8260 and 8310, respectively, PCBs using EPA Method 8081, RCRA metals using EPA Method series 6000 and 7000, and pH by EPA Method 9045. In addition, surface soil and sediment samples were submitted for TPH using EPA Method 8015. A sample summary listing is presented in **Table 1**.

The sample glassware used to contain the samples retained for laboratory analysis were provided pre-cleaned from National Environmental Laboratories, Inc. (NET) of Bartlett, Illinois. Each sample was labeled with the project number, project location, client, sample number, sample depth, date, time, and requested analysis. The soil samples were stored on ice in the field in a cooler and shipped via courier under chain-of-custody to NET. Standard chain-of-custody procedures were maintained from the time of sample collection until delivery to the analytical laboratory.

2.1.1 Sediment Sampling

Twelve sediment samples (X-1 through X-12) were collected at the facility. The sediment sample locations are illustrated on **Figure 3**. Sediment samples were collected using a stainless steel hand shovel. All sampling equipment was decontaminated between each sediment sample location using the procedure outlined in **Section 2.3**.

2.1.2 Surface Soil Sampling

Twenty-two surface soil samples (S-1 through S-7, S-9 through S-12, S-14, and S-16 through S-25) were collected at the facility. The surface soil sample locations are illustrated on **Figure 4**. Surface soil samples were collected using a stainless steel hand shovel. All sampling equipment was decontaminated between each sediment sample location using the procedure outlined in **Section 2.3**.

2.1.3 Soil Borings and Subsurface Soil Sampling

Twenty-eight soil borings (B-1, B-4 through B-6, B-9 through B-19, B-21 through B-23, B-25 through B-27, and B-30 through B-36) were advanced at the facility. It should be noted that due to heavy concentrations of buried utility lines or other underground obstructions, eight planned soil borings (B-2, B-3, B-7, B-8, B-20, B-24, B-28, and B-29) were not advanced. The soil borings locations are illustrated on **Figure 5**. The soil borings were advanced by Fox Drilling, Inc. (Fox) of Itasca, Illinois, utilizing Geoprobe direct-push drilling techniques. The soil borings were advanced to a maximum depth of 20 feet below grade. All soil borings were backfilled with soil cuttings, and completed at surface grade with the appropriate material (i.e., concrete, asphalt). All sampling equipment was decontaminated between each soil boring location using the procedure outlined in **Section 2.3**.

Soil samples were collected by advancing by a hydraulically-driven stainless steel pre-probe. Soil samples were collected using a 2.0-inch diameter acetate lined soil sampler. Soil samples were continuously collected from the surface to the bottom of the soil borings. The soil samples were visually inspected and field classified using the general guidelines of the Unified Soil Classification System (USCS) and the American Society for Testing and Materials (ASTM) Test Method ASTM D2488 for soil classification.

Each soil sample was field screened for the presence of VOCs using a photoionization detector (PID) and standard headspace screening methods. The PID readings indicate relative levels of VOCs in the vapor headspace, but do not represent actual concentrations which may exist in the soil. The PID has a detection range of 1.0 part per million volume (ppmv) to 2,500 ppmv. The soil sample which exhibited the highest PID reading, or if no PID readings were detected, from directly above the field-interpreted groundwater level, was retained from each boring for laboratory analysis.

2.1.4 Monitoring Wells and Groundwater Sampling

Six monitoring wells (MW-1 through MW-3, and MW-5 through MW-7) were installed at the facility. The monitoring well locations are illustrated on **Figure 5**. It should be noted that due to heavy concentrations of buried utility lines or other underground obstructions, one monitoring well (MW-4) was not advanced. The monitoring wells were installed by Fox utilizing hollow-stem augers and rotary drilling techniques. The monitoring wells were installed to a maximum depth of 26 feet below grade. Fluids generated during monitoring well installation and groundwater sampling were discharged to the ground surface in proximity to each sampling location. All sampling equipment was decontaminated between each soil boring location using the procedure outlined in **Section 2.3**.

The monitoring wells were installed through the working space within hollow stem augers. The monitoring wells were constructed of 2-inch diameter Schedule 40 PVC 0.010-inch slotted continuous wrap well screen and solid riser. A filter pack consisting of clean silica sand was placed surrounding the well screen to filter out fine soil particles from the formation adjacent to the screen. The filter pack extends from the bottom of the soil boring to approximately 1-foot above the top of the well screen. A bentonite pellet seal was placed on top of the sand pack and hydrated with distilled water to prevent surface water infiltration. The annular space above the bentonite seal was filled with a neat bentonite and cement grout to approximately 6-inches below grade. The monitoring wells were completed at grade and an 8-inch diameter steel protective road box was placed over each monitoring well and set in concrete at grade. The monitoring wells were capped with expandable well caps and equipped with locks to prevent unauthorized access. A monitoring well construction diagram is included in **Appendix A**.

After the installation of the monitoring wells, approximately three to five well volumes of groundwater was removed from each monitoring well, or until the groundwater was relatively free from sediment, using a peristaltic pump. One groundwater sample was

collected from each monitoring well and submitted for laboratory analysis. In addition, water quality field parameters consisting of pH, specific conductivity, and temperature were measured and recorded during sample collection.

2.2 Monitoring Well Gauging and Survey

Each monitoring well was gauged using an electronic interface probe in order to determine the presence or absence of liquid-phase hydrocarbons (LPHCs) and depth to groundwater. In addition, each monitoring well's top of casing and ground surface location was surveyed relative to an arbitrary benchmark assigned an elevation of 100 feet.

2.3 Equipment Decontamination

The drill rig and associated tooling, and sampling equipment were decontaminated prior to mobilization and before leaving the site. To minimize the potential for cross-contamination, drilling and sampling equipment were decontaminated between each use. Decontamination of drilling equipment consisted of steam cleaning. Sampling equipment, including split spoons and stainless steel sampling equipment, were decontaminated before each use by washing with a solution of Alconox (phosphate based detergent) and potable water, and rinsing with distilled water. Decontamination fluids generated during equipment decontamination were discharged to the ground surface in proximity to each sampling location.

3.0 INVESTIGATION FINDINGS

The findings of the subsurface investigation, soil and groundwater sampling, monitoring well gauging, survey, and chemical analysis, are presented below. Analytical results are summarized in **Table 2** through **Table 5**. The analytical reports and chain-of-custody forms are included in **Appendix B**.

Analytical results were compared against the cleanup objectives as presented in 35 Illinois Administrative Code (IAC) Section 742.Appendix B: Table B-Tier 1 Soil Remediation Objectives for Commercial/Industrial Properties, and 35 IAC Section 742.Appendix B: Table E-Tier 1 Groundwater Remediation Objectives for the Direct Ingestion of Groundwater Portion of the Groundwater Ingestion Route.

Soil analytical results for the RCRA metals are shown as totals. Therefore, the soil component of the groundwater ingestion exposure route has not been considered. In addition, the groundwater beneath the site is classified as Class I, therefore the Class I baseline was used.

3.1 Sediment

BTEX. The analytical results indicated that BTEX constituents were not detected above the laboratory method detection limits.

TPH. The analytical results indicated that TPH as oil was detected at concentrations ranging from 352 milligrams per kilogram (mg/kg) in sample X-7 to 18,500 mg/kg in sample X-10. However, cleanup objectives for TPH have not been established by the IEPA. TPH as gasoline or diesel was not detected above the laboratory method detection limits.

PNAs. The analytical results indicated that benzo(a)pyrene was detected in samples X-2 and X-10 at concentrations of 0.81 mg/kg and 4.8 mg/kg, respectively, which are above the IEPA cleanup objective of 0.8 mg/kg. It should be noted that samples X-1, X-2, and X-7 through X-10 had elevated detection limits due to matrix interference. These elevated detection limits are above the cleanup objectives for benzo(a)anthracene and dibenzo(a,h)anthracene, and consequently, there is a possibility that the concentrations are actually above the cleanup objectives.

PCBs. The analytical results indicated that PCBs were not detected above the laboratory method detection limits.

Metals. The analytical results indicated that arsenic was detected at concentrations above the IEPA cleanup objective of 3 mg/kg. Arsenic was detected at concentrations ranging from 3.2 mg/kg in sample X-5 to 17 mg/kg in sample X-4. However, the concentrations of arsenic are within the range of arsenic (0.35 mg/kg to 24 mg/kg) detected by the EPA during a state wide soil survey in 1992.

pH. pH values ranged from 7.11 in sample X-9 to 8.94 in sample X-5.

Analytical results are summarized in **Table 2**, and sampling locations are illustrated on **Figure 3**. The analytical report and chain-of-custody forms are included in **Appendix B**.

3.2 Surface Soil

BTEX. The analytical results indicated that BTEX constituents were detected in the surface soil samples collected. However, these concentrations were not above the IEPA cleanup objectives.

TPH. The analytical results indicated that TPH as gasoline was detected at concentrations ranging from 232 mg/kg in sample S-18 to 2,360 mg/kg in sample S-23, and TPH as diesel was detected at a concentration of 4,930 mg/kg in sample S-19. TPH as oil was detected at concentrations ranging from 89 mg/kg in sample S-10 to 72,700 mg/kg in sample S-1. However, cleanup objectives for TPH have not been established by the IEPA.

PNAs. The analytical results indicated that benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-c,d)pyrene were detected in samples S-2, S-3, S-5, S-9, S-12, and S-16 at concentrations above the IEPA cleanup objectives. It should be noted that sample S-4 had an elevated detection limit due to matrix interference. This elevated detection limit is above the cleanup objective for benzo(a)pyrene, and consequently, there is a possibility that the concentration is actually above the cleanup objective of 0.8 mg/kg. Refer to **Table 3** for PNA results.

PCBs. The analytical results indicated that PCBs were detected at concentrations above the IEPA cleanup objective of 1.0 mg/kg. These concentrations were at 1.2 mg/kg in sample S-18 and 1.71 mg/kg in sample S-22. It should be noted that sample S-24 had an elevated detection limit due to matrix interference. This elevated detection limit is above the cleanup objective and consequently there is a possibility that the concentration is actually above the cleanup objective.

Metals. The analytical results indicated that arsenic and lead were detected at concentrations above the IEPA cleanup objectives of 3 mg/kg and 400 mg/kg, respectively. Arsenic was detected at concentrations ranging from 3.2 mg/kg in sample S-25 to 11 mg/kg in sample S-14. However, the concentrations of arsenic are within the range of arsenic (0.35 mg/kg to 24 mg/kg) detected by the EPA during a state wide soil survey in 1992. Lead was detected at concentrations of 558 mg/kg in sample S-4 and 831 mg/kg in sample S-12.

pH. pH values ranged from 5.93 in sample S-4 to 9.42 in sample S-7.

Analytical results are summarized in **Table 3**, and sampling locations are illustrated on **Figure 4**. The analytical report and chain-of-custody forms are included in **Appendix B**.

3.3 Subsurface Soil

Native soil encountered beneath the fill material consisted primarily of a brown, fine to medium sand to the maximum depth of the borings at 20 feet below grade, with intermittent 2 to 4 foot silty clay layers. Soil boring logs are included in **Appendix A**.

The PID readings obtained from the soil samples collected ranged from 1.3 ppmv in B-22 (8 to 12 feet below grade) to 708 ppmv in B-15 (0 to 4 feet below grade). The PID field screening results are recorded on the boring logs in **Appendix A**.

BTEX. The analytical results indicated that BTEX constituents were not detected above the laboratory method detection limits.

PNAs. The analytical results indicated that PNA constituents were detected in only one subsurface soil sample collected. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene were detected in B-5 at concentrations above the IEPA cleanup objectives. Refer to **Table 4** for PNA results.

PCBs. The analytical results indicated that PCBs were detected in the subsurface soil samples collected. However, these concentrations were not above the IEPA cleanup objective of 1.0 mg/kg.

Metals. The analytical results indicated that arsenic was detected at concentrations above the IEPA cleanup objectives of 3 mg/kg. Arsenic was detected at concentrations ranging from 3.3 mg/kg in B-34 to 177 mg/kg in B-23. However, the majority of concentrations of arsenic are within the range of arsenic (0.35 mg/kg to 24 mg/kg) detected by the EPA during a state wide soil survey in 1992. Arsenic was detected at concentrations ranging from 25 mg/kg in B-14 to 177 mg/kg in B-23. The majority soil boring locations with elevated concentrations of arsenic were located in the vicinity of the slag and fly ash areas.

pH. pH values ranged from 7.79 in B-13 to 9.59 in B-4.

Analytical results are summarized in **Table 4**, and soil boring locations are illustrated on **Figure 5**. The analytical report and chain-of-custody forms are included in **Appendix B**.

3.4 Groundwater

The groundwater elevations ranged from 8.11 feet in MW-2 to 25.91 feet in MW-3. LPHC was not detected in any of the monitoring wells. Based on the gauging data, the apparent groundwater flow direction beneath the facility has been calculated to be to the northwest (**Figure 6, Groundwater Elevation Map**). Monitoring well gauging data is included in **Appendix C**.

Water quality field parameters consisting of pH, specific conductivity, and temperature were measured. The recorded measurements are summarized in **Table 5**.

BTEX. The analytical results indicated that BTEX constituents were not detected above the laboratory method detection limits.

PNAs. The analytical results indicated that PNA constituents were detected in the groundwater samples collected. However, these concentrations were not above the IEPA cleanup objectives.

PCBs. The analytical results indicated that BTEX constituents were not detected above the laboratory method detection limits.

Metals. The analytical results indicated that arsenic and barium were detected in the groundwater samples collected. However, these concentrations were not above the IEPA cleanup objectives. It should be noted that laboratory detection limit for cadmium was at 0.01 mg/l which is above the cleanup objective of 0.005 mg/l. Consequently, there is a possibility that the concentrations are actually above the cleanup objective.

Analytical results are summarized in **Table 5**, and monitoring well locations are illustrated on **Figure 5**. The analytical report and chain-of-custody forms are included in **Appendix B**.

4.0 DATA ASSESSMENT

4.1 Extent of Contamination

Based on the results of the subsurface investigation conducted, the following determinations and assessments were made regarding the extent of contamination at the facility. The following conclusions are subject to the Limitations presented in **Section 1.4**. In addition, although arsenic was detected above the IEPA cleanup objective, the majority of concentrations of arsenic are within the range of arsenic detected by the EPA during a state wide soil survey in 1992. The majority soil boring locations with elevated concentrations of arsenic were located in the vicinity of the slag and fly ash areas. However, it should be noted that soil analytical results for the RCRA metals are shown as totals. Therefore, the soil component of the groundwater ingestion exposure route has not been considered.

4.1.1 Sediment

Arsenic and benzo(a)pyrene were the constituents of concern detected at concentrations above the IEPA cleanup objectives.

Benzo(a)pyrene was detected above the IEPA cleanup objective in the following locations:

- **Yard & Roof Runoff Basins.** The East Yard & Roof Runoff Basin located in the northeastern portion of the facility (X-2) and the West Yard & Roof Runoff Basin is located in the southwestern portion of the facility (X-10).

It should be noted that due to matrix interference in samples X-1, X-2, and X-7 through X-10 benzo(a)anthracene, benzo(a)pyrene, and dibenzo(a,h)anthracene had elevated detection limits. Consequently, there is a possibility that the concentrations are actually above the cleanup objectives. These samples were collected from a drainage ditch east of the East Yard & Roof Runoff Basin (X-1), the East Yard & Roof Runoff Basin (X-2), the three Coal Runoff Ponds (X-7 through X-9), and the West Yard & Roof Runoff Basin (X-10).

Arsenic was detected above the IEPA cleanup objective, at a maximum concentration of 17 mg/kg in the following locations:

- **Yard & Roof Runoff Basins.** The drainage ditch east of the East Yard & Roof Runoff Basin (X-1), the East Yard & Roof Runoff Basin (X-2 and X-3), and the West Yard & Roof Runoff Basin is located in the southwestern portion of the facility (X-10).
- **Ash/Slag Ponds.** The Ash Surge Basin located to the west of the East Yard & Roof Runoff Basin (X-4), the Slag Overflow Basin located to the north of the Ash Surge Basin (X-5), the eastern Ash Settling Basin (X-6), and the western Ash Settling Basin (X-12).

- **Coal Runoff Ponds.** The western Coal Runoff Pond (X-7) and the center Coal Runoff Pond (X-8).
- **Metal Cleaning Waste Basin.** The Metal Cleaning Waste Basin (X-4) located south of the Ash Surge Basin.

4.1.2 Surface Soil

Arsenic, lead, PCBs, and PNA constituents listed as benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, and indeno(1,2,3-c,d)pyrene were the constituents of concern detected at concentrations above the IEPA cleanup objectives.

PNA constituents were detected above the IEPA cleanup objectives in the following locations:

- **Diesel UST.** The diesel UST located on the south side of the eastern portion of the main building (S-2).
- **Transformers.** The transformers located on the south side of the western portion of the main building (S-3), transformers located on the south side of the former building (S-5), transformers located on the north side of the western portion of the main building (S-12), and transformers located at the Coal Handling Tractor Repair Garage (S-16).
- **Wastewater ASTs.** The wastewater ASTs located north of the western portion of the main building (S-9).

It should be noted that due to matrix interference in sample S-4, benzo(a)pyrene had an elevated detection limit. Consequently, there is a possibility that the concentration is actually above the cleanup objective of 0.8 mg/kg. This sample was collected from the transformers located on the south side of the western portion of the main building (S-4).

Arsenic was detected above the IEPA cleanup objective, at a maximum concentration of 11 mg/kg in the following locations:

- **Transformers.** The transformers located on the south side of the eastern portion of the main building (S-1), transformers located on the south side of the western portion of the main building (S-3 and S-4), transformers located on the south side of the former building (S-5 and S-14), transformers located on the north side of the western portion of the main building (S-6, S-7, and S-12), transformers located at the Coal Handling Tractor Repair Garage (S-16), and transformers located on the east side of the West Yard & Roof Runoff Basin (S-20).
- **Diesel UST.** The diesel UST located on the south side of the eastern portion of the main building (S-2).
- **Wastewater ASTs.** The wastewater ASTs located north of the western portion of the main building (S-9).
- **Oil/Water Separators.** The northern oil/water separator located east of the Ash Surge Basin (S-10).

- **Wastewater Treatment Plan.** The Wastewater Treatment Plant located south of the Ash Surge Basin (S-11).
- **Former Switch Yard.** The former Switch Yard located south of the former main building (S-17 and S-24).
- **Petroleum ASTs.** The diesel AST located at the Coal Handling Tractor Repair Garage (S-19) and the turbine oil AST located in the eastern portion of the main building (S-22).
- **Lift Station.** The lift station located north of the Switch Yard (S-21).
- **Crib House.** The Crib House located south of the main building (S-25).

Lead was detected above the IEPA cleanup objective, at a maximum concentration of 831 mg/kg in the following locations:

- **Transformers.** The transformers located on the south side of the western portion of the main building (S-4) and transformers located on the north side of the western portion of the main building (S-12).

PCBs were detected above the IEPA cleanup objective in the following locations:

- **Former Switch Yard.** The former Switch Yard located south of the former main building (S-18).
- **Petroleum ASTs.** The turbine oil AST located in the eastern portion of the main building (S-22).

It should be noted that due to matrix interference sample S-24 had an elevated detection limit. Consequently, there is a possibility that the PCB concentration is actually above the cleanup objective of 1.0 mg/kg. This sample was collected from the former Switch Yard located south of the former main building (S-24).

4.1.3 Subsurface Soil

Arsenic and PNA constituents listed as benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and dibenzo(a,h)anthracene were the constituents of concern detected at concentrations above the IEPA cleanup objectives.

PNA constituents were detected above the IEPA cleanup objectives in the following locations:

- **Petroleum ASTs.** The diesel AST located near the southwestern corner of the main building (B-5).

Arsenic was detected above the IEPA cleanup objective, at a maximum concentration of 177 mg/kg in the following locations:

- **Transformers.** The transformers located on the south side of the eastern portion of the main building (B-1), transformers located on the north side of the former main building (B-19), and transformers located on the north side of the western portion of the main building (B-6),
- **Petroleum ASTs.** An abandoned gasoline AST located near the southwestern corner of the main building (B-4 and B-18) and the diesel AST located near the southwestern corner of the main building (B-5 and B-35).
- **Wastewater ASTs.** The wastewater ASTs located north of the eastern portion of the main building (B-9) and the wastewater ASTs located northwest of the main building (B-10).
- **Oil/Water Separators.** The northern oil/water separator located east of the Ash Surge Basin (B-11).
- **Ash/Slag Disposal Areas.** The disposal area located in the northwester corner of the facility (B-12) and the disposal area located to the south of the Wastewater Treatment Plant (B-23).
- **Ash/Slag Ponds.** The Ash Settling Ponds located to the west of the Ash Surge Basin (B-13 and B-36).
- **Wastewater Treatment Plant.** The Wastewater Treatment Plant located south of the Ash Surge Basin (B-14).
- **Used Oil UST.** The used oil UST located near the Used Oil Shed, which is south of the main building (B-15).
- **Material Storage Areas.** The storage area located north of the Crib House (B-16) and the storage area located south of the main building (B-17).
- **Coal Handling Area Buildings.** The area west of the former Car Dumper (B-21), the former locomotive house (B-22), and the Coal Handling Tractor Repair Building (B-30).
- **Coal Handling Area.** The coal pile located at the southwestern corner of the facility (B-25 through B-27)
- **Lift Station.** The lift station located north of the Switch Yard (B-31).
- **Switch Yard.** The Switch Yard located southeast of the coal pile (B-32).
- **Crib House.** The Crib House located south of the main building (B-34).

4.1.4 Groundwater

There were no constituents of concern detected at concentrations above the IEPA cleanup objectives in the groundwater samples collected. It should be noted that laboratory detection limit for cadmium was at 0.01 mg/l which is above the cleanup objective of 0.005 mg/l. Consequently, there is a possibility that the concentrations are actually above the cleanup objective.

4.2 Potential Contaminant Exposure Pathways

Based on the above-referenced assessment, potential exposure pathways by which humans may be exposed to the constituents of concern have been identified at the facility. Potential sources, fate and transport mechanisms, and exposure media were considered in determining these potential exposure pathways. An identified potential exposure pathway does not imply that exposure is occurring, only that the potential exists for exposure.

4.2.1 Soil Ingestion

The soil ingestion pathway includes the first three feet within ground surface. Therefore, based on the analytical results, soil ingestion is a potential contaminant exposure pathway. Soil ingestion occurs when soil containing elevated concentrations of the constituents of concern are ingested into the body. The facility is an industrial site and direct contact and ultimately ingestion of the impacted soil is not likely to occur. However, construction activities would increase the possibility of exposure. Therefore, this pathway would need to allow for protection/prevention for the construction worker scenario.

4.2.2 Soil Inhalation

The soil inhalation pathway includes the first ten feet within ground surface. Therefore, based on the analytical results, soil inhalation is a potential contaminant exposure pathway. Soil inhalation occurs when elevated concentrations of the constituents of concern are inhaled into the body. However, the highly volatile constituents (i.e., BTEX, TPH as gasoline), were not detected at concentrations above the IEPA cleanup objectives. The constituents that were detected at concentrations above the IEPA cleanup objectives (i.e., metals, semi-volatiles, PCBs), are not considered highly volatile. Based on the relatively low volatility of the constituents of concern detected above the IEPA cleanup objectives, the soil inhalation exposure pathway is not a likely contaminant exposure pathway.

4.2.3 Groundwater Ingestion

The groundwater ingestion pathway includes groundwater being used as a potable source of water. Therefore, due to the fact that the facility receives its potable water from water supply wells located at the facility, the groundwater ingestion is a potential contaminant exposure pathway. However, no constituents of concern were detected at concentrations above the IEPA cleanup objectives in the groundwater samples collected.

Based on the current land use (industrial) and site conditions (analytical results and soil types), it is judged that the potential for human exposure to the constituents of concern from this facility is low. However, personnel working at the facility could be susceptible to exposure due to accidental soil ingestion or soil inhalation due to activities such as construction. Such exposure may result from contact with contaminated subsurface or surface materials previously located beneath a protective barrier (i.e., concrete cap, building).

There is no requirement under Illinois environmental law to further investigate or remediate this property.

TABLES

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Powerton Generating Station
Route 29 & Mantino Road
Pekin, Illinois

Table 1

Sampling Locations and Analyses Summary

Commonwealth Edison Company
Powerton Generating Station
Route 29 Mantino Road
Pekin, Illinois

	Sampling Locations[1]	Sampling Parameters	Sampling Depth (in feet)	Date Collected
Sediment Sample Identification				
X-1	Yard & Roof Runoff Basins	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/14/98
X-2	Yard & Roof Runoff Basins	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/14/98
X-3	Yard & Roof Runoff Basins	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/14/98
X-4	Ash/Slag Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/14/98
X-5	Ash/Slag Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/14/98
X-6	Ash/Slag Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/14/98
X-7	Coal Runoff Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/14/98
X-8	Coal Runoff Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/15/98
X-9	Coal Runoff Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/15/98
X-10	Yard & Roof Runoff Basins	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/15/98
X-11	Metal Cleaning Waste Basin	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/15/98
X-12	Ash/Slag Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/15/98
Monitoring Well Sample Identification				
MW-1	Yard & Roof Runoff Basins	BTEX, PNAs, PCBs, RCRA metals, pH	NA	11/02/98
MW-2 (B-12)	Ash/Slag Disposal Area	BTEX, PNAs, PCBs, RCRA metals, pH	NA	11/02/98
MW-3	Ash/Slag Ponds	BTEX, PNAs, PCBs, RCRA metals, pH	NA	11/02/98
MW-5	Coal Handling Area	BTEX, PNAs, PCBs, RCRA metals, pH	NA	11/02/98
MW-6	Background Monitoring Point	BTEX, PNAs, PCBs, RCRA metals, pH	NA	11/02/98
MW-7 (B-33)	Oil/Water Separator	BTEX, PNAs, PCBs, RCRA metals, pH	NA	11/02/98

Table 1

Sampling Locations and Analyses Summary

Commonwealth Edison Company
Powerton Generating Station
Route 29 Mantino Road
Pekin, Illinois

Surface Soil Sample Identification	Sampling Locations	Sampling Parameters	Sampling Depth (in feet)	Date Collected
S-1	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-2	Diesel UST	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-3	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-4	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-5	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-6	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-7	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-9	Wastewater ASTs	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-10	Oil/Water Separator	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-11	Wastewater Treatment Plant	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-12	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-14	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-16	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-17	Former Switch Yard	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-18	Former Switch Yard	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-19	Petroleum ASTs	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-20	Transformers	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-21	Lift Station	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-22	Petroleum ASTs	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-23	Ash/Slag Ponds	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-24	Former Switch Yard	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98
S-25	Crib House	TPH, BTEX, PNAs, PCBs, RCRA metals, pH	NA	10/08/98

Table 1

Sampling Locations and Analyses Summary

Commonwealth Edison Company
Powerton Generating Station
Route 29 Mantino Road
Pekin, Illinois

Boring Identification	Sampling Locations	Sampling Parameters	Sampling Depth (in feet)	Date Collected
B-1	Transformers	BTEX, PNAs, PCBs, RCRA metals, pH	16-20	10/06/98
B-4	Petroleum ASTs	BTEX, PNAs, PCBs, RCRA metals, pH	12-16	10/06/98
B-5	Petroleum ASTs	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/06/98
B-6	Transformers	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/06/98
B-9	Wastewater ASTs	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/06/98
B-10	Wastewater ASTs	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/06/98
B-11	Oil/Water Separator	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/06/98
B-12	Ash/Slag Disposal Area	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/06/98
B-13	Ash/Slag Ponds	BTEX, PNAs, PCBs, RCRA metals, pH	12-16	10/06/98
B-14	Wastewater Treatment Plant	BTEX, PNAs, PCBs, RCRA metals, pH	16-20	10/06/98
B-15	Used Oil UST	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/07/98
B-16	Materials Storage Areas	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/07/98
B-17	Materials Storage Areas	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/07/98
B-18	Petroleum ASTs	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/06/98
B-19	Transformers	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/07/98
B-21	Coal Handling Area Buildings	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/07/98
B-22	Coal Handling Area Buildings	BTEX, PNAs, PCBs, RCRA metals, pH	16-20	10/07/98
B-23	Ash/Slag Disposal Area	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/07/98
B-25	Coal Handling Area	BTEX, PNAs, PCBs, RCRA metals, pH	8-12	10/07/98
B-26	Coal Handling Area	BTEX, PNAs, PCBs, RCRA metals, pH	16-20	10/07/98
B-27	Coal Handling Area	BTEX, PNAs, PCBs, RCRA metals, pH	12-16	10/07/98
B-30	Coal Handling Area Buildings	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/07/98
B-31	Lift Station	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/07/98
B-32	Switch Yard	BTEX, PNAs, PCBs, RCRA metals, pH	4-8	10/07/98
B-33	Oil/Water Separator	BTEX, PNAs, PCBs, RCRA metals, pH	16-20	10/07/98
B-34	Crib House	BTEX, PNAs, PCBs, RCRA metals, pH	0-4	10/07/98
B-35	Petroleum ASTs	BTEX, PNAs, PCBs, RCRA metals, pH	16-20	10/06/98
B-36	Ash/Slag Ponds	BTEX, PNAs, PCBs, RCRA metals, pH	12-16	10/06/98

Notes:

BTEX was analyzed using EPA Method 8260.

PNAs were analyzed using EPA Method 8310

PCBs were analyzed using EPA Method 8081.

RCRA metals were analyzed using EPA Method series 6000 and 7000.

pH was measured using EPA Method 9045.

(1) Sampling locations are referenced in the Phase II Environmental Site Assessment Report in Section 2.0.

Sediment Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Powerton Generating Station
Route 29 Mantino Road
Pekin, Illinois

Sample I.D.	X-1	X-2	X-3	X-4	X-5	X-6	IEPA Soil
Lab I.D.	498643	498644	498645	498646	498647	498648	Cleanup
Sample Date	10/14/98	10/14/98	10/14/98	10/14/98	10/14/98	10/14/98	Objectives
Parameters							
BTEX							
Benzene	< 0.01	< 0.01	< 0.01	< 0.01	< 0.006	< 0.007	0.03
Toluene	< 0.01	< 0.01	< 0.01	< 0.01	< 0.006	< 0.007	12
Ethyl Benzene	< 0.01	< 0.01	< 0.01	< 0.01	< 0.006	< 0.007	13
Total Xylenes	< 0.01	< 0.01	< 0.01	< 0.01	< 0.006	< 0.007	150
TPH							
Gasoline	< 100	< 140	< 110	< 130	< 59	< 74	NA[1]
Diesel	< 100	< 140	< 110	< 130	< 59	< 74	NA
Oil	< 100	15,300	< 110	< 130	< 59	560	NA
PNAs							
Acenaphthene	< 0.40	< 0.56	< 0.044	< 0.3	< 0.024	< 0.030	570
Acenaphthylene	< 0.40	< 0.56	< 0.044	< 0.3	< 0.024	< 0.030	NA
Anthracene	< 0.81	< 1.1	< 0.088	< 0.5	< 0.047	< 0.059	12,000
Benzo(a)anthracene	< 6.3	< 3.1	< 0.059	< 0.64	< 0.039	< 0.32	2
Benzo(a)pyrene	< 0.26	0.81	< 0.010	< 0.06	< 0.0054	< 0.027	0.8
Benzo(b)fluoranthene	< 0.11	0.62	< 0.0079	< 0.05	< 0.019	0.044	5
Benzo(g,h,i)perylene	< 0.81	< 1.1	< 0.088	< 0.5	< 0.047	< 0.059	NA
Benzo(k)fluoranthene	< 0.12	0.45	< 0.0075	< 0.04	< 0.0040	< 0.047	49
Chrysene	< 0.6	0.95	< 0.07	< 0.4	< 0.04	< 0.04	160
Dibenzo(a,h)anthracene	< 0.16	< 0.2	< 0.01	< 0.1	< 0.007	< 0.014	0.8
Fluoranthene	0.59	1.9	0.051	< 0.3	< 0.024	0.1	4,300
Fluorene	< 0.40	< 0.56	< 0.15	< 0.3	< 0.024	0.034	560
Indeno(1,2,3-c,d)pyrene	< 0.17	0.59	< 0.019	< 0.1	< 0.010	< 0.016	8
Naphthalene	< 0.51	< 0.70	< 0.055	< 0.3	0.033	< 0.037	84
Phenanthrene	< 0.81	< 1.1	< 0.088	< 0.5	< 0.047	0.069	NA
Pyrene	< 0.40	1.7	0.046	< 0.3	< 0.024	0.065	4,200
RCRA Metals[2]							
Arsenic	5.1	12	7	17	3.2	15	3
Barium	2,430	2,070	4,850	2,840	100	857	14,000
Cadmium	2.2	4.5	1.4	1.8	0.7	1.6	200
Chromium	26	42	33	41	40	87	420
Lead	59	110	40	44	14	53	400
Mercury	< 0.081	< 0.11	< 0.088	0.13	< 0.047	0.25	61
Selenium	< 0.51	1.4	< 0.55	< 0.64	< 0.30	3.4	1,000
Silver	< 4.0	< 5.6	< 4.4	< 5.2	< 2.4	< 3.0	1,000
Total PCBs	< 0.081	< 0.11	< 0.088	< 0.10	< 0.047	< 0.059	1
pH	8.44	7.99	8.11	8.21	8.94	8.04	NA

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Table 2
Sediment Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Powerton Generating Station
Route 29 Mantino Road
Pekin, Illinois

Sample I.D.	X-7	X-8	X-9	X-10	X-11	X-12	EPA Soil
Lab I.D.	498649	498650	498651	498652	498653	498654	Cleanup
Sample Date	10/14/98	10/15/98	10/15/98	10/15/98	10/15/98	10/15/98	Objectives
Parameters							
BTEX							
Benzene	< 0.009	< 0.01	< 0.008	< 0.009	< 0.01	< 0.007	0.03
Toluene	< 0.009	< 0.01	< 0.008	< 0.009	< 0.01	< 0.007	12
Ethyl Benzene	< 0.009	< 0.01	< 0.008	< 0.009	< 0.01	< 0.007	13
Total Xylenes	< 0.009	< 0.01	< 0.008	< 0.009	< 0.01	< 0.007	150
TPH							
Gasoline	< 89	< 100	< 83	< 93	< 110	< 69	NA
Diesel	< 89	< 100	< 83	< 93	< 110	< 69	NA
Oil	352	2,440	1,130	18,500	< 110	< 69	NA
PNAs							
Acenaphthene	< 0.036	< 0.40	< 0.33	< 3.7	< 0.045	< 0.027	570
Acenaphthylene	< 0.036	< 0.40	< 0.33	< 3.7	< 0.045	< 0.027	NA
Anthracene	< 0.071	< 0.81	< 0.66	< 7.4	< 0.090	< 0.055	12,000
Benzo(a)anthracene	< 5.0	< 2.4	< 5.4	< 3.4	< 0.31	< 0.0036	2
Benzo(a)pyrene	< 0.0096	< 0.18	< 0.61	4.8	< 0.085	< 0.0063	0.8
Benzo(b)fluoranthene	< 0.030	< 0.59	< 1.3	1.5	0.067	< 0.0049	5
Benzo(g,h,i)perylene	< 0.071	< 0.81	< 0.66	< 7.4	< 0.090	< 0.055	NA
Benzo(k)fluoranthene	< 0.01	< 0.34	< 0.76	< 0.63	0.047	< 0.0047	49
Chrysene	< 0.364	< 0.6	< 0.5	< 6	0.078	< 0.04	160
Dibenzo(a,h)anthracene	< 0.14	< 0.1	< 0.178	< 1	< 0.01	< 0.008	0.8
Fluoranthene	< 0.088	< 0.40	< 0.61	< 3.7	0.34	< 0.027	4,300
Fluorene	< 0.061	< 0.40	< 0.33	< 3.7	< 0.049	< 0.027	560
Indeno(1,2,3-c,d)pyrene	< 0.088	< 0.17	< 1.7	< 1.6	0.031	< 0.012	8
Naphthalene	< 0.045	< 0.51	< 0.41	< 4.7	0.074	< 0.034	84
Phenanthrene	0.12	< 0.81	< 0.66	< 7.4	0.17	< 0.055	NA
Pyrene	< 1.7	< 0.40	0.84	< 3.7	0.18	< 0.027	4,200
RCRA Metals							
Arsenic	5	3.4	2.3	6.7	13	3.6	3
Barium	2,320	1,070	561	372	2,470	288	14,000
Cadmium	0.96	1.3	< 0.83	1.3	1.8	0.69	200
Chromium	18	8.9	7.8	18	47	120	420
Lead	36	28	17	39	67	41	400
Mercury	0.32	0.75	0.26	< 0.074	0.76	< 0.055	61
Selenium	0.48	< 0.51	< 0.41	< 0.47	1.1	< 0.34	1,000
Silver	< 3.6	< 4.0	< 3.3	< 3.7	< 4.5	< 2.7	1,000
Total PCBs	< 0.071	< 0.081	< 0.066	< 0.074	< 0.090	< 0.055	1
pH	8.35	7.77	7.11	7.83	8.58	7.98	NA

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table B: Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties.

(1) NA indicates not applicable, cleanup objectives have not been established for these parameters.
(2) Results are shown as totals, therefore the soil component of the groundwater ingestion exposure route has not been considered.

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Table 3

Surface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Powerton Generating Station
Route 29 Mantino Road
Pekin, Illinois

Sample I.D.	S-1	S-2	S-3	S-4	S-5	S-6	S-7	IEPA Soil
Lab I.D.	497418	497419	497420	497421	497422	497423	497424	Cleanup
Sample Date	10/8/98	10/8/98	10/8/98	10/8/98	10/8/98	10/8/98	10/8/98	Objectives
Parameters								
BTEX								
Benzene	< 0.005	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.005	0.03
Toluene	< 0.005	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.005	12
Ethyl Benzene	< 0.005	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.005	13
Total Xylenes	< 0.005	< 0.006	< 0.006	< 0.006	< 0.006	< 0.005	< 0.005	150
TPH								
Gasoline	< 545	< 310	< 119	< 279	< 63	< 510	< 505	NA[1]
Diesel	< 545	< 310	< 119	< 279	< 63	< 510	< 505	NA
Oil	72,700	5,150	762	5,460	448	21,600	19,400	NA
PNAs								
Acenaphthene	< 0.022	2.1	0.31	< 1.1	4.8	< 0.020	< 0.020	570
Acenaphthylene	< 0.022	< 0.025	< 0.024	< 1.1	< 0.025	< 0.020	< 0.020	NA
Anthracene	< 0.044	3.6	0.52	< 2.2	7.3	0.12	< 0.040	12,000
Benzo(a)anthracene	0.47	**7.4**	1.2	< 1.1	**14**	1.3	< 0.010	2
Benzo(a)pyrene	< 0.011	**7.2**	**1.2**	**< 1.1**	**10**	0.27	< 0.010	0.8
Benzo(b)fluoranthene	< 0.011	3.7	0.56	< 1.1	4.5	0.19	< 0.010	5
Benzo(g,h,i)perylene	< 0.044	5.8	0.99	< 2.2	7.7	0.38	< 0.040	NA
Benzo(k)fluoranthene	< 0.011	3.5	0.61	< 1.1	4.3	0.17	< 0.010	49
Chrysene	< 0.033	8.4	1.4	< 1.7	11	0.57	< 0.030	160
Dibenzo(a,h)anthracene	< 0.011	**0.94**	0.15	< 1.1	**1.1**	< 0.010	< 0.010	0.8
Fluoranthene	0.8	21	3.2	< 1.1	38	1.2	< 0.020	4,300
Fluorene	0.38	2.5	0.29	< 1.1	5	0.42	0.052	560
Indeno(1,2,3-c,d)pyrene	< 0.011	3.8	0.56	< 1.1	5.2	< 0.010	< 0.010	8
Naphthalene	< 0.027	0.35	< 0.030	< 1.3	0.77	< 0.026	< 0.025	84
Phenanthrene	0.96	1.6	2.4	< 2.2	36	0.34	< 0.040	NA
Pyrene	1.1	1.9	2.9	< 1.1	31	1.8	0.09	4,200
RCRA Metals[2]								
Arsenic	**3.9**	**7.4**	**5.2**	**4.9**	**14**	**3.9**	**5.7**	3
Barium	110	682	110	179	478	143	293	14,000
Cadmium	2.2	7.3	3.5	7.8	3.1	0.99	0.7	200
Chromium	16	45	17	21	50	15	7	420
Lead	21	71	51	**558**	327	37	8.7	400
Mercury	< 0.044	0.5	< 0.048	< 0.045	0.36	< 0.041	< 0.040	61
Selenium	< 0.27	0.82	< 0.30	< 0.28	0.53	0.32	0.32	1,000
Silver	< 2.2	< 2.5	< 2.4	< 2.2	< 2.5	2.7	2.8	1,000
Total PCBs	< 0.044	0.083	0.096	0.088	0.12	< 0.041	< 0.040	1
pH	7.79	8.23	7.81	5.93	8.34	9.32	9.42	NA

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Table 3
Surface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Powerton Generating Station
Route 29 Mantino Road
Pekin, Illinois

Sample I.D.	S-9	S-10	S-11	S-12	S-14	S-16	S-17	IEPA Soil
Lab I.D.	497426	497427	497428	497429	497430	497435	497436	Cleanup
Sample Date	10/8/98	10/8/98	10/8/98	10/8/98	10/8/98	10/8/98	10/8/98	Objectives
Parameters								
BTEX								
Benzene	< 0.009	< 0.007	< 0.006	< 0.006	< 0.006	< 0.008	< 0.009	0.03
Toluene	< 0.009	< 0.007	< 0.006	< 0.006	< 0.006	< 0.008	< 0.009	12
Ethyl Benzene	< 0.009	< 0.007	< 0.006	< 0.006	< 0.006	< 0.008	< 0.009	13
Total Xylenes	< 0.009	< 0.007	< 0.006	< 0.006	< 0.006	< 0.008	< 0.009	150
TPH								
Gasoline	< 90	< 66	< 57	< 56	< 62	251	257	NA
Diesel	< 90	< 66	< 57	< 56	< 62	< 78	< 86	NA
Oil	1,900	89	670	1,330	323	3,460	3,070	NA
PNAs								
Acenaphthene	4.3	0.055	< 0.023	0.31	0.04	< 0.031	< 0.034	570
Acenaphthylene	< 0.036	0.054	< 0.023	< 0.022	< 0.025	< 0.031	< 0.034	NA
Anthracene	8.5	0.14	< 0.045	0.53	0.12	< 0.063	< 0.068	12,000
Benzo(a)anthracene	18	0.29	< 0.011	1.2	0.34	< 0.016	< 0.017	2
Benzo(a)pyrene	20	0.51	0.16	1.7	0.39	3	< 0.017	0.8
Benzo(b)fluoranthene	9.2	0.22	0.12	0.72	0.2	1.3	1.7	5
Benzo(g,h,i)perylene	15	0.12	< 0.045	1.1	0.14	< 0.063	< 0.068	NA
Benzo(k)fluoranthene	9	0.22	< 0.011	0.61	0.15	< 0.016	< 0.017	49
Chrysene	2.2	0.43	0.12	1.5	0.36	1.7	< 0.051	160
Dibenzo(a,h)anthracene	2.7	0.051	< 0.011	0.093	0.022	0.2	< 0.017	0.8
Fluoranthene	49	0.71	0.14	3.7	0.68	0.97	0.51	4,300
Fluorene	4.2	0.068	< 0.023	0.33	0.036	< 0.031	< 0.034	560
Indeno(1,2,3-c,d)pyrene	10	0.13	< 0.011	0.67	0.14	< 0.016	< 0.017	8
Naphthalene	< 0.045	0.054	< 0.028	0.033	< 0.031	< 0.039	< 0.043	84
Phenanthrene	32	0.62	0.15	2.1	0.56	0.82	0.72	NA
Pyrene	43	0.81	0.17	3.1	0.65	2	0.7	4,200
RCRA Metals								
Arsenic	3.4	9.7	5.5	9.3	11	4.4	3.8	3
Barium	632	618	307	831	248	831	805	14,000
Cadmium	2.7	2.5	2.7	10	2.2	2.4	< 0.86	200
Chromium	11	60	14	70	37	6.3	7.7	420
Lead	100	37	125	831	149	27	22	400
Mercury	0.14	0.14	0.1	0.12	0.11	0.22	0.1	61
Selenium	< 0.45	< 0.33	0.3	0.31	< 0.31	< 0.39	< 0.43	1,000
Silver	< 3.6	< 2.6	< 2.3	< 2.2	< 2.5	< 3.1	< 3.4	1,000
Total PCBs	< 0.072	< 0.053	< 0.045	0.074	< 0.050	< 0.063	< 0.068	1
pH	7.66	8.64	8.33	8.70	8.20	7.24	7.70	NA

Surface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Powerton Generating Station
Route 29 Mantino Road
Pekin, Illinois

Sample I.D.	S-18	S-19	S-20	S-21	S-22	S-23	S-24	S-25	IEPA Soil
Lab I.D.	497437	497438	497439	497440	497441	497442	497443	497444	Cleanup
Sample Date	10/8/98	10/8/98	10/8/98	10/8/98	10/8/98	10/8/98	10/8/98	10/8/98	Objectives
Parameters									
BTEX									
Benzene	< 0.01	< 0.009	< 0.005	< 0.005	< 0.007	< 0.005	< 0.008	< 0.005	0.03
Toluene	< 0.01	< 0.009	< 0.005	< 0.005	< 0.007	< 0.005	< 0.008	< 0.005	12
Ethyl Benzene	< 0.01	< 0.009	< 0.005	< 0.005	0.019	< 0.005	< 0.008	< 0.005	13
Total Xylenes	< 0.01	< 0.009	< 0.005	< 0.005	0.016	< 0.005	< 0.008	< 0.005	150
TPH									
Gasoline	232	< 91	< 53	< 538	1,490	2,360	< 81	< 212	NA
Diesel	< 110	4,930	< 53	< 538	< 289	< 522	< 81	< 212	NA
Oil	4,060	< 91	1,020	27,200	28,100	30,100	1,050	4,420	NA
PNAs									
Acenaphthene	< 0.043	< 0.036	< 0.021	< 0.089	< 0.12	< 0.087	< 0.032	< 0.088	570
Acenaphthylene	< 0.043	< 0.036	< 0.021	< 0.089	< 0.12	< 0.087	< 0.032	< 0.088	NA
Anthracene	< 0.086	< 0.073	< 0.042	< 0.18	0.81	< 0.18	< 0.065	0.41	12,000
Benzo(a)anthracene	< 0.021	< 0.018	< 0.011	< 0.045	< 0.061	< 0.044	< 0.016	0.6	2
Benzo(a)pyrene	0.75	< 0.018	< 0.011	< 0.045	< 0.061	< 0.044	< 0.016	0.43	0.8
Benzo(b)fluoranthene	0.62	< 0.018	< 0.011	< 0.045	< 0.061	< 0.044	< 0.016	0.33	5
Benzo(g,h,i)perylene	< 0.086	< 0.073	< 0.042	< 0.18	< 0.25	< 0.18	< 0.065	0.3	NA
Benzo(k)fluoranthene	< 0.021	< 0.018	< 0.011	< 0.045	< 0.061	< 0.044	< 0.016	0.15	49
Chrysene	0.97	< 0.055	< 0.032	< 0.13	0.59	< 0.13	0.26	0.6	160
Dibenzo(a,h)anthracene	< 0.021	< 0.018	< 0.011	< 0.045	< 0.061	< 0.044	< 0.016	< 0.044	0.8
Fluoranthene	0.86	0.64	< 0.021	< 0.089	1.3	< 0.087	0.19	1.7	4,300
Fluorene	< 0.043	< 0.036	< 0.021	< 0.089	0.94	< 0.087	0.073	0.41	560
Indeno(1,2,3-c,d)pyrene	< 0.021	< 0.018	< 0.011	< 0.045	< 0.061	< 0.044	< 0.016	0.18	8
Naphthalene	< 0.054	< 0.045	< 0.027	< 0.11	< 0.14	< 0.10	< 0.040	< 0.11	84
Phenanthrene	0.69	0.65	< 0.042	< 0.18	1.1	< 0.18	0.16	1.3	NA
Pyrene	1.4	1.8	< 0.021	< 0.089	< 0.12	< 0.087	0.84	1.7	4,200
RCRA Metals									
Arsenic	2.8	6.9	5	5.1	8.1	1.9	9.9	3.2	3
Barium	665	818	62	204	883	460	549	212	14,000
Cadmium	2.4	2.7	1.7	0.72	12	0.78	3.4	1.5	200
Chromium	24	20	6.4	24	188	41	61	30	420
Lead	279	44	8.6	40	291	25	291	43	400
Mercury	0.11	0.093	< 0.042	< 0.043	0.14	0.043	0.21	< 0.042	61
Selenium	< 0.54	< 0.45	< 0.27	< 0.27	0.87	< 0.26	0.42	< 0.26	1,000
Silver	< 4.3	< 3.6	< 2.1	< 2.2	3.6	< 2.1	< 3.2	< 2.1	1,000
Total PCBs	1.2	< 1.5	< 0.042	< 0.043	1.71	< 0.10	< 3.9	0.26	1
pH	8.15	7.69	8.87	6.68	7.53	6.54	7.59	7.30	NA

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table B: Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties.

(1) NA indicates not applicable, cleanup objectives have not been established for these parameters.
(2) Results are shown as totals, therefore the soil component of the groundwater ingestion exposure route has not been considered.

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Table 4
Subsurface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Powerton Generating Station
Route 29 Mantino Road
Pekin, Illinois

Sample I.D.	B-1	B-4	B-5	B-6	B-9	B-10	B-11	
Lab I.D.	496979	496980	496981	496982	496983	496984	496985	IEPA Soil
Sample Date	10/6/98	10/6/98	10/6/98	10/6/98	10/6/98	10/6/98	10/6/98	Cleanup
Sample Depth (feet)	16-20	12-16	0-4	0-4	0-4	0-4	0-4	Objectives
Parameters								
BTEX								
Benzene	< 0.006	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	0.03
Toluene	< 0.006	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	12
Ethyl Benzene	< 0.006	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	13
Total Xylenes	< 0.006	< 0.005	< 0.005	< 0.006	< 0.005	< 0.005	< 0.005	150
PNAs								
Acenaphthene	< 0.023	< 0.020	2.8	0.12	< 0.022	< 0.021	< 0.022	570
Acenaphthylene	< 0.023	< 0.020	< 1.3	< 0.023	< 0.022	< 0.021	< 0.022	NA[1]
Anthracene	< 0.045	< 0.041	8.1	0.19	< 0.14	< 0.042	< 0.043	12,000
Benzo(a)anthracene	< 0.0030	< 0.0027	11	0.14	0.042	0.045	< 0.012	2
Benzo(a)pyrene	< 0.0052	< 0.0047	11	0.12	0.021	0.018	< 0.0050	0.8
Benzo(b)fluoranthene	< 0.0041	< 0.0037	10	0.13	0.03	0.016	< 0.0039	5
Benzo(g,h,i)perylene	< 0.045	< 0.041	10	0.088	< 0.043	< 0.042	< 0.043	NA
Benzo(k)fluoranthene	< 0.0039	< 0.0035	5.5	0.064	0.015	0.0086	< 0.0037	49
Chrysene	< 0.03	< 0.03	9.3	0.14	< 0.03	< 0.03	< 0.03	160
Dibenzo(a,h)anthracene	< 0.007	< 0.006	2.1	0.016	< 0.006	< 0.006	< 0.007	0.8
Fluoranthene	< 0.023	< 0.020	28	0.53	< 0.12	< 0.089	< 0.022	4,300
Fluorene	< 0.023	< 0.020	3.5	0.14	< 0.022	< 0.021	< 0.022	560
Indeno(1,2,3-c,d)pyrene	< 0.0098	< 0.0088	7.2	0.076	0.024	0.014	< 0.0093	8
Naphthalene	< 0.028	< 0.026	< 1.6	0.28	0.044	< 0.026	< 0.027	84
Phenanthrene	< 0.045	< 0.041	22	0.51	< 0.043	< 0.042	< 0.043	NA
Pyrene	< 0.023	< 0.020	22	0.37	0.049	0.027	< 0.022	4,200
RCRA Metals[2]								
Arsenic	6.1	6	11	48	12	5.4	6.4	3
Barium	26	13	314	222	98	232	228	14,000
Cadmium	< 0.57	< 0.51	0.83	7.4	1.1	0.94	0.8	200
Chromium	6.9	5.5	17	140	26	137	98	420
Lead	9.3	7.6	25	48	78	31	27	400
Mercury	< 0.045	< 0.041	0.13	< 0.047	< 0.043	< 0.042	0.39	61
Selenium	< 1.4	< 1.2	0.39	1.9	< 0.27	0.47	0.29	1,000
Silver	< 2.3	< 2.0	< 2.2	< 2.3	< 2.2	< 2.1	< 2.2	1,000
Total PCBs	< 0.045	< 0.041	0.05	< 0.047	< 0.043	< 0.042	< 0.043	1
pH	9.04	9.59	8.70	7.86	8.83	8.89	8.88	NA

Table 4
Subsurface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Powerton Generating Station
Route 29 Mantino Road
Pekin, Illinois

Sample I.D.	B-12	B-13	B-14	B-15	B-16	B-17	B-18	
Lab I.D.	496986	496987	496988	496992	496993	496994	496989	IEPA Soil
Sample Date	10/6/98	10/6/98	10/6/98	10/7/98	10/7/98	10/7/98	10/6/98	Cleanup
Sample Depth (feet)	0-4	12-16	16-20	0-4	0-4	0-4	0-4	Objectives
Parameters								
BTEX								
Benzene	< 0.005	< 0.006	< 0.007	< 0.005	< 0.005	< 0.006	< 0.005	0.03
Toluene	< 0.005	< 0.006	< 0.007	< 0.005	< 0.005	< 0.006	< 0.005	12
Ethyl Benzene	< 0.005	< 0.006	< 0.007	< 0.005	< 0.005	< 0.006	< 0.005	13
Total Xylenes	< 0.005	< 0.006	< 0.007	< 0.005	< 0.005	< 0.006	< 0.005	150
PNAs								
Acenaphthene	< 0.021	< 0.023	< 0.029	< 0.022	< 0.021	< 0.09	< 0.1	570
Acenaphthylene	< 0.021	< 0.023	< 0.029	< 0.022	< 0.021	< 0.089	< 0.1	NA
Anthracene	< 0.043	< 0.047	< 0.059	< 0.043	< 0.042	0.22	< 0.2	12,000
Benzo(a)anthracene	< 0.0028	< 0.040	< 0.0038	< 0.0028	< 0.0027	0.8	0.13	2
Benzo(a)pyrene	< 0.0049	< 0.0054	< 0.0067	< 0.0050	< 0.0049	0.65	0.093	0.8
Benzo(b)fluoranthene	< 0.0038	< 0.0042	< 0.0053	< 0.0039	< 0.0038	0.76	0.19	5
Benzo(g,h,i)perylene	< 0.043	< 0.047	< 0.059	< 0.043	< 0.042	0.53	< 0.2	NA
Benzo(k)fluoranthene	< 0.0036	< 0.0040	< 0.0050	< 0.0037	< 0.0036	0.31	0.079	49
Chrysene	< 0.03	< 0.04	< 0.04	< 0.03	< 0.03	0.65	< 0.16	160
Dibenzo(a,h)anthracene	< 0.006	< 0.007	< 0.009	< 0.007	< 0.006	0.1	< 0.03	0.8
Fluoranthene	< 0.021	< 0.023	< 0.029	< 0.022	< 0.021	1.2	0.27	4,300
Fluorene	< 0.021	< 0.023	< 0.029	< 0.022	< 0.021	< 0.09	< 0.1	560
Indeno(1,2,3-c,d)pyrene	< 0.0092	< 0.010	< 0.013	< 0.0093	< 0.0091	0.45	0.13	8
Naphthalene	< 0.027	< 0.029	< 0.037	< 0.027	< 0.026	< 0.1	< 0.1	84
Phenanthrene	< 0.043	< 0.047	< 0.059	< 0.043	< 0.042	0.33	< 0.2	NA
Pyrene	< 0.021	< 0.023	< 0.029	< 0.022	< 0.021	1.1	0.24	4,200
RCRA Metals								
Arsenic	6.7	7.4	25	10	8.6	47	24	3
Barium	29	140	130	33	33	55	89	14,000
Cadmium	< 0.53	< 0.58	1.8	< 0.54	< 0.53	1.1	1.3	200
Chromium	8.4	16	40	7.5	8.2	10	21	420
Lead	10	20	29	11	14	13	26	400
Mercury	0.33	< 0.047	< 0.059	< 0.043	< 0.042	< 0.045	< 0.044	61
Selenium	< 0.27	< 0.29	0.4	< 0.27	< 0.26	0.29	0.43	1,000
Silver	< 2.1	< 2.3	< 2.9	< 2.2	< 2.1	< 2.2	< 2.2	1,000
Total PCBs	< 0.043	< 0.047	< 0.059	< 0.043	< 0.042	< 0.045	< 0.044	1
pH	9.02	7.79	8.52	9.29	9.21	9.49	8.62	NA

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Table 4
Subsurface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Powerton Generating Station
Route 29 Mantino Road
Pekin, Illinois

Sample I.D.	B-19	B-21	B-22	B-23	B-25	B-26	B-27	
Lab I.D.	496995	496996	496997	496998	496999	497000	497001	IEPA Soil
Sample Date	10/7/98	10/7/98	10/7/98	10/7/98	10/7/98	10/7/98	10/7/98	Cleanup
Sample Depth (feet)	0-4	0-4	16-20	0-4	8-12	16-20	12-16	Objectives
Parameters								
BTEX								
Benzene	< 0.006	< 0.006	< 0.007	< 0.005	< 0.006	< 0.006	< 0.007	**0.03**
Toluene	< 0.006	< 0.006	< 0.007	< 0.005	< 0.006	< 0.006	< 0.007	12
Ethyl Benzene	< 0.006	< 0.006	< 0.007	< 0.005	< 0.006	< 0.006	< 0.007	13
Total Xylenes	< 0.006	< 0.006	< 0.007	< 0.005	< 0.006	< 0.006	< 0.007	150
PNAs								
Acenaphthene	< 0.22	< 0.45	< 0.028	< 0.43	< 0.024	< 0.025	< 0.28	570
Acenaphthylene	< 0.22	< 0.45	< 0.028	< 0.43	< 0.024	< 0.025	< 0.28	NA
Anthracene	< 0.45	< 0.90	< 0.055	< 0.87	< 0.048	< 0.050	< 0.55	12,000
Benzo(a)anthracene	0.86	< 2.0	< 0.0036	1.6	< 0.062	< 0.0033	< 1.3	2
Benzo(a)pyrene	0.25	< 0.15	< 0.0064	0.61	< 0.0055	< 0.0058	< 0.064	0.8
Benzo(b)fluoranthene	0.18	< 0.36	< 0.0050	0.57	< 0.011	< 0.0045	< 0.33	5
Benzo(g,h,i)perylene	< 0.45	< 0.90	< 0.055	< 0.87	< 0.048	< 0.050	< 0.55	NA
Benzo(k)fluoranthene	0.26	< 0.45	< 0.0047	0.33	< 0.013	< 0.0043	< 0.46	49
Chrysene	< 0.3	< 0.7	< 0.04	0.75	< 0.04	< 0.04	< 0.4	160
Dibenzo(a,h)anthracene	< 0.07	< 0.1	< 0.008	< 0.1	< 0.007	< 0.008	< 0.08	0.8
Fluoranthene	< 1.2	< 0.45	< 0.028	3	< 0.024	< 0.025	< 0.28	4,300
Fluorene	< 0.22	< 0.45	< 0.028	< 0.43	< 0.024	< 0.025	< 0.28	560
Indeno(1,2,3-c,d)pyrene	0.12	< 0.19	< 0.012	0.3	< 0.030	< 0.011	< 0.12	8
Naphthalene	0.64	< 0.56	< 0.035	1.2	< 0.030	< 0.031	< 0.35	84
Phenanthrene	0.93	< 0.90	< 0.055	2.5	< 0.048	< 0.050	< 0.55	NA
Pyrene	0.54	0.54	< 0.028	1.3	< 0.024	< 0.025	0.29	4,200
RCRA Metals								
Arsenic	**14**	**25**	**11**	**177**	**7**	**16**	**6.1**	3
Barium	135	854	110	141	178	70	61	14,000
Cadmium	1.5	0.65	< 0.69	4.3	1	< 0.63	< 0.69	200
Chromium	46	15	18	15	67	15	9.8	420
Lead	79	44	25	60	33	20	16	400
Mercury	0.46	0.066	< 0.055	0.072	< 0.048	< 0.050	< 0.055	61
Selenium	0.67	0.4	< 0.35	0.34	0.49	< 0.31	< 0.35	1,000
Silver	< 2.2	< 2.2	< 2.8	< 2.2	< 2.4	< 2.5	< 2.8	1,000
Total PCBs	< 0.045	< 0.045	< 0.055	< 0.043	< 0.048	< 0.050	< 0.055	1
pH	9.12	8.42	8.21	8.10	8.45	7.92	8.61	NA

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table B: Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties.

(1) NA indicates not applicable, cleanup objectives have not been established for these parameters.
(2) Results are shown as totals, therefore the soil component of the groundwater ingestion exposure route has not been considered.

Table 4
Subsurface Soil Sampling
Soil Analytical Results in Milligrams per Kilogram (mg/kg)
Commonwealth Edison Company - Powerton Generating Station
Route 29 Mantino Road
Pekin, Illinois

Sample I.D.	B-30	B-31	B-32	B-33	B-34	B-35	B-36	
Lab I.D.	497002	497003	497004	497005	497006	496990	496991	IEPA Soil
Sample Date	10/7/98	10/7/98	10/7/98	10/7/98	10/7/98	10/6/98	10/6/98	Cleanup
Sample Depth (feet)	0-4	0-4	4-8	16-20	0-4		12-16	Objectives
Parameters								
BTEX								
Benzene	< 0.006	< 0.005	< 0.006	< 0.006	< 0.005	< 0.005	< 0.006	0.03
Toluene	< 0.006	< 0.005	< 0.006	< 0.006	< 0.005	< 0.005	< 0.006	12
Ethyl Benzene	< 0.006	< 0.005	< 0.006	< 0.006	< 0.005	< 0.005	< 0.006	13
Total Xylenes	< 0.006	< 0.005	< 0.006	< 0.006	< 0.005	< 0.005	< 0.006	150
PNAs								
Acenaphthene	< 0.023	< 0.021	< 0.023	< 0.022	< 0.021	< 0.022	< 0.025	570
Acenaphthylene	< 0.023	< 0.021	< 0.023	< 0.022	< 0.021	< 0.022	< 0.025	NA
Anthracene	< 0.045	< 0.042	< 0.046	< 0.044	< 0.042	< 0.044	< 0.050	12,000
Benzo(a)anthracene	0.026	0.021	< 0.0030	< 0.0029	< 0.0028	0.028	0.062	2
Benzo(a)pyrene	< 0.012	< 0.0049	< 0.0053	< 0.0051	< 0.0049	0.025	< 0.024	0.8
Benzo(b)fluoranthene	0.011	0.018	< 0.0041	< 0.0040	< 0.0038	0.022	< 0.015	5
Benzo(g,h,i)perylene	< 0.045	< 0.042	< 0.046	< 0.044	< 0.042	< 0.044	< 0.050	NA
Benzo(k)fluoranthene	0.01	< 0.020	< 0.0039	< 0.0038	< 0.0036	0.013	< 0.051	49
Chrysene	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.04	160
Dibenzo(a,h)anthracene	< 0.007	< 0.006	< 0.007	< 0.007	< 0.006	< 0.007	< 0.007	0.8
Fluoranthene	< 0.023	< 0.021	< 0.023	< 0.022	< 0.021	0.079	< 0.061	4,300
Fluorene	< 0.023	< 0.021	< 0.023	< 0.022	< 0.021	< 0.022	< 0.025	560
Indeno(1,2,3-c,d)pyrene	< 0.0098	0.017	< 0.0099	< 0.0096	< 0.0091	0.016	< 0.011	8
Naphthalene	< 0.028	< 0.026	< 0.029	< 0.028	< 0.026	< 0.027	0.036	84
Phenanthrene	< 0.045	< 0.042	< 0.046	< 0.044	< 0.042	0.054	0.076	NA
Pyrene	< 0.023	< 0.021	< 0.023	< 0.022	< 0.021	0.05	0.05	4,200
RCRA Metals								
Arsenic	**36**	**4**	**5**	2.3	**3.3**	**10**	**12**	3
Barium	76	61	50	23	169	39	175	14,000
Cadmium	1.1	< 0.53	< 0.57	< 0.56	< 1.0	< 0.55	0.85	200
Chromium	12	12	17	5.7	5.3	9.3	66	420
Lead	136	16	17	8	8.5	14	26	400
Mercury	< 0.045	< 0.042	< 0.046	< 0.044	< 0.042	< 0.044	0.079	61
Selenium	< 0.28	< 0.26	< 0.29	< 0.28	< 0.26	< 0.27	0.5	1,000
Silver	< 2.3	< 2.1	< 2.3	< 2.2	< 2.1	< 2.2	< 2.5	1,000
Total PCBs	< 0.045	< 0.042	< 0.046	< 0.044	< 0.042	< 0.044	< 0.050	1
pH	8.98	8.84	9.33	8.90	9.48	8.92	8.34	NA

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table B: Tier 1 Soil Remediation Objectives for Industrial/Commercial Properties.

(1) NA indicates not applicable, cleanup objectives have not been established for these parameters.
(2) Results are shown as totals, therefore the soil component of the groundwater ingestion exposure route has not been considered.

MWG13-15_3290

Table 5
Groundwater Sampling
Groundwater Analytical Results in Milligrams per Liter (mg/l)
Commonwealth Edison Company - Powerton Generating Station
Route 29 Mantino Road
Pekin, Illinois

Sample I.D.	MW-1	MW-2 (B-12)	MW-3	MW-5	MW-6	MW-7 (B-33)	IEPA Groundwater
Lab I.D.	501009	501010	501011	501006	501007	501008	(Class I)
Sample Date	11/2/98	11/2/98	11/2/98	11/2/98	11/2/98	11/2/98	Cleanup Objectives
Parameters							
BTEX							
Benzene	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.005
Toluene	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	1.0
Ethyl Benzene	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.7
Total Xylenes	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	10.0
PNAs							
Acenaphthene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.42
Acenaphthylene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	NA[1]
Anthracene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	2.1
Benzo(a)anthracene	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	< 0.00013	0.00013
Benzo(a)pyrene	< 0.00023	< 0.00023	< 0.00023	< 0.00023	< 0.00023	< 0.00023	0.0002
Benzo(b)fluoranthene	< 0.00018	< 0.00018	< 0.00018	< 0.00018	< 0.00018	< 0.00018	0.00018
Benzo(g,h,i)perylene	< 0.00076	< 0.00076	< 0.00076	< 0.00076	< 0.00076	< 0.00076	NA
Benzo(k)fluoranthene	< 0.00017	< 0.00017	< 0.00017	< 0.00017	< 0.00017	< 0.00017	0.00017
Chrysene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0015
Dibenzo(a,h)anthracene	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	< 0.00030	0.0003
Fluoranthene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.28
Fluorene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.28
Indeno(1,2,3-c,d)pyrene	< 0.00043	< 0.00043	< 0.00043	< 0.00043	< 0.00043	< 0.00043	0.00043
Naphthalene	0.00059	0.00053	0.00069	0.001	0.00074	0.00065	0.025
Phenanthrene	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	NA
Pyrene	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.21
RCRA Metals							
Arsenic	< 0.0050	< 0.0050	0.011	< 0.0050	< 0.0050	0.021	0.05
Barium	0.113	0.097	0.195	0.069	0.047	0.24	2.0
Cadmium	**< 0.010**	**< 0.010**	**< 0.010**	**< 0.010**	**< 0.010**	**< 0.010**	0.005
Chromium	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	0.1
Lead	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.0075
Mercury	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	0.002
Selenium	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.05
Silver	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	0.05
Total PCBs	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0005
pH	6.92	7.30	6.85	7.14	7.23	6.94	NA
Specific Conductivity (mol)	154.7	83.4	124.7	108.2	75.4	56.1	NA
Temperature (C)	20.5	17.8	14.2	26.0	12.3	18.9	NA

Notes:
Cleanup objectives were derived from Illinois Environmental Protection Agency Section 742 Appendix B-Table E: Tier 1 Groundwater Remediation Objectives for the Groundwater Component of the Groundwater Ingestion Route.

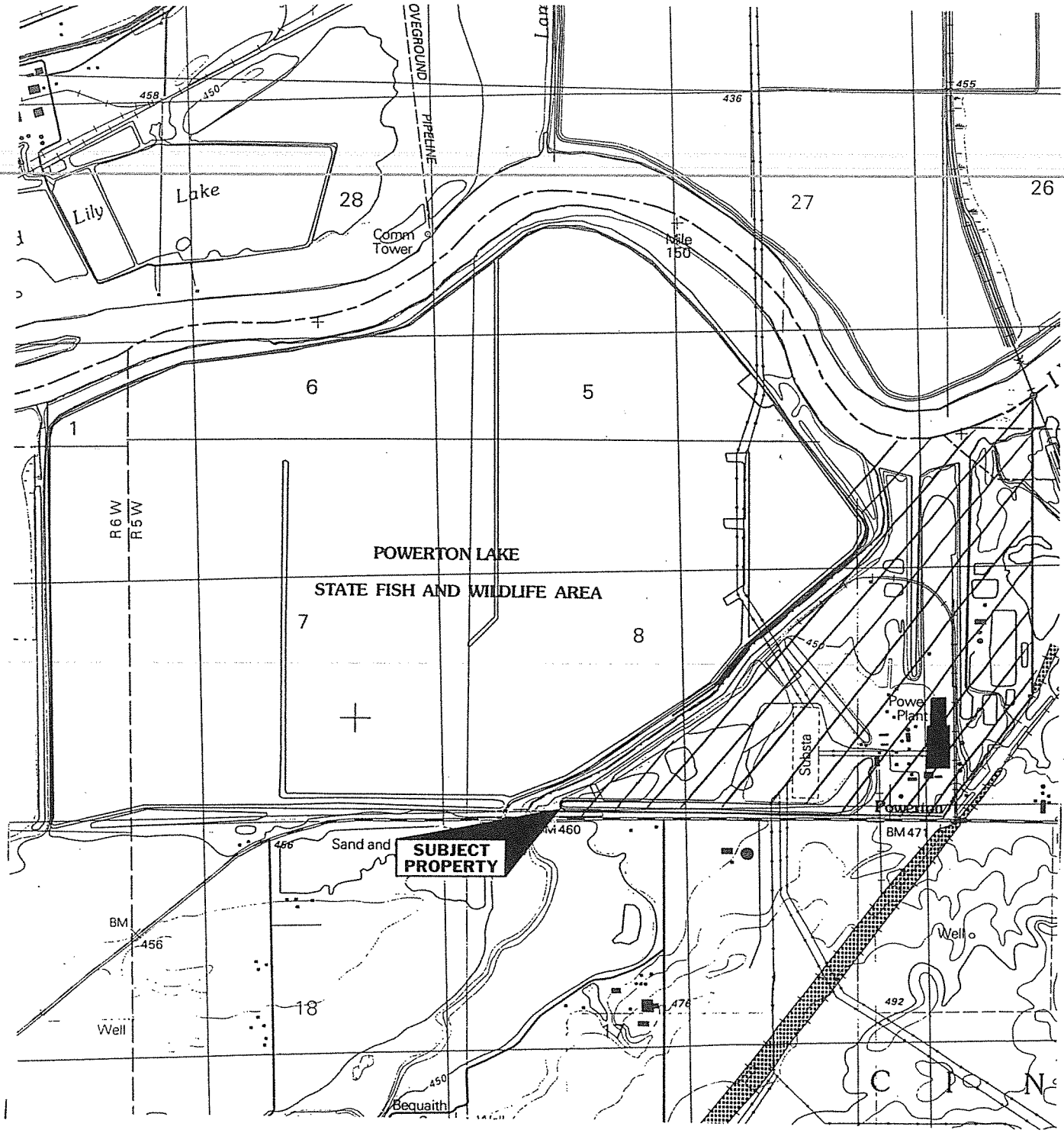
[1] NA indicates not applicable, cleanup objectives have not been established for these parameters.

MWG13-15_3291

FIGURES

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Powerton Generating Station
Route 29 & Mantino Road
Pekin, Illinois



SCALE 1:24,000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

1 .5 0 1 KILOMETER

Contour interval 5 feet

Dwg No: WAUKEGANSL1

N

U.S.G.S.
PEKIN, IL

SITE LOCATION MAP

POWERTON GENERATING STATION
ROUTE 29 + MANITO ROAD
PEKIN, ILLINOIS

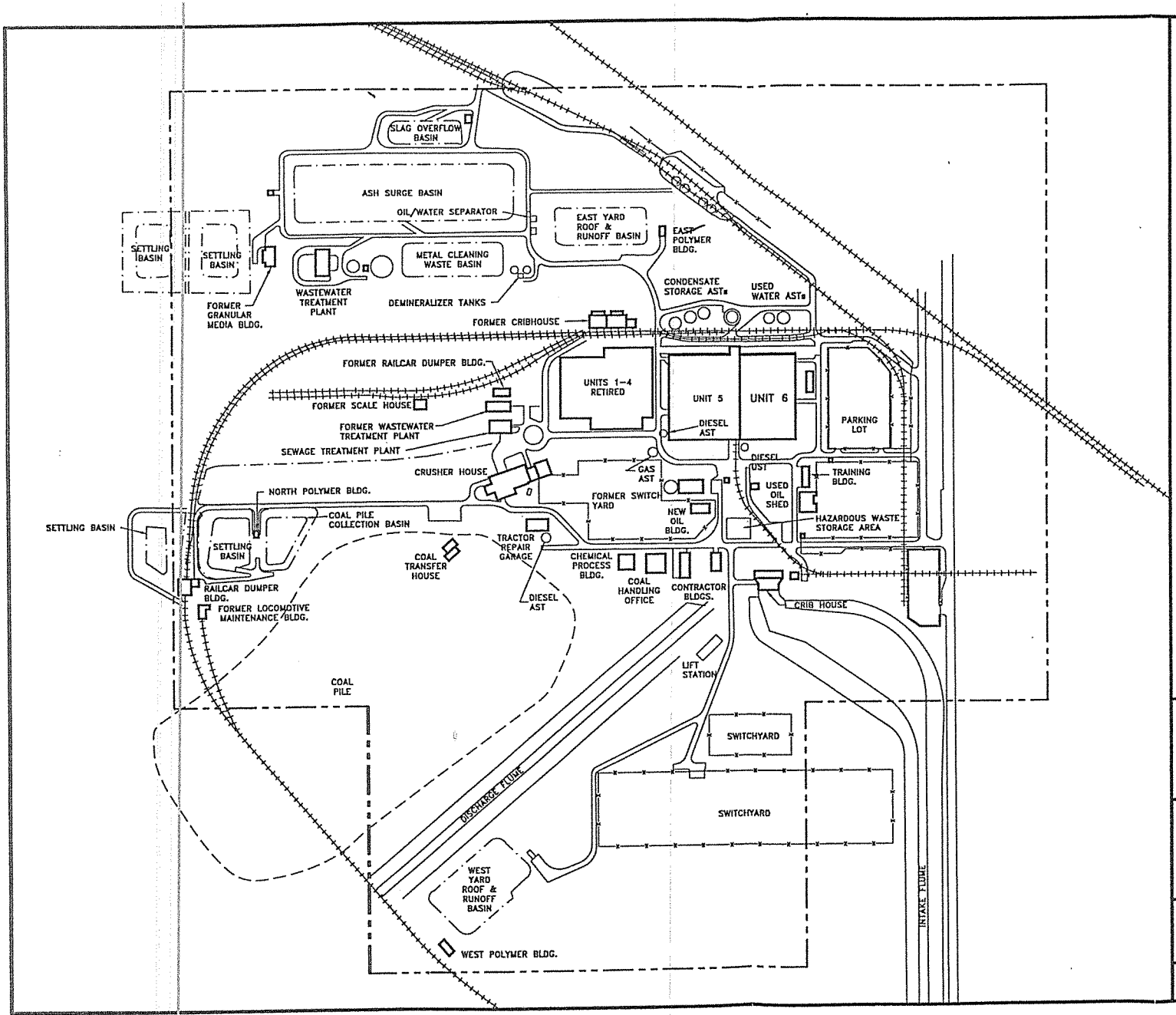
COMMONWEALTH EDISON COMPANY

November 1998 File No: 1801-023-510

FIGURE 1

ENSR

MWG13-15_3293



LEGEND:

- PROPERTY BOUNDARY
- BASIN BOUNDARY
- FENCE
- RAILROAD TRACK

MWG13-15_3294

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No:

POWERTON GENERATING STATION
ROUTE 29 AND MANITO ROAD
PEKIN, ILLINOIS

COMMONWEALTH EDISON

November 1998 File No: 1801-023-51

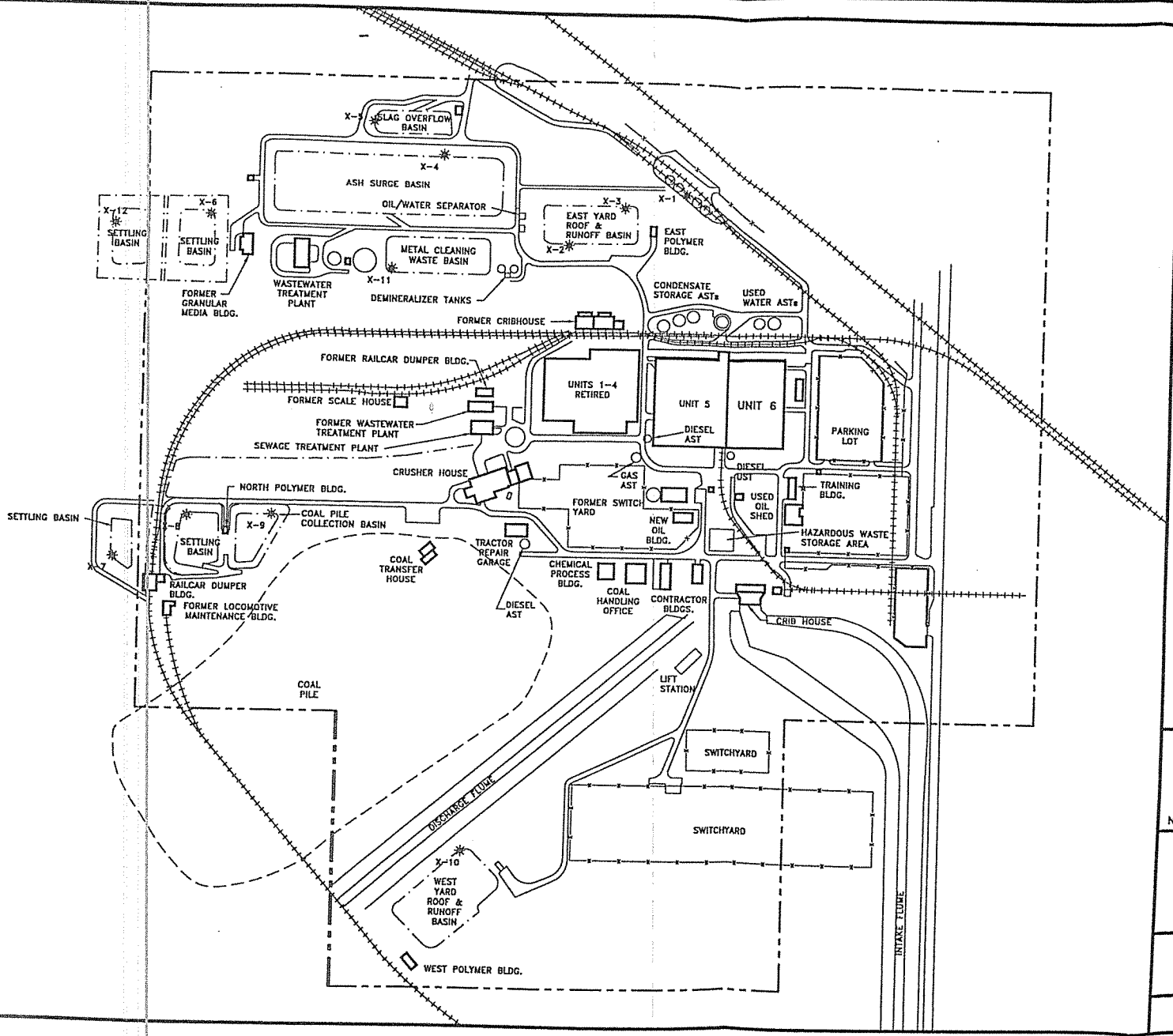
SITE PLAN

N

NOT TO SCALE

FIGURE 2

ENSR



LEGEND:

- PROPERTY BOUNDARY
- BASIN BOUNDARY
- FENCE
- RAILROAD TRACK
- X-1 SEDIMENT SAMPLE

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Drg No: SS2

POWERTON GENERATING STATION
ROUTE 29 AND MANITO ROAD
PEKIN, ILLINOIS

COMMONWEALTH EDISON

November 1998 File No: 1801-023-510

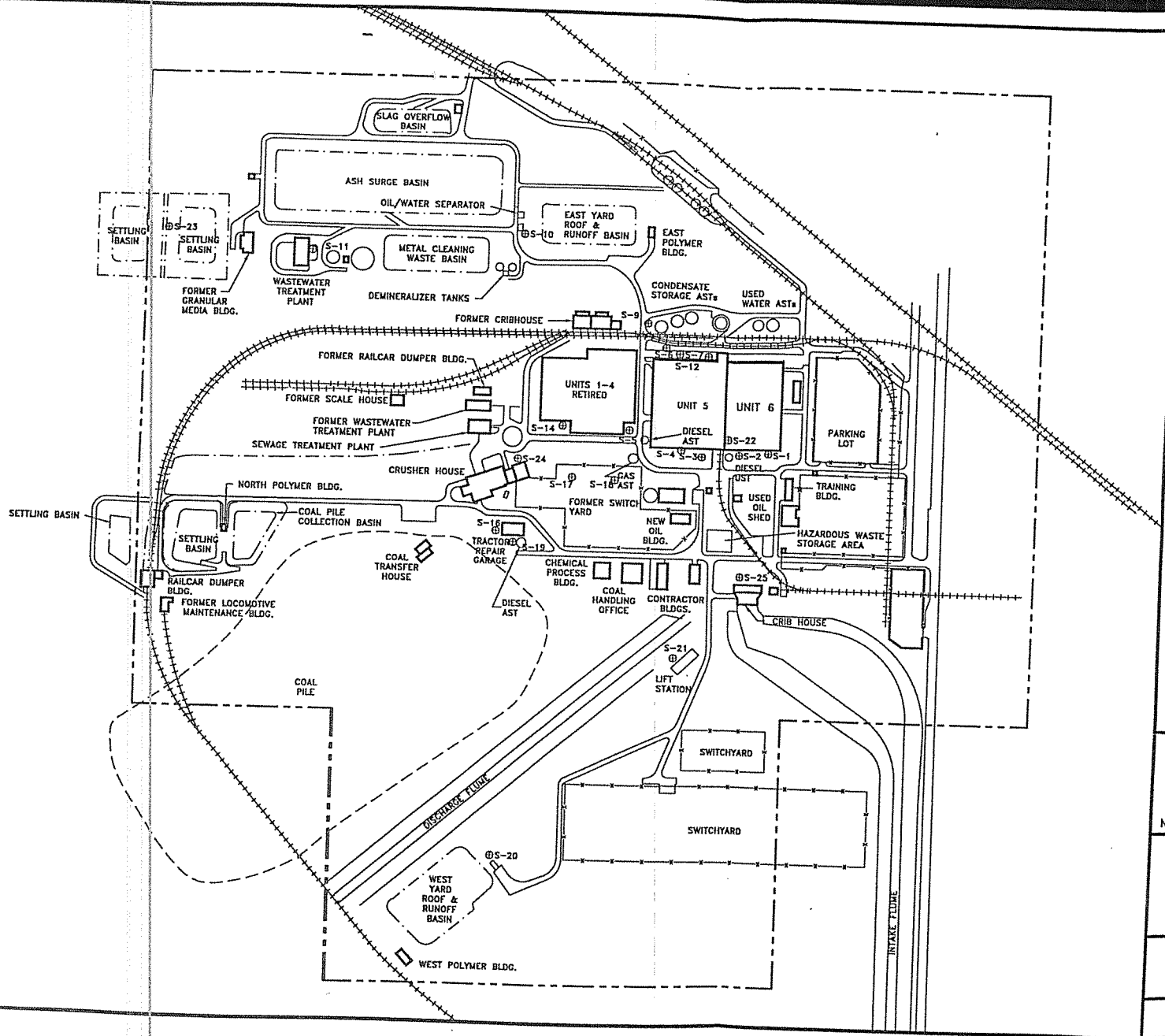
SEDIMENT SAMPLING SITE PLAN

N

NOT TO SCALE

FIGURE 3

ENSR



LEGEND:

- PROPERTY BOUNDARY
- BASIN BOUNDARY
- FENCE
- RAILROAD TRACK
- ⊕ S-1 SURFACE SOIL SAMPLING

MWG13-15_0296

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: SS1

POWERTON GENERATING STATION
ROUTE 29 AND MANITO ROAD
PEKIN, ILLINOIS

COMMONWEALTH EDISON

November 1998 File No: 1801-023-510

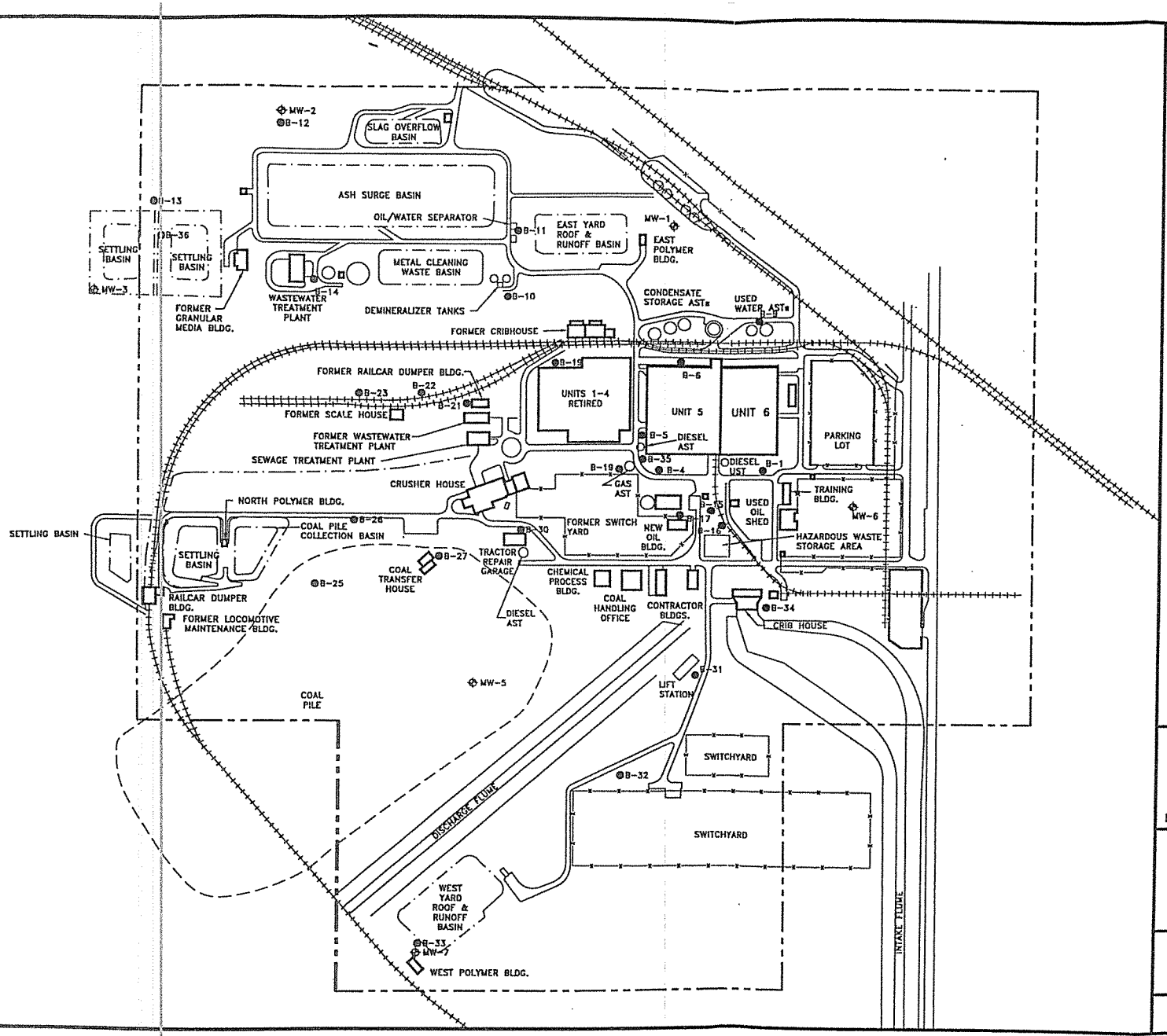
SURFACE SOIL SAMPLING SITE PLAN

N

NOT TO SCALE

FIGURE 4

ENSR



LEGEND:

- PROPERTY BOUNDARY
- BASIN BOUNDARY
- FENCE
- RAILROAD TRACK
- MW-1 MONITORING WELL
- B-4 SOIL BORING

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: POWERTONSB1

POWERTON GENERATING STATION
ROUTE 29 AND MANITO ROAD
PEKIN, ILLINOIS

COMMONWEALTH EDISON

November 1998 File No: 1801-023-510

SOIL BORING/ MONITORING WELL SITE PLAN

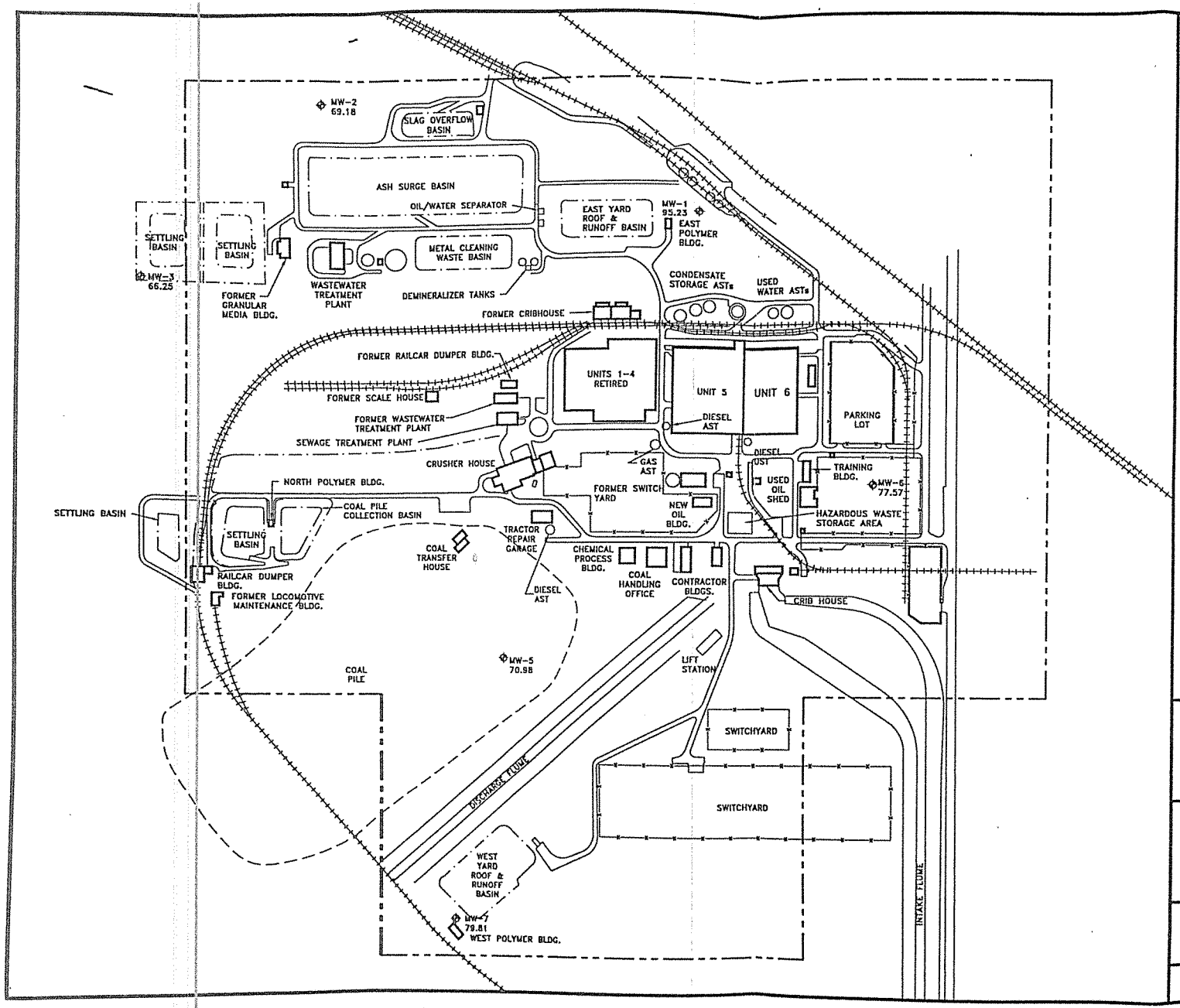
N

NOT TO SCALE

FIGURE 5

ENSR

MWG13-15_3297



LEGEND:

- PROPERTY BOUNDARY
- BASIN BOUNDARY
- FENCE
- RAILROAD TRACK
- MW-1 75.23 — MONITORNG WELL WITH GROUND WATER ELEVATION IN FEET

MWG13-15 3298

Note:
- All dimensions and locations are approximate.

Source:
- ENSR field observations.

Dwg No: GW1

POWERTON GENERATING STATION
ROUTE 29 AND MANITO ROAD
PEKIN, ILLINOIS

COMMONWEALTH EDISON

November 1998 File No: 1801-023-510

GROUNDWATER ELEVATION MAP

N

NOT TO SCALE

FIGURE 6

ENSR

APPENDIX A

Boring Logs and Monitoring Well Construction Diagrams

Phase II Environmental Site Assessment
Commonwealth Edison Company
December 7, 1998

Powerton Generating Station
Route 29 & Mantino Road
Pekin, Illinois

ENSR®

Log of Borehole B-1

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0–3 / 0–1		***FILL*** Dark brown coarse sand, moist, some gravel	1	GP	100	60	
4–7 / 1–2		***FILL*** Same as above	2	GP	100	52	
8–11 / 2–3		***FINES*** Dark brown silty sand, moist to wet, trace gravel	3	GP	50	50	
12–15 / 4		***FINES*** Brown fine to coarse sand, moist, loose, trace gravel					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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Log of Borehole B-1

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
16			4	GP	50	87	
17		Same as above, wet at 18'	5	GP	50	112	16 - 20 PNAs/BETX/pH/PCBs/ pH, RCRA Metals
20		End of Borehole					
30							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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Log of Borehole B-4

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0		***2" Asphalt*** 10" Fill					
1		***Fill*** Dark brown to black coarse sand, loose, moist, trace gravel	1	GP	100	35	
2							
3 / 1		***Sand*** Brown coarse sand, dense moist, trace gravel					
4							
5		***Sand*** Brown coarse sand, loose, gravel present.	2	GP	70	44	
6 / 2							
7							
8		***Sand*** Brown sand, fine, loose, some gravel	3	GP	100	50	
9							
10 / 3							
11							
12		***Same As Above***					12 - 16 PNAs/BETX/pH/PCBS/ RCRA Metals
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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Log of Borehole B-4

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
16			4	GP	100	87	
5							
17							
18		*Same As Above* With more gravel	5	GP	100	24	
19							
6							
20		End of Borehole					
21							
22							
23							
7							
24							
25							
26							
8							
27							
28							
29							
9							
30							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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Log of Borehole B-5

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth (m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0		Ground Surface					
0 - 1		***Sand*** Dark brown coarse sand, moist, trace gravel, black staining	1	GP	70	150	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
1 - 2		***Sand*** 6" Same as above Brown fine (silty) sand, loose, moist	2	GP	82	76	
2 - 3		***Same As Above***	3	GP	75	29	
3 - 4		***Same As Above***					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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Log of Borehole B-5

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
16			4	GP	82	45	
17		***Sand*** Brown silty sand, loose, moist, with 2" lenses of gray silty clay at 17' and 19.5'	5	GP	50	22	
20		End of Borehole					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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Log of Borehole B-6

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
ft m		Ground Surface					
0 0		***Ballast***					
1		***Silty Clay*** 12" Light brown, silty clay, stiff, dry					BTEX, PNA, PCB pH, RCRA Metals
2		***Silty Clay*** Dark brown-gray silty clay, stiff, moist to wet	1	SS	100	110	
3 1							
4		***Sand*** 2" Brown coarse snad , loose, moist					
5		***Silty Clay*** Dark brown-gray, silty clay, stiff, wet	2	SS	75	25	
6							
7 2		***Sand*** Brown coarse sand, moist, loose					
8		End of Borehole					
9							
10 3							
11							
12							
13 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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Log of Borehole B-9

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
0 / 0		Ground Surface					
0 – 4		***Sand*** 2' Coal 2' Brown silty sand, some coarse material, loose	1	GP	100	110	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 – 8		4" Same as above 2" Coal 12" Limestone 6" Black silty clay, stiff, wet Brown coarse sand, loose, moist, trace gravel	2	GP	75	54	
8 – 12		***Sand*** Light brown fine sand, moist, loose.	3	GP	72	26	
12 – 15		***Same As Above***					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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Log of Borehole B-9

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
			4	GP	71	64	
16 – 5 – 17		*Same As Above*	5	GP	68	28	
18 – 19 – 6 – 20		End of Borehole					
21 – 22 – 23 – 7 – 24 – 25 – 26 – 8 – 27 – 28 – 29 – 9 – 30							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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Log of Borehole B-10

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0 – 3 / 0 – 1		***Fill*** 6" Fill Black fines, loose, trace gravel (Coal/Slag)	1	GP	85	125	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 – 6 / 1 – 2		***Same As Above***	2	GP	50	58	
6 / 2		End of Borehole					
7 – 15 / 2 – 4							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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Log of Borehole B-11

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0 – 3 / 0 – 1		***Fill*** 6" Slag/Coal Brown coarse sand, loose, trace gravel	1	GP	100	113	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
3 – 7 / 1 – 2		***Same As Above***	2	GP	75	62	
7 / 2		End of Borehole					
7 – 15 / 2 – 4							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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MWG13-15_3310

Log of Borehole B-12

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0		***Fill*** 2" Slag/Coal Brown coarse sand, with silt, moist and loose.	1	GP	100	128	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
5 / 1		***Same As Above***	2	GP	40	24	
6		End of Borehole					
2							
10 / 3							
13 / 4							
15							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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Log of Borehole B-13

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
0 / 0		Ground Surface					
1		***Fill*** Dark brown coarse sand, with silt, moist and loose. 12" Slag/Coal	1	GP	75	48	
2 / 1							
3							
4							
5		6" Slag/Coal 4" Brown silty clay , stiff, moist 2" Brown coarse sand, loose Dark gray silty clay, soft, moist	2	GP	70	28	
6 / 2							
7							
8							
9		***Silty Clay*** Dark gray silty clay, soft, wet	3	GP	80	35	
10 / 3							
11							
12							
13		***Same As Above***					12 - 16 PNAs/BETX/pH/PCBs/ RCRA Metals
14 / 4							
15							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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Log of Borehole B-13

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
			4	GP	100	52	
16 – 5 – 17 – 18 – 19 – 6 – 20		***Sand*** Brown coarse sand, wet, trace gravel	5	GP\	50	26	
20 – 21 – 22 – 23 – 7 – 24 – 25 – 26 – 8 – 27 – 28 – 29 – 9 – 30		End of Borehole					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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Log of Borehole B-14

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0–4 / 0–1		***Fill*** 6" Topsoil 4" Brown silty clay, trace snad Brown coarse sand, wet, loose	1	GP	75	48	
4–8 / 1–2		8" Same as above Dark gray silty sand, with slag and trace gravel	2	GP	70	28	
8–12 / 2–3		***Sand*** Dark brown sand with slag, dense, moist	3	GP	80	35	
12–15 / 3–4		***Slag/Coal***					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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Log of Borehole B-14

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
16			4	GP	100	52	
17		***Silty Clay*** Dark gray silty clay, soft, wet	5	GP	50	26	16 - 20 PNAs/BETX/pH/PCBs/ RCRA Metals
18							
19							
20		End of Borehole					
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

5 6 7 8 9

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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Log of Borehole B-15

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0 – 3 / 0 – 1		***Fill*** Ashalt 12" Fill Brown coarse sand, silty, moist, medium dense, trace gravel	1	GP	100	708	0 - 4 PNAs/BETX/pH/PCBS/ RCRA Metals
4 – 8 / 1 – 2		***Same As Above***	2	GP	75	565	
8 – 12 / 2 – 3		***Sand*** Brown silty sand, moist, dense, trace gravel	3	GP	50	430	
12 / 4		End of Borehole					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/7/98

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Log of Borehole B-16

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0 – 4		Black staining (2") Brown silty sand, w/ coarse material, trace gravel, moist, dense	1	GP	75	115	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 / 1		End of Borehole					
15 / 4							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/7/98

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Log of Borehole B-17

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
0 / 0		Ground Surface					
0 - 3 / 0 - 1		Black staining (2") Brown silty sand, w/ coarse material, moist, dense, trace gravel	1	GP	50	384	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
3 - 7 / 1 - 2		***Sand*** 14" Same as above Brown coarse sand, moist, loose	2	GP	40	235	
7 - 10 / 2 - 3		***Sand*** Brown coarse sand, loose, moist	3	GP	42	178	
12 / 4		End of Borehole					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/7/98

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Log of Borehole B-18

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
0 / 0		Ground Surface					
0 – 4		***Fill*** Brown coarse sand, loose, moist, trace gravel, black staining	1	GP	100	250	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 – 8		***Same As Above***	2	GP	100	125	
8 – 10		***Same As Above***	3	GP	50	25	
10		End of Borehole					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

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Log of Borehole B-19

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth ft / m	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0 - 1		3" Topsoil 12" Black silty clay, moist, stiff, trace slag Brown coarse sand, moist, loose, stained, with slag	1	GP	50	24.8	0 - 4 PNAs/BETX/pH/PCBs RCRA Metals
1 - 2		***Sand*** 6" Same as above Brown coarse sand, loose, dry to moist	2	GP	50	20.9	
2 - 3		***Sand*** Brown coarse sand, loose, moist, stained, with slag	3	GP	28	5.4	
3 - 4		***Sand*** Brown coarse, moist, loose	4	GP	28	3.2	
4 / 15		End of Borehole					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/7/98

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Log of Borehole B-21

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
ft / m		Ground Surface					
0 / 0		3" Topsoil 6" Slag/Coal Brown silty sand, moist, loose, trace gravel	1	GP	50	120	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
1 / 1		End of Borehole					
2 / 2							
3 / 3							
4 / 4							
5							
6 / 2							
7							
8							
9 / 3							
10							
11							
12 / 4							
13							
14							
15							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/7/98

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Log of Borehole B-22

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0–4 / 0–1		***Fill*** 6" Slag/Coal 2" Furnace brick 6" Dark brown silty sand, dry, with slag Dark brown silty clay, stiff, moist, trace gravel	1	GP	75	5.7	
4–8 / 1–2		***Sand*** Dark brown silty sand, dense, dry, with sla 16" Light brown, fine, sand, dense, moist	2	GP	90	3.2	
8–12 / 2–3		***Sand*** Brown sand, fine, loose, dry	3	GP	52	1.3	
12–15 / 3–4		***Sand*** Same as above, moist					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/7/98

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Log of Borehole B-22

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
16			4	GP	50	.3	
17		***Silty Clay*** Dark gray silty clay, soft, moist to wet, plastic	5	GP	60	1.4	16 - 20 PNAs/BETX/pH/PCBs/ RCRA Metals
18							
19							
20		End of Borehole					
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Drilled By:Fox Drilling

Drill Method: Geoprobe

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Log of Borehole B-23

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
0 / 0		Ground Surface					
0 – 4		***Fill*** 6" Slag Dark brown, silty sand, dry to moist, with slag and gravel 6" Dark brown, silty sand , dry, with gravel	1	GP	75	16.2	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 – 8		***Slag/Coal***	2	GP	90	15.4	
8 – 12		12" Slag/Coal Dark brown silty sand, dense, trace gravel	3	GP	70	8.1	
12 – 13		***Silty Sand*** Same as above	4	GP	0	< 1	
13 – 15		End of Borehole					

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Drill Method: Geoprobe

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Log of Borehole B-25

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
0 / 0		Ground Surface					
0 – 4		*Coal*	1	GP	100	65	
4 – 8		4.5" Brown coarse sand, wet, dense, grave present Coal	2	GP	100	23	
8 – 12		Brown coarse sand, wet, with coal 6" Dark gray silty clay, stiff, wet	3	GP	50	28	8 - 12 PNAs/BETX/pH/PCBs/ RCRA Metals
12 – 15		End of Borehole					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/7/98

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Log of Borehole B-26

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
0 / 0		Ground Surface					
0–4 / 0–1		***Topsoil*** 12" Light brown silty sand, dense ,moist Dark gray to black silty clay, stiff, moist-dry	1	GP	98	6.0	
4–8 / 1–2		***Sand*** 9" Brown silty sand, moist, dense, trace gravel, with coal	2	GP	75	4.3	
8–12 / 2–3		Brown silty sand, moist, loose with gravel 6" Brown silty clay, stiff, moist, trace gravel	3	GP	50	5.3	
12–15 / 3–4		Same as above, with gravel 10" Dark brown silty clay, hard, moist					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/7/98

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Log of Borehole B-26

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
16			4	GP	55	6.2	
17		***Silty Clay*** Light brown silty clay, soft, moist	5	GP	100	10.6	16 - 20 PNAs/BETX/pH/PCBs/ RCRA Metals
20		End of Borehole					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/7/98

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Log of Borehole B-27

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
0 / 0		Ground Surface					
0–4 / 0–1		***Topsoil/Fill*** 24" Coal/Slag 6" Gravel Fill Brown silty sand, moist, dense, with gravel	1	GP	98	2.4	
4–8 / 1–2		***Same As Above***	2	GP	55	4.8	
8–12 / 2–3		***Coal/Slag***	3	GP	48	3.4	
12–15 / 3–4		***Sand*** Dark brown sand with coal, dense, dry.					12 - 16 PNAs/BETX/pH/PCBs/ RCRA Metals

Drilled By:Fox Drilling

Drill Method: Geoprobe

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Log of Borehole B-27

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
16			4	GP	95	6.2	
17		*Same As Above*	5	GP	50	2.6	
18							
19							
20		End of Borehole					
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/7/98

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Log of Borehole B-30

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
0 / 0		Ground Surface					
1		6" Coal and Fill Dark brown silty clay, moist to wet, soft, trace gravel	1	GP	55	11.4	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 / 1							
5		***Silty Clay*** Dark brown silty clay, wet, soft. trace grave	2	GP	98	9.3	
6 / 2		End of Borehole					
7							
8							
9							
10 / 3							
11							
12							
13 / 4							
14							
15							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/7/98

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Log of Borehole B-31

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0 – 4 ft		***Silty Sand*** Dark brown silty sand, moist, dense, trace gravel	1	GP	55	3.8	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 – 8 ft		***Silty Sand*** Same as above, with coal/slag	2	GP	48	3.1	
8 – 12 ft		***Same As Above***	3	GP	30	2.7	
12 – 15 ft		***Silty Sand*** Brown silty sand, moist to wet, loose, trace gravel 10" Coal					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/7/98

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Log of Borehole B-31

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
			4	GP	30	1.9	
16 – 5 – 17		*Coal*	5	GP	35	2.3	
18 – 19 – 6 – 20		End of Borehole					
21 – 22 – 23 – 7 – 24 – 25 – 26 – 8 – 27 – 28 – 29 – 9 – 30							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/7/98

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Log of Borehole B-32

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0 – 3 / 0 – 1		***Silty Sand*** 9" Topsoil Brown silty sand, moist, dense	1	GP	100	17.4	
4 – 8 / 1 – 2		Same as Above 8" Bown sand, fine, dry, loose	2	GP	90	213	4 - 8 PNAs/BETX/pH/PCBs/ RCRA Metals
9 – 12 / 3		25" Same as above 10" Brown silty sand, wet, loose Brown sand, fine, dry , loose	3	GP	92	157	
13 – 15 / 4		***Silty Sand*** Brown silty sand, loose, dry , with gravel					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/7/98

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Log of Borehole B-32

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
16			4	GP	88	140	
5							
17							
18		*Same As Above*	5	GP	100	14.1	
19							
6							
20		End of Borehole					
21							
22							
23							
7							
24							
25							
26							
8							
27							
28							
29							
9							
30							

Drilled By:Fox Drilling

Drill Method: Geoprobe

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Log of Borehole B-33

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0–4 / 0–1		Brown silty sand, moist to wet, loose, trace gravel	1	GP	90	3.0	
4–8 / 1–2		Same as Above	2	GP	50	1.8	
8–12 / 2–3		***Silty Sand*** Brown silty sand, moist, some gravel	3	GP	100	1.6	
12–15 / 3–4		***Sand*** Brown coarse sand, wet, loose, with gravel					

Drilled By: Fox Drilling

Drill Method: Geoprobe

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Log of Borehole B-33

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
16			4	GP	40	1.9	
17		12" Brown coarse sand, wet, loose, with coal Gray silty sand, wet with gravel 4" Dark gray silty clay , hard, moist to wet	5	GP	90	4.2	16 - 20 PNA/BETX/pH/PCBs/ RCRA Metals
18							
19							
20		End of Borehole					
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/7/98

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Log of Borehole B-34

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
0 / 0		Ground Surface					
0 – 4 ft		***Sand*** Brown coarse sand, loose, moist, trace gravel	1	GP	20	8.9	0 - 4 PNAs/BETX/pH/PCBs/ RCRA Metals
4 – 8 ft		***Silty Sand*** Brown silty sand, loose, moist with some coarse material	2	GP	32	7.3	
8 – 12 ft		***Silty Sand*** Brown silty sand, dense, moist to wet	3	GP	20	5.2	
12 – 15 ft		***Same as Above***					

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/7/98

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Log of Borehole B-34

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
16			4	GP	32	2.5	
17		***Same As Above*** With gravel	5	GP	50	3.1	
18							
19							
20		End of Borehole					
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Drilled By:Fox Drilling

Drill Method: Geoprobe

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Log of Borehole B-35

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
1		***Sand*** Brown fine to coarse sand, moist, trace gravel	1	GP	95	42	
4 / 1							
5		***Same As Above***	2	GP	75	21	
8 / 2							
9		***Same As Above***	3	GP	45	28	
12 / 3							
13		***Same as Above*** Black staining at 15 feet					
15 / 4							

Drilled By:Fox Drilling

Drill Method: Geoprobe

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Log of Borehole B-35

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
16			4	GP	75	22	
17		***Silty Sand*** Brown silty sand, moist to wet, dense, with coarse material	5	GP	50	42	16 - 20 PNAs/BETX/pH/PCBs/ RCRA Metals
18							
19							
20		End of Borehole					
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

ENSR
740 Pasquinelli Drive
Westmont, IL 60559
630-887-1700

ENSR®

Log of Borehole B-36

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				
Depth (ft / m)	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	Lab Analysis
0 / 0		Ground Surface					
0–4 / 0–1		***Sand*** Light brown sand with gravel, moist, loose	1	GP	60	23	
4–8 / 1–2		***Same As Above***	2	GP	75	18	
8–12 / 2–3		***Silty Clay*** Dark gray silty clay, wet, soft	3	GP	55	54	
12–15 / 3–4		***Same as Above*** With odor					12 - 16 PNAs/BETX/pH/PCBs/ RCRA Metals

Drilled By:Fox Drilling

Drill Method: Geoprobe

Drill Date: 10/6/98

ENSR
740 Pasquinelli Drive
Westmont, IL 60559
630-887-1700

ENSR®

Log of Borehole B-36

Project No: 1801-023-510

Project: Phase II Investigation

Client: Commonwealth Edison

Location: Powerton Power Station

Geologist: LLR

SUBSURFACE PROFILE			SAMPLE				Lab Analysis
Depth	Symbol	Description / Classification	Number	Type	Recovery(%)	PID Reading	
			4	GP	52	102	
16 – 5 – 17 – 18 – 19 – 6 – 20		*No Recovery*	5	GP	0	< 1	
20 – 21 – 22 – 23 – 7 – 24 – 25 – 26 – 8 – 27 – 28 – 29 – 9 – 30		End of Borehole					

Drilled By:Fox Drilling

Drill Method: **Geoprobe**

Drill Date: **10/6/98**

ENSR
740 Pasquinelli Drive
Westmont, IL 60559
630-887-1700

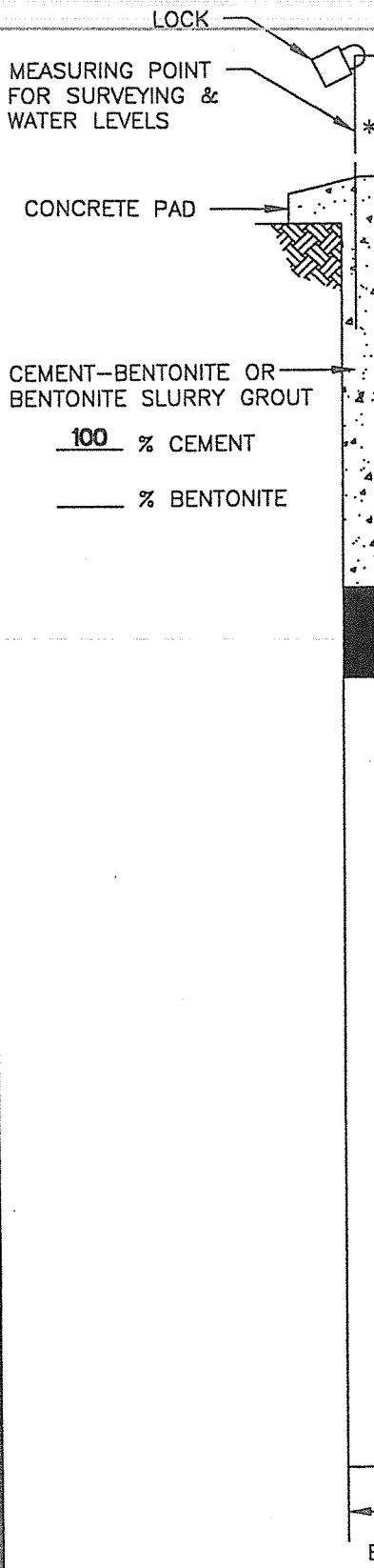
Project No: 1801-023-510 Client: Commonwealth Edison Site: Powerton Power Station

WELL No: MW-1

Well Location: NE of East Polymer Bldg., near rail-road tracks Date Installed: 10/13/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: L.R.

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	95.80
TOP OF RISER PIPE	0.31	95.49
GROUND SURFACE (G.S.)	0.00	95.80
BOTTOM OF STEEL GUARD	0.67	95.13
RISER PIPE: LENGTH 4.71; INSIDE DIAMETER (ID) 2.07; TYPE OF MATERIAL PVC Sch. 40		
TOP OF BENTONITE SEAL	10.5	85.30
BENTONITE SEAL THICKNESS	2.5	84.05
TOP OF SAND	13	82.80
TOP OF SCREEN	15.3	80.50
STABILIZED WATER LEVEL	20.26 (20.57 FROM G.S.)	75.23
SCREEN: LENGTH 10.0; INSIDE DIAMETER (ID) 2.07"; SLOT SIZE 0.010; TYPE OF MATERIAL PVC Sch.40		
TYPE/SIZE OF SAND	Otz.#5	
SAND PACK THICKNESS	3.0"	
BOTTOM OF SCREEN	25.3	70.50
BOTTOM OF TAILPIPE LENGTH 2.4"	25.3	70.50
BOTTOM OF BOREHOLE	25.5	70.30

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/13/98
Date

ENSR™

MWG13-15_3343

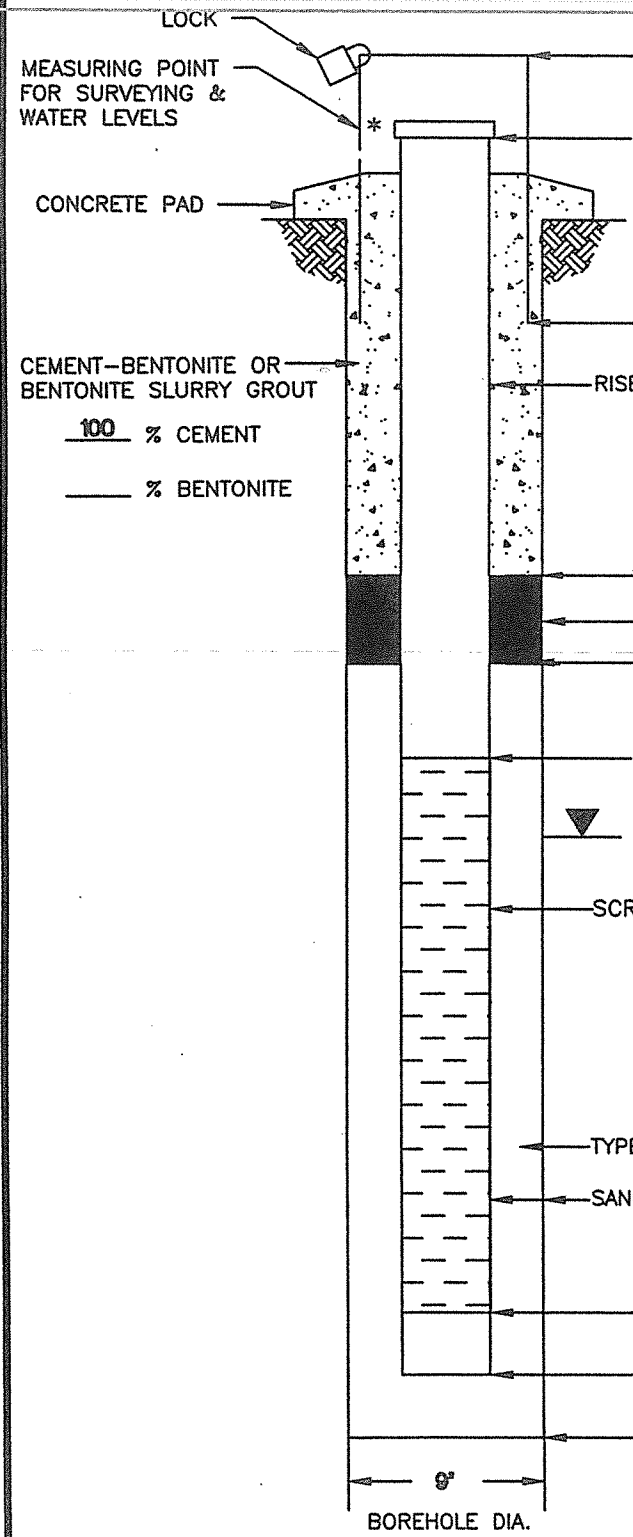
Project No: 1901-023-510 Client: Commonwealth Edison Site: Powerton Power Station

WELL No: MW-2/B-12

Well Location: NW part of property, near Slag Overflow Basin Date Installed: 10/14/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: L.R.

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	77.63
TOP OF RISER PIPE	0.34	77.29
GROUND SURFACE (G.S.)	0.00	77.63
BOTTOM OF STEEL GUARD	0.67	76.96
RISER PIPE:		
LENGTH 4.71		
INSIDE DIAMETER (ID) 2.07		
TYPE OF MATERIAL PVC Sch. 40		
TOP OF BENTONITE SEAL	2.0	75.63
BENTONITE SEAL THICKNESS	2.0	74.63
TOP OF SAND	4.0	73.63
TOP OF SCREEN	5.0	72.63
STABILIZED WATER LEVEL	8.11 (8.45 FROM G.S.)	69.18
SCREEN:		
LENGTH 10.0		
INSIDE DIAMETER (ID) 2.07"		
SLOT SIZE 0.010		
TYPE OF MATERIAL PVC Sch.40		
TYPE/SIZE OF SAND Otz.#5		
SAND PACK THICKNESS 3.0"		
BOTTOM OF SCREEN	15.0	62.29
BOTTOM OF TAILPIPE LENGTH 0.0	15.0	62.29
BOTTOM OF BOREHOLE	15.0	62.29

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/14/98
Date

ENSR™

MWG13-15_3344

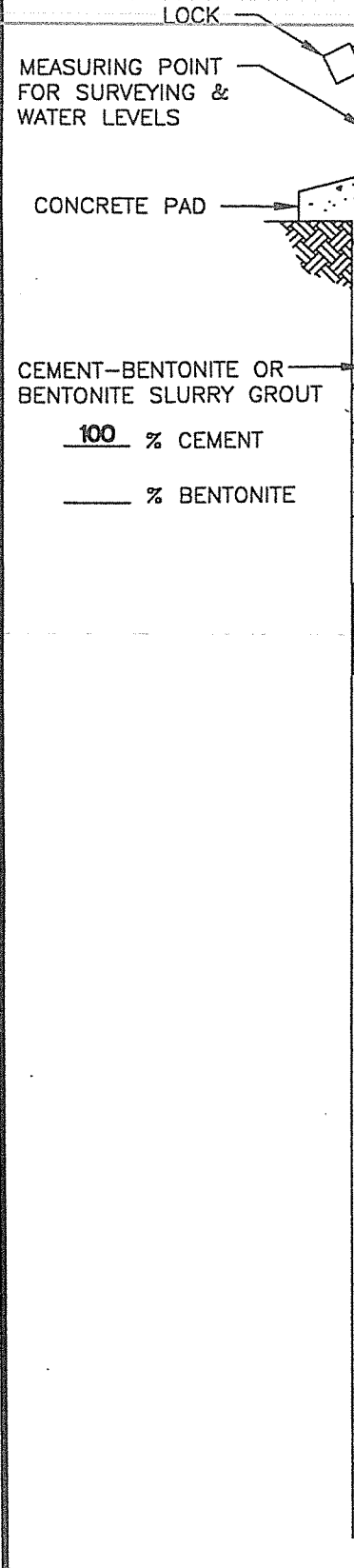
Project No: 1801-023-510 Client: Commonwealth Edison Site: Powerton Power Station

WELL No: MW-3

Well Location: SW corner of Settling Basins, near B36 Date Installed: 10/14/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: L.R.

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	92.51
TOP OF RISER PIPE	0.35	92.16
GROUND SURFACE (G.S.)	0.00	92.51
BOTTOM OF STEEL GUARD	0.67	91.84
RISER PIPE:		
LENGTH: 21.65		
INSIDE DIAMETER (ID): 2.07		
TYPE OF MATERIAL: PVC Sch. 40		
TOP OF BENTONITE SEAL	17.0	75.51
BENTONITE SEAL THICKNESS	3.0	74.01
TOP OF SAND	20.0	72.51
TOP OF SCREEN	22.0	70.51
STABILIZED WATER LEVEL	26.85 (27.2 FROM G.S.)	65.31
SCREEN:		
LENGTH: 10.0		
INSIDE DIAMETER (ID): 2.07"		
SLOT SIZE: 0.010		
TYPE OF MATERIAL: PVC Sch.40		
TYPE/SIZE OF SAND: Otz.#5		
SAND PACK THICKNESS: 3.0"		
BOTTOM OF SCREEN	32.0	60.51
BOTTOM OF TAILPIPE LENGTH: 0.0	32.0	60.51
BOTTOM OF BOREHOLE	32.0	60.51

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/14/98
Date

ENSR™

MW613-15-3345

Project No: 1801-023-510 Client: Commonwealth Edison Site: Powerton Power Station

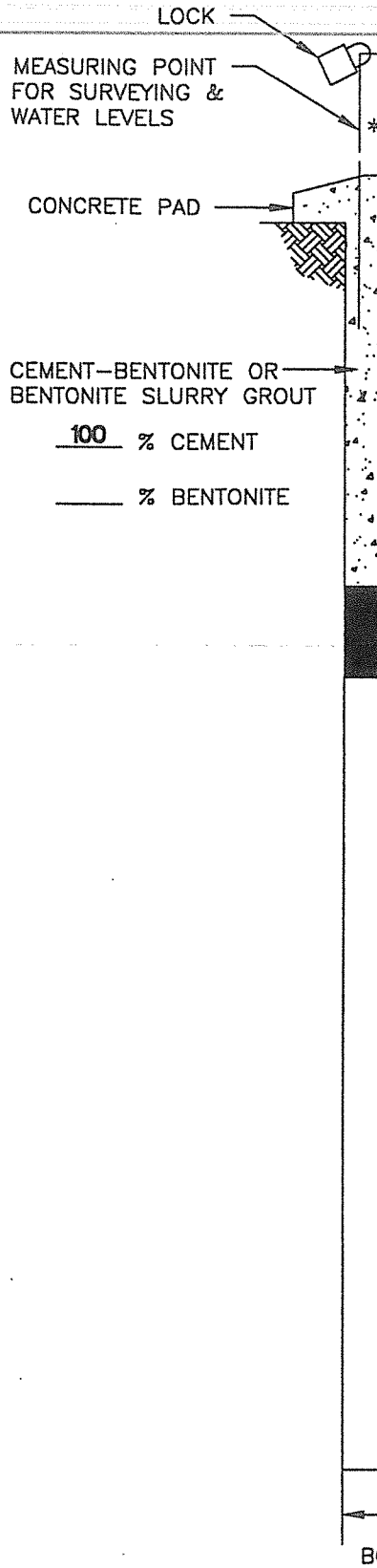
WELL No: MW-5

Well Location: Inside Coal Storage Area

Date Installed: 10/14/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: L.R.

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	81.77
TOP OF RISER PIPE	0.34	81.43
GROUND SURFACE (G.S.)	0.00	81.77
BOTTOM OF STEEL GUARD	0.67	81.43
RISER PIPE:		
LENGTH 6.16		
INSIDE DIAMETER (ID) 2.07		
TYPE OF MATERIAL PVC Sch. 40		
TOP OF BENTONITE SEAL	2.5	79.27
BENTONITE SEAL THICKNESS	2.0	78.27
TOP OF SAND	4.5	77.27
TOP OF SCREEN	6.5	75.27
STABILIZED WATER LEVEL	11.5 (11.85 FROM G.S.)	69.92
SCREEN:		
LENGTH 10.0		
INSIDE DIAMETER (ID) 2.07"		
SLOT SIZE 0.010		
TYPE OF MATERIAL PVC Sch.40		
TYPE/SIZE OF SAND Qtz.#5		
SAND PACK THICKNESS 3.0"		
BOTTOM OF SCREEN	16.5	65.27
BOTTOM OF TAILPIPE LENGTH 0.0	16.5	65.27
BOTTOM OF BOREHOLE	16.5	65.27

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/14/98
Date

ENSR™

MWG13-15_3346

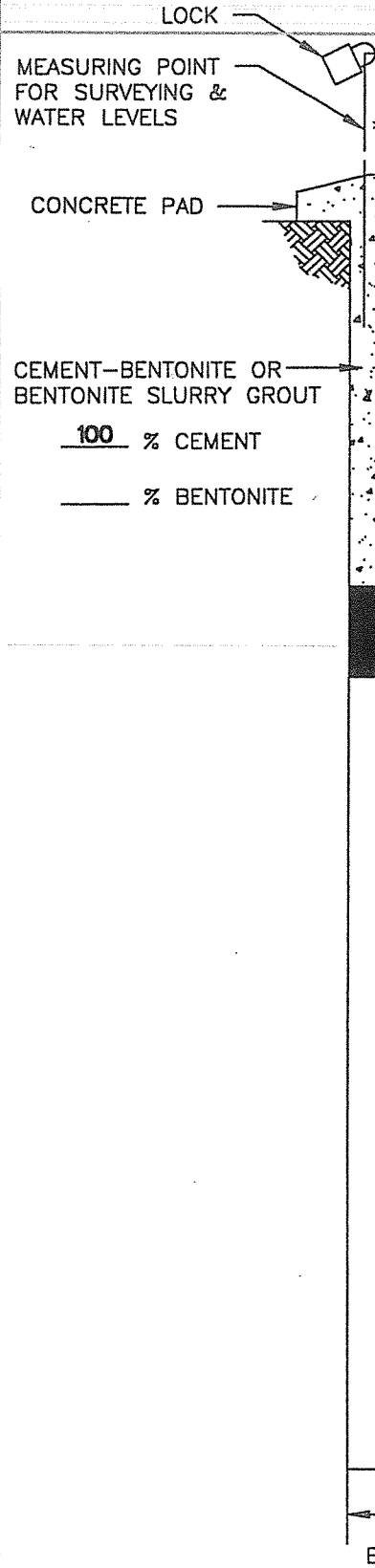
Project No: 1801-023-510 Client: Commonwealth Edison Site: Powerton Power Station

WELL No: MW-6

Well Location: Near Main Entrance, behind Com Ed Sign Date Installed: 10/15/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: L.R.

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	90.75
TOP OF RISER PIPE	0.34	90.46
GROUND SURFACE (G.S.)	0.00	90.75
BOTTOM OF STEEL GUARD	0.67	90.08
RISER PIPE:		
LENGTH: 5.71		
INSIDE DIAMETER (ID): 2.07		
TYPE OF MATERIAL: PVC Sch. 40		
TOP OF BENTONITE SEAL	14.5	88.75
BENTONITE SEAL THICKNESS	2.0	87.75
TOP OF SAND	16.5	86.75
TOP OF SCREEN	18.5	84.75
STABILIZED WATER LEVEL	22.04 (22.38 FROM G.S.)	79.86
SCREEN:		
LENGTH: 10.0		
INSIDE DIAMETER (ID): 2.07"		
SLOT SIZE: 0.010		
TYPE OF MATERIAL: PVC Sch.40		
TYPE/SIZE OF SAND: Otz #5		
SAND PACK THICKNESS: 3.0"		
BOTTOM OF SCREEN	28.5	74.75
BOTTOM OF TAILPIPE LENGTH: 0.0	28.5	74.75
BOTTOM OF BOREHOLE	28.5	72.75

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/15/98
Date

ENSR™

MWG13-15_3347

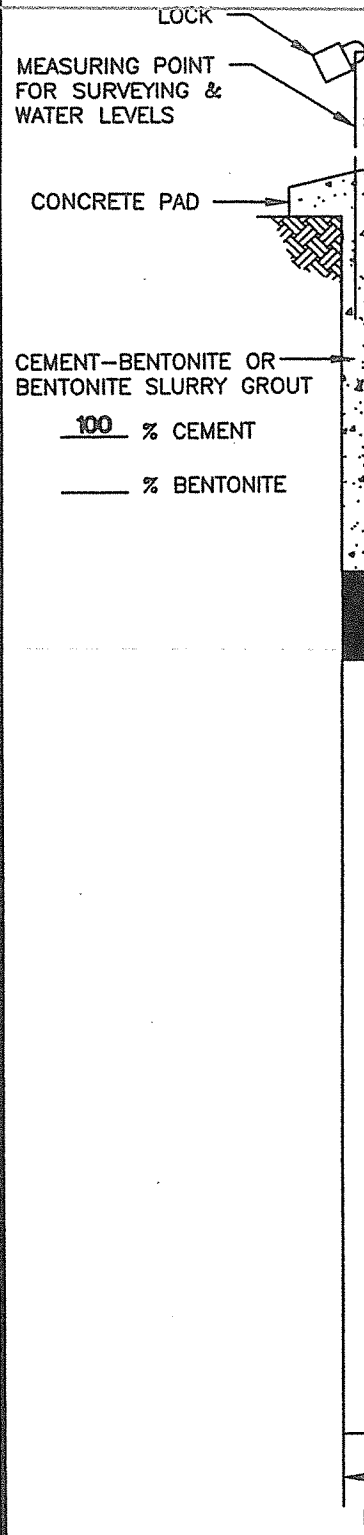
Project No: 1901-023-510 Client: Commonwealth Edison Site: Powerton Power Station

WELL No: MW-7/B-33

Well Location: South side of property, near West Polymer Building Date Installed: 10/14/98

Contractor: FOX DRILLING INC. Method: HSA 4 1/4" Inspector: L.R.

MONITORING WELL CONSTRUCTION DETAIL



	DEPTH FROM G.S. (feet)	ELEVATION (NGVD)
TOP OF STEEL GUARD	0.00	90.75
TOP OF RISER PIPE	0.29	90.46
GROUND SURFACE (G.S.)	0.00	90.75
BOTTOM OF STEEL GUARD	0.67	90.08
RISER PIPE: LENGTH 5.71; INSIDE DIAMETER (ID) 2.07; TYPE OF MATERIAL PVC Sch. 40		
TOP OF BENTONITE SEAL	2.0	88.75
BENTONITE SEAL THICKNESS	2.0	87.75
TOP OF SAND	4.0	86.75
TOP OF SCREEN	6.0	84.75
STABILIZED WATER LEVEL	10.6 (10.89 FROM G.S.)	79.86
SCREEN: LENGTH 10.0; INSIDE DIAMETER (ID) 2.07"; SLOT SIZE 0.010; TYPE OF MATERIAL PVC Sch.40		
TYPE/SIZE OF SAND Otz #5		
SAND PACK THICKNESS 3.0"		
BOTTOM OF SCREEN	16.0	74.75
BOTTOM OF TAILPIPE LENGTH 2.0'	16.0	74.75
BOTTOM OF BOREHOLE	18.0	72.75

* Describe Measuring Point

NORTH SIDE

Approved:

Signature

10/14/98
Date

ENSR™

MWG13-15_3348

Exhibit D4

HYDROGEOLOGIC ASSESSMENT REPORT
POWERTON GENERATING STATION
PEKIN, ILLINOIS

SUBMITTED BY:
MIDWEST GENERATION, LLC
235 REMINGTON BLVD, SUITE A
BOLINGBROOK, ILLINOIS 60440

SUBMITTED TO:
ILLINOIS ENVIRONMENTAL PROTECTION AGENCY
1021 N GRAND AVENUE EAST
SPRINGFIELD, ILLINOIS 62702

PREPARED BY:
PATRICK ENGINEERING INC.
4970 VARSITY DRIVE
LISLE, ILLINOIS 60532

PATRICK PROJECT NO. 21053.070

FEBRUARY 2011

PATRICK ENGINEERING

MWG13-15_7081

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Appendix B – Figure - Potable Wells Within 2,500 Feet (NRT – July 2009)
Appendix C – Laboratory Analytical Reports
Appendix D – Hydraulic Conductivity Testing Data

1.0 INTRODUCTION

1.1 Background

Pursuant to the request of the Illinois Environmental Protection Agency (Illinois EPA), this document presents the Hydrogeologic Assessment Report for the on-site ash pond areas at the Midwest Generation, LLC (MWG) Powerton Generating Station in Pekin, Illinois. This hydrogeologic assessment was performed in accordance with the Hydrogeologic Assessment Plan, approved by the Illinois EPA, dated September 3, 2010.

As defined by the Hydrogeologic Assessment Plan, the purpose of this investigation was to: (i) evaluate the potential, if any, for migration of ash-related constituents from the on-site ash ponds and to conduct monitoring for groundwater constituents regulated by the Illinois Part 620 groundwater standards, as requested by the Illinois EPA; (ii) characterize the subsurface hydrogeology; and (iii) identify potable well use within 2,500 feet of the ash ponds. The results of this investigation are described in this Hydrogeologic Assessment Report.

1.2 Site Location and Description

The Powerton facility (the Site) is located in Section 9, Township 24 North, Range 5 West, in the City of Pekin, Tazewell County, Illinois. Figure 1 provides a Site Location Map.

The site contains three active ash ponds. Each ash pond is lined with 12" of geo-composite material on the bottom, and a geo-membrane liner on the side slopes; the total area of the three ash ponds is approximately 11 acres. One former ash pond that is no longer used is located east of the current ash ponds; it has been partially filled but still contains some ash. Figure 2 shows the locations of the three active and one former ash ponds.

1.3 Regional Setting

The Site is located along the Illinois River south and west of the city of Pekin. The surrounding land use consists of the Illinois River to the north, industrial and residential properties to the east, agricultural land to the south, and Lake Powerton to the west.

Patrick Engineering Inc. (Patrick) conducted a review of publically available geological information from the Illinois State Geological Survey website. Based upon water well logs from the area, the geology beneath the Site consists of approximately 100 to 125 feet of unconsolidated deposits (mainly alluvial sands and gravels with some minor clay), underlain by the Carbondale Formation, which consists of alternating layers of limestone, shale, coal, and underclay.

Groundwater flow in the shallow, unconsolidated aquifer should be largely controlled by the Illinois River with groundwater flowing towards the river during most periods of the year.

2.0 HYDROGEOLOGIC ASSESSMENT METHODOLOGY

The following sections present the methodologies used to evaluate the potential for migration of ash-related constituents from the ash ponds and to monitor for all Part 620-regulated constituents, to characterize the subsurface hydrogeology, and to identify potable well use within 2,500 feet of the Site.

2.1 Evaluation of Ash-Related Constituents Migration Potential

The Illinois EPA requested that an evaluation of the potential for migration of ash-related constituents from the ash ponds and that monitoring for all Part 620-regulated constituents be performed in accordance with the groundwater standards included in 35 Illinois Administrative Code (IAC) Part 620, Subparts C and D. Accordingly, groundwater monitoring wells were installed at the Site in locations both upgradient and downgradient of the ash ponds.

2.1.1 Installation of Groundwater Monitoring Wells

Patrick installed ten (10) groundwater monitoring wells spaced approximately 400 feet apart around the perimeter of the ash ponds. The well locations were selected so that both upgradient and downgradient wells were represented, based upon available data regarding the expected groundwater flow direction. The spacing of the well locations at the Site along the downgradient edge of the ash ponds was calculated so as to detect a groundwater plume emanating from a point source beneath the ash ponds. Figure 3 shows the location of the ten monitoring wells.

Two of the installed monitoring wells are located upgradient of the ash ponds; the additional eight wells are located down/side-gradient of the ash ponds. The well borings were advanced using hollow-stem augers to depths ranging from 30 to 45 feet below ground surface (bgs). Borings were terminated after the field geologist determined that the boring was installed approximately 10 feet past the first intersection of the groundwater table in order to ensure that a representative groundwater sample could be obtained. Upon termination of each boring, a 2-inch

diameter, PVC well was installed in order to collect samples of the groundwater in the uppermost aquifer. The monitoring wells were completed to approximately 3 feet above grade, with PVC casing, and were covered with a stick-up, steel well protector with a locking cap. Soil lithology was inspected and logged by an experienced geologist during the boring process. Boring logs with well construction information are included as Appendix A.

2.1.2 Initial Groundwater Sampling and Analytical Testing

The groundwater sampling event for the Site took place on December 6, 2010. The groundwater elevation in each of the ten wells was measured prior to sampling. Groundwater samples were collected from each well with a peristaltic pump, using established low-flow sampling techniques. Temperature, pH, and conductivity measurements were taken using a portable meter in all wells; refer to Table 1 for these field parameter results. All groundwater samples were filtered in the field using a disposable, 0.45µm, in-line filter to allow for the analytical testing of dissolved compounds. The samples were immediately placed on ice in a cooler and kept at a temperature of no higher than 4º F. The samples were transported to PDC Laboratories, Inc. (PDC), an Illinois-EPA accredited analytical laboratory, in accordance with chain-of-custody procedures to maintain the integrity of the samples.

The analytical laboratory tested groundwater samples from each of the wells for the compounds listed in Table 2. Analytes tested include the inorganic compounds listed in 35 IAC 620.410(a), excluding both radium and the poly-aromatic hydrocarbons (PAHs) listed in 35 IAC 620.410(b).

2.2 Characterization of Subsurface Hydrogeology

The subsurface hydrogeology beneath the ash ponds was characterized by determining Site lithology and the groundwater flow patterns in the vicinity of the ash ponds as described below.

2.2.1 Site Lithology

The Site lithology was determined by logging soil samples collected from the soil borings created during the installation of the groundwater monitoring wells. The soil borings were installed under the direction of an experienced geologist. Each boring was sampled at 2-foot intervals using a 2-inch O.D. split-spoon sampler (ASTM D 1586). Each soil sample was inspected and logged by the geologist during the boring process. Boring logs with well construction information are provided as Appendix A.

2.2.2 Topographic and Water Elevation Surveys

A survey crew measured both the top-of-casing and ground surface elevations of all installed monitoring wells and the groundwater elevations within each of the monitoring wells on November 4, 2010. The survey crew concurrently measured the water elevation in all four of the ash ponds, the intake and outfall channels, and the Illinois River.

2.2.3 Hydraulic Testing of Selected Wells

Patrick conducted five *in situ* hydraulic conductivity tests on wells MW-2, MW-5, MW-8, MW-9, and MW-10 on December 16, 2010. The testing consisted of one rising-head and one falling-head slug test performed at each well. Using a data-logging pressure transducer, Patrick measured the rate of groundwater level recovery in the wells after either inserting a slug into, or removing a slug from, each monitoring well.

2.3 Identification of Potable Well Use

Natural Resource Technology, Inc. (NRT) has previously completed an investigation of potable water well use within 2,500 feet of the Powerton ash ponds. MWG submitted the results of this investigation to the Illinois EPA by letter dated July 15, 2009. These results are summarized in Appendix B.

The following databases and sources of information were used in order to identify local community water sources and water well locations in the vicinity of the Site:

- Illinois State Geological Survey (ISGS) -Water Well Database Query;
- Illinois State Water Survey (ISWS) Private Well Database and water well construction report request; and
- Illinois Division of Public Water Supply web-based Geographic System (GIS) files.

3.0 HYDROGEOLOGIC ASSESSMENT RESULTS

3.1 Evaluation of Ash-Related Constituent Migration Potential

The analytical laboratory results for the hydrogeologic assessment are presented in Table 2. Full laboratory data packages from PDC are provided as Appendix C. Manganese and boron were detected in one or more monitoring wells at concentrations exceeding the Part 620 Class I Groundwater Quality Standards. In some cases, the highest concentrations of a given compound were found in the upgradient wells. Antimony, beryllium, cadmium, copper, cyanide, lead, mercury, silver, thallium, zinc, nitrogen/nitrite, and nitrogen/nitrate/nitrite were not detected in any of the groundwater samples.

A determination of the potential for the individual ash ponds to be contributing to the distribution of analytes in the underlying groundwater and the extent, if any, of such contribution cannot be made from the results of this single sampling event alone. To develop a true, statistically-significant upgradient background concentration for the various compounds will require a number of sequential sampling events over time. Based on a statistically developed background value, downgradient concentrations can be compared to the background value over time to determine the likelihood and extent of any constituent migration from the on-site ash ponds. A plan to develop such an analytical database through additional sampling is presented in the last section of this report.

3.2 Characterization of Subsurface Hydrogeology

The lithology of the Site is predominantly fine sand fill underlain with sand and gravel; a silt seam runs through a portion of the Site. Refer to Figure 4 for a geologic cross-section of the Site.

The results of the topographic and water elevation surveys are presented in Table 3.

The uppermost groundwater unit at the Site is found at depths ranging from 18 to 28 feet bgs. The direction of groundwater flow is to the north/northwest towards the Illinois River, which

runs along the northern boundary of the Site. The hydraulic gradient is approximately 0.0056 based upon the groundwater elevation data collected on November 4, 2010. A potentiometric surface map is provided as Figure 5. Note that several of the wells indicated groundwater elevations either higher or lower than what is indicated by the potentiometric surface (MW-2, MW-6, and MW-8). These apparent anomalies could be due to localized differences in lithology or localized areas of higher recharge. Patrick will continue to refine the potentiometric surface map with the additional groundwater elevation data that will be collected during the proposed quarterly sampling events.

Patrick used the hydraulic testing data to calculate the hydraulic conductivity of the uppermost aquifer using the Bouwer and Rice method. Hydraulic conductivity calculations are provided in Appendix D. The hydraulic conductivity of Site soils ranged from 7.41×10^{-4} to 9.24×10^{-3} ft/second. The average hydraulic conductivity was 4.7×10^{-3} ft/second. Using the highest calculated hydraulic conductivity and the measured hydraulic gradient, Patrick calculated the maximum groundwater velocity to be approximately 2.27 ft/day (4.7×10^{-3} ft/sec x 0.0056 x 60 sec/min x 60 min/hour x 24 hours/day).

3.3 Identification of Potable Well Use

As stated above, NRT has previously completed an investigation of potable water well use within 2,500 feet of the Powerton ash ponds. MWG submitted the results of this investigation to the Illinois EPA by letter dated July 15, 2009. According to this letter, six wells are located within a 2,500-foot radius of the ash ponds (see Appendix B), each of which is screened below 50 feet. None of these wells are located downgradient from the ash ponds. Two of these wells supply Powerton Station with water.

4.0 LONG-TERM MONITORING PLAN

In order to properly assess the groundwater monitoring data collected in this single sampling event, MWG will conduct a quarterly groundwater sampling program in which the same monitoring wells described in this report will be sampled for the identical analyte list employed during this investigation. MWG proposes to begin this quarterly monitoring program in March 2011, and will submit the results of the sampling program to the Illinois EPA on an ongoing, quarterly basis. MWG proposes to continue this program until sufficient statistically-significant data is available to properly assess the groundwater data. If the quarterly sampling results continue to show non-detect results for certain of the analytes, as was the case in this single sampling event, MWG may propose to Illinois EPA that these analytes be eliminated from future sampling events.

Table 1
GROUNDWATER FIELD PARAMETER DATA
Powerton Station, Pekin, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

Field Paramter Data - Powerton Station

Monitoring Well	Date	Time	Conductance (S/cm)*	Temperature °C	pH
MW-01	12/15/2010	14:01	0.933	10.43	7.72
MW-01	12/15/2010	14:03	0.957	10.45	7.58
MW-01	12/15/2010	14:05	0.920	10.44	7.53
MW-01	12/15/2010	14:07	0.922	10.52	7.48
MW-01	12/15/2010	14:09	0.926	10.23	7.46
MW-01	12/15/2010	14:11	0.919	10.45	7.46
MW-01	12/15/2010	14:13	0.919	10.47	7.46
MW-02	12/15/2010	10:30	0.97	13.87	7.89
MW-02	12/15/2010	10:32	0.98	13.92	7.90
MW-02	12/15/2010	10:34	0.97	13.86	7.91
MW-02	12/15/2010	10:36	0.97	13.97	7.91
MW-02	12/15/2010	10:38	0.97	14.02	7.91
MW-02	12/15/2010	10:40	0.96	14.01	7.91
MW-03	12/15/2010	12:30	0.910	17.08	7.43
MW-03	12/15/2010	12:32	0.905	17.02	7.44
MW-03	12/15/2010	12:34	0.893	16.99	7.43
MW-03	12/15/2010	12:36	0.892	17.12	7.43
MW-03	12/15/2010	12:38	0.905	16.67	7.43
MW-03	12/15/2010	12:40	0.898	17.07	7.43
MW-04	12/15/2010	11:49	1.31	16.07	7.24
MW-04	12/15/2010	11:51	1.30	16.28	7.27
MW-04	12/15/2010	11:53	1.29	16.24	7.27
MW-04	12/15/2010	11:55	1.09	16.19	7.28
MW-04	12/15/2010	11:57	1.29	16.21	7.28
MW-04	12/15/2010	11:59	1.29	16.06	7.27
MW-04	12/15/2010	12:01	1.29	16.30	7.27
MW-05	12/15/2010	11:11	1.35	14.88	7.24
MW-05	12/15/2010	11:13	1.35	14.79	7.25
MW-05	12/15/2010	11:15	1.36	14.85	7.24
MW-05	12/15/2010	11:17	1.35	14.90	7.24
MW-05	12/15/2010	11:19	1.34	14.80	7.24
MW-05	12/15/2010	11:21	1.33	14.86	7.25
MW-05	12/15/2010	11:23	1.33	14.80	7.24
MW-06	12/15/2010	14:52	1.67	24.47	7.68
MW-06	12/15/2010	14:54	1.69	24.46	7.68

Table 1
GROUNDWATER FIELD PARAMETER DATA
Powerton Station, Pekin, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

Field Paramter Data - Powerton Station

Monitoring Well	Date	Time	Conductance (S/cm)*	Temperature °C	pH
MW-06	12/15/2010	14:56	1.68	24.44	7.68
MW-06	12/15/2010	14:58	1.66	24.43	7.67
MW-06	12/15/2010	15:00	1.67	24.46	7.68
MW-06	12/15/2010	15:02	1.65	24.53	7.67
MW-08	12/15/2010	15:28	1.65	20.07	8.22
MW-08	12/15/2010	15:30	1.64	20.00	8.22
MW-08	12/15/2010	15:32	1.64	20.10	8.23
MW-08	12/15/2010	15:34	1.62	20.05	8.24
MW-08	12/15/2010	15:36	1.62	19.99	8.24
MW-08	12/15/2010	15:38	1.61	20.01	8.24
MW-08	12/15/2010	15:40	1.62	19.95	8.24
MW-09	12/16/2010	8:51	0.905	14.45	7.28
MW-09	12/16/2010	8:53	0.901	14.54	7.24
MW-09	12/16/2010	8:55	0.903	14.61	7.23
MW-09	12/16/2010	8:57	0.894	14.61	7.22
MW-09	12/16/2010	8:59	0.910	14.60	7.22
MW-09	12/16/2010	9:01	0.905	14.61	7.22
MW-10	12/15/2010	9:43	0.999	11.80	7.04
MW-10	12/15/2010	9:45	1.020	11.67	7.05
MW-10	12/15/2010	9:47	1.020	11.79	7.05
MW-10	12/15/2010	9:49	1.000	11.82	7.05
MW-10	12/15/2010	9:51	1.000	11.84	7.04
MW-10	12/15/2010	9:53	0.990	11.64	7.04
MW-10	12/15/2010	9:55	0.990	11.72	7.04
MW-11	12/16/2010	10:18	1.27	12.61	7.88
MW-12	12/16/2010	9:38	1.71	16.84	7.70
MW-12	12/16/2010	9:40	1.71	16.95	7.64
MW-12	12/16/2010	9:42	1.70	16.92	7.64
MW-12	12/16/2010	9:44	1.70	16.67	7.65
MW-12	12/16/2010	9:46	1.69	16.85	7.65
MW-12	12/16/2010	9:48	1.69	16.90	7.65
MW-13	12/16/2010	12:26	3.33	12.59	7.68
MW-14	12/16/2010	11:43	2.64	17.12	7.48
MW-14	12/16/2010	11:45	2.65	17.28	7.51
MW-14	12/16/2010	11:47	2.64	17.22	7.53
MW-14	12/16/2010	11:49	2.63	17.19	7.54

Table 1
GROUNDWATER FIELD PARAMETER DATA
Powerton Station, Pekin, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

Field Paramter Data - Powerton Station

Monitoring Well	Date	Time	Conductance (S/cm)*	Temperature °C	pH
MW-14	12/16/2010	11:51	2.62	17.25	7.54
MW-14	12/16/2010	11:53	2.61	17.28	7.55
MW-15	12/16/2010	10:52	1.79	15.97	7.48
MW-15	12/16/2010	10:54	1.77	16.16	7.44
MW-15	12/16/2010	10:56	1.75	15.96	7.44
MW-15	12/16/2010	10:58	1.79	16.16	7.44
MW-15	12/16/2010	11:00	1.78	15.90	7.44
MW-15	12/16/2010	11:02	1.79	16.00	7.43
MW-15	12/16/2010	11:04	1.78	15.96	7.43

Notes:

* (S/cm) Specific Conductivity measured in Seconds/Centimeters

Table 2
GROUNDWATER ANALYTICAL RESULTS
Powerton Station, Pekin, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard* (mg/L)	MW-1 mg/L	MW-9 mg/L	MW-10 mg/L	MW-2 mg/L	MW-3 mg/L	MW-4 mg/L	MW-5 mg/L	MW-6 mg/L
		Class I	**12/15/10**	**12/16/10**	**12/15/10**	**12/15/10**	**12/15/10**	**12/15/10**	**12/15/10**	**12/15/10**
Chemical Name										
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	ND	ND	ND	0.0018	0.0017	ND	0.0011	0.0042
Barium	Metals 6020	2.0	0.044	0.038	0.24	0.042	0.038	0.055	0.053	0.11
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	0.0045	0.0044	0.006
Cobalt	Metals 6020	1.0	ND	ND	0.0026	ND	ND	ND	0.0025	ND
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	0.013	1.6
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	ND	**0.23**	**2.1**	ND	0.0047	**0.77**	**0.51**	**0.68**
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.01	0.01	0.015	0.0086	0.011	0.012	0.014	0.0091
Selenium	Metals 6020	0.05	0.0016	0.0024	0.0042	0.0017	ND	0.0022	0.0019	0.0034
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	0.0064
Boron	Metals 6020	2	0.45	**2.1**	0.48	0.38	0.75	0.77	0.95	0.5
Sulfate	Dissolved 9038	400	50	110	62	52	64	110	160	210
Chloride	Dissolved 9251	200	46	25	40	45	39	150	150	180
Nitrogen/Nitrate	Nitrogen By calc	10	7.2	2.9	3	7.5	9.4	0.34	ND	0.037
Total Dissolved Solids	Dissolved 2540C	1,200	490	500	530	480	480	680	740	950
Fluoride	Dissolved 4500 FC	4	0.28	ND	ND	ND	0.3	0.3	0.27	0.65
Nitrogen/Nitrite	Dissolved 4500 NO2	NA	ND	ND	ND	ND	ND	ND	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	NA	ND	ND	ND	ND	ND	ND	ND	ND

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
Determinations of upgradient and downgradient wells are preliminary
mg/L = milligrams per liter

-Determination of the potential for the individual ash ponds to be contributing to the distribution of analytes in the underlying groundwater cannot be made from the results of this single sampling event alone. To develop a true, statistically-significant upgradient background concentration for the various compounds will require a number of sequential sampling events over time. After a statistically developed background value is available, the downgradient concentrations can be compared to this background value over time to determine the likelihood of contaminant migration from the on-site ash ponds. A plan to develop such an analytical database through additional sampling is discussed in the last section of this report.

Table 2
GROUNDWATER ANALYTICAL RESULTS
Powerton Station, Pekin, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard* (mg/L)	MW-7 mg/L	MW-8 mg/L
		Class I	**12/06/10**	**12/15/10**
Chemical Name				
Antimony	Metals 6020	0.006	ND	ND
Arsenic	Metals 6020	0.05	0.026	0.0052
Barium	Metals 6020	2.0	0.55	0.11
Beryllium	Metals 6020	0.004	ND	ND
Cadmium	Metals 6020	0.005	0.0026	ND
Chromium	Metals 6020	0.1	0.0088	ND
Cobalt	Metals 6020	1.0	0.017	ND
Copper	Metals 6020	0.65	0.14	ND
Cyanide	Dissolved 9014	0.2	ND	ND
Iron	Metals 6020	5.0	0.008	0.56
Lead	Metals 6020	0.0075	0.039	ND
Manganese	Metals 6020	0.15	**3.5**	0.15
Mercury	Mercury 7470A	0.002	ND	ND
Nickel	Metals 6020	0.1	0.0045	0.011
Selenium	Metals 6020	0.05	0.0043	0.0036
Silver	Metals 6020	0.05	ND	ND
Thallium	Metals 6020	0.002	ND	ND
Zinc	Metals 6020	5.0	0.076	ND
Boron	Metals 6020	2	0.6	0.93
Sulfate	Dissolved 9038	400	120	160
Chloride	Dissolved 9251	200	170	180
Nitrogen/Nitrate	Nitrogen By calc	10	0.043	ND
Total Dissolved Solids	Dissolved 2540C	1,200	860	890
Fluoride	Dissolved 4500 FC	4	0.47	0.77
Nitrogen/Nitrite	Dissolved 4500 NO2	NA	ND	ND
Nitrogen/Nitrate/Nitrite	Dissolved 4500 NO3	NA	ND	ND

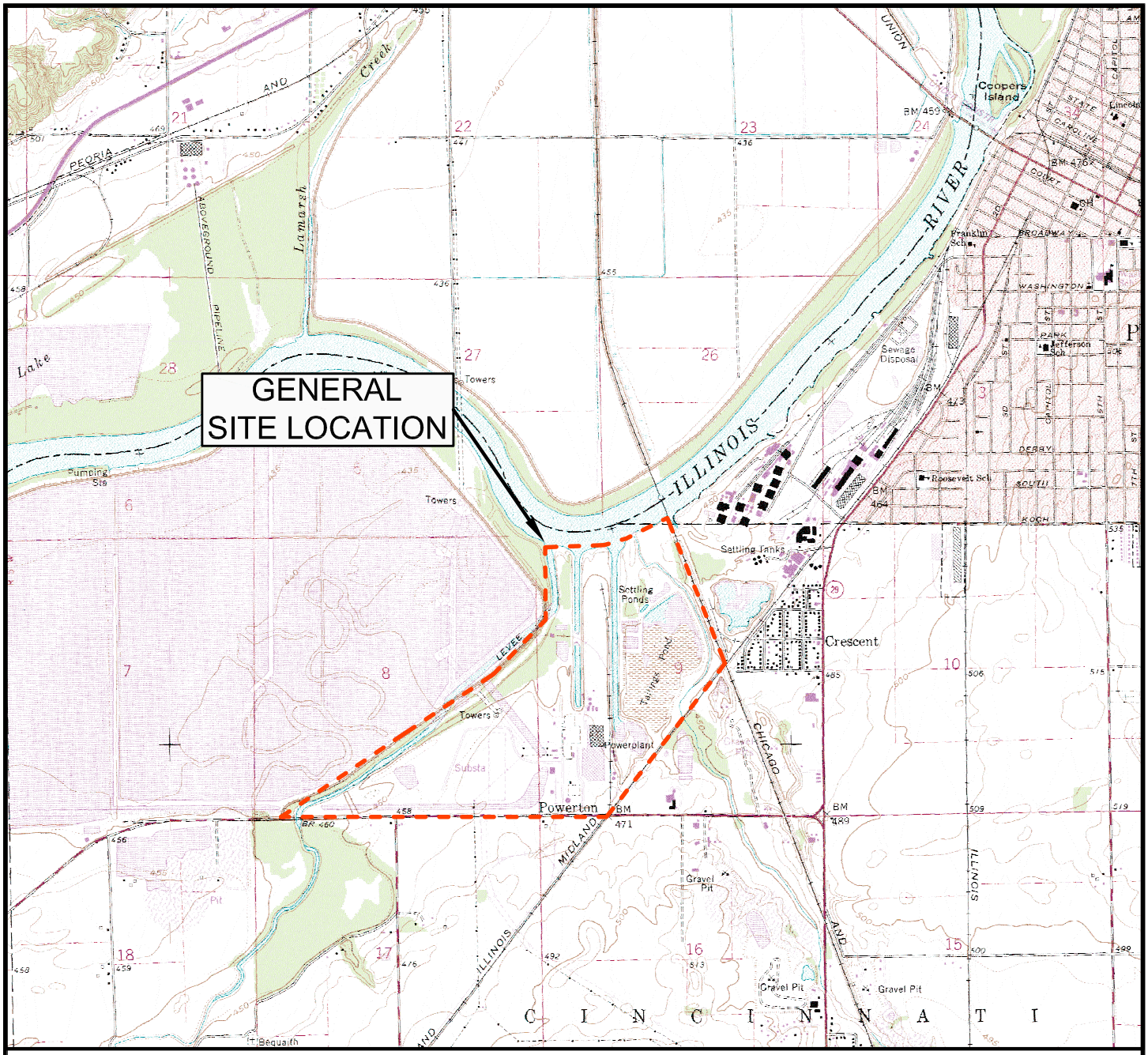
Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
Determinations of upgradient and downgradient wells are prelim
mg/L = milligrams per liter

-Determination of the potential for the individual ash ponds to be contributing to the distribution of analytes in the underlying groundwater cannot be made from the results of this single sampling event alone. To develop a true, statistically-significant upgradient background concentration for the various compounds will require a number of sequential sampling events over time. After a statistically developed background value is available, the downgradient concentrations can be compared to this background value over time to determine the likelihood of contaminant migration from the on-site ash ponds. A plan to develop such an analytical database through additional sampling is discussed in the last section of this report.

Table 3
WATER ELEVATION SURVEY DATA
Powerton Station, Pekin, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

PATRICK ENGINEERING	Water Elevation (feet)	Depth to Water (feet bgs)	Lid Elevation (feet)	Ground Elevation (feet)	Top of Riser Elevation (feet)
MONITORING WELLS					
MW-1	440.509	24.55	465.482	461.667	465.059
MW-2	435.692	26.73	462.863	459.246	462.422
MW-3	436.374	25.97	462.782	459.098	462.344
MW-4	433.649	26.83	460.891	457.290	460.479
MW-5	434.321	24.26	459.046	455.799	458.581
MW-6	445.906	18.56	464.842	461.224	464.466
MW-7	434.581	28.27	463.307	459.572	462.851
MW-8	447.093	24.64	472.115	468.698	471.733
MW-9	443.846	25.34	469.616	466.214	469.186
MW-10	440.466	16.92	457.827	454.093	457.386
MW-11	440.859	30.73	471.973	468.074	471.589
MW-12	449.960	23.42	473.778	469.999	473.380
MW-13	437.312	33.63	471.329	467.652	470.942
MW-14	445.949	24.84	471.198	467.666	470.789
MW-15	447.162	24.22	471.813	468.256	471.382
ASH PONDS					
AP-1	458.475	NS	NS	NS	NS
AP-2	451.949	NS	NS	NS	NS
AP-3	464.316	NS	NS	NS	NS
AP-4	454.348	NS	NS	NS	NS
AP-5	447.348	NS	NS	NS	NS
AP-6	447.340	NS	NS	NS	NS
CHANNELS					
Lake Channel	433.507	NS	NS	NS	NS
East Channel	434.694	NS	NS	NS	NS
West Channel	431.472	NS	NS	NS	NS
PONDS					
North Pond	439.015	NS	NS	NS	NS
South Pond	439.570	NS	NS	NS	NS

*Survey data taken on 11/3/10 and 11/4/10
NS= not surveyed
bgs = below ground surface
Elevations are leveled from site control points per Drawing "Control Network, IL State Plane (West Zone) Powerton Station" revised 10/22/2010



LEGEND

SITE BOUNDARY

N

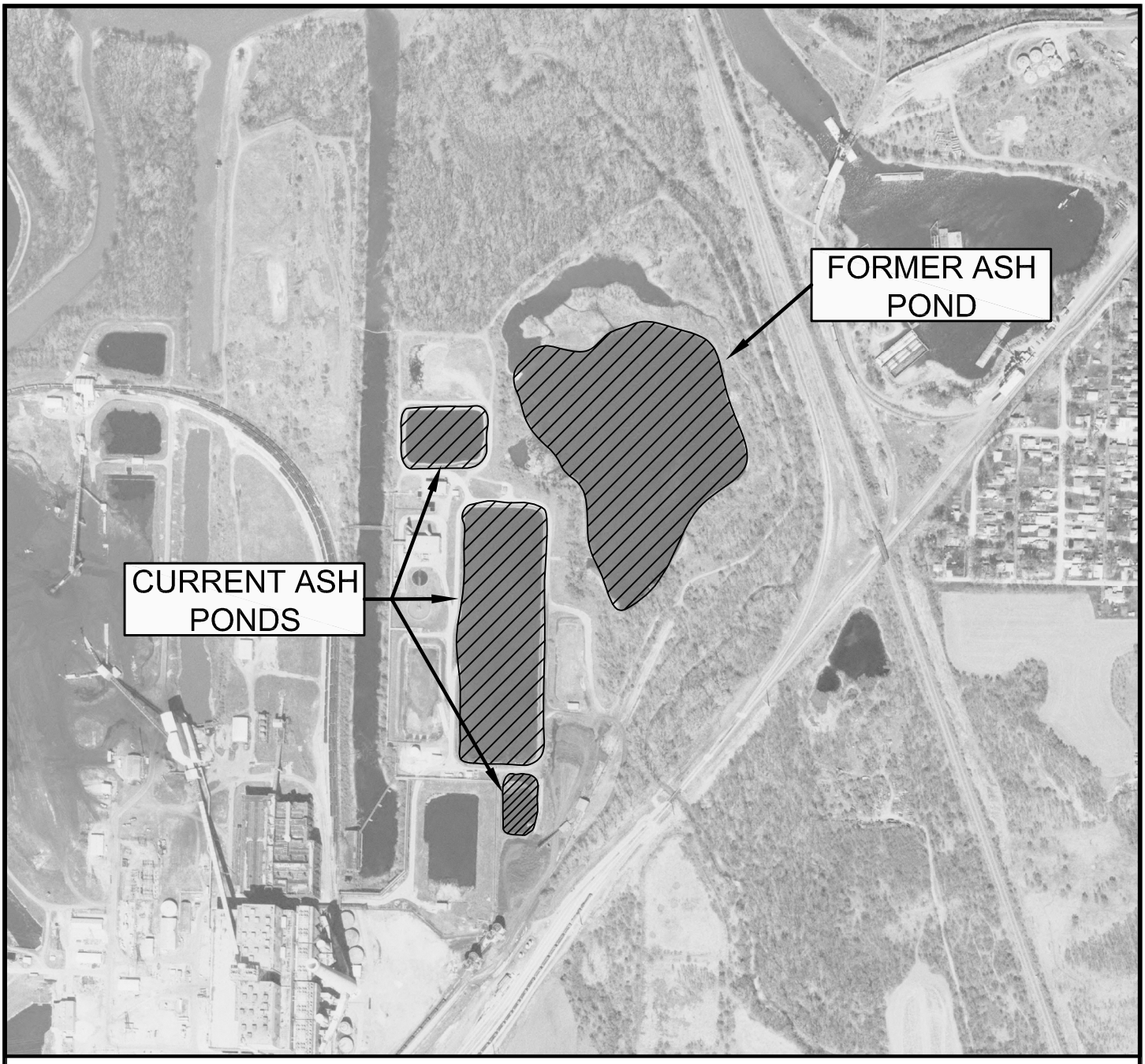
0 2,000'

GRAPHIC SCALE

NOTE:
THIS DRAWING WAS PREPARED USING ILLINOIS' PEKIN (1979)
7.5 MINUTE-SERIES TOPOGRAPHIC QUADRANGLE MAP.

Date: FEB. 2011	FIGURE 1 SITE LOCATION MAP	**PATRICK ENGINEERING INC.** 4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
Proj No.: 21053.070	**POWERTON STATION** **PEKIN, ILLINOIS**	
App. By: RMF		

MWG13-15_7098



LEGEND

ASH POND

N

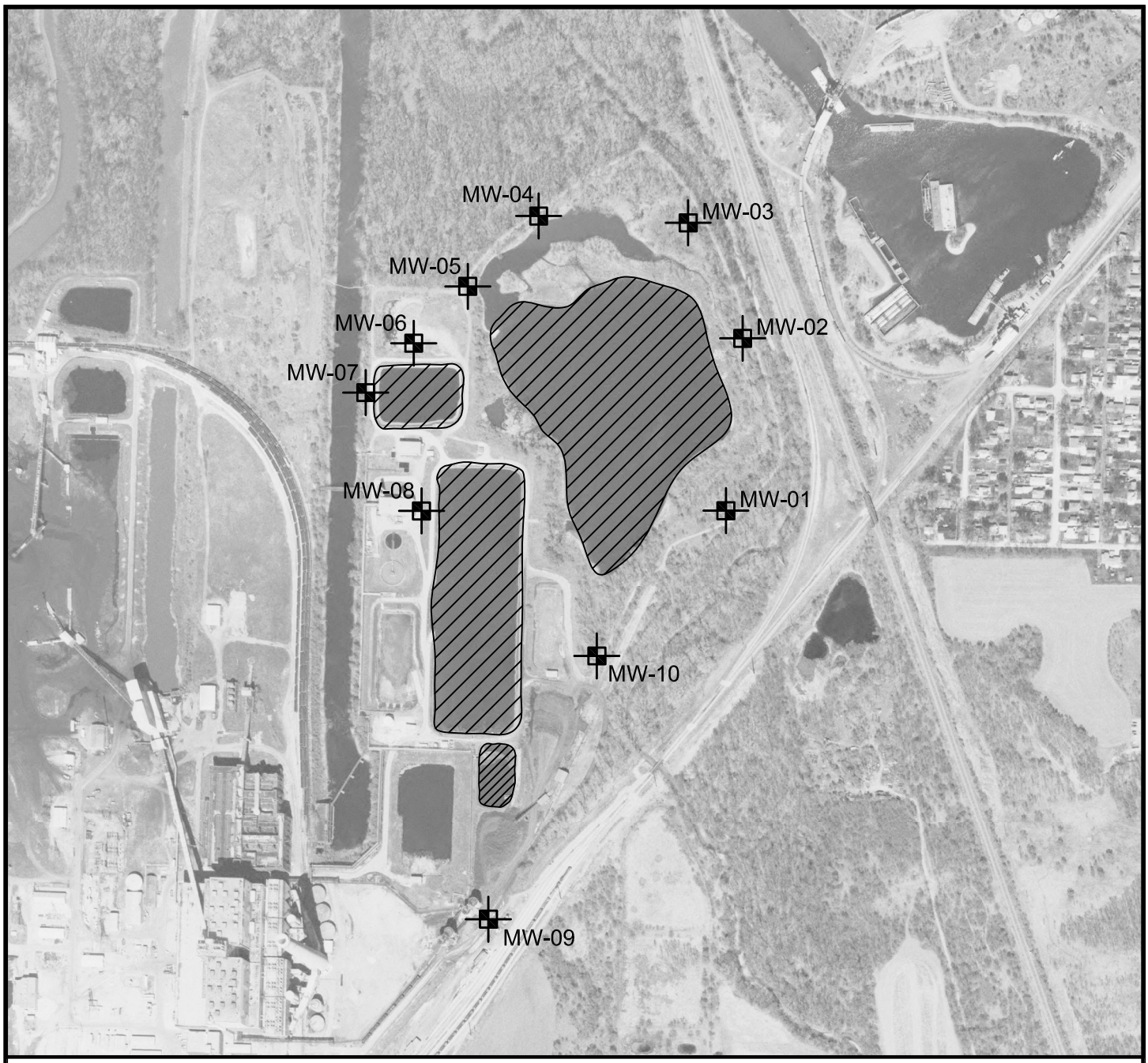
0 600'

GRAPHIC SCALE

AERIAL IMAGE SOURCE:
2005 ORTHOPHOTO TAKEN FROM THE ILLINOIS NATURAL RESOURCES CLEARINGHOUSE

Date: FEB. 2011	FIGURE 2 ASH POND LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21053.070	**POWERTON STATION PEKIN, ILLINOIS**	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_7099



LEGEND

MW-01 MONITORING WELL LOCATION

NOTE:
ACCURATE GROUNDWATER FLOW DIRECTION IS UNKNOWN AND LIKELY SHIFTS BOTH SEASONALLY AND AS A RESULT OF VARYING RIVER ELEVATIONS. GROUNDWATER LIKELY FLOWS WITHIN THE RANGE OF DEPICTED GROUNDWATER FLOW DIRECTIONS.

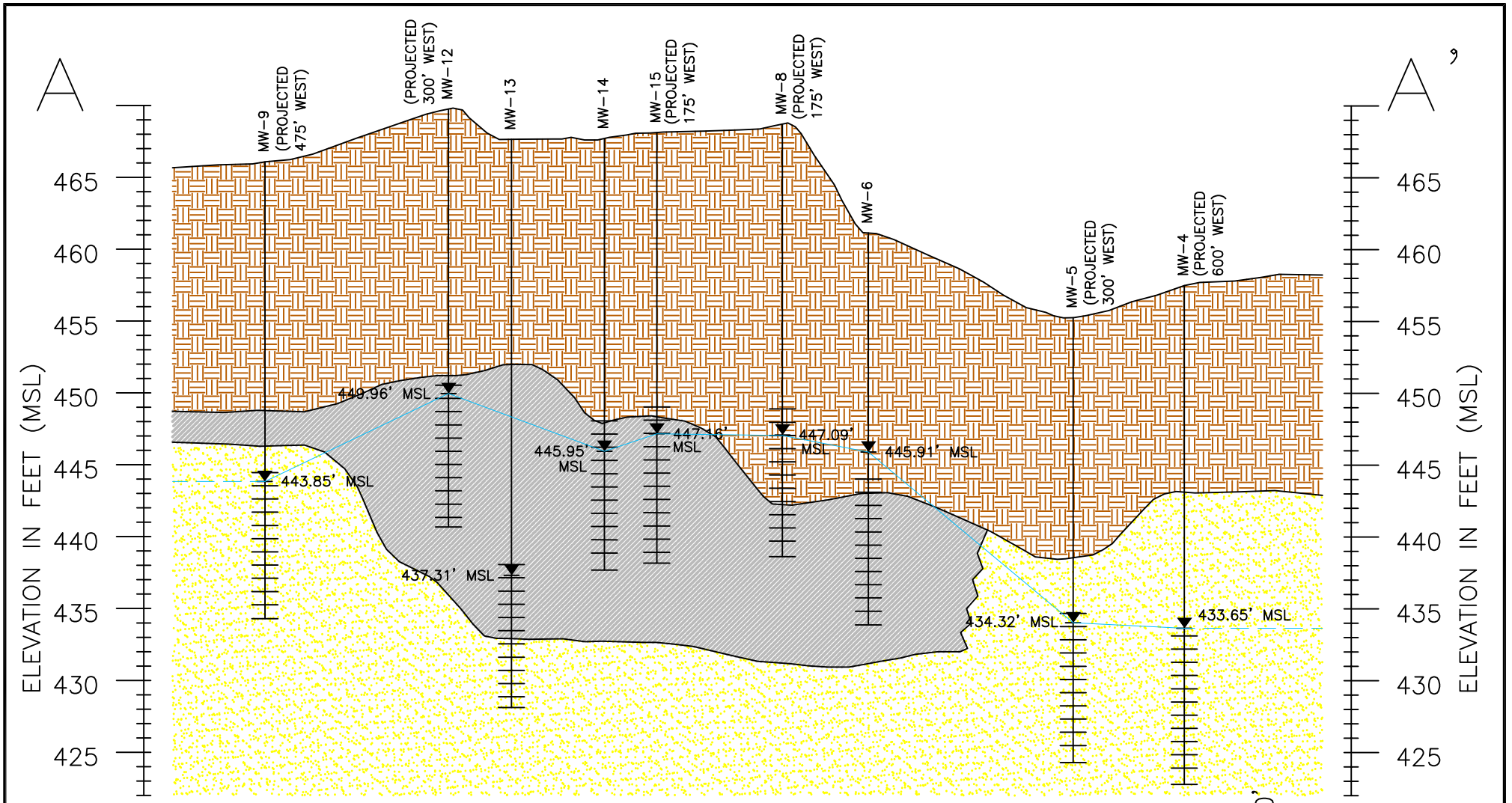
N

0 600'

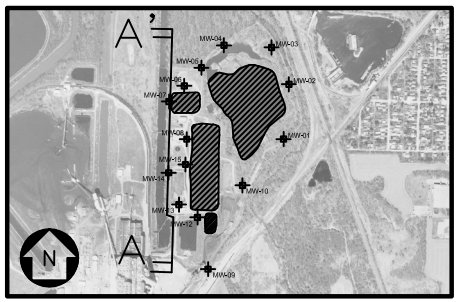
GRAPHIC SCALE

AERIAL IMAGE SOURCE:
2005 ORTHOPHOTO TAKEN FROM THE ILLINOIS NATURAL RESOURCES CLEARINGHOUSE

Date: FEB. 2011	FIGURE 3 MONITORING WELL LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21053.070	**POWERTON STATION PEKIN, ILLINOIS**	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		



CROSS SECTION A-A'
NOT TO SCALE



LEGEND

- FILL
- SILTY CLAY
- SANDY GRAVEL
- GROUNDWATER ELEVATION (FT. / MSL)

NOTE:
SOIL BORINGS MW-12, MW-13, MW-14, AND MW-15 WERE PART OF A DIFFERENT AND UNRELATED SUBSURFACE INVESTIGATION PERFORMED BY PATRICK ENGINEERING INC.

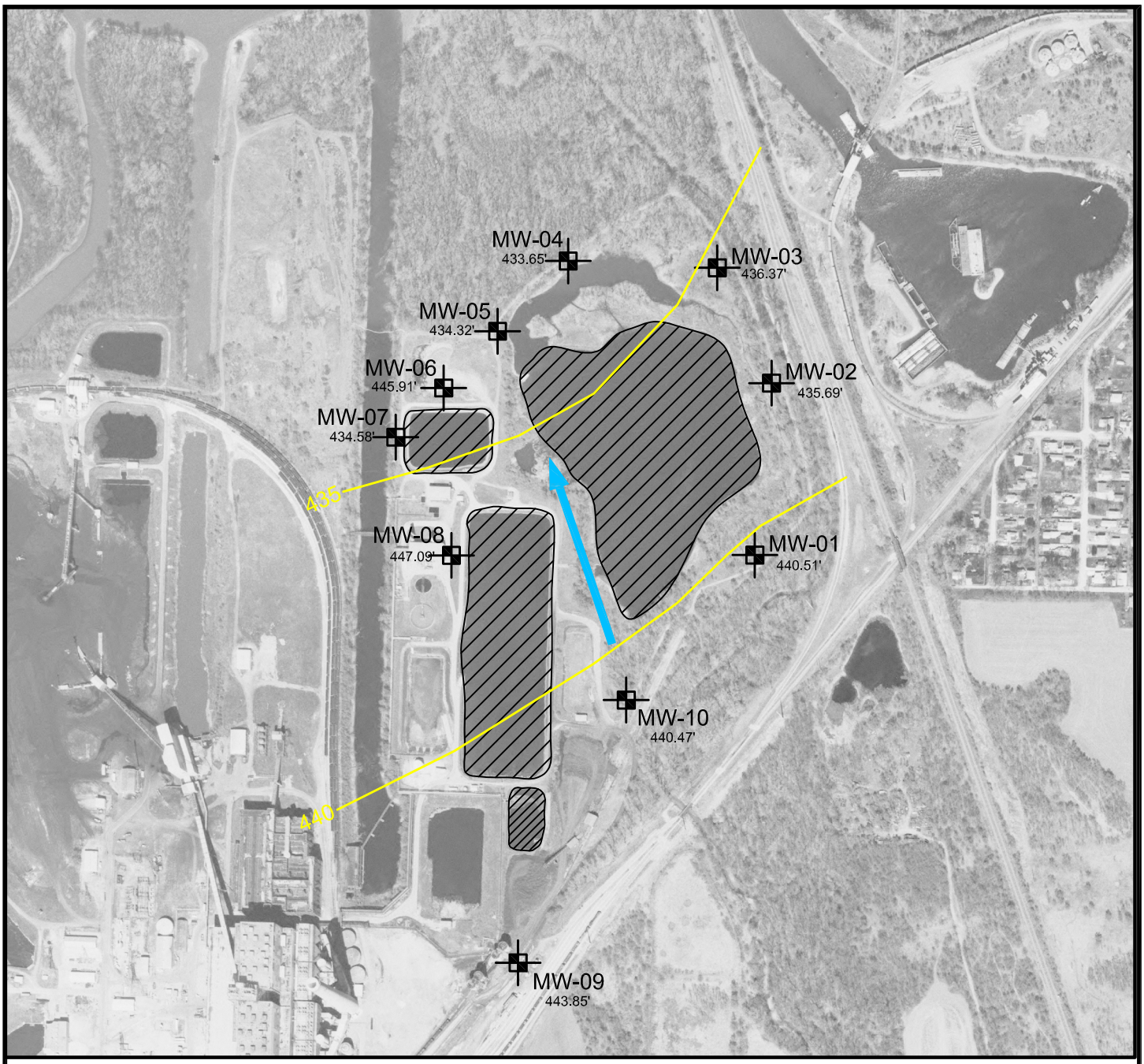
VERTICAL SCALE 10' 0
0 400' HORIZONTAL SCALE

PATRICK ENGINEERING INC.
4970 Varsity Drive TEL. (630) 795-7200
Lisle, Illinois 60532-4101 FAX (630) 724-1681
http://www.patrickengineering.com
PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409

FIGURE 4
CROSS SECTION A-A' - SITE LITHOLOGY
POWERTON STATION
PEKIN, ILLINOIS

Date: FEB. 2011
Proj No.: 21053.070
App. By: RMF

MWG15_15_7101



LEGEND

MW-01 505.46' — MONITORING WELL LOCATION (NOVEMBER 2010) WITH GROUNDWATER ELEVATION (FT. / MSL)

GROUNDWATER FLOW DIRECTION

440 — POTENTIOMETRIC SURFACE CONTOUR (FT. / MSL)

N

0 600'

GRAPHIC SCALE

NOTE:
ACCURATE GROUNDWATER FLOW DIRECTION IS UNKNOWN AND LIKELY SHIFTS BOTH SEASONALLY AND AS A RESULT OF VARYING RIVER ELEVATIONS. GROUNDWATER LIKELY FLOWS WITHIN THE RANGE OF DEPICTED GROUNDWATER FLOW DIRECTIONS.

AERIAL IMAGE SOURCE:
2005 ORTHOPHOTO TAKEN FROM THE ILLINOIS NATURAL RESOURCES CLEARINGHOUSE

Date: FEB. 2011	FIGURE 5 POTENTIOMETRIC SURFACE MAP	PATRICK ENGINEERING INC.
Proj No.: 21053.070	**POWERTON STATION PEKIN, ILLINOIS**	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-1-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **461.7**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 50 LL / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
461.7	0.0		Brown coarse to fine sand, dry FILL				
				SS-1 1.0-2.5 14"R	3 4 4		qu=NT
							Bentonite seal 3.0'-18.0'. Stickup protective cover installed.
				SS-2 3.5-5.0 12"R	3 3 5		qu=NT
				SS-3 6.0-7.5 12"R	2 6 8		qu=NT
				SS-4 8.5-10.0 10"R	2 5 8		qu=NT
			Trace coarse gravel	SS-5 11.0-12.5 8"R	5 9 10		qu=NT
				SS-6 13.5-15.0 12"R	3 6 6		qu=NT
				SS-7 16.0-17.5 16"R	4 6 7		qu=NT
443.2	18.5		Brown coarse to medium sand, trace fine gravel, medium dense, saturated SW	SS-8 18.5-20.0 14"R	4 5 6		Sand pack 18.0'-30.0' qu=NT

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/4/10** ENDED **10/4/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **22.0**
▼
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-1-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **461.7**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
441.7	20.0						Set screen (slot 0.010") 20.5'-30.5' qu=NT
				SS-9 21.0-22.5 15"R	4 5 5		
439.7	22.0		▽				
				SS-10 23.5-25.0 18"R	4 4 4		qu=NT
				SS-11 26.0-27.5 18"R	4 4 6		qu=NT
433.7	28.0		Coarse to fine gravel, some coarse sand, medium dense, saturated GP				
				SS-12 28.5-30.0 18"R	4 5 6		qu=NT
				SS-13 31.0-32.5 18"R	4 6 7		qu=NT
429.2	32.5		End of Boring at 32.5'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/4/10** ENDED **10/4/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **22.0**
▽
▼

MWG13-15_7104

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-2-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **459.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
459.2	0.0		Dark brown topsoil, silty clay, dry FILL				
457.7	1.5		Light brown coarse to fine sand, loose, dry FILL	SS-1 1.0-2.5 10"R	4 4 4		qu=NT
				SS-2 3.5-5.0 10"R	2 3 2		Bentonite seal 3.0'-20.0'. Stickup protective cover installed. qu=NT
				SS-3 6.0-7.5 12"R	3 3 4		qu=NT
			Dry	SS-4 8.5-10.0 14"R	4 5 4		qu=NT
				SS-5 11.0-12.5 15"R	2 2 3		qu=NT
			Some fine gravel	SS-6 13.5-15.0 15"R	3 6 5		qu=NT
				SS-7 16.0-17.5 18"R	2 5 6		qu=NT
			Dry	SS-8 18.5-20.0 18"R	3 3 4		qu=NT
439.2	20.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/5/10** ENDED **10/5/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **24.0**
▼
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-2-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **459.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
439.2	20.0		Light brown fine to medium sand, well graded, medium dense, dry FILL				Sand pack 20.0'-33.5'
				SS-9 21.0-22.5 18"R	4 10 11		qu=NT
435.7	23.5						
435.2	24.0		▽ Gray coarse to fine gravel, coarse sand, trace fine sand and silt, poorly graded, medium dense GP	SS-10 23.5-25.0 18"R	5 13 13		qu=NT Set screen (slot 0.010") 23.5'-33.5'
				SS-11 26.0-27.5 18"R	4 6 8		qu=NT
				SS-12 28.5-30.0 18"R	7 10 10		qu=NT
				SS-13 31.0-32.5 18"R	7 8 7		qu=NT
				SS-14 33.5-35.0 18"R	6 9 10		qu=NT
424.2	35.0		End of Boring at 35.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/5/10** ENDED **10/5/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **24.0**
▽
▽

MWG13-15_7106

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-3-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **459.1**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
459.1	0.0		Dark brown silty clay topsoil				
458.6	0.5		Light brown coarse to medium sand, trace fine gravel, trace fine sand, very loose to loose, dry FILL	SS-1 1.0-2.5 16"R	2 1 2		qu=NT
				SS-2 3.5-5.0 14"R	1 1 2		Bentonite seal 3.0'-20.0'. Stickup protective cover installed. qu=NT
				SS-3 6.0-7.5 16"R	2 2 3		qu=NT
			Some fine sand	SS-4 8.5-10.0 18"R	2 3 2		qu=NT
			Light brown medium to fine sand, loose, dry	SS-5 11.0-12.5 17"R	1 2 2		qu=NT
				SS-6 13.5-15.0 18"R	4 5 6		qu=NT
				SS-7 16.0-17.5 16"R	2 2 3		qu=NT
440.1	19.0		Brown coarse sand, trace fine gravel, well graded, very loose, wet	SS-8 18.5-20.0 16"R	3 4 3		qu=NT

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/5/10** ENDED **10/5/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **23.0**
▽
▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-3-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **459.1**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
439.1	20.0		SW				Sand pack 20.0'-34.0'
				SS-9 21.0-22.5 18"R	1 1 1		qu=NT
436.1	23.0		▽ Saturated				
				SS-10 23.5-25.0 0"R	1 2 2		qu=NT Set screen (slot 0.010") 24.0'-34.0'
				SS-11 26.0-27.5 18"R	1 2 2		qu=NT
				SS-12 28.5-30.0 18"R	2 1 2		qu=NT
				SS-13 31.0-32.5 18"R	1 2 2		qu=NT
425.1	34.0		End of Boring at 34.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/5/10** ENDED **10/5/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **23.0**
▼
▼

MWG13-15_7108

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-4-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **457.3**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
457.3	0.0		Brown silty clay, roots, topsoil				
456.5	0.8		FILL				
			Light brown sand, medium to fine brown silty clay, fine gravel, dry	SS-1 1.0-2.5 10"R	6 3 4		
			FILL				
							Bentonite seal 3.0'-20.0'. Stickup protective cover installed.
				SS-2 3.5-5.0 8"R	3 4 4		
				SS-3 6.0-7.5 18"R	4 6 9		qu=4.0**tsf
			Brown clayey silt				
				SS-4 8.5-10.0 18"R	4 5 5		qu=4.0**tsf
				SS-5 11.0-12.5 17"R	3 3 4		qu=3.5**tsf
				SS-6 13.5-15.0 17"R	2 2 3		qu=3.5**tsf
			Black clayey silt to silty clay				
441.3	16.0		Light brown coarse to fine sand, fine gravel, loose, dry	SS-7 16.0-17.5 18"R	2 2 3		
			SP				
				SS-8 18.5-20.0 18"R	2 3 5		
437.3	20.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/16/10** ENDED **10/16/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ 24.0
▽
▽

MWG13-15_7109

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-4-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **457.3**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
437.3	20.0		Brown coarse to fine gravel, trace coarse to medium sand, loose to medium dense, poorly graded GP				Sand pack 20.0'-34.0'
				SS-9 21.0-22.5 12"R	4 6 6		qu=NT
				SS-10 23.5-25.0 18"R	6 5 7		qu=NT
433.3	24.0	▽	Saturated				Set screen (slot 0.010") 24.0'-34.0'
				SS-11 26.0-27.5 14"R	2 3 3		qu=NT
				SS-12 28.5-30.0 18"R	5 6 10		qu=NT
				SS-13 31.0-32.5 10"R	4 4 8		qu=NT
			Coarse to fine gravel, trace silt				
423.3	34.0		End of Boring at 34.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/16/10** ENDED **10/16/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **24.0**
▽
▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-5-Po** SHEET 1 OF 2
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **455.8**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
455.8	0.0		Dark brown silty clay, black coal cinders, topsoil				
			FILL	SS-1 1.0-2.5 12"R	2 2 3		qu=NT
			Dry				Bentonite seal 2.0'-19.0'. Stickup protective cover installed.
				SS-2 3.5-5.0 14"R	6 8 10		qu=NT
			Coarse gravel, red coal cinders				
			Gray silty clay with coarse sand and fine gravel, medium stiff, dry	SS-3 6.0-7.5 16"R	2 3 3		qu=1.25**tsf
				SS-4 8.5-10.0 18"R	1 2 2		qu=1.0**tsf
				SS-5 11.0-12.5 18"R	2 2 3		qu=0.5**tsf
			Trace black coal cinders Trace coarse sand, moist				
			Gray clayey silt	SS-6 13.5-15.0 18"R	WOH 2 2		
				SS-7 16.0-17.5 18"R	WOH 6 6		
438.8	17.0		Gray coarse to fine gravel, coarse to fine sand, poorly graded, medium dense, dry				
			GP	SS-8 18.5-20.0 18"R	4 8 7		Sand pack 19.0'-31.0'
435.8	20.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/5/10** ENDED **10/6/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **20.5**
▼
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-5-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **455.8**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
435.8	20.0						
435.3	20.5		▽ Coarse to fine gravel, trace coarse to fine sand, poorly graded, medium dense, saturated				
			GP	SS-9 21.0-22.5 0"R	4 6 6		qu=NT Set screen (slot 0.010") 21.0'-31.0'
				SS-10 23.5-25.0 10"R	4 6 6		qu=NT
			Loose	SS-11 26.0-27.5 10"R	3 4 4		qu=NT
				SS-12 28.5-30.0 10"R	4 5 6		qu=NT
424.8	31.0		End of Boring at 31.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/5/10** ENDED **10/6/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **20.5**
▽
▽

MWG13-15_7112

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-6-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **461.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
461.2	0.0		Gravel, clay, coal cinders FILL				
				SS-1 1.0-2.5			
							Bentonite seal 3.0'-18.0'. Stickup protective cover installed.
				SS-2 3.5-5.0			
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
451.2	10.0		Dark gray clayey silt, organics, very soft, moist FILL				
				SS-5 11.0-12.5 17"R	WOH 1 1		qu=0.25**tsf
447.2	14.0		Black coal cinders, loose, wet FILL	SS-6 13.5-15.0 16"R	WOH 3 3		qu=0.25**tsf
				SS-7 16.0-17.5 14"R	2 3 3		
444.2	17.0	▽					
443.2	18.0		Olive gray and gray organic silt, trace clay, trace peat, low plasticity, wet OL				Sand pack 18.0'-28.0' qu=NT Set screen (slot 0.010") 19.0'-29.0'
				SS-8 18.5-20.0	2 2 1		

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/6/10** ENDED **10/6/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **17.0**
▽
▽

MWG13-15_7113

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-6-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **461.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
441.2	20.0						
				SS-9 21.0-22.5 16"R	WOH 1 2		qu=0.25**tsf
			Trace fine sand, dark gray mottled black organic silt, trace fine sand, wet				
				SS-10 23.5-25.0 18"R	1 2 3		qu=0.50**tsf
				SS-11 26.0-27.5 18"R	3 3 3		qu=0.75**tsf
433.7	27.5		Dark gray organic clay, trace fine sand, medium stiff, moist OL				
				SS-12 28.5-30.0 18"R	2 2 3		qu=1.25**tsf
431.2	30.0		End of Boring at 30.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/6/10** ENDED **10/6/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **17.0**
▽
▽

MWG13-15_7114

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-7-Po** SHEET **1** OF **3**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **459.6**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
459.6	0.0		Sand, gravel, black cinders, dry FILL				
				SS-1 1.0-2.5			
							Bentonite seal 3.0'-32.0'. Stickup protective cover installed.
				SS-2 3.5-5.0			
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
449.6	10.0		Sand, gravel, clay, black coal cinders FILL				
				SS-5 11.0-12.5 6"R	5 3 3		
446.1	13.5		Dark gray organic clay, soft, moist OH	SS-6 13.5-15.0 10"R	2 2 2		qu=0.5**tsf
				SS-7 16.0-17.5 18"R	2 1 2		qu=0.5**tsf
			Moist				
			Trace fine sand, organic silt, moist				
				SS-8 18.5-20.0 18"R	WOH 2 2		qu=0.75**tsf
439.6	20.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/4/10** ENDED **10/5/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **36.0**
▽
▽

MWG13-15_7115

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-7-Po** SHEET **2** OF **3**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **459.6**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
439.6	20.0		Dark gray organic clay, mottled black, medium stiff, dry				
			OH	SS-9 21.0-22.5 18"R	3 2 4		qu=1.0**tsf
				SS-10 23.5-25.0 18"R	2 3 4		qu=1.25**tsf
433.6	26.0		Gray organic silt, trace shells, fibers, very soft, moist	SS-11 26.0-27.5 18"R	2 2 2		qu=0.25**tsf
			OL				
			Dry	SS-12 28.5-30.0 18"R	2 3 3		qu=1.75**tsf
428.6	31.0		Dark gray organic clay, trace fine gravel, moist	SS-13 31.0-32.5 18"R	2 4 3		qu=1.25**tsf
			OH				Sand pack 32.0'-45.0'
426.1	33.5		Gray clayey gravel, coarse sand, clay, silt, moist	SS-14 33.5-35.0 18"R	WOH 2 2		qu=NT
			GC				Set screen (slot 0.010") 35.0'-45.0'
423.6	36.0	▽	Medium dense, saturated	SS-15 36.0-37.5 18"R	2 7 6		qu=NT
419.6	40.0			SS-16 38.5-40.0 10"R	2 4 7		

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/4/10** ENDED **10/5/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **36.0**
▽
▽

MWG13-15_7116

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-7-Po** SHEET **3** OF **3**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **459.6**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 50 LL / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
419.6	40.0		Coarse to fine gravel, coarse sand, poorly graded, medium dense, saturated GP				
				SS-17 41.0-42.5 18"R	6 10 10		qu=NT
				SS-18 43.5-45.0 18"R	8 10 12		qu=NT
414.6	45.0		End of Boring at 45.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/4/10** ENDED **10/5/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **36.0**
▽
▽

MWG13-15_7117

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-8-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **468.7**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 50 LL; Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
468.7	0.0		Fine gravel, sand, silt, clay, black cinders, dry FILL	SS-1 1.0-2.5			
				SS-2 3.5-5.0			Bentonite seal 3.0'-18.0'. Stickup protective cover installed.
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
458.7	10.0		Black cinders FILL	SS-5 11.0-12.5 14"R	15 28 15/3"		
				SS-6 13.5-15.0 18"R	11 15 12		
			Silty clay seam 15.5'-16.5'	SS-7 16.0-17.5 17"R	15 15 14		
				SS-8 18.5-20.0 18"R	7 11 11		Sand pack 18.0'-30.0'
449.2	19.5		▽				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/30/10** ENDED **9/30/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **21.0**
▽ **19.5**
▽

MWG13-15_7118

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-8-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **468.7**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
448.7	20.0		Black cinders				Set screen (slot 0.010") 20.0'-30.0'
			FILL				
447.7	21.0	▽	Saturated	SS-9 21.0-22.5 18"R	5 5 3		
				SS-10 23.5-25.0 18"R	1 1 2		
444.2	24.5		Dark gray organic clay, soft, moist				
			OH				qu=0.75**tsf
				SS-11 26.0-27.5 18"R	1 2 2		qu=1.0**tsf
441.2	27.5		Dark gray organic silt, medium stiff to soft, low plasticity, moist				
			OL	SS-12 28.5-30.0 18"R	2 4 4		qu=1.25**tsf
438.7	30.0		End of Boring at 30.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/30/10** ENDED **9/30/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **21.0**
▼ **19.5**
▼

MWG13-15_7119

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-9-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **466.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
466.2	0.0		Black cinders, fine gravel, crushed rock, dry FILL				
				SS-1 1.0-2.5			
				SS-2 3.5-5.0			Bentonite seal 3.0'-20.0'. Stickup protective cover installed.
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
456.2	10.0		Black cinders, coarse to fine sand, brick, fine gravel, dry FILL				
				SS-5 11.0-12.5 14"R	6 12 15		qu=NT
				SS-6 13.5-15.0 18"R	5 6 7		qu=NT
				SS-7 16.0-17.5 18"R	6 9 10		qu=NT
449.2	17.0		Moist Brown clayey silt, trace fine sand, moist CL				
447.2	19.0		Light brown fine to medium sand, loose, well graded	SS-8 18.5-20.0 18"R	3 6 11		qu=NT

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/28/10** ENDED **9/28/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **23.5**
▼ **21.6**
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-9-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **466.2**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
446.2	20.0		SW				Sand pack 20.0'-32.0'
444.6	21.6		▼	SS-9 21.0-22.5 18"R	3 3 4		Set screen (slot 0.010") 22.0'-32.0'
442.7	23.5		▽ Saturated	SS-10 23.5-25.0 18"R	1 3 8		
				SS-11 26.0-27.5 18"R	0 2 2		
			Medium dense	SS-12 28.5-30.0 18"R	2 6 13		
			Trace fine gravel	SS-13 31.0-32.5 18"R	2 5 10		
433.7	32.5		End of Boring at 32.5'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/28/10** ENDED **9/28/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **23.5**
▼ **21.6**

MWG13-15_7121

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-10-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **454.1**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
454.1	0.0		Black and brown silty clay topsoil CL				
				SS-1 1.0-2.5			
							Bentonite seal 3.0'-17.0'. Stickup protective cover installed.
				SS-2 3.5-5.0			
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
444.1	10.0		Brown organic silt, some clay, trace peat, soft, moist OL				
				SS-5 11.0-12.5 16"R	1 2 2		qu=0.5**tsf
440.6	13.5		Black organic clay, medium plasticity, medium stiff, dry OL	SS-6 13.5-15.0 18"R	2 3 4		qu=1.5**tsf
438.1	16.0		Brown and gray silty clay, trace to little coarse to fine sand, medium stiff, dry CL	SS-7 16.0-17.5 18"R	4 4 4		qu=2.0**tsf
							Sand pack 17.0'-29.0'
				SS-8 18.5-20.0			Set screen (slot 0.010") 19.0'-29.0'

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/4/10** ENDED **10/4/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **21.0'**
▼
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-10-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **454.1**

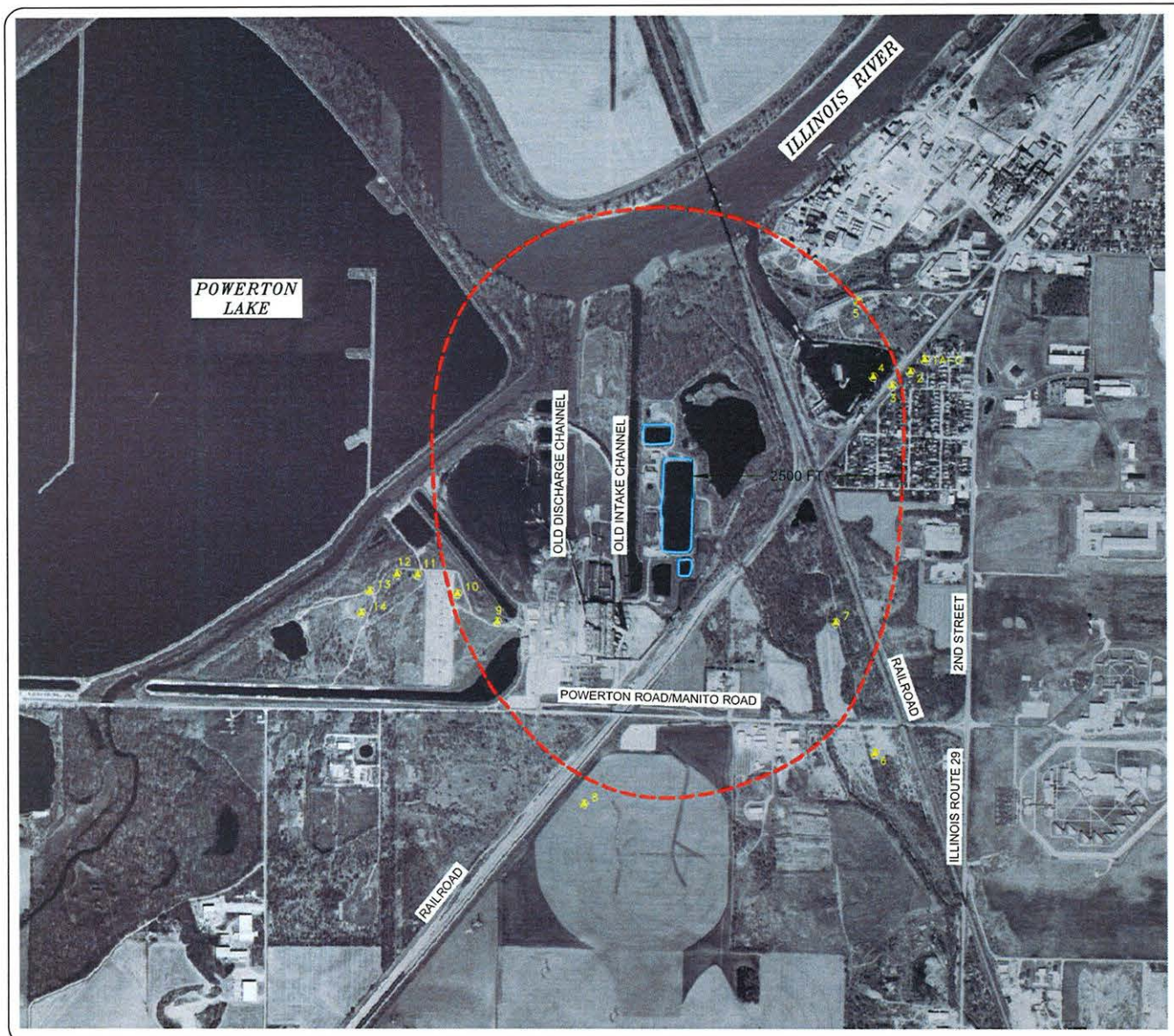
ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
434.1	20.0						
433.1	21.0		Gray coarse to fine sand, trace fine gravel, silt, poorly graded, loose, saturated SP	SS-9 21.0-22.5 18"R	2 2 1		qu=NT
				SS-10 23.5-25.0 10"R	2 4 3		qu=NT
429.6	24.5		Brown and gray coarse to fine gravel, poorly graded, loose, saturated GP				
				SS-11 26.0-27.5 10"R	2 4 7		qu=NT
				SS-12 28.5-30.0 14"R	5 7 8		qu=NT
424.1	30.0		End of Boring at 30.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **10/4/10** ENDED **10/4/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **21.0'**
▼
▼

MWG13-15_7123



LEGEND

- POTABLE WELL LOCATION (APPROXIMATE)
- ASH POND
- 2,500 FOOT RADIUS OF ASH POND SYSTEMS

NOTE:
REFER TO SUMMARY TABLE FOR SPECIFIC WELL INFORMATION.

SOURCE:
2005 DIGITAL ORTHOPHOTO FROM ILLINOIS NATURAL RESOURCES GEOSPATIAL DATA CLEARINGHOUSE
WELL LOCATIONS FROM ILLINOIS STATE GEOLOGICAL SURVEY, ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, AND ILLINOIS STATE WATER SURVEY.

N

0 600 1200
SCALE IN FEET

DRAWN BY: KNW DATE: 05/11/09
CHECKED BY: HMS DATE: 05/22/09
APPROVED BY: HMS DATE: 07/07/09
DRAWING NO: 1792-3-B02
REFERENCE: .

POTABLE WATER WELLS

POWERTON POWER STATION
MIDWEST GENERATION
PEKIN, TAZEWELL COUNTY, ILLINOIS

NATURAL RESOURCE TECHNOLOGY

PROJECT NO.
1792/3.0

FIGURE NO.
1

MWG13-15_7124

PDC Laboratories, Inc.
2231 W. Altorfer Drive - Peoria, IL 61615
(309) 692-9688 - (800) 752-6651 - FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

Sample No: **10122781-1** Collect Date **12/15/10 14:15**
Client ID : **POWERTON** Site : **MW-1** Locator : **GRAB**

Parameter	Qualifier	Result	Analysis Date	Analyst	Lab
EPA 300.0 R2.1					PIA
Chloride, Dissolved		46 mg/l	12/16/10 15:03	lgjfa	
Fluoride, Dissolved		0.28 mg/l	12/16/10 14:45	lgjfa	
Nitrate as N, Diss.		7.2 mg/l	12/16/10 15:03	lgjfa	
Sulfate, Dissolved		50 mg/l	12/16/10 15:03	lgjfa	
SM (18) 2540C					PIA
Solids, Total Dissolved, Filtered		490 mg/l	12/16/10 08:37	GDM	
SM 4500 CN C/SW9012A					PIA
Cyanide, Dissolved	P<	0.005 mg/l	12/20/10 15:58	lgtth	
SW-846 6010B R2.0					PIA
Iron, Dissolved	<	10 ug/l	01/03/11 12:09	BAB	
SW-846 6020					PIA
Antimony, Dissolved	<	3 ug/l	12/21/10 14:56	JMW	
Arsenic, Dissolved	<	1 ug/l	12/21/10 14:56	JMW	
Barium, Dissolved		44 ug/l	12/21/10 14:56	JMW	
Beryllium, Dissolved	<	1 ug/l	12/21/10 14:56	JMW	
Boron, Dissolved		450 ug/l	12/21/10 14:56	JMW	
Cadmium, Dissolved	<	1 ug/l	12/21/10 14:56	JMW	
Chromium, Dissolved	<	4 ug/l	12/21/10 14:56	JMW	
Cobalt, Dissolved	<	2 ug/l	12/21/10 14:56	JMW	
Copper, Dissolved	<	3 ug/l	12/21/10 14:56	JMW	
Lead, Dissolved	<	1 ug/l	12/21/10 14:56	JMW	
Manganese, Dissolved	<	1 ug/l	12/21/10 14:56	JMW	
Mercury, Dissolved	<	0.2 ug/l	12/21/10 14:56	JMW	
Nickel, Dissolved		10 ug/l	12/21/10 14:56	JMW	
Selenium, Dissolved		1.6 ug/l	12/21/10 14:56	JMW	
Silver, Dissolved	<	5 ug/l	12/21/10 14:56	JMW	
Thallium, Dissolved	<	1 ug/l	12/21/10 14:56	JMW	
Zinc, Dissolved	<	6 ug/l	12/29/10 09:12	JMW	

PDC Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac

Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

Sample No: **10122781-2** Collect Date **12/15/10 10:45**
Client ID : **POWERTON** Site : **MW-2** Locator : **GRAB**

Parameter	Qualifier	Result	Analysis Date	Analyst	Lab
EPA 300.0 R2.1					PIA
Chloride, Dissolved		45 mg/l	12/16/10 15:56	lgjfa	
Fluoride, Dissolved	<	0.25 mg/l	12/16/10 15:38	lgjfa	
Nitrate as N, Diss.		7.5 mg/l	12/16/10 15:56	lgjfa	
Sulfate, Dissolved		52 mg/l	12/16/10 15:56	lgjfa	
SM (18) 2540C					PIA
Solids, Total Dissolved, Filtered		480 mg/l	12/16/10 08:37	GDM	
SM 4500 CN C/SW9012A					PIA
Cyanide, Dissolved	P<	0.005 mg/l	12/20/10 16:00	lgtth	
SW-846 6010B R2.0					PIA
Iron, Dissolved	<	10 ug/l	01/03/11 12:11	BAB	
SW-846 6020					PIA
Antimony, Dissolved	<	3 ug/l	12/21/10 15:18	JMW	
Arsenic, Dissolved		1.8 ug/l	12/21/10 15:18	JMW	
Barium, Dissolved		42 ug/l	12/21/10 15:18	JMW	
Beryllium, Dissolved	<	1 ug/l	12/21/10 15:18	JMW	
Boron, Dissolved		380 ug/l	12/21/10 15:18	JMW	
Cadmium, Dissolved	<	1 ug/l	12/21/10 15:18	JMW	
Chromium, Dissolved	<	4 ug/l	12/21/10 15:18	JMW	
Cobalt, Dissolved	<	2 ug/l	12/21/10 15:18	JMW	
Copper, Dissolved	<	3 ug/l	12/21/10 15:18	JMW	
Lead, Dissolved	<	1 ug/l	12/21/10 15:18	JMW	
Manganese, Dissolved	<	1 ug/l	12/21/10 15:18	JMW	
Mercury, Dissolved	<	0.2 ug/l	12/21/10 15:18	JMW	
Nickel, Dissolved		8.6 ug/l	12/21/10 15:18	JMW	
Selenium, Dissolved		1.7 ug/l	12/21/10 15:18	JMW	
Silver, Dissolved	<	5 ug/l	12/21/10 15:18	JMW	
Thallium, Dissolved	<	1 ug/l	12/21/10 15:18	JMW	
Zinc, Dissolved	<	6 ug/l	12/29/10 09:15	JMW	

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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

Sample No: **10122781-3** Collect Date **12/15/10 12:45**
Client ID : **POWERTON** Site : **MW-3** Locator : **GRAB**

Parameter	Qualifier	Result	Analysis Date	Analyst	Lab
EPA 300.0 R2.1					PIA
Chloride, Dissolved		39 mg/l	12/16/10 17:24	lgjfa	
Fluoride, Dissolved		0.3 mg/l	12/16/10 17:06	lgjfa	
Nitrate as N, Diss.		9.4 mg/l	12/16/10 17:24	lgjfa	
Sulfate, Dissolved		64 mg/l	12/16/10 17:24	lgjfa	
SM (18) 2540C					PIA
Solids, Total Dissolved, Filtered		480 mg/l	12/16/10 08:37	GDM	
SM 4500 CN C/SW9012A					PIA
Cyanide, Dissolved	P<	0.005 mg/l	12/20/10 16:01	lgtth	
SW-846 6010B R2.0					PIA
Iron, Dissolved	<	10 ug/l	01/03/11 12:14	BAB	
SW-846 6020					PIA
Antimony, Dissolved	<	3 ug/l	12/21/10 15:24	JMW	
Arsenic, Dissolved		1.7 ug/l	12/21/10 15:24	JMW	
Barium, Dissolved		38 ug/l	12/21/10 15:24	JMW	
Beryllium, Dissolved	<	1 ug/l	12/21/10 15:24	JMW	
Boron, Dissolved		750 ug/l	12/21/10 15:24	JMW	
Cadmium, Dissolved	<	1 ug/l	12/21/10 15:24	JMW	
Chromium, Dissolved	<	4 ug/l	12/21/10 15:24	JMW	
Cobalt, Dissolved	<	2 ug/l	12/21/10 15:24	JMW	
Copper, Dissolved	<	3 ug/l	12/21/10 15:24	JMW	
Lead, Dissolved	<	1 ug/l	12/21/10 15:24	JMW	
Manganese, Dissolved		4.7 ug/l	12/21/10 15:24	JMW	
Mercury, Dissolved	<	0.2 ug/l	12/21/10 15:24	JMW	
Nickel, Dissolved		11 ug/l	12/21/10 15:24	JMW	
Selenium, Dissolved	<	1 ug/l	12/21/10 15:24	JMW	
Silver, Dissolved	<	5 ug/l	12/21/10 15:24	JMW	
Thallium, Dissolved	<	1 ug/l	12/21/10 15:24	JMW	
Zinc, Dissolved	<	6 ug/l	12/29/10 09:17	JMW	

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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

Sample No: **10122781-4** Collect Date **12/15/10 12:05**
Client ID : **POWERTON** Site : **MW-4** Locator : **GRAB**

Parameter	Qualifier	Result	Analysis Date	Analyst	Lab
EPA 300.0 R2.1					PIA
Chloride, Dissolved		150 mg/l	12/16/10 18:34	lgjfa	
Fluoride, Dissolved		0.3 mg/l	12/16/10 17:59	lgjfa	
Nitrate as N, Diss.		0.34 mg/l	12/16/10 17:59	lgjfa	
Sulfate, Dissolved		110 mg/l	12/16/10 18:34	lgjfa	
SM (18) 2540C					PIA
Solids, Total Dissolved, Filtered		680 mg/l	12/16/10 08:38	GDM	
SM 4500 CN C/SW9012A					PIA
Cyanide, Dissolved	P<	0.005 mg/l	12/20/10 16:02	lgtth	
SW-846 6010B R2.0					PIA
Iron, Dissolved	<	10 ug/l	01/03/11 12:17	BAB	
SW-846 6020					PIA
Antimony, Dissolved	<	3 ug/l	12/21/10 15:29	JMW	
Arsenic, Dissolved	<	1 ug/l	12/21/10 15:29	JMW	
Barium, Dissolved		55 ug/l	12/21/10 15:29	JMW	
Beryllium, Dissolved	<	1 ug/l	12/21/10 15:29	JMW	
Boron, Dissolved		770 ug/l	12/21/10 15:29	JMW	
Cadmium, Dissolved	<	1 ug/l	12/21/10 15:29	JMW	
Chromium, Dissolved		4.5 ug/l	12/21/10 15:29	JMW	
Cobalt, Dissolved	<	2 ug/l	12/21/10 15:29	JMW	
Copper, Dissolved	<	3 ug/l	12/21/10 15:29	JMW	
Lead, Dissolved	<	1 ug/l	12/21/10 15:29	JMW	
Manganese, Dissolved		770 ug/l	12/21/10 15:29	JMW	
Mercury, Dissolved	<	0.2 ug/l	12/21/10 15:29	JMW	
Nickel, Dissolved		12 ug/l	12/21/10 15:29	JMW	
Selenium, Dissolved		2.2 ug/l	12/21/10 15:29	JMW	
Silver, Dissolved	<	5 ug/l	12/21/10 15:29	JMW	
Thallium, Dissolved	<	1 ug/l	12/21/10 15:29	JMW	
Zinc, Dissolved	<	6 ug/l	12/29/10 09:33	JMW	

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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

Sample No: **10122781-5** Collect Date **12/15/10 11:25**
Client ID : **POWERTON** Site : **MW-5** Locator : **GRAB**

Parameter	Qualifier	Result	Analysis Date	Analyst	Lab
EPA 300.0 R2.1					PIA
Chloride, Dissolved		150 mg/l	12/16/10 19:27	lgjfa	
Fluoride, Dissolved		0.27 mg/l	12/16/10 18:52	lgjfa	
Nitrate as N, Diss.	<	0.02 mg/l	12/16/10 18:52	lgjfa	
Sulfate, Dissolved		160 mg/l	12/16/10 19:27	lgjfa	
SM (18) 2540C					PIA
Solids, Total Dissolved, Filtered		740 mg/l	12/16/10 08:38	GDM	
SM 4500 CN C/SW9012A					PIA
Cyanide, Dissolved	P<	0.005 mg/l	12/20/10 16:03	lgtth	
SW-846 6010B R2.0					PIA
Iron, Dissolved		130 ug/l	01/03/11 12:19	BAB	
SW-846 6020					PIA
Antimony, Dissolved	<	3 ug/l	12/21/10 15:35	JMW	
Arsenic, Dissolved		1.1 ug/l	12/21/10 15:35	JMW	
Barium, Dissolved		53 ug/l	12/21/10 15:35	JMW	
Beryllium, Dissolved	<	1 ug/l	12/21/10 15:35	JMW	
Boron, Dissolved		950 ug/l	12/21/10 15:35	JMW	
Cadmium, Dissolved	<	1 ug/l	12/21/10 15:35	JMW	
Chromium, Dissolved		4.4 ug/l	12/21/10 15:35	JMW	
Cobalt, Dissolved		2.5 ug/l	12/21/10 15:35	JMW	
Copper, Dissolved	<	3 ug/l	12/21/10 15:35	JMW	
Lead, Dissolved	<	1 ug/l	12/21/10 15:35	JMW	
Manganese, Dissolved		510 ug/l	12/21/10 15:35	JMW	
Mercury, Dissolved	<	0.2 ug/l	12/21/10 15:35	JMW	
Nickel, Dissolved		14 ug/l	12/21/10 15:35	JMW	
Selenium, Dissolved		1.9 ug/l	12/21/10 15:35	JMW	
Silver, Dissolved	<	5 ug/l	12/21/10 15:35	JMW	
Thallium, Dissolved	<	1 ug/l	12/21/10 15:35	JMW	
Zinc, Dissolved	<	6 ug/l	12/29/10 09:36	JMW	

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ACCREDITED IN ACCORDANCE WITH nelac

Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

Sample No: **10122781-6** Collect Date **12/15/10 10:00**
Client ID : **POWERTON** Site : **MW-10** Locator : **GRAB**

Parameter	Qualifier	Result	Analysis Date	Analyst	Lab
EPA 300.0 R2.1					PIA
Chloride, Dissolved		40 mg/l	12/16/10 20:38	lgjfa	
Fluoride, Dissolved	<	0.25 mg/l	12/16/10 19:45	lgjfa	
Nitrate as N, Diss.		3 mg/l	12/16/10 20:38	lgjfa	
Sulfate, Dissolved		62 mg/l	12/16/10 20:38	lgjfa	
SM (18) 2540C					PIA
Solids, Total Dissolved, Filtered		530 mg/l	12/16/10 08:38	GDM	
SM 4500 CN C/SW9012A					PIA
Cyanide, Dissolved	P<	0.005 mg/l	12/20/10 16:04	lgtth	
SW-846 6010B R2.0					PIA
Iron, Dissolved	<	10 ug/l	01/03/11 12:22	BAB	
SW-846 6020					PIA
Antimony, Dissolved	<	3 ug/l	12/21/10 15:40	JMW	
Arsenic, Dissolved	<	1 ug/l	12/21/10 15:40	JMW	
Barium, Dissolved		240 ug/l	12/21/10 15:40	JMW	
Beryllium, Dissolved	<	1 ug/l	12/21/10 15:40	JMW	
Boron, Dissolved		480 ug/l	12/21/10 15:40	JMW	
Cadmium, Dissolved	<	1 ug/l	12/21/10 15:40	JMW	
Chromium, Dissolved	<	4 ug/l	12/21/10 15:40	JMW	
Cobalt, Dissolved		2.6 ug/l	12/21/10 15:40	JMW	
Copper, Dissolved	<	3 ug/l	12/21/10 15:40	JMW	
Lead, Dissolved	<	1 ug/l	12/21/10 15:40	JMW	
Manganese, Dissolved		2100 ug/l	12/21/10 15:40	JMW	
Mercury, Dissolved	<	0.2 ug/l	12/21/10 15:40	JMW	
Nickel, Dissolved		15 ug/l	12/21/10 15:40	JMW	
Selenium, Dissolved		4.2 ug/l	12/21/10 15:40	JMW	
Silver, Dissolved	<	5 ug/l	12/21/10 15:40	JMW	
Thallium, Dissolved	<	1 ug/l	12/21/10 15:40	JMW	
Zinc, Dissolved	<	6 ug/l	12/29/10 09:38	JMW	

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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

Sample No: **10122781-7** Collect Date **12/15/10 15:05**
Client ID : **POWERTON** Site : **MW-6** Locator : **GRAB**

Parameter	Qualifier	Result	Analysis Date	Analyst	Lab
EPA 300.0 R2.1					PIA
Chloride, Dissolved		180 mg/l	12/16/10 21:13	lgjfa	
Fluoride, Dissolved		0.65 mg/l	12/16/10 21:13	lgjfa	
Nitrate as N, Diss.		0.037 mg/l	12/16/10 21:13	lgjfa	
Sulfate, Dissolved		210 mg/l	12/16/10 21:48	lgjfa	
SM (18) 2540C					PIA
Solids, Total Dissolved, Filtered		950 mg/l	12/16/10 08:39	GDM	
SM 4500 CN C/SW9012A					PIA
Cyanide, Dissolved	P<	0.005 mg/l	12/20/10 16:09	lgtth	
SW-846 6010B R2.0					PIA
Iron, Dissolved		1600 ug/l	01/03/11 12:29	BAB	
SW-846 6020					PIA
Antimony, Dissolved	<	3 ug/l	12/21/10 15:45	JMW	
Arsenic, Dissolved		4.2 ug/l	12/21/10 15:45	JMW	
Barium, Dissolved		110 ug/l	12/21/10 15:45	JMW	
Beryllium, Dissolved	<	1 ug/l	12/21/10 15:45	JMW	
Boron, Dissolved		500 ug/l	12/21/10 15:45	JMW	
Cadmium, Dissolved	<	1 ug/l	12/21/10 15:45	JMW	
Chromium, Dissolved		6 ug/l	12/21/10 15:45	JMW	
Cobalt, Dissolved	<	2 ug/l	12/21/10 15:45	JMW	
Copper, Dissolved	<	3 ug/l	12/21/10 15:45	JMW	
Lead, Dissolved	<	1 ug/l	12/21/10 15:45	JMW	
Manganese, Dissolved		680 ug/l	12/21/10 15:45	JMW	
Mercury, Dissolved	<	0.2 ug/l	12/21/10 15:45	JMW	
Nickel, Dissolved		9.1 ug/l	12/21/10 15:45	JMW	
Selenium, Dissolved		3.4 ug/l	12/21/10 15:45	JMW	
Silver, Dissolved	<	5 ug/l	12/21/10 15:45	JMW	
Thallium, Dissolved	<	1 ug/l	12/21/10 15:45	JMW	
Zinc, Dissolved		6.4 ug/l	12/29/10 09:40	JMW	

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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

Sample No: **10122781-8** Collect Date **12/15/10 15:45**
Client ID : **POWERTON** Site : **MW-8** Locator : **GRAB**

Parameter	Qualifier	Result	Analysis Date	Analyst	Lab
EPA 300.0 R2.1					PIA
Chloride, Dissolved		180 mg/l	12/16/10 22:06	lgjfa	
Fluoride, Dissolved		0.77 mg/l	12/16/10 22:06	lgjfa	
Nitrate as N, Diss.	<	0.02 mg/l	12/16/10 22:06	lgjfa	
Sulfate, Dissolved		160 mg/l	12/16/10 22:41	lgjfa	
SM (18) 2540C					PIA
Solids, Total Dissolved, Filtered		890 mg/l	12/16/10 08:39	GDM	
SM 4500 CN C/SW9012A					PIA
Cyanide, Dissolved	P<	0.005 mg/l	12/20/10 16:09	lgtth	
SW-846 6010B R2.0					PIA
Iron, Dissolved		560 ug/l	01/03/11 12:31	BAB	
SW-846 6020					PIA
Antimony, Dissolved	<	3 ug/l	12/21/10 15:51	JMW	
Arsenic, Dissolved		5.2 ug/l	12/21/10 15:51	JMW	
Barium, Dissolved		110 ug/l	12/21/10 15:51	JMW	
Beryllium, Dissolved	<	1 ug/l	12/21/10 15:51	JMW	
Boron, Dissolved		930 ug/l	12/21/10 15:51	JMW	
Cadmium, Dissolved	<	1 ug/l	12/21/10 15:51	JMW	
Chromium, Dissolved		5.9 ug/l	12/21/10 15:51	JMW	
Cobalt, Dissolved	<	2 ug/l	12/21/10 15:51	JMW	
Copper, Dissolved	<	3 ug/l	12/21/10 15:51	JMW	
Lead, Dissolved	<	1 ug/l	12/21/10 15:51	JMW	
Manganese, Dissolved		150 ug/l	12/21/10 15:51	JMW	
Mercury, Dissolved	<	0.2 ug/l	12/21/10 15:51	JMW	
Nickel, Dissolved		11 ug/l	12/21/10 15:51	JMW	
Selenium, Dissolved		3.6 ug/l	12/21/10 15:51	JMW	
Silver, Dissolved	<	5 ug/l	12/21/10 15:51	JMW	
Thallium, Dissolved	<	1 ug/l	12/21/10 15:51	JMW	
Zinc, Dissolved	<	6 ug/l	12/29/10 09:43	JMW	

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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

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	NELAC Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230
	State of Illinois Bacteriological Analysis in Drinking Water Certified Lab Registry No. 17553
	Drinking Water Certifications: Indiana (C-IL-040); Kansas (E-10338); Missouri (00870); Wisconsin (998294430)
	Wastewater Certifications: Arkansas; Iowa (240); Kansas (E-10338); Wisconsin (998294430)
	Hazardous/Solid Waste Certifications: Arkansas; Kansas (E-10338); Wisconsin(998294430)
	UST Certification: Iowa (240)
SPMO	PDC Laboratories - Springfield, MO
	EPA DMR-QA Program
STL	PDC Laboratories - St. Louis, MO
	NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100253.

Certified by : Elaine Kaufmann
Elaine Kaufman, Project Manager

PDC Laboratories

DATA QUALIFIERS APPLICABLE TO THE "STANDARD QC" PROGRAM

A The presence of this analyte was confirmed using a second column but there was a disparity (> 40% RPD) between the two sets of results with no apparent chromatographic anomalies. The lower of the two results was reported.

B _____ present in the method blank at _____.

C The batch control sample failed to meet the required acceptance criteria.

D Result obtained through analysis of a sample dilution.

E Concentration exceeds the instrument calibration range.

F Internal standard area failed to meet the required acceptance criteria in repeat instrumental analyses. Results should be interpreted as estimated concentrations.

G The Method of Standard Additions (MSA) was used to quantify the concentration.

H Test performed after the expiration of the appropriate regulatory/advisory maximum allowable hold time.

J Estimated value; value between the MDL and the RDL.

M Analyte failed to meet the required acceptance criteria for duplicate analysis.

P Chemical preservation discrepancy noted at the time of analysis.

Q Analyte failed to meet the required acceptance criteria for spike recovery in the Matrix Spike (MS) and Matrix Spike Duplicate (MSD) due to apparent matrix effects.

R Analyte failed to meet the required acceptance criteria for relative percent difference (RPD) between the Matrix Spike and Matrix Spike Duplicate (MS/MSD).

S Surrogate compound diluted below a reliable quantitation level.

T Surrogate recovery failed to meet the required acceptance criteria in initial analysis. Sample was re-extracted (if applicable) and re-analyzed, and the surrogate recovery was outside of the required acceptance criteria on the second analysis, also. Results should be interpreted as estimated concentrations.

U Parameter was analyzed for, but not detected above the reporting limit.

V Verification standard recovery failed to meet the required acceptance criteria on repeat instrumental analyses.

W Surrogate recovery failed to meet the required acceptance criteria in initial analysis. Sample was re-extracted (if applicable) beyond the maximum allowable hold time, and re-analyzed. The surrogate recovery was within the required acceptance criteria on this second analysis.

NA Not analyzed.

NR Not requested.

X Miscellaneous; see comments.

PDC Laboratories, Inc.
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Laboratory Results

Midwest Generation - Powerton Facility
Powerton Station
13082 E Manito Rd
Pekin, IL 61554-8587
Attn : Mark Kelly

Date Received : 12/06/10 08:41
Report Date 12/20/10
Customer # : 233203
P.O. Number : 4500050814
Facility :

Sample No: **10121488-1** Collect Date : **12/06/10 07:49**
Client ID : **GROUND WATER** Site : **WELL #7** Locator : **GRAB**

Parameter	Qualifier	Result	Analysis Date	Analyst	Lab
EPA 200.7 R4.4					PIA
Iron, Dissolved		8 mg/l	12/17/10 14:00	JMW	
EPA 300.0 R2.1					PIA
Chloride, Dissolved		170 mg/l	12/06/10 15:21	lgjfa	
Fluoride, Dissolved		0.47 mg/l	12/06/10 15:21	lgjfa	
Nitrate as N, Diss.		0.043 mg/l	12/06/10 15:21	lgjfa	
Sulfate, Dissolved		120 mg/l	12/06/10 16:32	lgjfa	
SM (18) 2540C					PIA
Solids, Total Dissolved, Filtered		860 mg/l	12/07/10 09:10	GDM	
SM 4500 CN C/SW9012A					PIA
Cyanide, Dissolved	P <	0.005 mg/l	12/09/10 16:54	lgtth	
SW-846 6020					PIA
Antimony, Dissolved	<	3 ug/l	12/16/10 17:48	JMW	
Arsenic, Dissolved		26 ug/l	12/15/10 17:34	JMW	
Barium, Dissolved		550 ug/l	12/15/10 17:34	JMW	
Beryllium, Dissolved	<	1 ug/l	12/16/10 17:48	JMW	
Boron, Dissolved		610 ug/l	12/16/10 17:48	JMW	
Cadmium, Dissolved		2.6 ug/l	12/15/10 17:34	JMW	
Chromium, Dissolved		8.8 ug/l	12/15/10 17:34	JMW	
Cobalt, Dissolved		17 ug/l	12/17/10 08:55	JMW	
Copper, Dissolved		140 ug/l	12/16/10 17:48	JMW	
Lead, Dissolved		39 ug/l	12/15/10 17:34	JMW	
Manganese, Dissolved		3500 ug/l	12/15/10 17:34	JMW	
Mercury, Dissolved	<	0.2 ug/l	12/15/10 17:34	JMW	
Nickel, Dissolved		45 ug/l	12/15/10 17:34	JMW	
Selenium, Dissolved		4.3 ug/l	12/16/10 17:48	JMW	
Silver, Dissolved	<	5 ug/l	12/16/10 17:48	JMW	
Thallium, Dissolved	<	1 ug/l	12/16/10 17:48	JMW	
Zinc, Dissolved		76 ug/l	12/15/10 17:34	JMW	

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Laboratory Results

Midwest Generation - Powerton Facility
Powerton Station
13082 E Manito Rd
Pekin, IL 61554-8587
Attn : Mark Kelly

Date Received : 12/06/10 08:41
Report Date 12/20/10
Customer # : 233203
P.O. Number : 4500050814
Facility :

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SPMO	PDC Laboratories - Springfield, MO EPA DMR-QA Program
STL	PDC Laboratories - St. Louis, MO NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100253.

Certified by : Elaine Kaufmann
Elaine Kaufman, Project Manager

PDC Laboratories

DATA QUALIFIERS APPLICABLE TO THE "STANDARD QC" PROGRAM

A The presence of this analyte was confirmed using a second column but there was a disparity (> 40% RPD) between the two sets of results with no apparent chromatographic anomalies. The lower of the two results was reported.

B _____ present in the method blank at _____.

C The batch control sample failed to meet the required acceptance criteria.

D Result obtained through analysis of a sample dilution.

E Concentration exceeds the instrument calibration range.

F Internal standard area failed to meet the required acceptance criteria in repeat instrumental analyses. Results should be interpreted as estimated concentrations.

G The Method of Standard Additions (MSA) was used to quantify the concentration.

H Test performed after the expiration of the appropriate regulatory/advisory maximum allowable hold time.

J Estimated value; value between the MDL and the RDL.

M Analyte failed to meet the required acceptance criteria for duplicate analysis.

P Chemical preservation discrepancy noted at the time of analysis.

Q Analyte failed to meet the required acceptance criteria for spike recovery in the Matrix Spike (MS) and Matrix Spike Duplicate (MSD) due to apparent matrix effects.

R Analyte failed to meet the required acceptance criteria for relative percent difference (RPD) between the Matrix Spike and Matrix Spike Duplicate (MS/MSD).

S Surrogate compound diluted below a reliable quantitation level.

T Surrogate recovery failed to meet the required acceptance criteria in initial analysis. Sample was re-extracted (if applicable) and re-analyzed, and the surrogate recovery was outside of the required acceptance criteria on the second analysis, also. Results should be interpreted as estimated concentrations.

U Parameter was analyzed for, but not detected above the reporting limit.

V Verification standard recovery failed to meet the required acceptance criteria on repeat instrumental analyses.

W Surrogate recovery failed to meet the required acceptance criteria in initial analysis. Sample was re-extracted (if applicable) beyond the maximum allowable hold time, and re-analyzed. The surrogate recovery was within the required acceptance criteria on this second analysis.

NA Not analyzed.

NR Not requested.

X Miscellaneous; see comments.

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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/16/10 17:10
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

Sample No: **10122963-1** Collect Date **12/16/10 09:05**
Client ID : **POWERTON** Site : **MW-09** Locator : **GRAB**

Parameter	Qualifier	Result	Analysis Date	Analyst	Lab
EPA 300.0 R2.1					PIA
Chloride, Dissolved		25 mg/l	12/17/10 19:42	lgjfa	
Fluoride, Dissolved	<	0.25 mg/l	12/17/10 19:24	lgjfa	
Nitrate as N, Diss.		2.9 mg/l	12/17/10 19:42	lgjfa	
Nitrite as N, Diss.	<	0.15 mg/l	12/17/10 19:24	lgjfa	
Sulfate, Dissolved		110 mg/l	12/17/10 20:00	lgjfa	
SM (18) 2540C					PIA
Solids, Total Dissolved, Filtered		500 mg/l	12/17/10 14:34	GDM	
SM 4500 CN C/SW9012A					PIA
Cyanide, Dissolved	P<	0.005 mg/l	12/22/10 12:16	lgtth	
SW-846 6010B R2.0					PIA
Iron, Dissolved	<	10 ug/l	01/03/11 12:33	BAB	
SW-846 6020					PIA
Antimony, Dissolved	<	3 ug/l	12/21/10 16:33	JMW	
Arsenic, Dissolved	<	1 ug/l	12/21/10 16:33	JMW	
Barium, Dissolved		38 ug/l	12/21/10 16:33	JMW	
Beryllium, Dissolved	<	1 ug/l	12/21/10 16:33	JMW	
Boron, Dissolved		2100 ug/l	12/21/10 16:33	JMW	
Cadmium, Dissolved	<	1 ug/l	12/21/10 16:33	JMW	
Chromium, Dissolved	<	4 ug/l	12/21/10 16:33	JMW	
Cobalt, Dissolved	<	2 ug/l	12/21/10 16:33	JMW	
Copper, Dissolved	<	3 ug/l	12/21/10 16:33	JMW	
Lead, Dissolved	<	1 ug/l	12/21/10 16:33	JMW	
Manganese, Dissolved		230 ug/l	12/21/10 16:33	JMW	
Nickel, Dissolved		10 ug/l	12/21/10 16:33	JMW	
Selenium, Dissolved		2.4 ug/l	12/21/10 16:33	JMW	
Silver, Dissolved	<	5 ug/l	12/21/10 16:33	JMW	
Thallium, Dissolved	<	1 ug/l	12/21/10 16:33	JMW	
Zinc, Dissolved	<	6 ug/l	12/29/10 09:56	JMW	

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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/16/10 17:10
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

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	Drinking Water Certifications: Indiana (C-IL-040); Kansas (E-10338); Missouri (00870); Wisconsin (998294430)
	Wastewater Certifications: Arkansas; Iowa (240); Kansas (E-10338); Wisconsin (998294430)
	Hazardous/Solid Waste Certifications: Arkansas; Kansas (E-10338); Wisconsin(998294430)
	UST Certification: Iowa (240)
SPMO	PDC Laboratories - Springfield, MO
	EPA DMR-QA Program
STL	PDC Laboratories - St. Louis, MO
	NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100253.

Certified by : Elaine Kaufmann
Elaine Kaufman, Project Manager

10122963

MWG13-15_7139

PDC Laboratories

DATA QUALIFIERS APPLICABLE TO THE "STANDARD QC" PROGRAM

A The presence of this analyte was confirmed using a second column but there was a disparity (> 40% RPD) between the two sets of results with no apparent chromatographic anomalies. The lower of the two results was reported.

B _____ present in the method blank at _____.

C The batch control sample failed to meet the required acceptance criteria.

D Result obtained through analysis of a sample dilution.

E Concentration exceeds the instrument calibration range.

F Internal standard area failed to meet the required acceptance criteria in repeat instrumental analyses. Results should be interpreted as estimated concentrations.

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J Estimated value; value between the MDL and the RDL.

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R Analyte failed to meet the required acceptance criteria for relative percent difference (RPD) between the Matrix Spike and Matrix Spike Duplicate (MS/MSD).

S Surrogate compound diluted below a reliable quantitation level.

T Surrogate recovery failed to meet the required acceptance criteria in initial analysis. Sample was re-extracted (if applicable) and re-analyzed, and the surrogate recovery was outside of the required acceptance criteria on the second analysis, also. Results should be interpreted as estimated concentrations.

U Parameter was analyzed for, but not detected above the reporting limit.

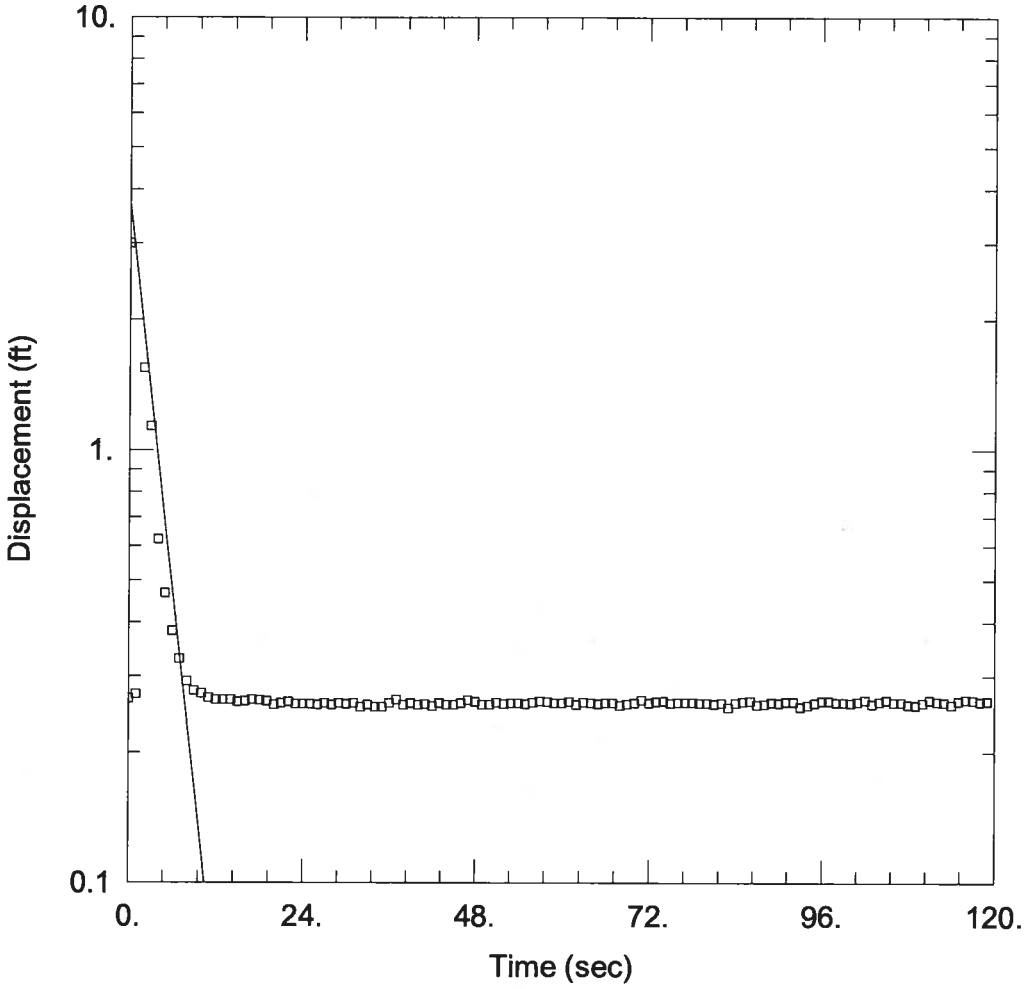
V Verification standard recovery failed to meet the required acceptance criteria on repeat instrumental analyses.

W Surrogate recovery failed to meet the required acceptance criteria in initial analysis. Sample was re-extracted (if applicable) beyond the maximum allowable hold time, and re-analyzed. The surrogate recovery was within the required acceptance criteria on this second analysis.

NA Not analyzed.

NR Not requested.

X Miscellaneous; see comments.



WELL TEST ANALYSIS

Data Set: P:\...\Powerton mw-10 u2.aqt
Date: 02/18/11 Time: 09:11:28

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Powerton
Test Well: MW-10 (u2)
Test Date: 12/22/10

AQUIFER DATA

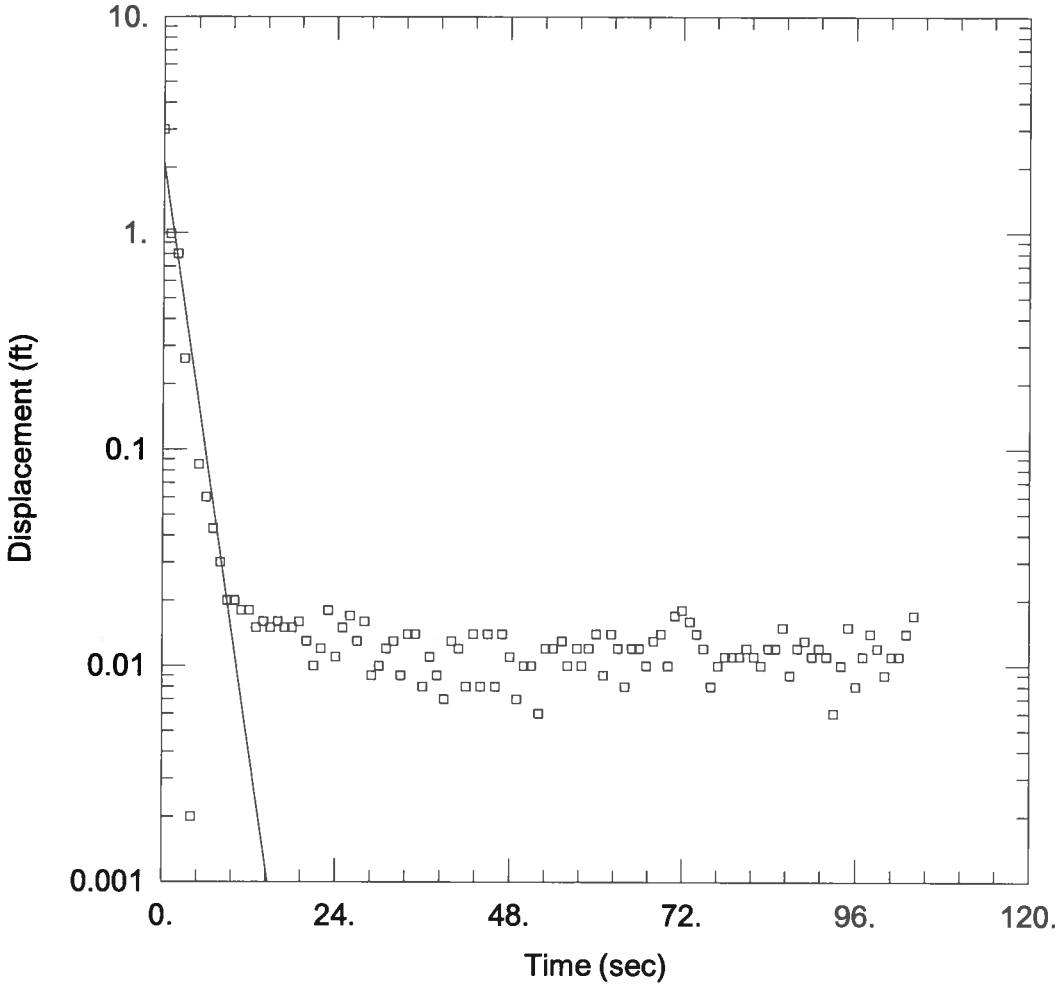
Saturated Thickness: 15.21 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-10 (u2))

Initial Displacement: 3. ft
Total Well Penetration Depth: 32.5 ft
Casing Radius: 0.2 ft
Static Water Column Height: 15.21 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.002264 ft/sec
y0 = 3.707 ft



WELL TEST ANALYSIS

Data Set: P:\...\Powerton mw-10 d1.aqt
Date: 02/18/11 Time: 09:11:49

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Powerton
Test Well: MW-10 (d1)
Test Date: 12/22/10

AQUIFER DATA

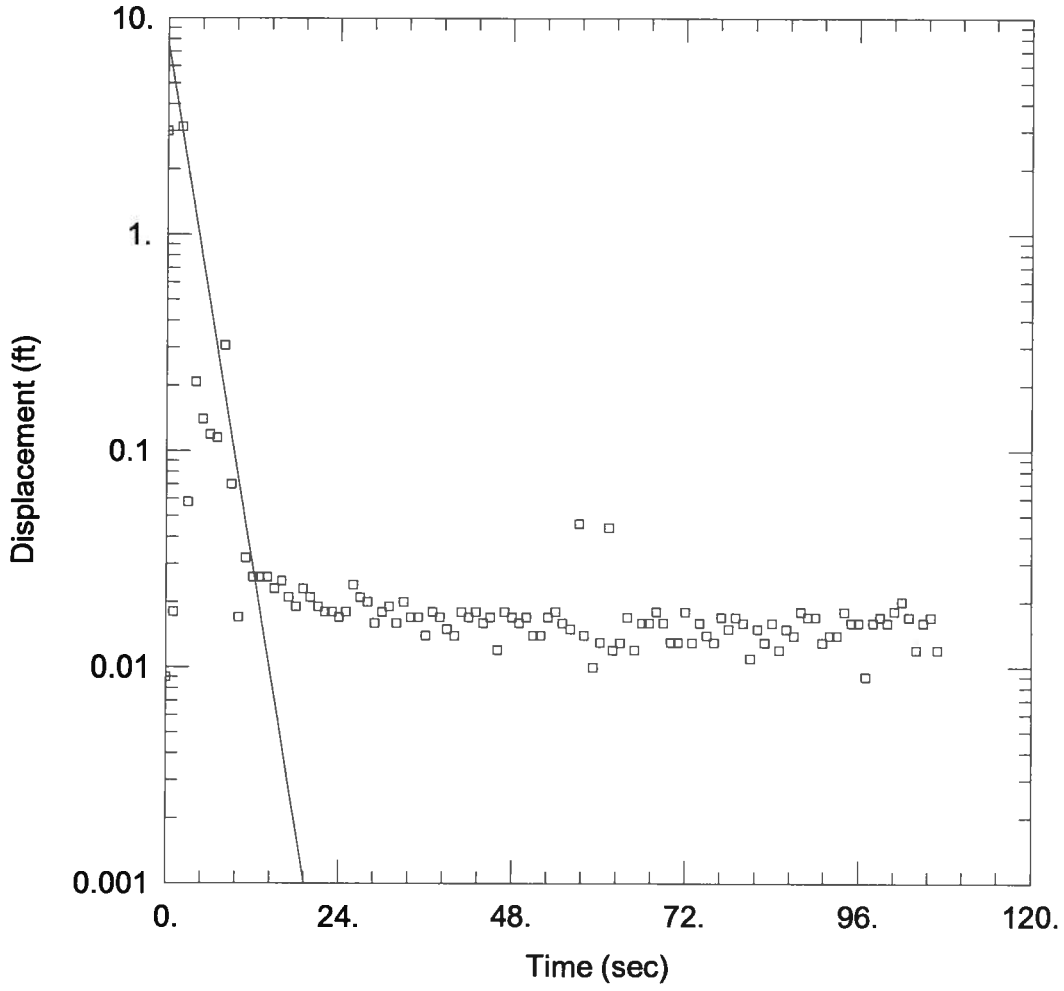
Saturated Thickness: 15.21 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-10 (d1))

Initial Displacement: 3. ft
Total Well Penetration Depth: 32.5 ft
Casing Radius: 0.2 ft
Static Water Column Height: 15.21 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.003455 ft/sec
y0 = 2.113 ft



WELL TEST ANALYSIS

Data Set: P:\...\Powerton mw-9 d2.aqt
Date: 02/18/11 Time: 09:12:26

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Powerton
Test Well: MW-9 (d2)
Test Date: 12/22/10

AQUIFER DATA

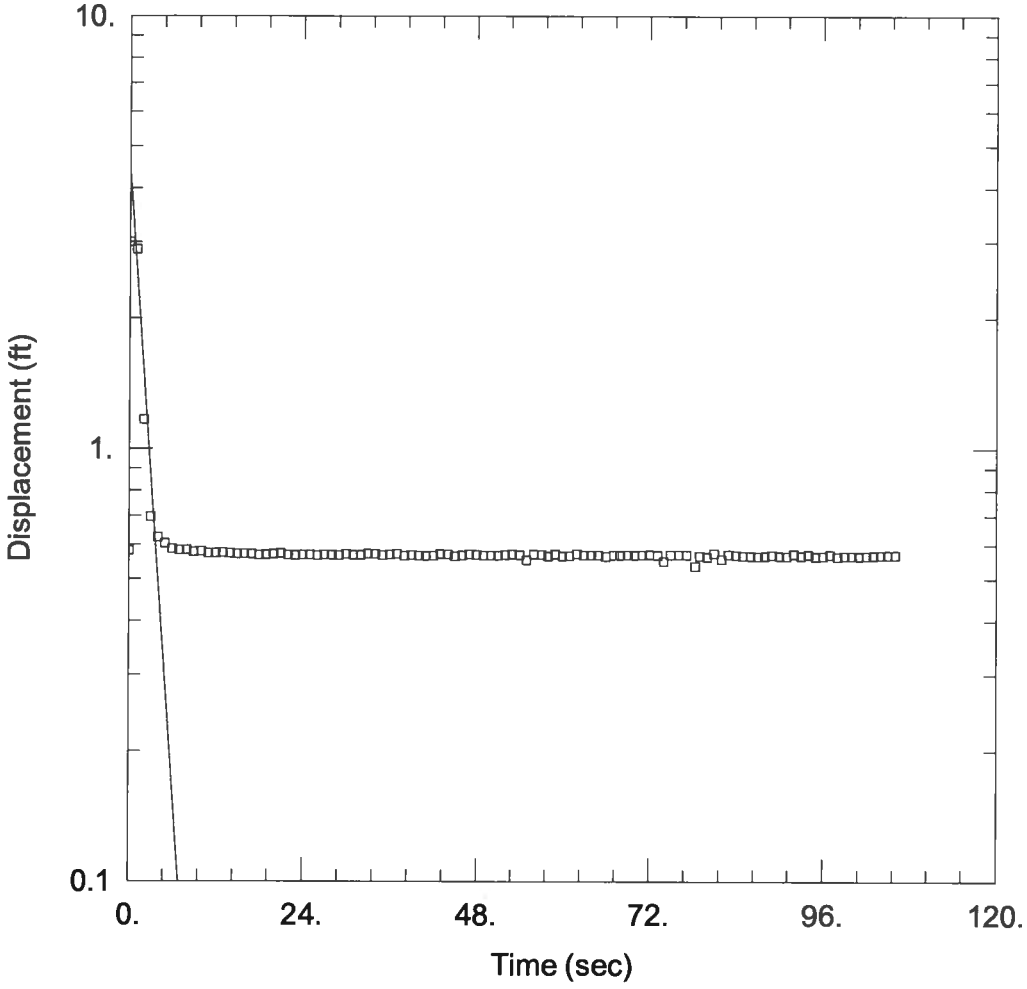
Saturated Thickness: 9.24 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-9 (d2))

Initial Displacement: 3. ft
Total Well Penetration Depth: 35.13 ft
Casing Radius: 0.2 ft
Static Water Column Height: 9.24 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.003352 ft/sec
y0 = 7.662 ft



WELL TEST ANALYSIS

Data Set: P:\...\Powerton mw-8 u1.aqt
Date: 02/18/11 Time: 09:12:44

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Powerton
Test Well: MW-8 (u1)
Test Date: 12/22/10

AQUIFER DATA

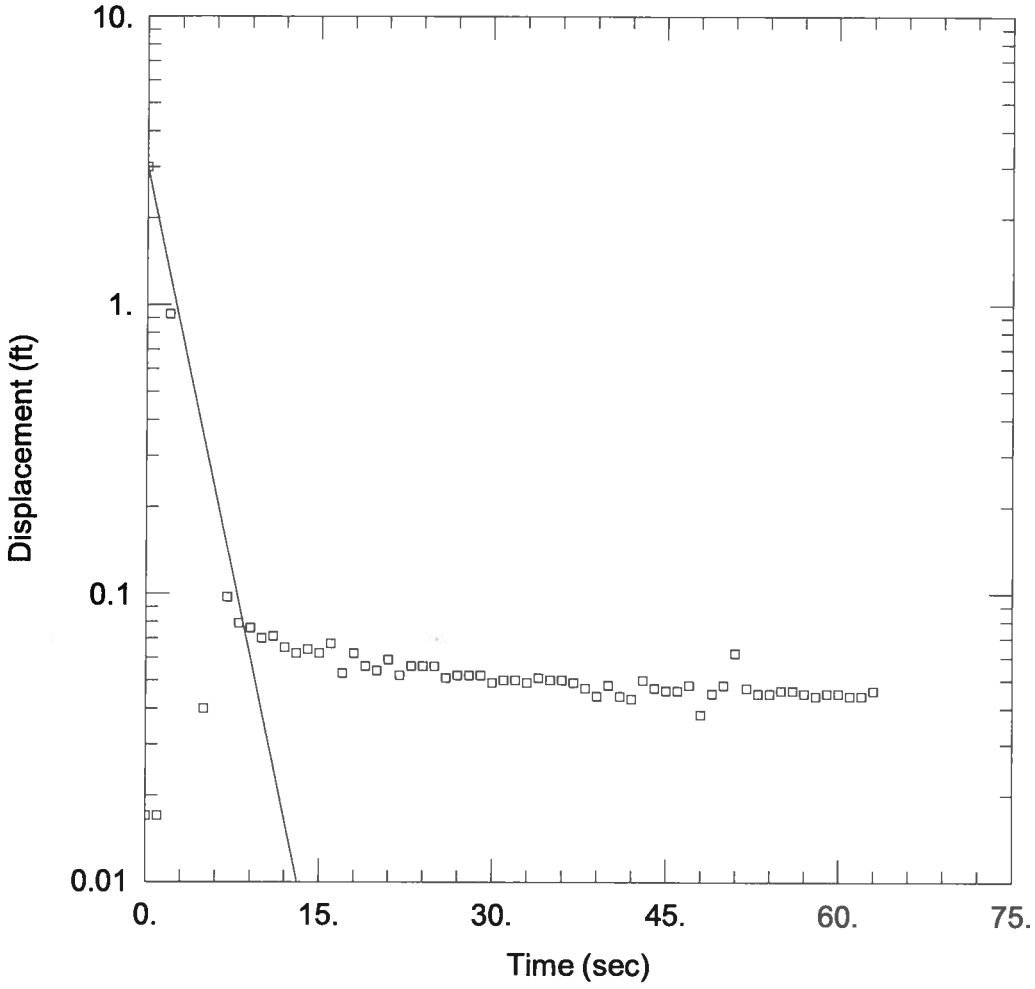
Saturated Thickness: 8.96 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-8 (U1))

Initial Displacement: 3. ft
Total Well Penetration Depth: 33.55 ft
Casing Radius: 0.2 ft
Static Water Column Height: 8.96 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.004003 ft/sec
y0 = 4.457 ft



WELL TEST ANALYSIS

Data Set: P:\...\Powerton mw-8 d1.aqt
Date: 02/18/11 Time: 09:13:04

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Powerton
Test Well: MW-8 (d1)
Test Date: 12/22/10

AQUIFER DATA

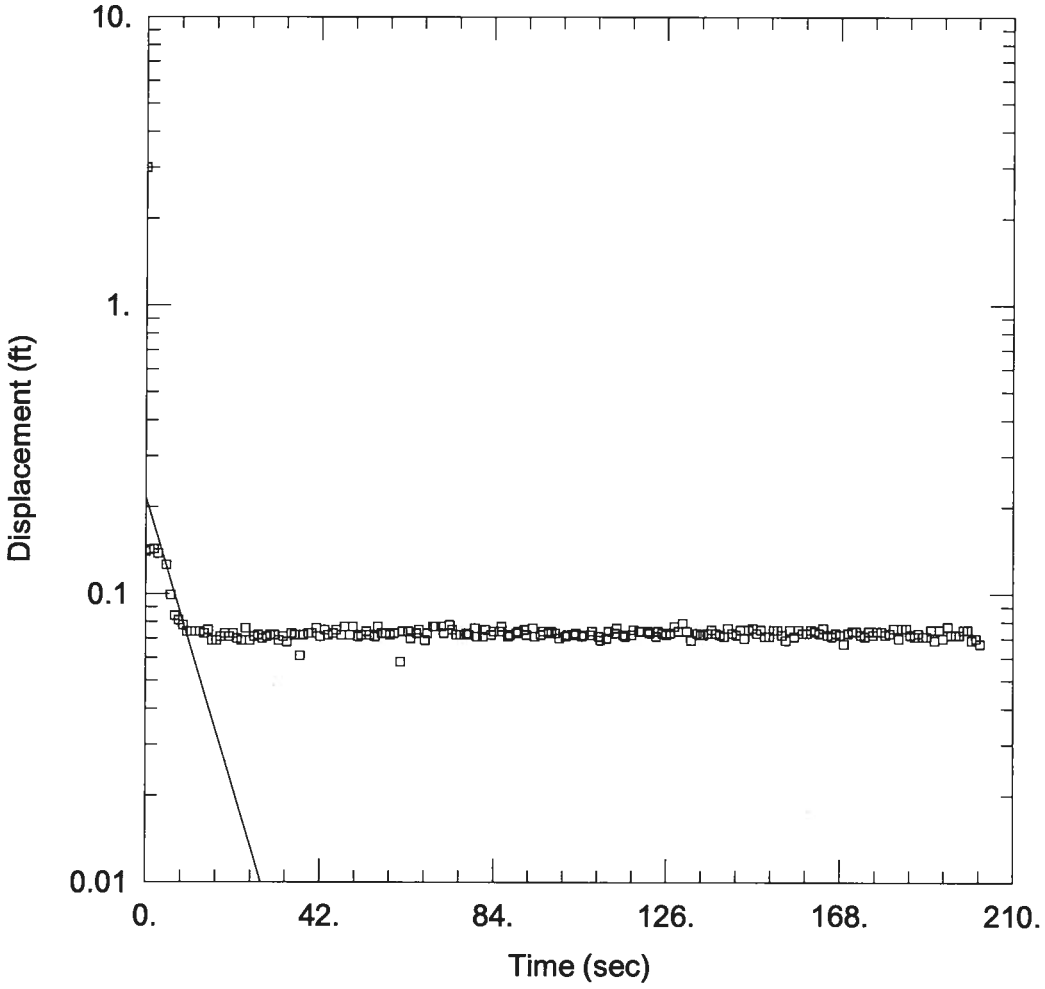
Saturated Thickness: 8.96 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-8 (d1))

Initial Displacement: 3. ft
Total Well Penetration Depth: 33.55 ft
Casing Radius: 0.2 ft
Static Water Column Height: 8.96 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.003207 ft/sec
y0 = 3.005 ft



WELL TEST ANALYSIS

Data Set: P:\...\Powerton mw-5 d1.aqt
Date: 02/18/11 Time: 09:13:29

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Powerton
Test Well: MW-5 (d1)
Test Date: 12/22/10

AQUIFER DATA

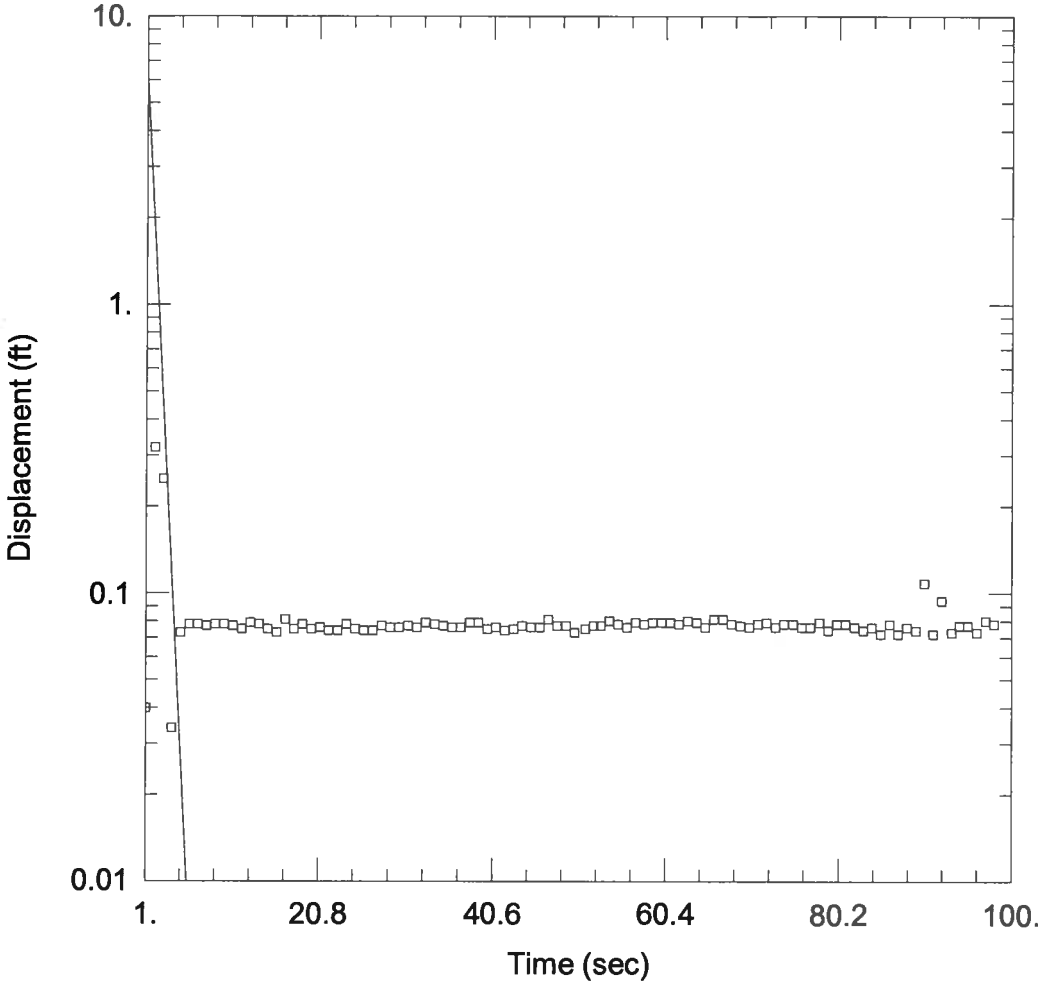
Saturated Thickness: 10.41 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-5 (d1))

Initial Displacement: 3. ft
Total Well Penetration Depth: 34.79 ft
Casing Radius: 0.2 ft
Static Water Column Height: 10.41 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.0007405 ft/sec
y0 = 0.2171 ft



WELL TEST ANALYSIS

Data Set: P:\...\Powerton mw-2 d3.aqt
Date: 02/18/11 Time: 09:13:59

PROJECT INFORMATION

Company: Patrick Engineering
Client: Midwest Generation
Project: 21053.070
Location: Powerton
Test Well: MW-2 (d3)
Test Date: 12/22/10

AQUIFER DATA

Saturated Thickness: 9.86 ft
Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-2 (d3))

Initial Displacement: 3. ft
Total Well Penetration Depth: 37.11 ft
Casing Radius: 0.2 ft
Static Water Column Height: 9.86 ft
Screen Length: 10. ft
Well Radius: 0.085 ft
Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.009237 ft/sec
y0 = 24.25 ft

Exhibit D5

PATRICK
ENGINEERING

October 21, 2011

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Subject: Quarterly Groundwater Monitoring Results – Third Quarter 2011
Powerton Generating Station – Bypass Cleaning Basin
Water Pollution Control Permit No. 2010-EB-0664

Reference: Patrick Project No. 21153.018

To Whom It May Concern:

Patrick Engineering Inc. (Patrick) has prepared this letter report, on behalf of Midwest Generation, LLC, to provide groundwater monitoring results associated with the Powerton Generating Facility located at 13082 East Manito Road in Pekin, Illinois. Groundwater is monitored quarterly in the vicinity of the bypass cleaning basin at this facility in three monitoring wells in accordance with requirements of Illinois Environmental Protection Agency (Illinois EPA) Water Pollution Control Permit No. 2010-EB-0664.

MONITORING WELL INSTALLATION

In accordance with the permit referenced above, three monitoring wells (MW-9, MW-11, and MW-12) have been installed in the vicinity of the bypass cleaning basin. The locations of these wells were selected so that at least one of the monitoring wells (MW-09) was installed downgradient of the basin, based upon available data regarding the expected groundwater flow direction. Figure 1 shows the location of the three monitoring wells. Drilling logs and well completion reports have been included as Attachment A.

GROUNDWATER SAMPLING

Prior to collecting groundwater samples from the three wells noted above, a number of field measurements were collected from each well location, including groundwater elevation, temperature, conductivity, and pH. Groundwater elevation data is summarized in Table 1. Other field parameter data is provided in Table 2.

On September 19, 2011, groundwater samples were collected from each of the three on-site monitoring wells, either using disposable polyethylene bailers (MW-11), or by the direct use of a peristaltic pump (for MW-9 and MW-12). Each well was purged until at least three well volumes had been extracted, or until the groundwater was observed to be clear. Groundwater was pumped or bailed into a decontaminated, stainless steel container and thereafter transferred to sample containers via peristaltic pump. All groundwater samples were filtered in the field using

a disposable, 0.45µm, in-line filter to allow for the analytical testing of dissolved compounds. The samples were immediately placed on ice in a cooler and kept at a temperature no higher than 4° F. The samples were transported to PDC Laboratories, an Illinois-EPA accredited analytical laboratory, in accordance with chain-of-custody procedures to maintain sample integrity.

ANALYTICAL RESULTS

The groundwater samples were analyzed for all of the inorganic compounds listed in 35 Illinois Administrative Code (IAC) 620.410(a) and 620.410(d), including radium 226/228. Analytical results (both current and historical) are summarized in Table 3. Laboratory analytical reports provided by PDC Laboratories are provided as Attachment B.

In accordance with Water Pollution Control Permit No. 2010-EB-0664, these three wells will continue to be sampled and reported on a quarterly basis for at least one year to establish a statistically valid representation of existing background conditions.

If you have any questions, please contact me at 630-795-7464.

Sincerely,

PATRICK ENGINEERING INC.

Richard M. Frendt, P.E
Senior Project Manager

RMF/DCM
Enclosures: Figure 1: Monitoring Well Location Map
Table 1: Groundwater Elevation Data
Table 2: Field Parameter Data
Table 3: Groundwater Analytical Results
Attachment A: Boring Logs/Well Completion Reports
Attachment B: Laboratory Analytical Results

FIGURE 1

MONITORING WELL LOCATION MAP

MWG13-15_40007



LEGEND

MW-01 Existing Monitoring Well Location

N

1" = 600'

AERIAL IMAGE SOURCE:
2005 ORTHOPHOTO TAKEN FROM THE ILLINOIS NATURAL RESOURCES CLEARINGHOUSE

Date: SEPT. 2011	EXISTING MONITORING WELL LOCATION MAP Bypass Basin Map	PATRICK ENGINEERING INC.
Proj No.: 21153.018	POWERTON STATION PEKIN, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_40008

TABLE 1

GROUNDWATER ELEVATION DATA

Table 1
BYPASS BASIN
GROUNDWATER ELEVATION DATA
Powerton Station, Pekin, Illinois
Midwest Generation
21153.018

PATRICK ENGINEERING	Groundwater Elevation Data							
Monitoring Well	**Date**	**Water Elevation (Feet)**	**Depth to Water Pre-Sampling (Feet bmp)**	**Depth to Water Post Sampling (Feet bmp)**	**Water Elevation Post Sampling (bmp)**	**Depth to Bottom of Well (Feet)**	**Ground Elevation (Feet)**	**Top of Riser Elevation (Feet)**
MW-09	2/15/2011	443.416	25.77	25.80	443.386	35.13	466.214	469.186
	6/16/2011	449.306	19.88	19.89	449.296	35.13	466.214	469.186
	9/19/2011	443.636	25.55	25.55	443.636	35.13	466.214	469.186
MW-11	2/15/2011	440.779	30.81	30.82	440.769	43.65	468.074	471.589
	6/16/2011	448.199	23.39	23.40	448.189	43.65	468.074	471.589
	9/19/2011	440.489	31.10	31.10	440.489	43.65	468.074	471.589
MW-12	2/15/2011	450.390	22.99	23.01	450.370	32.57	469.999	473.380
	6/16/2011	451.180	22.20	22.20	451.180	32.57	469.999	473.380
	9/19/2011	449.880	23.50	23.50	449.880	32.57	469.999	473.380

Notes:
- Elevations are leveled from site control points per Drawing "Control Network, IL State Plane (West Zone) Powerton Station" revised 10/22/2010

-Elevations are shown in feet

bmp -below monitoring point

TABLE 2

FIELD PARAMETER DATA

Table 2
BYPASS BASIN
FIELD PARAMETER DATA
Powerton Station, Pekin, Illinois
Midwest Generation
21153.018

Groundwater Field Paramter Data - Powerton Station					
Monitoring Well	**Date**	**Time**	**Conductance (S/cm)***	**Temperature °C**	**pH**
MW-09	2/15/2011	11:20	0.782	12.71	7.62
	2/15/2011	11:22	0.777	12.82	7.42
	2/15/2011	11:24	0.774	13.04	7.43
	2/15/2011	11:26	0.771	13.21	7.36
	2/15/2011	11:28	0.774	13.29	7.29
	2/15/2011	11:30	0.776	13.47	7.24
MW-09	6/16/2011	13:30	0.85	16.28	7.63
	6/16/2011	13:32	0.85	14.96	7.34
	6/16/2011	13:34	0.84	14.78	7.24
	6/16/2011	13:36	0.84	14.73	7.16
	6/16/2011	13:38	0.84	14.61	7.11
	6/16/2011	13:40	0.84	14.51	7.10
MW-09	9/19/2011	13:30	0.66	14.46	7.41
	9/19/2011	13:32	0.66	14.38	7.35
	9/19/2011	13:34	0.66	14.23	7.34
	9/19/2011	13:36	0.66	14.12	7.33
	9/19/2011	13:38	0.66	14.11	7.32
	9/19/2011	13:40	0.66	14.08	7.32
MW-11	2/15/2011	9:42	1.14	13.66	7.13
MW-11	6/16/2011	14:32	1.46	17.97	7.32
	6/16/2011	14:34	1.45	17.75	7.14
	6/16/2011	14:36	1.45	17.67	7.08
	6/16/2011	14:38	1.44	17.66	7.04
	6/16/2011	14:40	1.44	17.48	7.03
	6/16/2011	14:42	1.44	17.58	7.02
MW-11	9/19/2011	16:14	0.85	14.67	7.31
MW-12	2/15/2011	10:24	1.66	13.88	7.49
	2/15/2011	10:26	1.66	16.33	7.51
	2/15/2011	10:28	1.66	16.44	7.51
	2/15/2011	10:30	1.67	16.70	7.51
	2/15/2011	10:23	1.66	16.73	7.51
	2/15/2011	10:34	1.66	16.77	7.51
MW-12	6/16/2011	15:14	1.65	19.33	7.41
	6/16/2011	15:16	1.65	18.94	7.28
	6/16/2011	15:18	1.63	18.70	7.04
	6/16/2011	15:20	1.62	18.79	6.94
	6/16/2011	15:22	1.63	18.66	6.95
	6/16/2011	15:24	1.63	18.77	6.98
MW-12	9/19/2011	16:48	1.35	18.02	7.71
	9/19/2011	16:50	1.34	17.87	7.67
	9/19/2011	16:52	1.34	17.71	7.65
	9/19/2011	16:54	1.34	17.73	7.65
	9/19/2011	16:56	1.34	17.75	7.66
	9/19/2011	16:58	1.34	17.75	7.66

Notes:

* (S/cm) - specific conductivity measured in Siemens/Centimeters

°C - degrees Celcius

TABLE 3

GROUNDWATER ANALYTICAL RESULTS

Table 3
BYPASS BASIN
GROUNDWATER ANALYTICAL RESULTS
Powerton Station, Illinois
Midwest Generation
21153.018

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L) Class I*	MW-9 (mg/L) 12/15/10	MW-9 (mg/L) 2/15/11	MW-9 (mg/L) 9/19/11	MW-9 (mg/L) 6/16/11	MW-11 (mg/L) 12/16/10	MW-11 (mg/L) 2/15/11	MW-11 (mg/L) 9/19/11	MW-11 (mg/L) 6/16/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	ND	ND	ND	0.0017	0.0021	0.0025	0.0016	0.0019
Barium	Metals 6020	2.0	0.038	0.042	0.03	0.038	0.17	0.11	0.11	0.18
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	0.0028	0.0041	ND	0.0024
Copper	Metals 6020	0.65	ND	ND	ND	ND	0.0032	0.0032	ND	0.0043
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	0.19	ND	ND	0.44	0.01	0.018	0.029
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**0.19**	**0.43**	**0.14**	**0.48**	**3.2**	**3.6**	**2.2**	**2.9**
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.001	0.011	0.0065	0.0063	0.019	0.016	0.011	0.013
Selenium	Metals 6020	0.05	0.005	ND	0.0043	0.0017	0.0026	0.0015	0.004	0.0018
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	0.0082	ND	ND	ND	0.012	ND	ND	ND
Boron	Metals 6020	2	**2.2**	1.9	**2.5**	1.9	1.6	1.8	1.5	1.6
Sulfate	Dissolved 9038	400	110	99	130	110	170	160	140	210
Chloride	Dissolved 9251	200	25	33	30	28	70	66	53	120
Nitrate as N	Nitrogen By calc	10	2.7	3.7	3.7	5.6	0.41	0.17	0.78	0.04
Total Dissolved Solids	Dissolved 2540C	1,200	510	470	500	540	740	710	620	930
Fluoride	Dissolved 4500 FC	4	ND	0.32	0.25	0.34	0.53	0.56	0.58	0.67
Radium 226 (pCi/L)	EPA 903.1	20	0.673	0.728	0.117	0.955	0.445	0.174	0.332	0.929
Radium 228 (pCi/L)	EPA 904.0	20	0.941	0.983	0.553	0.974	0.915	0.967	0.355	0.914

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
mg/L- milligrams per Liter

Table 3
BYPASS BASIN
GROUNDWATER ANALYTICAL RESULTS
Powerton Station, Illinois
Midwest Generation
21153.018

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L) Class I*	MW-12 (mg/L) 12/15/10	MW-12 (mg/L) 2/15/11	MW-12 (mg/L) 6/16/11	MW-12 (mg/L) 9/19/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.0088	0.013	0.0064	0.0087
Barium	Metals 6020	2.0	0.089	0.11	0.091	0.085
Beryllium	Metals 6020	0.004	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	0.0056	0.0044	0.0071
Cobalt	Metals 6020	1.0	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	0.0032	0.0036
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND
Iron	Metals 6020	5.0	**5.5**	**6.3**	**5.6**	4
Lead	Metals 6020	0.0075	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**0.32**	**0.58**	**0.26**	**0.37**
Mercury	Mercury 7470A	0.002	**0.0096**	ND	ND	ND
Nickel	Metals 6020	0.1	0.0026	0.01	0.0072	0.0075
Selenium	Metals 6020	0.05	ND	0.0027	ND	0.0023
Silver	Metals 6020	0.05	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND
Boron	Metals 6020	2	1.6	1.4	1.3	1.2
Sulfate	Dissolved 9038	400	290	270	350	360
Chloride	Dissolved 9251	200	170	180	180	190
Nitrate as N	Nitrogen By calc	10	ND	ND	0.14	ND
Total Dissolved Solids	Dissolved 2540C	1,200	980	1,000	1,100	970
Fluoride	Dissolved 4500 FC	4	0.71	0.61	0.64	0.74
Radium 226 (pCi/L)	EPA 903.1	20	0.617	0.207	0.893	0.373
Radium 228 (pCi/L)	EPA 904.0	20	0.97	0.973	0.956	0.859

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
mg/L- milligrams per Liter

ATTACHMENT A

BORING LOGS / WELL COMPLETION REPORTS

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-9-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **466.2**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
466.2	0.0		Black cinders, fine gravel, crushed rock, dry FILL	SS-1 1.0-2.5			
				SS-2 3.5-5.0			Bentonite seal 3.0'-20.0'. Stickup protective cover installed.
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
456.2	10.0		Black cinders, coarse to fine sand, brick, fine gravel, dry FILL	SS-5 11.0-12.5 14"R	6 12 15		qu=NT
				SS-6 13.5-15.0 18"R	5 6 7		qu=NT
				SS-7 16.0-17.5 18"R	6 9 10		qu=NT
449.2	17.0		Moist Brown clayey silt, trace fine sand, moist CL				
447.2	19.0		Light brown fine to medium sand, loose, well graded	SS-8 18.5-20.0 18"R	3 6 11		qu=NT

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/28/10** ENDED **9/28/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **23.5**
▼ **21.6**
▼

MWG13-15_40017

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-9-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **466.2**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
446.2	20.0		SW				Sand pack 20.0'-32.0'
444.6	21.6		▼	SS-9 21.0-22.5 18"R	3 3 4		Set screen (slot 0.010") 22.0'-32.0'
442.7	23.5		▽ Saturated	SS-10 23.5-25.0 18"R	1 3 8		
				SS-11 26.0-27.5 18"R	0 2 2		
			Medium dense	SS-12 28.5-30.0 18"R	2 6 13		
			Trace fine gravel	SS-13 31.0-32.5 18"R	2 5 10		
433.7	32.5		End of Boring at 32.5'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/28/10** ENDED **9/28/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **23.5**
▼ **21.6**
▼

MWG13-15_40018

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-11-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **468.1**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
468.1	0.0		Cinders, gravel, sand, silt FILL				
				SS-1 1.0-2.5			
							Bentonite seal 3.0'-28.0'. Stickup protective cover installed.
				SS-2 3.5-5.0			
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
458.1	10.0		Black and brown clay, fine gravel, cinders, bricks, silt, coarse sand, dry FILL				
				SS-5 11.0-12.5 16"R	8 10 10		qu=NT
				SS-6 13.5-15.0 17"R	2 2 3		qu=2.5**tsf
452.1	16.0		Brown and gray silty clay, trace fine gravel, trace fine sand, stiff, dry CL	SS-7 16.0-17.5 18"R	1 3 4		qu=1.5**tsf
449.6	18.5		Gray clayey silt, organics, very soft, moist ML	SS-8 18.5-20.0 18"R	WOH 2 2		qu=0.5**tsf

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/28/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **32.5** while drilling
▼ **26.5** after 12 hours
▼ **26.5** after 48 hours

MWG13-15_40019

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-11-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **468.1**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) * (1 2 3 4 5)	NOTES & TEST RESULTS
448.1	20.0						
				SS-9 21.0-22.5 0"R	1 2 3		qu=NT
				SS-10 23.5-25.0 18"R	WOH WOH 1		qu=0.5**tsf
442.1	26.0						
441.6	26.5		▼ Dark gray silty clay, some organics, medium stiff, dry CL	SS-11 26.0-27.5 18"R	1 3 4		qu=1.5**tsf
				SS-12 28.5-30.0 18"R	3 4 6		Sand pack 28.0'-40.0' qu=2.5**tsf
							Set screen (slot 0.010") 30.0'-40.0'
				SS-13 31.0-32.5 18"R	3 4 6		qu=2.5**tsf
~~435.6~~	~~32.5~~		▽				
			Brown and gray coarse to fine gravel, coarse to fine sand, loose, saturated GP				
				SS-14 33.5-35.0 18"R	1 2 1		qu=NT
431.6	36.5			SS-15 36.0-37.5 18"R	1 0 0		qu=NT
			Light brown fine sand, well graded, very loose, saturated SW				
				SS-16 38.5-40.0 18"R	2 3 4		qu=NT
428.1	40.0		End of Boring at 40.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/28/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **32.5** while drilling
▼ **26.5** after 12 hours
▼ **26.5** after 48 hours

MWG13-15_40020

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-12-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **470.0**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
470.0	0.0		Black cinders, fine gravel, silty clay, dry FILL	SS-1 1.0-2.5			
				SS-2 3.5-5.0			Bentonite seal 3.0'-18.0'. Stickup protective cover installed.
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
460.0	10.0		Black cinders FILL	SS-5 11.0-12.5 18"R	17 18 11		qu=NT
				SS-6 13.5-15.0 18"R	12 20 17		qu=NT
			Seam of l ight brown coarse sand	SS-7 16.0-17.5 18"R	6 7 6		qu=NT
451.5	18.5						Sand pack 18.0'-35.0' qu=NT Set screen (slot 0.010") 19.0'-29.0'
450.5	19.5		▼ Gray silt, little to some coarse to fine sand, trace clay, very soft, saturated	SS-8 18.5-20.0 18"R	1 5 2		

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/29/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **20.5**
▼ **19.5**
▼

MWG13-15_40021

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-12-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **470.0**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL LL / Unconfined Compressive Strength (TSF)	NOTES & TEST RESULTS
450.0 449.5	20.0 20.5		▽ ML				
				SS-9 21.0-22.5 18"R	1 2 1		qu=0.25**tsf
			Trace peat	SS-10 23.5-25.0 18"R	WOH 2 1		qu=0.5**tsf
444.0	26.0		Gray mottled black clayey silt, with some organics, trace peat, very soft, medium stiff, moist OH	SS-11 26.0-27.5 18"R	WOH WOH 2		qu=0.5**tsf
				SS-12 28.5-30.0 18"R	1 3 4		qu=1.75**tsf
				SS-13 31.0-32.5 18"R	2 3 3		qu=2.0**tsf
437.5	32.5		Dark brown and gray silty clay, trace coarse sand, trace organics, stiff to very stiff, dry CL				
				SS-14 33.5-35.0 18"R	4 6 6		qu=2.5**tsf
435.0	35.0		End of Boring at 35.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/29/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **20.5**
▼ **19.5**
▼

MWG13-15_40022

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 32

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 32 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	9		3	20	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	20	32

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 28, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-09

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 28, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NE Quarter of the SE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 32.3 N

Lon: Degrees 89 Minutes 40 Seconds 34.4 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	22

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	22	32

24. Water from sand at a depth of (ft.) 19 To (ft.) 32

a. Static water level (ft.) below top of casing 21.6 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
gravel, crushed rock, cinders	0	10
cinders, sand, brick	10	17
clayey silt	17	19
sand	19	32

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_40023

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well:** Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well:** Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well:** PVC Casing Formation Packer Set at Depth of (ft.) 40

d. **Drilled Well:** Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 40 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	12		3	28	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	28	40

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 28, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____

Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

IL 482-0126
Revised 6/09

13. Property Owner: Midwest Generation LLC Well # PEI-MW-11

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 28, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. SW Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 35.2 N

Lon: Degrees 89 Minutes 40 Seconds 33.2 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	30

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	30	40

24. Water from sand and gravel at a depth of (ft.) 32.5 To (ft.) 40

a. Static water level (ft.) below top of casing 26.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
gravel, sand, cinders	0	10
clay and gravel	10	16
silt and clay	16	20
organic silt	20	26
silty clay	26	32.5
sand and gravel	32.5	40

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____

Licensed Water Well Contractor Signature

MWG13-15_40024

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well:** Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well:** Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well:** PVC Casing Formation Packer Set at Depth of (ft.) 29

d. **Drilled Well:** Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 29 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	6		3	18	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	18	29

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 29, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-12

14. Driller: _____ License # _____

15. Name of Drilling Company: Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 29, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. SE Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 34.2 N

Lon: Degrees 89 Minutes 40 Seconds 35.7 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	19

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	19	29

24. Water from silt and sand at a depth of (ft.) 20 To (ft.) 26

a. Static water level (ft.) below top of casing 19.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
cinders, gravel, clay	0	10
cinders	10	18.5
silt and sand	18.5	26
clayey silt	26	29

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_40025

ATTACHMENT B

LABORATORY ANALYTICAL RESULTS

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 09/20/11 7:00
Report Date: 10/17/11
Customer #: 233203
PO#: 4500073039

Sample No: **1091955-08**
Sample Description: **WELL #8**

Collect Date: **09/19/11 17:55**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Mercury	< 0.20 ug/L		09/20/11 15:19	JMW	SW 6020
Nickel	7.0 ug/L		09/20/11 15:19	JMW	SW 6020
Selenium	3.1 ug/L		09/21/11 08:10	JMW	SW 6020
Silver	< 5.0 ug/L		09/20/11 15:19	JMW	SW 6020
Thallium	< 1.0 ug/L		09/20/11 15:19	JMW	SW 6020
Zinc	< 6.0 ug/L		09/20/11 15:19	JMW	SW 6020

Sample No: **1091955-09**
Sample Description: **WELL #9**

Collect Date: **09/19/11 13:40**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		09/26/11 10:12	lgtth	335.4
Solids - total dissolved solids (TDS)	500 mg/L		09/26/11 10:28	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	30 mg/L		09/21/11 17:33	SJW	EPA 300.0 R2.1
Fluoride	0.25 mg/L		09/21/11 16:44	SJW	EPA 300.0 R2.1
Nitrate-N	3.7 mg/L		09/21/11 17:33	SJW	EPA 300.0 R2.1
Sulfate	130 mg/L		09/21/11 17:49	SJW	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		09/20/11 15:41	JMW	SW 6020
Arsenic	< 1.0 ug/L		09/20/11 15:41	JMW	SW 6020
Barium	30 ug/L		09/20/11 15:41	JMW	SW 6020
Beryllium	< 1.0 ug/L		09/20/11 15:41	JMW	SW 6020
Boron	2500 ug/L		09/20/11 15:41	JMW	SW 6020
Cadmium	< 1.0 ug/L		09/20/11 15:41	JMW	SW 6020
Chromium	< 4.0 ug/L		09/20/11 15:41	JMW	SW 6020
Cobalt	< 2.0 ug/L		09/20/11 15:41	JMW	SW 6020
Copper	< 3.0 ug/L		09/20/11 15:41	JMW	SW 6020
Iron	< 0.010 mg/L		09/20/11 14:52	eck	SW 6010B
Lead	< 1.0 ug/L		09/20/11 15:41	JMW	SW 6020
Manganese	140 ug/L		09/20/11 15:41	JMW	SW 6020
Mercury	< 0.20 ug/L		09/20/11 15:41	JMW	SW 6020
Nickel	6.5 ug/L		09/20/11 15:41	JMW	SW 6020
Selenium	4.3 ug/L		09/21/11 08:32	JMW	SW 6020

1091955

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 09/20/11 7:00
Report Date: 10/17/11
Customer #: 233203
PO#: 4500073039

Sample No: **1091955-09**
Sample Description: **WELL #9**

Collect Date: **09/19/11 13:40**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Silver	< 5.0 ug/L		09/20/11 15:41	JMW	SW 6020
Thallium	< 1.0 ug/L		09/20/11 15:41	JMW	SW 6020
Zinc	< 6.0 ug/L		09/20/11 15:41	JMW	SW 6020

Sample No: **1091955-10**
Sample Description: **WELL #10**

Collect Date: **09/19/11 15:00**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		09/26/11 10:12	lgtth	335.4
Solids - total dissolved solids (TDS)	470 mg/L		09/26/11 10:28	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	49 mg/L		09/21/11 18:21	SJW	EPA 300.0 R2.1
Fluoride	< 0.25 mg/L		09/21/11 18:05	SJW	EPA 300.0 R2.1
Nitrate-N	4.5 mg/L		09/21/11 18:21	SJW	EPA 300.0 R2.1
Sulfate	64 mg/L		09/21/11 18:21	SJW	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		09/20/11 15:46	JMW	SW 6020
Arsenic	< 1.0 ug/L		09/20/11 15:46	JMW	SW 6020
Barium	250 ug/L		09/20/11 15:46	JMW	SW 6020
Beryllium	< 1.0 ug/L		09/20/11 15:46	JMW	SW 6020
Boron	420 ug/L		09/20/11 15:46	JMW	SW 6020
Cadmium	< 1.0 ug/L		09/20/11 15:46	JMW	SW 6020
Chromium	< 4.0 ug/L		09/20/11 15:46	JMW	SW 6020
Cobalt	2.5 ug/L		09/20/11 15:46	JMW	SW 6020
Copper	< 3.0 ug/L		09/20/11 15:46	JMW	SW 6020
Iron	< 0.010 mg/L		09/21/11 09:18	eck	SW 6010B
Lead	< 1.0 ug/L		09/20/11 15:46	JMW	SW 6020
Manganese	2300 ug/L		09/20/11 15:46	JMW	SW 6020
Mercury	< 0.20 ug/L		09/20/11 15:46	JMW	SW 6020
Nickel	10 ug/L		09/20/11 15:46	JMW	SW 6020
Selenium	5.7 ug/L		09/21/11 08:36	JMW	SW 6020
Silver	< 5.0 ug/L		09/20/11 15:46	JMW	SW 6020
Thallium	< 1.0 ug/L		09/20/11 15:46	JMW	SW 6020
Zinc	< 6.0 ug/L		09/20/11 15:46	JMW	SW 6020

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 09/20/11 7:00
Report Date: 10/17/11
Customer #: 233203
PO#: 4500073039

Sample No: **1091955-11**
Sample Description: **MW -11**

Collect Date: **09/19/11 16:15**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		09/26/11 10:13	lgtth	335.4
Solids - total dissolved solids (TDS)	620 mg/L		09/26/11 10:28	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	53 mg/L		09/21/11 19:25	SJW	EPA 300.0 R2.1
Fluoride	0.58 mg/L		09/21/11 18:37	SJW	EPA 300.0 R2.1
Nitrate-N	0.74 mg/L		09/21/11 18:37	SJW	EPA 300.0 R2.1
Sulfate	140 mg/L		09/21/11 19:25	SJW	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		09/20/11 15:52	JMW	SW 6020
Arsenic	1.6 ug/L		09/20/11 15:52	JMW	SW 6020
Barium	110 ug/L		09/20/11 15:52	JMW	SW 6020
Beryllium	< 1.0 ug/L		09/20/11 15:52	JMW	SW 6020
Boron	1500 ug/L		09/20/11 15:52	JMW	SW 6020
Cadmium	< 1.0 ug/L		09/20/11 15:52	JMW	SW 6020
Chromium	< 4.0 ug/L		09/20/11 15:52	JMW	SW 6020
Cobalt	< 2.0 ug/L		09/20/11 15:52	JMW	SW 6020
Copper	< 3.0 ug/L		09/20/11 15:52	JMW	SW 6020
Iron	0.018 mg/L		09/21/11 09:25	eck	SW 6010B
Lead	< 1.0 ug/L		09/20/11 15:52	JMW	SW 6020
Manganese	2200 ug/L		09/20/11 15:52	JMW	SW 6020
Mercury	< 0.20 ug/L		09/20/11 15:52	JMW	SW 6020
Nickel	11 ug/L		09/20/11 15:52	JMW	SW 6020
Selenium	4.0 ug/L		09/21/11 08:40	JMW	SW 6020
Silver	< 5.0 ug/L		09/20/11 15:52	JMW	SW 6020
Thallium	< 1.0 ug/L		09/20/11 15:52	JMW	SW 6020
Zinc	< 6.0 ug/L		09/20/11 15:52	JMW	SW 6020

Sample No: **1091955-12**
Sample Description: **MW -12**

Collect Date: **09/19/11 17:00**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		09/26/11 10:16	lgtth	335.4
Solids - total dissolved solids (TDS)	970 mg/L		09/26/11 10:28	BNS	SM 2540C 18Ed

1091955

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Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 09/20/11 7:00
Report Date: 10/17/11
Customer #: 233203
PO#: 4500073039

Sample No: **1091955-12**
Sample Description: **MW -12**

Collect Date: **09/19/11 17:00**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Anions - PIA					
Chloride	190 mg/L		09/21/11 19:58	SJW	EPA 300.0 R2.1
Fluoride	0.74 mg/L		09/21/11 19:41	SJW	EPA 300.0 R2.1
Nitrate-N	< 0.02 mg/L		09/21/11 19:41	SJW	EPA 300.0 R2.1
Sulfate	360 mg/L		09/21/11 19:58	SJW	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		09/20/11 15:57	JMW	SW 6020
Arsenic	8.7 ug/L		09/20/11 15:57	JMW	SW 6020
Barium	85 ug/L		09/20/11 15:57	JMW	SW 6020
Beryllium	< 1.0 ug/L		09/20/11 15:57	JMW	SW 6020
Boron	1200 ug/L		09/20/11 15:57	JMW	SW 6020
Cadmium	< 1.0 ug/L		09/20/11 15:57	JMW	SW 6020
Chromium	7.1 ug/L		09/20/11 15:57	JMW	SW 6020
Cobalt	< 2.0 ug/L		09/20/11 15:57	JMW	SW 6020
Copper	3.6 ug/L		09/20/11 15:57	JMW	SW 6020
Iron	4.0 mg/L		09/21/11 09:40	eck	SW 6010B
Lead	< 1.0 ug/L		09/20/11 15:57	JMW	SW 6020
Manganese	370 ug/L		09/20/11 15:57	JMW	SW 6020
Mercury	< 0.20 ug/L		09/20/11 15:57	JMW	SW 6020
Nickel	7.5 ug/L		09/20/11 15:57	JMW	SW 6020
Selenium	2.3 ug/L		09/21/11 08:44	JMW	SW 6020
Silver	< 5.0 ug/L		09/20/11 15:57	JMW	SW 6020
Thallium	< 1.0 ug/L		09/20/11 15:57	JMW	SW 6020
Zinc	< 6.0 ug/L		09/20/11 15:57	JMW	SW 6020

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ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 09/20/11 7:00
Report Date: 10/17/11
Customer #: 233203
PO#: 4500073039

Notes

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PDC Laboratories participates in the following accreditation/certification and proficiency programs at the following locations. Endorsement by Federal or State Governments or their agencies is not implied.

PIA PDC Laboratories - Peoria, IL
NELAC Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications: Kansas (E-10338); Missouri (870); Wisconsin (998284430); Indiana (C-IL-040); Iowa (240)
Wastewater Certifications: Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
Hazardous/Solid Waste Certifications; Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
UST Certification; Iowa (240)
SPM PDC Laboratories - Springfield, MO
EPA DMR-QA Program
STL PDC Laboratories - St. Louis, MO
NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS EPA Lab No. E-10389

Subcontract Report attached for Rad 226/228

Janet L. Clutters

Certified by: Janet L. Clutters, Project Manager

PDC LABORATORIES, INC.
2231 WEST ALTORFER DRIVE
PEORIA, IL 61615

PHONE # 800-752-6651
FAX # 309-692-9689

State where samples collected IL

CHAIN OF CUSTODY RECORD

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT) - (SAMPLE ACCEPTANCE POLICY ON REVERSE)

1 CLIENT	PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
Roderick Eng.			
ADDRESS: 4995 Varsity Dr.	PHONE NUMBER	FAX NUMBER	DATE SHIPPED
CITY / STATE / ZIP: Lisle, IL 60532	SAMPLER (PLEASE PRINT): Justin Jessoyne		MATRIX TYPES: WW-WASTEWATER, DW-DRINKING WATER, GW-GROUND WATER, WWSL-SLUDGE, NAS-SOLID, LCHT-LEACHATE, OTHER:
CONTACT PERSON: Doyle McCord	SAMPLER'S SIGNATURE:		

2 SAMPLE DESCRIPTION AS YOU WANT ON REPORT	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE GRAB / COMP	MATRIX TYPE	BOTTLE COUNT	3 ANALYSIS REQUESTED: Dissolved Metals	Cyanide	CE, F, NO3, Sol'd Diss	Total Diss. Solids	Radium 226/228	REMARKS
MW-1	9/19/11	1405		GW	4	X	X	X	X		
MW-2		0930									
MW-3		1010									
MW-4		1050									
MW-5		1130									
MW-6		1320									
MW-7		1230									
MW-8		1755									
MW-9		1340			5					X	
MW-10		1500			4						
MW-11		1615			5					X	
MW-12		1700			5					X	

4 (FOR LAB USE ONLY)
LOGIN # 109155-13
LOGGED BY: LM
LAB PROJ. #
TEMPLATE: Midwest Gen - Pond
PROJ. MGR.:
Oct. 2011

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH — DATE RESULTS NEEDED
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE E-MAIL
FAX # PHONE # EMAIL ADDRESS

8 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.*

7	RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME
		9/19/11 1700		
	RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME
	RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED AT LAB BY: (SIGNATURE) Valerie Bennett	9/20/11 7:00

6 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT 1.1 °C
CHILL PROCESS STARTED PRIOR TO RECEIPT (Y) OR N
SAMPLE(S) RECEIVED ON ICE (Y) OR N
PROPER BOTTLES RECEIVED IN GOOD CONDITION (Y) OR N
BOTTLES FILLED WITH ADEQUATE VOLUME (Y) OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) (Y) OR N
(EXCLUDES TYPICAL FIELD PARAMETERS)
DATE AND TIME TAKEN FROM SAMPLE BOTTLE

Copies: white should accompany samples to PDC Labs. **Yellow copy to be retained by the client.**

PAGE ____ OF ____

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

October 17, 2011

Ms. Janet Clutters
PDC Laboratories
2231 W. Altorfer Drive
Peoria, IL 61615

RE: Project: 1091955
Pace Project No.: 3054614

Dear Ms. Clutters:
Enclosed are the analytical results for sample(s) received by the laboratory on September 28, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Carin A. Ferris

Carin Ferris

carin.ferris@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: 1091955
Pace Project No.: 3054614

Pennsylvania Certification IDs
1638 Roseytown Road Suites 2,3&4, Greensburg, PA 15601
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/NELAC Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH 0694
Delaware Certification
Florida/NELAC Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/NELAC Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/NELAC Certification #: LA080002
Louisiana/NELAC Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/NELAC Certification #: 2976
New Jersey/NELAC Certification #: PA 051
New Mexico Certification
New York/NELAC Certification #: 10888
North Carolina Certification #: 42706
Oregon/NELAC Certification #: PA200002
Pennsylvania/NELAC Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/NELAC Certification #: T104704188-09 TX
Utah/NELAC Certification #: ANTE
Virgin Island/PADEP Certification
Virginia Certification #: 00112
Washington Certification #: C1941
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

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SAMPLE SUMMARY

Project: 1091955
Pace Project No.: 3054614

Lab ID	Sample ID	Matrix	Date Collected	Date Received
3054614001	1091955-09	Water	09/19/11 13:40	09/28/11 09:00
3054614002	1091955-11	Water	09/19/11 16:15	09/28/11 09:00
3054614003	1091955-12	Water	09/19/11 17:00	09/28/11 09:00

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SAMPLE ANALYTE COUNT

Project: 1091955
Pace Project No.: 3054614

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
3054614001	**1091955-09**	EPA 903.1	SLA	1	PASI-PA
		EPA 904.0	AMK	1	PASI-PA
3054614002	**1091955-11**	EPA 903.1	SLA	1	PASI-PA
		EPA 904.0	AMK	1	PASI-PA
3054614003	**1091955-12**	EPA 903.1	SLA	1	PASI-PA
		EPA 904.0	AMK	1	PASI-PA

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PROJECT NARRATIVE

Project: 1091955
Pace Project No.: 3054614

Method: **EPA 903.1**
Description: 903.1 Radium 226
Client: PDC Laboratories, Inc.
Date: October 17, 2011

General Information:
3 samples were analyzed for EPA 903.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1091955
Pace Project No.: 3054614

Method: EPA 904.0
Description: 904.0 Radium 228
Client: PDC Laboratories, Inc.
Date: October 17, 2011

General Information:
3 samples were analyzed for EPA 904.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 1091955
Pace Project No.: 3054614

Sample: 1091955-09 **Lab ID: 3054614001** Collected: 09/19/11 13:40 Received: 09/28/11 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.117 ± 0.230 (0.430)**	pCi/L	10/10/11 13:53	13982-63-3	
Radium-228	EPA 904.0	**0.553 ± 0.478 (0.966)**	pCi/L	10/12/11 12:58	15262-20-1	

Sample: 1091955-11 **Lab ID: 3054614002** Collected: 09/19/11 16:15 Received: 09/28/11 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.332 ± 0.350 (0.489)**	pCi/L	10/10/11 13:53	13982-63-3	
Radium-228	EPA 904.0	**0.355 ± 0.448 (0.949)**	pCi/L	10/12/11 12:52	15262-20-1	

Sample: 1091955-12 **Lab ID: 3054614003** Collected: 09/19/11 17:00 Received: 09/28/11 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.373 ± 0.490 (0.803)**	pCi/L	10/10/11 13:53	13982-63-3	
Radium-228	EPA 904.0	**0.859 ± 0.540 (0.996)**	pCi/L	10/12/11 13:01	15262-20-1	

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QUALITY CONTROL DATA

Project: 1091955
Pace Project No.: 3054614

QC Batch: RADC/9642 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 3054614001, 3054614002, 3054614003

METHOD BLANK: 348705 Matrix: Water
Associated Lab Samples: 3054614001, 3054614002, 3054614003

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-228	-0.0213 ± 0.410 (0.951)	pCi/L	10/12/11 12:55	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1091955
Pace Project No.: 3054614

QC Batch: RADC/9660 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 3054614001, 3054614002, 3054614003

METHOD BLANK: 349943 Matrix: Water
Associated Lab Samples: 3054614001, 3054614002, 3054614003

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.297 (0.667)	pCi/L	10/10/11 13:42	

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QUALIFIERS

Project: 1091955
Pace Project No.: 3054614

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

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SUBCONTRACT ORDER

PDC Laboratories, Inc.

1091955

9/26/2011

3054614

PDC Laboratories, Inc.
2231 W. Altorfer Drive
Peoria, IL 61615
Project Manager: Janet L. Clutters
jclutters@pdclab.com Phone: 309-683-1743

PACE Analytical - Greensburg
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
Phone :(724) 850-5600

Sample Origin (State) IL

PO# L38872

Analysis	Due	Expires	Comments
Sample ID: 1091955-09	**Ground Water**		**Sampled: 09/19/11 13:40**
Rad 226 228	09/30/11 16:00	03/17/12 13:40	001
Sample ID: 1091955-11	**Ground Water**		**Sampled: 09/19/11 16:15**
Rad 226 228	09/30/11 16:00	03/17/12 16:15	002
Sample ID: 1091955-12	**Ground Water**		**Sampled: 09/19/11 17:00**
Rad 226 228	09/30/11 16:00	03/17/12 17:00	003

Relinquished By	Date/Time	Received By	Date/Time
[signature]	9-26-11 11:30	[signature]	9/28/11 0900

Sample Temperature Upon Receipt	____ C
Sample(s) Received on Ice	Y or N
Proper Bottles Received in Good Condition	Y or N
Bottles Filled with Adequate Volume	Y or N
Samples Received Within Hold Time	Y or N
Date/Time Taken From Sample Bottle	Y or N

Sample Condition Upon Receipt

Pace Analytical

Client Name: PDC Project # 3054614

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 2317942150006 17

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☒ Other peanuts

Thermometer Used 3 5 Type of Ice: Wet Blue (None) ☐ Samples on ice, cooling process has begun

Cooler Temperature NA Biological Tissue is Frozen: Yes No

Temp should be above freezing to 6°C

Date and Initials of person examining contents: SmB 9/

		Comments:
Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☒No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☐No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☒No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC: 9/28/11 SmB	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: ~~AQ~~ WT		
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	13. 9/28/11 @ 1040 12mLs
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☒No	Initial when completed SmB Lot # of added preservative RF11-0136 3
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☒N/A	15.
Trip Blank Present:	☐Yes ☐No ☒N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Carmen Ferrero **Date:** 9/28/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALLC003-4 23Feb2010

Exhibit D6

PATRICK
ENGINEERING

August 1, 2011

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Subject: Bi-Monthly Groundwater Monitoring Results – April 2011
Powerton Generating Station – Metal Cleaning Basin
Water Pollution Control Permit No. 2009-EB-2748

Reference: Patrick Project No. 21153.018

To Whom It May Concern:

Patrick Engineering Inc. (Patrick) has prepared this letter report, on behalf of Midwest Generation, LLC, to provide groundwater monitoring results associated with the Powerton Generating Facility located at 13082 East Manito Road in Pekin, Illinois. Groundwater is monitored bi-monthly in the vicinity of the metal cleaning basin at this facility in three monitoring wells in accordance with requirements of Illinois Environmental Protection Agency (Illinois EPA) Water Pollution Control Permit No. 2009-EB-2748.

MONITORING WELL INSTALLATION

In accordance with the permit referenced above, three monitoring wells (MW-13, MW-14, and MW-15) have been installed in the vicinity of the metal cleaning basin. The locations of these wells were selected so that at least one of the monitoring wells (MW-15) was installed downgradient of the basin, based upon available data regarding the expected groundwater flow direction. Figure 1 shows the location of the three monitoring wells. Drilling logs and well completion reports have been included as Attachment A.

GROUNDWATER SAMPLING

Prior to collecting groundwater samples from the three wells noted above, a number of field measurements were collected from each well location, including groundwater elevation, temperature, conductivity, and pH. Groundwater elevation data is summarized in Table 1. Other field parameter data is provided in Table 2.

On April 25, 2011, groundwater samples were collected from each of the three on-site monitoring wells, either using disposable polyethylene bailers (for MW-13 and MW-14), or by the direct use of a peristaltic pump (for MW-15). Each well was purged until at least three well volumes had been extracted, or until the groundwater was observed to be clear. Groundwater was pumped or bailed into a decontaminated, stainless steel container and thereafter transferred to

sample containers via peristaltic pump. All groundwater samples were filtered in the field using a disposable, 0.45µm, in-line filter to allow for the analytical testing of dissolved compounds. The samples were immediately placed on ice in a cooler and kept at a temperature no higher than 4° F. The samples were transported to PDC Laboratories, an Illinois-EPA accredited analytical laboratory, in accordance with chain-of-custody procedures to maintain sample integrity.

ANALYTICAL RESULTS

The groundwater samples were analyzed for all of the inorganic compounds listed in 35 Illinois Administrative Code (IAC) 620.410(a) and 620.410(d), including radium 226/228. Analytical results (both current and historical) are summarized in Table 3. Due to a lab analysis error, no results for radium 226 were reported. Samples for radium 226 will be analyzed during the following monitoring events. Laboratory analytical reports provided by PDC Laboratories are provided as Attachment B.

In accordance with Water Pollution Control Permit No. 2009-EB-2748, these three wells will continue to be sampled and reported on a bi-monthly basis for at least one year to establish a statistically valid representation of existing background conditions.

If you have any questions, please contact me at 630-795-7464.

Sincerely,

PATRICK ENGINEERING INC.

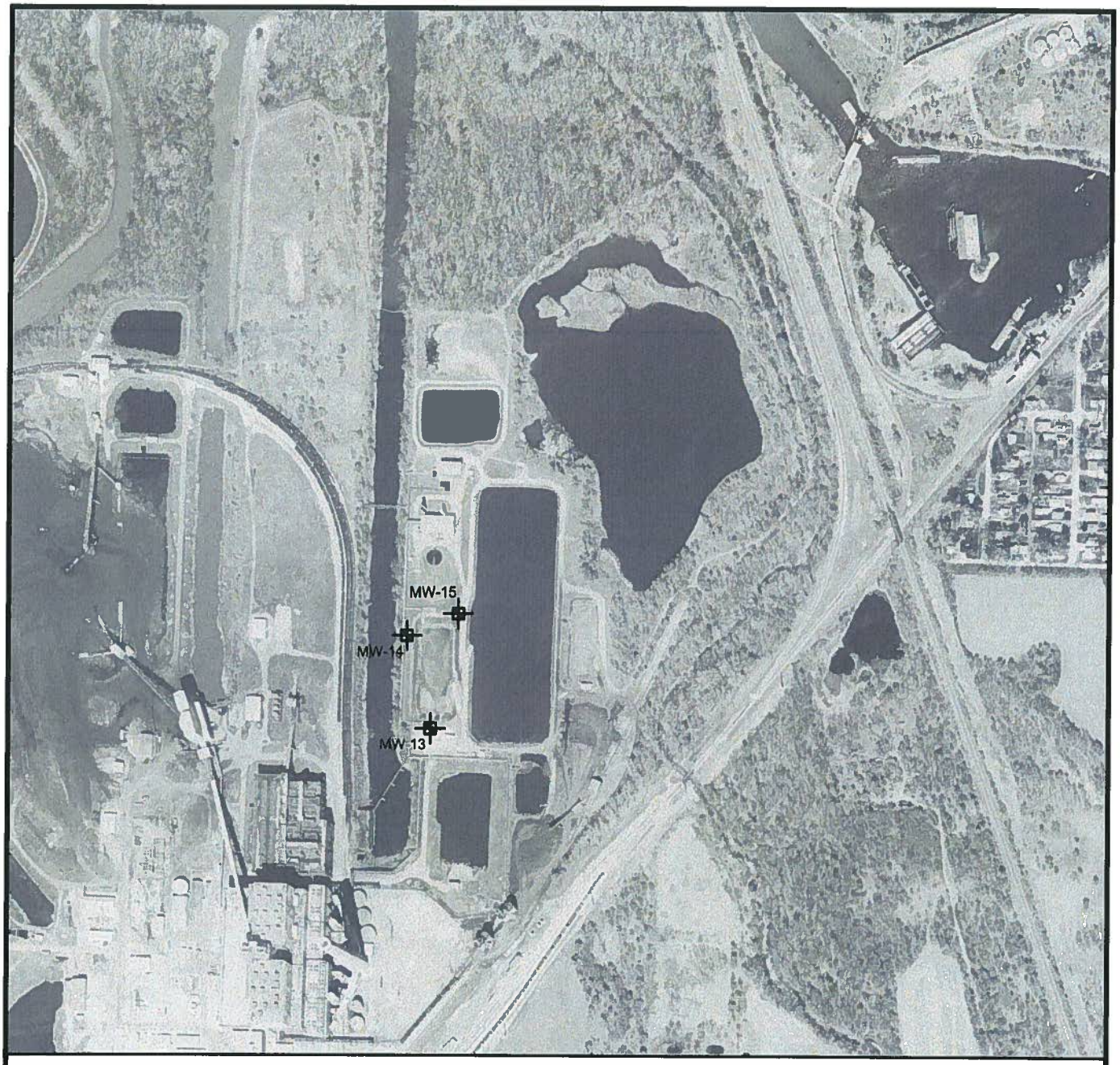
Richard M. Frendt, P.E
Senior Project Manager

RMF/DCM
Enclosures:

- Figure 1– Monitoring Well Location Map
- Table 1 – Groundwater Elevation Data
- Table 2 – Field Parameter Data
- Table 3 – Groundwater Analytical Results
- Attachment A –Boring Logs / Well Completion Reports
- Attachment B – Laboratory Analytical Results

FIGURE 1

MONITORING WELL LOCATION MAP



LEGEND

MW-01 Existing Monitoring Well Location

N

1" = 600'

AERIAL IMAGE SOURCE:
2005 ORTHOPHOTO TAKEN FROM THE ILLINOIS NATURAL RESOURCES CLEARINGHOUSE

Date: APRIL 2011	EXISTING MONITORING WELL LOCATION MAP Metal Cleaning Basin Map	PATRICK ENGINEERING INC. 4970 Varsity Drive, Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
Proj No.: 21153.018	POWERTON STATION PEKIN, ILLINOIS	
App. By: RMF		

MWG13-15_4751

TABLE 1

GROUNDWATER ELEVATION DATA

Table 1
METAL CLEANING BASIN
GROUNDWATER ELEVATION DATA
Powerton Station, Pekin, Illinois
Midwest Generation
21153.018
April 2011

	Groundwater Elevation Data						
Monitoring Well	Date	Groundwater Elevation (Feet bmp)	Depth to Water Pre-Sampling (Feet bmp)	Depth to Water Post Sampling (Feet bmp)	Depth to Bottom of Well (Feet)	Ground Elevation (Feet)	Top of Riser Elevation (Feet)
MW-13	2/15/2011	437.192	33.75	33.82	43.12	467.652	470.942
MW-13	4/25/2011	446.062	24.88	24.82	43.12	467.652	470.942
MW-14	2/15/2011	445.579	25.21	25.33	33.58	467.666	470.789
MW-14	4/25/2011	448.129	22.66	22.84	33.58	467.666	470.789
MW-15	2/15/2011	447.232	24.15	24.15	32.34	468.256	471.382
MW-15	4/25/2011	448.292	23.09	23.09	32.34	468.256	471.382

Notes: - Elevations are leveled from site control points per Drawing "Control Network, IL State Plane (West Zone) Powerton Station" revised 10/22/2010

-Elevations are shown in feet

bmp -below monitoring point

TABLE 2

FIELD PARAMETER DATA

Table 2

METAL CLEANING BASIN
FIELD PARAMETER DATA

Powerton Station, Pekin, Illinois
Midwest Generation
21153.018
April 2011

Groundwater Field Paramter Data - Powerton Station					
Monitoring Well	**Date**	**Time**	**Conductance (S/cm)***	**Temperature °C**	**pH**
MW-13	2/15/2011	12:09	2.15	13.82	7.53
MW-13	4/25/2011	9:10	2.04	14.26	7.37
MW-13	4/25/2011	9:12	1.77	14.37	7.31
MW-13	4/25/2011	9:14	1.97	14.37	7.29
MW-13	4/25/2011	9:16	1.95	14.40	7.27
MW-13	4/25/2011	9:18	1.94	14.42	7.26
MW-13	4/25/2011	9:20	1.92	14.40	7.26
MW-14	2/15/2011	13:15	2.42	14.52	7.75
MW-14	4/25/2011	10:24	2.44	16.04	7.27
MW-15	2/15/2011	12:49	1.65	15.51	7.29
MW-15	2/15/2011	12:51	1.65	15.62	7.28
MW-15	2/15/2011	12:53	1.66	15.52	7.25
MW-15	2/15/2011	12:55	1.65	15.35	7.23
MW-15	2/15/2011	12:57	1.65	15.59	7.23
MW-15	2/15/2011	12:59	1.66	15.59	7.23
MW-15	4/25/2011	10:06	1.72	16.08	7.03
MW-15	4/25/2011	10:08	1.71	16.36	7.05
MW-15	4/25/2011	10:10	1.71	16.42	7.06
MW-15	4/25/2011	10:12	1.71	16.36	7.06
MW-15	4/25/2011	10:14	1.71	16.47	7.06
MW-15	4/25/2011	10:16	1.70	16.50	7.06

Notes:

* (S/cm) - specific conductivity measured in Siemens/Centimeters

°C - degrees Celcius

TABLE 3

GROUNDWATER ANALYTICAL RESULTS

Table 3

METAL CLEANING BASIN
GROUNDWATER ANALYTICAL RESULTS

Powerton Station, Illinois
Midwest Generation
21153.018
April 2011

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-13 (mg/L)	MW-13 (mg/L)	MW-13 (mg/L)	MW-14 (mg/L)	MW-14 (mg/L)	MW-14 (mg/L)	MW-15 (mg/L)	MW-15 (mg/L)	MW-15 (mg/L)
Chemical Name		Class I*	12/15/10	2/15/11	4/25/11	12/15/10	4/25/11	2/15/11	12/15/10	2/15/11	4/25/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.011	0.0069	0.0063	0.024	0.0084	0.019	0.0099	0.0092	0.0064
Barium	Metals 6020	2.0	0.11	0.052	0.073	0.034	0.036	0.034	0.058	0.052	0.061
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	0.0062	0.0042	0.0045	ND	0.0078	0.0046	0.0042	0.0061	0.0092
Cobalt	Metals 6020	1.0	0.0031	0.0026	0.0023	ND	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	0.0068	0.0037	0.0041	0.0037	0.0074	0.0035	ND	ND	0.0039
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	0.69	0.052	0.077	2.2	0.036	0.94	3.3	2.4	2.1
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	0.0012
Manganese	Metals 6020	0.15	**5**	**3.8**	**2.7**	**0.68**	**0.29**	**0.81**	**0.56**	**0.42**	**0.36**
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.03	0.023	0.021	0.015	0.02	0.015	0.013	0.011	0.012
Selenium	Metals 6020	0.05	0.0046	0.0046	0.0045	0.0024	0.065	0.0015	0.0042	0.0079	0.017
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	0.0035	0.0018	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	**3.9**	**3.1**	**2.6**	**2**	1.9	1.9	1.6	1.4	1.5
Sulfate	Dissolved 9038	400	**1,400**	**770**	**580**	**960**	**770**	**820**	300	220	270
Chloride	Dissolved 9251	200	160	120	100	160	160	160	180	190	190
Nitrate as N	Nitrogen By calc	10	0.14	1.3	1.8	0.036	1	ND	0.03	0.086	0.04
Total Dissolved Solids	Dissolved 2540C	1,200	**2,600**	**1,600**	**1,400**	**1,800**	**1,800**	**1,700**	1,000	1,000	1,100
Fluoride	Dissolved 4500 FC	4	0.28	0.29	0.31	1.7	1.1	1.6	0.69	0.75	0.6
Radium 226 (pCi/L)	EPA 903.1	20	0.603	0.165	NA	0.577	NA	0.163	0.666	0.174	NA
Radium 228 (pCi/L)	EPA 904.0	20	0.988	0.966	0.73	0.944	0.737	0.96	0.902	0.968	0.689

Notes:

*Class I Groundwater Standards from 35 IAC Part 620

Bold values show exceedences of 35 IAC Part 620

ND-non detect

mg/L- milligrams per Liter

MWG13-15_4757

ATTACHMENT A

BORING LOGS / WELL COMPLETION REPORTS

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. Driven Well: Casing Diameter (in.) _____ Depth (ft.) _____

b. Bored Well: Casing Diameter (in.) _____ Buried Slab? _____

c. Drilled Well: PVC Casing Formation Packer Set at Depth of (ft.) 40

d. Drilled Well: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 40 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	10		3	28	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	28	40

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 29, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____

Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-13

14. Driller: _____ License # _____

15. Name of Drilling Company: Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 29, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. SW Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 35.6 N

Lon: Degrees 89 Minutes 40 Seconds 39.7 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	30

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	30	40

24. Water from gravel at a depth of (ft.) 34 To (ft.) 40

a. Static water level (ft.) below top of casing 29.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
cinders, gravel, clay	0	10
cinders and sand	10	17.5
organic silt	17.5	31.5
silty clay, sand	31.5	34
gravel	34	40

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____

Licensed Water Well Contractor Signature

MWG13-15_4759

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. Driven Well: Casing Diameter (in.) _____ Depth (ft.) _____

b. Bored Well: Casing Diameter (in.) _____ Buried Slab? _____

c. Drilled Well: PVC Casing Formation Packer Set at Depth of (ft.) 30

d. Drilled Well: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 30 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	8		3	18	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	18	30

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 30, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____

Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-14

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 30, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NW Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 39.7 N

Lon: Degrees 89 Minutes 40 Seconds 41.2 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	20

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	20	30

24. Water from organic silt and sand at a depth of (ft.) 19.5 To (ft.) 25

a. Static water level (ft.) below top of casing 20.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
cinders, gravel, clay	0	10
gravel and clay	10	19.5
organic silt	19.5	30

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____

Licensed Water Well Contractor Signature

MWG13-15_4760

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. Driven Well: Casing Diameter (in.) _____ Depth (ft.) _____

b. Bored Well: Casing Diameter (in.) _____ Buried Slab? _____

c. Drilled Well: PVC Casing Formation Packer Set at Depth of (ft.) 30

d. Drilled Well: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 30 : (in.) ___ to (ft.) ___ : (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	9		3	18	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	18	30

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 30, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____

Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-15

14. Driller: _____ License # _____

15. Name of Drilling Company: Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 30, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NW Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 40.6 N

Lon: Degrees 89 Minutes 40 Seconds 38.7 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	20

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	20	30

24. Water from fine sand at a depth of (ft.) 19.5 To (ft.) 23.5

a. Static water level (ft.) below top of casing 19.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
cinders, gravel, clay	0	10
cinders, gravel, sand	10	19.5
fine sand	19.5	23.5
silt	23.5	28
silty clay	28	30

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____

Licensed Water Well Contractor Signature

MWG13-15_4761

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-13-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **467.7**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) * (1 2 3 4 5)	NOTES & TEST RESULTS
467.7	0.0		Black cinders, sand, rock, dry FILL				
				SS-1 1.0-2.5			
				SS-2 2.5-4.0			Bentonite seal 3.0'-28.0'. Stickup protective cover installed.
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
457.7	10.0		Black cinders, medium sand FILL				
				SS-5 11.0-12.5 14"R	5 9 7		qu=NT
				SS-6 13.5-15.0 15"R	3 3 2		qu=NT
			Some organic silt, moist	SS-7 16.0-17.5 18"R	WOH 1 1		qu=NT
450.2	17.5		Gray/olive gray organic silt, very soft OL				
				SS-8 18.5-20.0 18"R	1 0 0		qu=0.0**tsf
447.7	20.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/29/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.5**
▼ **29.5**
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-13-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **467.7**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
447.7	20.0		Dark gray and black organic clay, very soft, moist OH				
				SS-9 21.0-22.5 18"R	WOH WOH 2		qu=0.25**tsf
445.2	22.5		Dark gray and black organic silt, very soft, moist OL				
				SS-10 23.5-25.0 18"R	WOH 1 1		qu=0.25**tsf
441.7	26.0		Dark gray and black organic clay, soft, dry OH	SS-11 26.0-27.5 18"R	WOH 1 2		qu=1.0**tsf
			Medium stiff				Sand pack 28.0'-40.0'
438.2	29.5	▽		SS-12 28.5-30.0 18"R	0 2 3		qu=1.5**tsf
437.2	30.5		Gray silty clay, some coarse to fine sand, trace fine gravel, wet CL				Set screen (slot 0.010") 30.0'-40.0'
436.2	31.5	▽		SS-13 31.0-32.5 18"R	2 4 5		qu=2.0**tsf
433.7	34.0		Stiff	SS-14 33.5-35.0 6"R	2 3 2		qu=2.0**tsf
			Brown coarse to fine gravel, trace coarse to medium sand, silt, medium dense, saturated GP				
				SS-15 36.0-37.5 8"R	4 6 6		qu=NT
				SS-16 38.5-40.0 8"R	5 8 8		qu=NT
427.7	40.0		End of Boring at 40.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/29/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.5**
▽ **29.5**
▽

MWG13-15_4763

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-14-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **467.7**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
467.7	0.0		Cinders, gravel, sand, silt, dry FILL				
				SS-1 1.0-2.5			
							Bentonite seal 3.0'-18.0'. Stickup protective cover installed.
				SS-2 3.5-5.0			
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
457.7	10.0		Brown fine gravel, some silty clay and coarse sand, dry FILL				
				SS-5 11.0-12.5 18"R	4 4 4		
				SS-6 13.5-15.0 16"R	4 3 4		
				SS-7 16.0-17.5 16"R	2 3 3		
			Black cinders				
							Sand pack 18.0'-30.0'
448.2	19.5			SS-8 18.5-20.0 18"R	3 3 1		
			Gray organic silt, some fine sand,				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/30/10** ENDED **9/30/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **19.5**
▽ **20.5**
▽

PATRICK ENGINEERING INC.

BORING NUMBER B-MW-14-Po SHEET 2 OF 2
CLIENT Midwest Generation
PROJECT & NO. 21053.070
LOCATION Powerton

LOGGED BY MPG
GROUND ELEVATION 467.7

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
447.7	20.0		▼ very loose, low plasticity, saturated OL				Set screen (slot 0.010") 20.0'-30.0'
447.2	20.5			SS-9 21.0-22.5 18"R	1 0 0		qu=NT
				SS-10 23.5-25.0 18"R	1 1 2		qu=0.25**tsf
442.7	25.0		Gray and mottled black organic silt, trace fine sand, soft, low plasticity, moist OL				
				SS-11 26.0-27.5 18"R	0 0 1		qu=0.25**tsf
438.7	29.0			SS-12 28.5-30.0 18"R	2 3 4		qu=1.25**tsf
437.7	30.0		Gray and black organic clay, medium stiff, moist OH				
			End of Boring at 30.0'				

DRILLING CONTRACTOR Groff Testing
DRILLING METHOD 4.25" I.D. HSA
DRILLING EQUIPMENT CME 550 ATV
DRILLING STARTED 9/30/10 ENDED 9/30/10

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ 19.5
▼ 20.5
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-15-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **468.3**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) * (1 2 3 4 5)	NOTES & TEST RESULTS
468.3	0.0		Black cinders, fine gravel, sand, silt, dry FILL	SS-1 1.0-2.5			
				SS-2 3.5-5.0			Bentonite seal 3.0'-17.0'. Stickup protective cover installed.
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
458.3	10.0		Black cinders, fine gravel, coarse sand, silt, dry FILL	SS-5 11.0-12.5 14"R	6 13 12		
				SS-6 13.5-15.0 0"R	50/1'		
				SS-7 16.0-17.5 14"R	7 7 5		Sand pack 17.0'-30.0'
448.8	19.5	▼		SS-8 18.5-20.0 18"R	2 1 1		
448.3	20.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/30/10** ENDED **9/30/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **20.0'**
▼ **19.5**

MWG13-15_4766

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-15-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **468.3**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) * (1 2 3 4 5)	NOTES & TEST RESULTS
448.3	20.0		Gray fine sand, trace medium sand, loose, saturated SM				Set screen (slot 0.010") 20.0'-30.0'
				SS-9 21.0-22.5 18"R	1 1 1		qu=NT
444.8	23.5		Gray silt, mottled black, some organics, soft, moist to wet OL	SS-10 23.5-25.0 18"R	1 2 2		qu=0.75**tsf
				SS-11 26.0-27.5 18"R	1 2 2		qu=1.0**tsf
440.3	28.0		Gray silty clay, some organics, soft, medium stiff, dry CL	SS-12 28.5-30.0 18"R	1 3 2		qu=1.0**tsf
438.3	30.0		End of Boring at 30.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/30/10** ENDED **9/30/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **20.0'**
▼ **19.5**
▼

ATTACHMENT B

LABORATORY ANALYTICAL RESULTS

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 04/25/11 11:24
Report Date: 05/31/11
Customer #: 233203
PO#: 4500071934

Sample No: **1042531-01**
Sample Description: **MW-13**

Collect Date: **04/25/11 09:20**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		05/02/11 16:22	lgtth	335.4
Solids - total dissolved solids (TDS)	1400 mg/L		04/27/11 10:38	BRS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	100 mg/L		05/09/11 19:57	JFA	EPA 300.0 R2.1
Fluoride	0.31 mg/L		04/26/11 17:24	JFA	EPA 300.0 R2.1
Nitrate-N	1.8 mg/L		04/26/11 17:24	JFA	EPA 300.0 R2.1
Sulfate	580 mg/L		05/09/11 20:15	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		04/28/11 21:40	JMW	SW 6020
Arsenic	6.3 ug/L		04/28/11 21:40	JMW	SW 6020
Barium	73 ug/L		04/28/11 21:40	JMW	SW 6020
Beryllium	< 1.0 ug/L		04/28/11 21:40	JMW	SW 6020
Boron	2600 ug/L		04/28/11 21:40	JMW	SW 6020
Cadmium	< 1.0 ug/L		04/28/11 21:40	JMW	SW 6020
Chromium	4.5 ug/L		04/28/11 21:40	JMW	SW 6020
Cobalt	2.3 ug/L		04/28/11 21:40	JMW	SW 6020
Copper	4.1 ug/L		04/28/11 21:40	JMW	SW 6020
Iron	0.077 mg/L		04/27/11 10:54	eck	SW 6010B
Lead	< 1.0 ug/L		04/28/11 21:40	JMW	SW 6020
Manganese	2700 ug/L		04/28/11 21:40	JMW	SW 6020
Mercury	< 0.20 ug/L		04/28/11 21:40	JMW	SW 6020
Nickel	21 ug/L		04/28/11 21:40	JMW	SW 6020
Selenium	4.5 ug/L		04/28/11 21:40	JMW	SW 6020
Silver	< 5.0 ug/L		04/28/11 21:40	JMW	SW 6020
Thallium	< 1.0 ug/L		04/28/11 21:40	JMW	SW 6020
Zinc	< 6.0 ug/L		04/28/11 21:40	JMW	SW 6020

Sample No: **1042531-02**
Sample Description: **MW-14**

Collect Date: **04/25/11 10:25**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		05/05/11 10:50	lgtth	335.4
Solids - total dissolved solids (TDS)	1800 mg/L		04/27/11 10:38	BRS	SM 2540C 18Ed

1042531

PDC Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 04/25/11 11:24
Report Date: 05/31/11
Customer #: 233203
PO#: 4500071934

Sample No: **1042531-02**
Sample Description: **MW-14**

Collect Date: **04/25/11 10:25**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Anions - PIA					
Chloride	160 mg/L		05/09/11 20:32	JFA	EPA 300.0 R2.1
Fluoride	1.1 mg/L		04/26/11 18:28	JFA	EPA 300.0 R2.1
Nitrate-N	1.0 mg/L		04/26/11 18:28	JFA	EPA 300.0 R2.1
Sulfate	770 mg/L		05/09/11 20:50	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		04/28/11 21:46	JMW	SW 6020
Arsenic	8.4 ug/L		04/28/11 21:46	JMW	SW 6020
Barium	36 ug/L		04/28/11 21:46	JMW	SW 6020
Beryllium	< 1.0 ug/L		04/28/11 21:46	JMW	SW 6020
Boron	1900 ug/L		04/28/11 21:46	JMW	SW 6020
Cadmium	< 1.0 ug/L		04/28/11 21:46	JMW	SW 6020
Chromium	7.8 ug/L		04/28/11 21:46	JMW	SW 6020
Cobalt	< 2.0 ug/L		04/28/11 21:46	JMW	SW 6020
Copper	7.4 ug/L		04/28/11 21:46	JMW	SW 6020
Iron	0.36 mg/L		04/27/11 11:13	eck	SW 6010B
Lead	< 1.0 ug/L		04/28/11 21:46	JMW	SW 6020
Manganese	290 ug/L		04/28/11 21:46	JMW	SW 6020
Mercury	< 0.20 ug/L		04/28/11 21:46	JMW	SW 6020
Nickel	20 ug/L		04/28/11 21:46	JMW	SW 6020
Selenium	65 ug/L		04/28/11 21:46	JMW	SW 6020
Silver	< 5.0 ug/L		04/28/11 21:46	JMW	SW 6020
Thallium	3.5 ug/L		04/28/11 21:46	JMW	SW 6020
Zinc	< 6.0 ug/L		04/28/11 21:46	JMW	SW 6020

Sample No: **1042531-03**
Sample Description: **MW-15**

Collect Date: **04/25/11 10:20**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		05/02/11 16:23	lgtth	335.4
Solids - total dissolved solids (TDS)	1100 mg/L		04/27/11 10:38	BRS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	190 mg/L		05/09/11 21:07	JFA	EPA 300.0 R2.1
Fluoride	0.60 mg/L		04/26/11 19:00	JFA	EPA 300.0 R2.1
Nitrate-N	0.04 mg/L		04/26/11 19:00	JFA	EPA 300.0 R2.1

1042531

MWG13-15_4770

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ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 04/25/11 11:24
Report Date: 05/31/11
Customer #: 233203
PO#: 4500071934

Sample No: **1042531-03**
Sample Description: **MW-15**

Collect Date: **04/25/11 10:20**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Anions - PIA					
Sulfate	270 mg/L		05/09/11 22:00	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		04/28/11 21:52	JMW	SW 6020
Arsenic	6.4 ug/L		04/28/11 21:52	JMW	SW 6020
Barium	61 ug/L		04/28/11 21:52	JMW	SW 6020
Beryllium	< 1.0 ug/L		04/28/11 21:52	JMW	SW 6020
Boron	1500 ug/L		04/28/11 21:52	JMW	SW 6020
Cadmium	< 1.0 ug/L		04/28/11 21:52	JMW	SW 6020
Chromium	9.2 ug/L		04/28/11 21:52	JMW	SW 6020
Cobalt	< 2.0 ug/L		04/28/11 21:52	JMW	SW 6020
Copper	3.9 ug/L		04/28/11 21:52	JMW	SW 6020
Iron	2.1 mg/L		04/27/11 11:15	eck	SW 6010B
Lead	1.2 ug/L		04/28/11 21:52	JMW	SW 6020
Manganese	360 ug/L		04/28/11 21:52	JMW	SW 6020
Mercury	< 0.20 ug/L		04/28/11 21:52	JMW	SW 6020
Nickel	12 ug/L		04/28/11 21:52	JMW	SW 6020
Selenium	17 ug/L		04/28/11 21:52	JMW	SW 6020
Silver	< 5.0 ug/L		04/28/11 21:52	JMW	SW 6020
Thallium	< 1.0 ug/L		04/28/11 21:52	JMW	SW 6020
Zinc	< 6.0 ug/L		04/28/11 21:52	JMW	SW 6020

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 04/25/11 11:24
Report Date: 05/31/11
Customer #: 233203
PO#: 4500071934

Notes

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PDC Laboratories participates in the following accreditation/certification and proficiency programs at the following locations. Endorsement by Federal or State Governments or their agencies is not implied.

PIA PDC Laboratories - Peoria, IL
NELAC Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications: Kansas (E-10338); Missouri (870); Wisconsin (998284430); Indiana (C-IL-040); Iowa (240)
Wastewater Certifications: Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
Hazardous/Solid Waste Certifications; Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
UST Certification; Iowa (240)
SPM PDC Laboratories - Springfield, MO
EPA DMR-QA Program
STL PDC Laboratories - St. Louis, MO
NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing

Samples subcontracted for Radium 226/228 - Subcontracted report attached. Insufficient sample to analyze/report Radium 226.

Janet L. Clutters

Certified by: Janet L. Clutters, Project Manager

PDC LABORATORIES, INC.
2231 WEST ALTORFER DRIVE
PEORIA, IL 61615

PHONE # 800-752-6651
FAX # 309-692-9689

CHAIN OF CUSTODY RECORD

State where samples collected IL

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT) - (SAMPLE ACCEPTANCE POLICY ON REVERSE)

1 CLIENT	PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
MWG Powerton			
ADDRESS	PHONE NUMBER	FAX NUMBER	DATE SHIPPED
4985 Varsity Dr.			
CITY / STATE / ZIP: Lisle, IL 60532	SAMPLER (PLEASE PRINT): Justin Jessogne		MATRIX TYPES: WW-WASTEWATER, DW-DRINKING WATER, GW-GROUND WATER, WWSL-SLUDGE, NAS-SOLID, LCHT-LEACHATE, OTHER:
CONTACT PERSON: Dave McCoy	SAMPLER'S SIGNATURE: Justin Jessogne		

2 SAMPLE DESCRIPTION AS YOU WANT ON REPORT	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE GRAB	SAMPLE TYPE COMP	MATRIX TYPE	BOTTLE COUNT
MW-13	4/25/11	920			GW	5
MW-14	4/25/11	1025			GW	5
MW-15	4/25/11	1020			GW	5

3 ANALYSIS REQUESTED: Dissolved Metals; Cyanide; Radium 226/228; Cl, F, NO3, SO4 Dissolved; Total Dissolved Solids

4 (FOR LAB USE ONLY)
LOGIN # 1042531-B
LOGGED BY: M
LAB PROJ. #
TEMPLATE:
PROJ. MGR.:

REMARKS: Refer To the Sheet sent to Elaine Kauffman for bi-monthly Sampling

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH — DATE RESULTS NEEDED
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE E-MAIL
FAX # PHONE # EMAIL ADDRESS

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

7		DATE	TIME
RELINQUISHED BY: (SIGNATURE)	Justin Jessogne	4/25/11	1124
RELINQUISHED BY: (SIGNATURE)		DATE	TIME
RELINQUISHED BY: (SIGNATURE)		DATE	TIME
RECEIVED BY: (SIGNATURE)		DATE	TIME
RECEIVED BY: (SIGNATURE)		DATE	TIME
RECEIVED AT LAB BY: (SIGNATURE)		4/25/11	1124

8 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT 1.3 °C
CHILL PROCESS STARTED PRIOR TO RECEIPT Y OR N
SAMPLE(S) RECEIVED ON ICE Y OR N
PROPER BOTTLES RECEIVED IN GOOD CONDITION Y OR N
BOTTLES FILLED WITH ADEQUATE VOLUME Y OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) Y OR N
(EXCLUDES TYPICAL FIELD PARAMETERS)
DATE AND TIME TAKEN FROM SAMPLE BOTTLE _____

Copies: white should accompany samples to PDC Labs. Yellow copy to be retained by the client.

PAGE _____ OF _____

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

May 23, 2011

Ms. Elaine Kaufmann
PDC Laboratories
2231 W. Altorfer Drive
Peoria, IL 61615

RE: Project: 1042531
Pace Project No.: 3045949

Dear Ms. Kaufmann:
Enclosed are the analytical results for sample(s) received by the laboratory on May 03, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Carin A. Ferris

Carin Ferris

carin.ferris@pacelabs.com
Project Manager

Enclosures

cc: Erin Lane, PDC Laboratories, Inc.

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc..

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: 1042531
Pace Project No.: 3045949

Pennsylvania Certification IDs
1638 Roseytown Road Suites 2,3&4, Greensburg, PA 15601
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/NELAC Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH 0694
Delaware Certification
Florida/NELAC Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/NELAC Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/NELAC Certification #: LA080002
Louisiana/NELAC Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/NELAC Certification #: 2976
New Jersey/NELAC Certification #: PA 051
New Mexico Certification
New York/NELAC Certification #: 10888
North Carolina Certification #: 42706
Oregon/NELAC Certification #: PA200002
Pennsylvania/NELAC Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/NELAC Certification #: T104704188-09 TX
Utah/NELAC Certification #: ANTE
Virgin Island/PADEP Certification
Virginia Certification #: 00112
Washington Certification #: C1941
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

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Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE SUMMARY

Project: 1042531
Pace Project No.: 3045949

Lab ID	Sample ID	Matrix	Date Collected	Date Received
3045949001	1042531-01	Drinking Water	04/25/11 09:20	05/03/11 09:00
3045949002	1042531-02	Drinking Water	04/25/11 10:25	05/03/11 09:00
3045949003	1042531-03	Drinking Water	04/25/11 10:20	05/03/11 09:00

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Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: 1042531
Pace Project No.: 3045949

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
3045949001	1042531-01	EPA 904.0	DJL	1	PASI-PA
3045949002	1042531-02	EPA 904.0	DJL	1	PASI-PA
3045949003	1042531-03	EPA 904.0	DJL	1	PASI-PA

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www.pacelabs.com

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

PROJECT NARRATIVE

Project: 1042531
Pace Project No.: 3045949

Method: **EPA 904.0**
Description: 904.0 Radium 228
Client: PDC Laboratories, Inc.
Date: May 23, 2011

General Information:
3 samples were analyzed for EPA 904.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

Workorder Comments:

Insuffiicient sample volume was received to analyze for the radium-226.

This data package has been reviewed for quality and completeness and is approved for release.

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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: 1042531
Pace Project No.: 3045949

Sample: 1042531-01 **Lab ID: 3045949001** Collected: 04/25/11 09:20 Received: 05/03/11 09:00 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-228	EPA 904.0	**1.36 ± 0.428 (0.730)**	pCi/L	05/20/11 13:08	15262-20-1	

Sample: 1042531-02 **Lab ID: 3045949002** Collected: 04/25/11 10:25 Received: 05/03/11 09:00 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-228	EPA 904.0	**1.41 ± 0.428 (0.737)**	pCi/L	05/20/11 13:08	15262-20-1	

Sample: 1042531-03 **Lab ID: 3045949003** Collected: 04/25/11 10:20 Received: 05/03/11 09:00 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-228	EPA 904.0	**1.03 ± 0.386 (0.689)**	pCi/L	05/20/11 13:08	15262-20-1	

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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: 1042531
Pace Project No.: 3045949

QC Batch: RADC/8246 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 3045949001, 3045949002, 3045949003

METHOD BLANK: 294211 Matrix: Water
Associated Lab Samples: 3045949001, 3045949002, 3045949003

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-228	0.395 ± 0.355 (0.727)	pCi/L	05/20/11 11:15	

REPORT OF LABORATORY ANALYSIS

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1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: 1042531
Pace Project No.: 3045949

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

WORKORDER QUALIFIERS

WO: 3045949

[1] Insuffiicient sample volume was received to analyze for the radium-226.

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SUBCONTRACT ORDER

PDC Laboratories, Inc.

1042531 3045949

SENDING LABORATORY:

PDC Laboratories, Inc.
2231 W. Altorfer Drive
Peoria, IL 61615

Project Manager: Elaine Kaufmann
ekaufmann@pdclab.com Phone: 309-683-1755

RECEIVING LABORATORY:

PACE Analytical - Greensburg
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
Phone :(724) 850-5600

Sample Origin (State) IL

PO# 438872

Analysis	Due	Expires	Comments
Sample ID: 1042531-01	**Water**	**Sampled:04/25/11 09:20**	
01-Radium 226/228	05/05/11 16:00	10/22/11 09:20	001
Sample ID: 1042531-02	**Water**	**Sampled:04/25/11 10:25**	
01-Radium 226/228	05/05/11 16:00	10/22/11 10:25	002
Sample ID: 1042531-03	**Water**	**Sampled:04/25/11 10:20**	
01-Radium 226/228	05/05/11 16:00	10/22/11 10:20	003

Relinquished By	Date/Time	Received By	Date/Time
[signature]	4-26-11 09:00		
		[signature]	5/3/11 900

Sample Temperature Upon Receipt 1.5 4C
Sample(s) Received on Ice Y or N
Proper Bottles Received in Good Condition Y or N
Bottles Filled with Adequate Volume Y or N
Samples Received Within Hold Time Y or N
Date/Time Taken From Sample Bottle Y or N

MWG13-15_4782

Sample Condition Upon Receipt

Pace Analytical

Client Name: PDC

Project # 3045949 LEW

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 2317942 15000433

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Thermometer Used 3 5 Type of Ice: Wet Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature NA Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: DDK 5/3/11

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☑ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☑ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☐ Yes ☑ No ☐ N/A	4.
Samples Arrived within Hold Time:	☑ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☑ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☑ No ☐ N/A	7.
Sufficient Volume:	☑ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☑ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☐ Yes ☑ No ☐ N/A	
Containers Intact:	☑ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☑ N/A	11.
Sample Labels match COC:	☑ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing preservation have been checked.	☑ Yes ☐ No ☐ N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑ Yes ☐ No ☐ N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐ Yes ☑ No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐ Yes ☐ No ☑ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☐ No ☑ N/A	15.
Trip Blank Present:	☐ Yes ☑ No ☐ N/A	16.
Trip Blank Custody Seals Present	☐ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Carmo Ferris **Date:** 5/3/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALLC003-4 23Feb2010

MWG13-15_4783

PATRICK
ENGINEERING

April 18, 2011

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Subject: Bi-Monthly Groundwater Monitoring Results – February 2011
Powerton Generating Station – Metal Cleaning Basin
Water Pollution Control Permit No. 2009-EB-2748

Reference: Patrick Project No. 21153.018

To Whom It May Concern:

Patrick Engineering Inc. (Patrick) has prepared this letter report, on behalf of Midwest Generation, LLC, to provide groundwater monitoring results associated with the Powerton Generating Facility located at 13082 East Manito Road in Pekin, Illinois. Groundwater is monitored bi-monthly in the vicinity of the metal cleaning basin at this facility in three monitoring wells in accordance with requirements of Illinois Environmental Protection Agency (Illinois EPA) Water Pollution Control Permit No. 2009-EB-2748.

MONITORING WELL INSTALLATION

In accordance with the permit referenced above, three monitoring wells (MW-13, MW-14, and MW-15) have been installed in the vicinity of the metal cleaning basin. The locations of these wells were selected so that at least one of the monitoring wells (MW-15) was installed downgradient of the basin, based upon available data regarding the expected groundwater flow direction. Figure 1 shows the location of the three monitoring wells. Drilling logs and well completion reports have been included as Attachment A.

GROUNDWATER SAMPLING

Prior to collecting groundwater samples from the three wells noted above, a number of field measurements were collected from each well location, including groundwater elevation, temperature, conductivity, and pH. Groundwater elevation data is summarized in Table 1. Other field parameter data is provided in Table 2.

On February 15, 2011, groundwater samples were collected from each of the three on-site monitoring wells, either using disposable polyethylene bailers (for MW-13 and MW-14), or by the direct use of a peristaltic pump (for MW-15). Each well was purged until at least three well volumes had been extracted, or until the groundwater was observed to be clear. Groundwater was pumped or baled into a decontaminated, stainless steel container and thereafter transferred to

MWG13-15_4784

sample containers via peristaltic pump. All groundwater samples were filtered in the field using a disposable, 0.45µm, in-line filter to allow for the analytical testing of dissolved compounds. The samples were immediately placed on ice in a cooler and kept at a temperature no higher than 4° F. The samples were transported to PDC Laboratories, an Illinois-EPA accredited analytical laboratory, in accordance with chain-of-custody procedures to maintain sample integrity.

ANALYTICAL RESULTS

The groundwater samples were analyzed for all of the inorganic compounds listed in 35 Illinois Administrative Code (IAC) 620.410(a) and 620.410(d), including radium 226/228. Analytical results (both current and historical) are summarized in Table 3. Laboratory analytical reports provided by PDC Laboratories are provided as Attachment B.

In accordance with Water Pollution Control Permit No. 2009-EB-2748, these three wells will continue to be sampled and reported on a bi-monthly basis for at least one year to establish a statistically valid representation of existing background conditions.

If you have any questions, please contact me at 630-795-7464.

Sincerely,

PATRICK ENGINEERING INC.

Richard M. Frendt, P.E
Senior Project Manager

RMF/DCM
Enclosures:

- Table 1 – Groundwater Field Parameter Data
- Table 2 – Groundwater Elevation Data
- Table 3 – Groundwater Analytical Results
- Figure 1– Monitoring Well Location Map
- Attachment A – Soil Boring Logs
- Attachment B – Water Well Construction Reports
- Attachment C – Laboratory Analytical Results

FIGURE 1

MONITORING WELL LOCATION MAP



LEGEND

MW-01 Existing Monitoring Well Location

AERIAL IMAGE SOURCE:
2005 ORTHOPHOTO TAKEN FROM THE ILLINOIS NATURAL RESOURCES CLEARINGHOUSE

Date:MARCH 2011	EXISTING MONITORING WELL LOCATION MAP Metal Cleaning Basin Map	PATRICK ENGINEERING INC. 4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
Proj No.: 21153.018	POWERTON STATION PEKIN, ILLINOIS	
App. By: RMF		

MWG13-15_4787

TABLE 1

GROUNDWATER ELEVATION DATA

Table 1

METAL CLEANING BASIN
GROUNDWATER ELEVATION DATA

Powerton Station, Pekin, Illinois
Midwest Generation
21153.018
April 18, 2011

	Groundwater Elevation Data					
Monitoring Well	**Date**	**Depth to Water Pre-Sampling (Feet bmp)**	**Depth to Water Post Sampling (Feet bmp)**	**Depth to Bottom of Well (Feet)**	**Ground Elevation (Feet)**	**Top of Riser Elevation (Feet)**
MW-13	2/15/2011	33.75	33.82	43.12	467.652	470.942
MW-14	2/15/2011	25.21	25.33	33.58	467.666	470.789
MW-15	2/15/2011	24.15	24.15	32.34	468.256	471.382

Notes: - Elevations are leveled from site control points per Drawing "Control Network, IL State Plane (West Zone) Powerton Station" revised 10/22/2010

-Elevations are shown in feet

bmp -below monitoring point

TABLE 2

FIELD PARAMETER DATA

Table 2
METAL CLEANING BASIN
FIELD PARAMETER DATA
Powerton Station, Pekin, Illinois
Midwest Generation
21153.018
April 18, 2011

Monitoring Well	Date	Time	Conductance (S/cm)*	Temperature °C	pH
			Groundwater Field Paramter Data - Powerton Station		
MW-13	2/15/2011	12:09	2.15	13.82	7.53
MW-14	2/15/2011	13:15	2.42	14.52	7.75
MW-15	2/15/2011	12:49	1.65	15.51	7.29
MW-15	2/15/2011	12:51	1.65	15.62	7.28
MW-15	2/15/2011	12:53	1.66	15.52	7.25
MW-15	2/15/2011	12:55	1.65	15.35	7.23
MW-15	2/15/2011	12:57	1.65	15.59	7.23
MW-15	2/15/2011	12:59	1.66	15.59	7.23

Notes:
* (S/cm) - specific conductivity measured in Siemens/Centimeters
°C - degrees Celcius

TABLE 3

GROUNDWATER ANALYTICAL RESULTS

Table 3
METAL CLEANING BASIN
GROUNDWATER ANALYTICAL RESULTS
Powerton Station, Illinois
Midwest Generation
21153.018
April 18, 2011

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L) Class I*	MW-13 (mg/L) 12/15/10	MW-13 (mg/L) 2/15/11	MW-14 (mg/L) 12/15/10	MW-14 (mg/L) 2/15/11	MW-15 (mg/L) 12/15/10	MW-15 (mg/L) 2/15/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.011	0.0069	0.024	0.019	0.0099	0.0092
Barium	Metals 6020	2.0	0.11	0.052	0.034	0.034	0.058	0.052
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	0.0062	0.0042	ND	0.0046	0.0042	0.0061
Cobalt	Metals 6020	1.0	0.0031	0.0026	ND	ND	ND	ND
Copper	Metals 6020	0.65	0.0068	0.0037	0.0037	0.0035	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	0.69	0.052	2.2	0.94	3.3	2.4
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**5**	**3.8**	**0.68**	**0.81**	**0.56**	**0.42**
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.03	0.023	0.015	0.015	0.013	0.011
Selenium	Metals 6020	0.05	0.0046	0.0046	0.0024	0.0015	0.0042	0.0079
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	0.0018	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	**3.9**	**3.1**	**2**	1.9	1.6	1.4
Sulfate	Dissolved 9038	400	**1,400**	**770**	**960**	**820**	300	220
Chloride	Dissolved 9251	200	160	120	160	160	180	190
Nitrate as N	Nitrogen By calc	10	0.14	1.3	0.036	ND	0.03	0.086
Total Dissolved Solids	Dissolved 2540C	1,200	**2,600**	**1,600**	**1,800**	**1,700**	1,000	1,000
Fluoride	Dissolved 4500 FC	4	0.28	0.29	1.7	1.6	0.69	0.75
Radium 226 (pCi/L)	EPA 903.1	20	0.603	0.165	0.577	0.163	0.666	0.174
Radium 228 (pCi/L)	EPA 904.0	20	0.988	0.966	0.944	0.96	0.902	0.968

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
mg/L- milligrams per Liter

ATTACHMENT A

BORING LOGS / WELL COMPLETION REPORTS

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 40

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 40 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	10		3	28	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	28	40

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 29, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____

Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-13

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 29, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. SW Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 35.6 N

Lon: Degrees 89 Minutes 40 Seconds 39.7 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	30

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	30	40

24. Water from gravel at a depth of (ft.) 34 To (ft.) 40

a. Static water level (ft.) below top of casing 29.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
cinders, gravel, clay	0	10
cinders and sand	10	17.5
organic silt	17.5	31.5
silty clay, sand	31.5	34
gravel	34	40

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____

Licensed Water Well Contractor Signature

MWG13-15_4795

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 30

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 30 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	8		3	18	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	18	30

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 30, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____

Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-14

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 30, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NW Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 39.7 N

Lon: Degrees 89 Minutes 40 Seconds 41.2 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	20

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	20	30

24. Water from organic silt and sand at a depth of (ft.) 19.5 To (ft.) 25

a. Static water level (ft.) below top of casing 20.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
cinders, gravel, clay	0	10
gravel and clay	10	19.5
organic silt	19.5	30

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____

Licensed Water Well Contractor Signature

MWG13-15_4796

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well:** Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well:** Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well:** PVC Casing Formation Packer Set at Depth of (ft.) 30

d. **Drilled Well:** Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 30 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	9		3	18	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	18	30

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 30, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-15

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 30, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NW Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 40.6 N

Lon: Degrees 89 Minutes 40 Seconds 38.7 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	20

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	20	30

24. Water from fine sand at a depth of (ft.) 19.5 To (ft.) 23.5

a. Static water level (ft.) below top of casing 19.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
cinders, gravel, clay	0	10
cinders, gravel, sand	10	19.5
fine sand	19.5	23.5
silt	23.5	28
silty clay	28	30

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_4797

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-13-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **467.7**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
467.7	0.0		Black cinders, sand, rock, dry FILL				
				SS-1 1.0-2.5			
				SS-2 2.5-4.0			Bentonite seal 3.0'-28.0'. Stickup protective cover installed.
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
457.7	10.0		Black cinders, medium sand FILL				
				SS-5 11.0-12.5 14"R	5 9 7		qu=NT
				SS-6 13.5-15.0 15"R	3 3 2		qu=NT
			Some organic silt, moist	SS-7 16.0-17.5 18"R	WOH 1 1		qu=NT
450.2	17.5		Gray/olive gray organic silt, very soft OL				
				SS-8 18.5-20.0 18"R	1 0 0		qu=0.0**tsf
447.7	20.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/29/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.5**
▼ **29.5**
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-13-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **467.7**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
447.7	20.0		Dark gray and black organic clay, very soft, moist OH				
				SS-9 21.0-22.5 18"R	WOH WOH 2		qu=0.25**tsf
445.2	22.5		Dark gray and black organic silt, very soft, moist OL				
				SS-10 23.5-25.0 18"R	WOH 1 1		qu=0.25**tsf
441.7	26.0		Dark gray and black organic clay, soft, dry OH	SS-11 26.0-27.5 18"R	WOH 1 2		qu=1.0**tsf
			Medium stiff				Sand pack 28.0'-40.0'
				SS-12 28.5-30.0 18"R	0 2 3		qu=1.5**tsf
438.2	29.5	▽					
437.2	30.5						Set screen (slot 0.010") 30.0'-40.0'
			Gray silty clay, some coarse to fine sand, trace fine gravel, wet				
436.2	31.5	▽	CL	SS-13 31.0-32.5 18"R	2 4 5		qu=2.0**tsf
433.7	34.0		Stiff	SS-14 33.5-35.0 6"R	2 3 2		qu=2.0**tsf
			Brown coarse to fine gravel, trace coarse to medium sand, silt, medium dense, saturated GP				
				SS-15 36.0-37.5 8"R	4 6 6		qu=NT
				SS-16 38.5-40.0 8"R	5 8 8		qu=NT
427.7	40.0		End of Boring at 40.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/29/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.5**
▽ **29.5**
▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-14-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **467.7**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
467.7	0.0		Cinders, gravel, sand, silt, dry FILL				
				SS-1 1.0-2.5			
				SS-2 3.5-5.0			Bentonite seal 3.0'-18.0'. Stickup protective cover installed.
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
457.7	10.0		Brown fine gravel, some silty clay and coarse sand, dry FILL				
				SS-5 11.0-12.5 18"R	4 4 4		
				SS-6 13.5-15.0 16"R	4 3 4		
				SS-7 16.0-17.5 16"R	2 3 3		
			Black cinders				
							Sand pack 18.0'-30.0'
448.2	19.5	▽		SS-8 18.5-20.0 18"R	3 3 1		
			Gray organic silt, some fine sand,				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/30/10** ENDED **9/30/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **19.5**
▼ **20.5**
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-14-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **467.7**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) (1 2 3 4 5)	NOTES & TEST RESULTS
447.7	20.0						Set screen (slot 0.010") 20.0'-30.0'
447.2	20.5		▽ very loose, low plasticity, saturated OL				
				SS-9 21.0-22.5 18"R	1 0 0		qu=NT
				SS-10 23.5-25.0 18"R	1 1 2		qu=0.25**tsf
442.7	25.0		Gray and mottled black organic silt, trace fine sand, soft, low plasticity, moist OL				
				SS-11 26.0-27.5 18"R	0 0 1		qu=0.25**tsf
438.7	29.0			SS-12 28.5-30.0 18"R	2 3 4		qu=1.25**tsf
437.7	30.0		Gray and black organic clay, medium stiff, moist OH				
			End of Boring at 30.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/30/10** ENDED **9/30/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **19.5**
▽ **20.5**
▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-15-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **468.3**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
468.3	0.0		Black cinders, fine gravel, sand, silt, dry FILL				
				SS-1 1.0-2.5			
				SS-2 3.5-5.0			Bentonite seal 3.0'-17.0'. Stickup protective cover installed.
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
458.3	10.0		Black cinders, fine gravel, coarse sand, silt, dry FILL				
				SS-5 11.0-12.5 14"R	6 13 12		
				SS-6 13.5-15.0 0"R	50/1"		
				SS-7 16.0-17.5 14"R	7 7 5		Sand pack 17.0'-30.0'
				SS-8 18.5-20.0 18"R	2 1 1		
448.8	19.5	▼					
448.3	20.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/30/10** ENDED **9/30/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **20.0'**
▼ **19.5**

MWG13-15_4802

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-15-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **468.3**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
448.3	20.0		Gray fine sand, trace medium sand, loose, saturated SM				Set screen (slot 0.010") 20.0'-30.0'
				SS-9 21.0-22.5 18"R	1 1 1		qu=NT
444.8	23.5		Gray silt, mottled black, some organics, soft, moist to wet OL	SS-10 23.5-25.0 18"R	1 2 2		qu=0.75**tsf
				SS-11 26.0-27.5 18"R	1 2 2		qu=1.0**tsf
440.3	28.0		Gray silty clay, some organics, soft, medium stiff, dry CL	SS-12 28.5-30.0 18"R	1 3 2		qu=1.0**tsf
438.3	30.0		End of Boring at 30.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/30/10** ENDED **9/30/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **20.0'**
▽ **19.5**
▼

ATTACHMENT B

LABORATORY ANALYTICAL RESULTS

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
Powerton Station
13082 E Manito Rd
Pekin, IL 61554-8587

Attn: Mark Kelly

Date Received: 15-Feb-11
Date Reported: 01-Apr-11

Sample No: 11022668-1 Collect Date: 15-Feb-11 11:35
Client Id: JANUARY 2011 Site: MW-9 Locator: GRAB

		Result	Units	Date / Time	Analyst
EPA 300.0 R2.1					
Chloride, Dissolved		33	mg/l	17-Feb-11 2:34	lgjfa
Fluoride, Dissolved		0.32	mg/l	17-Feb-11 2:17	lgjfa
Nitrate as N, Diss.		3.7	mg/l	17-Feb-11 2:34	lgjfa
Sulfate, Dissolved		99	mg/l	17-Feb-11 2:34	lgjfa
SM (18) 2540C					
Solids, Total Dissolved		470	mg/l	21-Feb-11 12:23	asb
SM 4500 CN C/SW9012A					
Cyanide, Total	<	0.005	mg/l	23-Feb-11 11:18	lgtth
SW-846 6010B R2.0					
Iron, Dissolved		190	ug/l	24-Feb-11 15:00	JMW
SW-846 6020					
Antimony, Dissolved	<	3	ug/l	22-Feb-11 9:17	JMW
Arsenic, Dissolved	<	1	ug/l	21-Feb-11 16:15	JMW
Barium, Dissolved		42	ug/l	21-Feb-11 16:15	JMW
Beryllium, Dissolved	<	1	ug/l	22-Feb-11 9:17	JMW
Boron, Dissolved		1900	ug/l	21-Feb-11 16:15	JMW
Cadmium, Dissolved	<	1	ug/l	21-Feb-11 16:15	JMW
Chromium, Dissolved	<	4	ug/l	21-Feb-11 16:15	JMW
Cobalt, Dissolved	<	2	ug/l	22-Feb-11 9:17	JMW
Copper, Dissolved	<	3	ug/l	22-Feb-11 9:17	JMW
Lead, Dissolved	<	1	ug/l	21-Feb-11 16:15	JMW
Manganese, Dissolved		430	ug/l	21-Feb-11 16:15	JMW
Mercury, Dissolved	<	0.2	ug/l	21-Feb-11 16:15	JMW
Nickel, Dissolved		11	ug/l	21-Feb-11 16:15	JMW
Selenium, Dissolved	<	1	ug/l	21-Feb-11 16:15	JMW
Silver, Dissolved	<	5	ug/l	22-Feb-11 9:17	JMW
Thallium, Dissolved	<	1	ug/l	22-Feb-11 9:17	JMW
Zinc, Dissolved	<	6	ug/l	21-Feb-11 16:15	JMW

Sample No: 11022668-2 Collect Date: 15-Feb-11 9:45
Client Id: JANUARY 2011 Site: MW-11 Locator: GRAB

		Result	Units	Date / Time	Analyst
EPA 300.0 R2.1					
Chloride, Dissolved		66	mg/l	17-Feb-11 3:10	lgjfa
Fluoride, Dissolved		0.56	mg/l	17-Feb-11 2:52	lgjfa
Nitrate as N, Diss.		0.17	mg/l	17-Feb-11 2:52	lgjfa

Radium 226/228 subcontracted - Report attached

11022668

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
Powerton Station
13082 E Manito Rd
Pekin, IL 61554-8587

Attn: Mark Kelly

Date Received: 15-Feb-11
Date Reported: 01-Apr-11

Sample No: 11022668-2 Collect Date: 15-Feb-11 9:45
Client Id: JANUARY 2011 Site: MW-11 Locator: GRAB

		Result	Units	Date / Time	Analyst
EPA 300.0 R2.1					
Sulfate, Dissolved		160	mg/l	17-Feb-11 3:10	lgjfa
SM (18) 2540C					
Solids, Total Dissolved		710	mg/l	21-Feb-11 12:24	asb
SM 4500 CN C/SW9012A					
Cyanide, Total	<	0.005	mg/l	25-Feb-11 10:33	lgtth
SW-846 6010B R2.0					
Iron, Dissolved		10	ug/l	24-Feb-11 15:00	JMW
SW-846 6020					
Antimony, Dissolved	<	3	ug/l	22-Feb-11 9:22	JMW
Arsenic, Dissolved		2.5	ug/l	21-Feb-11 16:20	JMW
Barium, Dissolved		110	ug/l	21-Feb-11 16:20	JMW
Beryllium, Dissolved	<	1	ug/l	22-Feb-11 9:22	JMW
Boron, Dissolved		1800	ug/l	21-Feb-11 16:20	JMW
Cadmium, Dissolved	<	1	ug/l	21-Feb-11 16:20	JMW
Chromium, Dissolved	<	4	ug/l	21-Feb-11 16:20	JMW
Cobalt, Dissolved		4.1	ug/l	22-Feb-11 9:22	JMW
Copper, Dissolved		3.2	ug/l	22-Feb-11 9:22	JMW
Lead, Dissolved	<	1	ug/l	21-Feb-11 16:20	JMW
Manganese, Dissolved		3600	ug/l	21-Feb-11 16:20	JMW
Mercury, Dissolved	<	0.2	ug/l	21-Feb-11 16:20	JMW
Nickel, Dissolved		16	ug/l	21-Feb-11 16:20	JMW
Selenium, Dissolved		1.5	ug/l	21-Feb-11 16:20	JMW
Silver, Dissolved	<	5	ug/l	22-Feb-11 9:22	JMW
Thallium, Dissolved	<	1	ug/l	22-Feb-11 9:22	JMW
Zinc, Dissolved	<	6	ug/l	21-Feb-11 16:20	JMW

Sample No: 11022668-3 Collect Date: 15-Feb-11 10:40
Client Id: JANUARY 2011 Site: MW-12 Locator: GRAB

		Result	Units	Date / Time	Analyst
EPA 300.0 R2.1					
Chloride, Dissolved		180	mg/l	17-Feb-11 3:45	lgjfa
Fluoride, Dissolved		0.61	mg/l	17-Feb-11 3:27	lgjfa
Nitrate as N, Diss.	<	0.02	mg/l	17-Feb-11 3:27	lgjfa
Sulfate, Dissolved		270	mg/l	02-Mar-11 5:29	lgjfa
SM (18) 2540C					
Solids, Total Dissolved		1000	mg/l	21-Feb-11 12:24	asb

Radium 226/228 subcontracted - Report attached

11022668

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
Powerton Station
13082 E Manito Rd
Pekin, IL 61554-8587

Attn: Mark Kelly

Date Received: 15-Feb-11
Date Reported: 01-Apr-11

Sample No: 11022668-3 Collect Date: 15-Feb-11 10:40
Client Id: JANUARY 2011 Site: MW-12 Locator: GRAB

		Result	Units	Date / Time	Analyst
SM 4500 CN C/SW9012A					
Cyanide, Total	<	0.005	mg/l	23-Feb-11 11:20	lgtth
SW-846 6010B R2.0					
Iron, Dissolved		6300	ug/l	24-Feb-11 15:00	JMW
SW-846 6020					
Antimony, Dissolved	<	3	ug/l	22-Feb-11 9:28	JMW
Arsenic, Dissolved		13	ug/l	21-Feb-11 16:25	JMW
Barium, Dissolved		110	ug/l	21-Feb-11 16:25	JMW
Beryllium, Dissolved	<	1	ug/l	22-Feb-11 9:28	JMW
Boron, Dissolved		1400	ug/l	21-Feb-11 16:25	JMW
Cadmium, Dissolved	<	1	ug/l	21-Feb-11 16:25	JMW
Chromium, Dissolved		5.6	ug/l	21-Feb-11 16:25	JMW
Cobalt, Dissolved	<	2	ug/l	22-Feb-11 9:28	JMW
Copper, Dissolved	<	3	ug/l	22-Feb-11 9:28	JMW
Lead, Dissolved	<	1	ug/l	21-Feb-11 16:25	JMW
Manganese, Dissolved		580	ug/l	21-Feb-11 16:25	JMW
Mercury, Dissolved	<	0.2	ug/l	21-Feb-11 16:25	JMW
Nickel, Dissolved		10	ug/l	21-Feb-11 16:25	JMW
Selenium, Dissolved		2.7	ug/l	21-Feb-11 16:25	JMW
Silver, Dissolved	<	5	ug/l	22-Feb-11 9:28	JMW
Thallium, Dissolved	<	1	ug/l	22-Feb-11 9:28	JMW
Zinc, Dissolved	<	6	ug/l	21-Feb-11 16:25	JMW

Sample No: 11022668-4 Collect Date: 15-Feb-11 12:15
Client Id: JANUARY 2011 Site: MW-13 Locator: GRAB

		Result	Units	Date / Time	Analyst
EPA 300.0 R2.1					
Chloride, Dissolved		120	mg/l	16-Feb-11 17:33	lgjfa
Fluoride, Dissolved		0.29	mg/l	16-Feb-11 17:14	lgjfa
Nitrate as N, Diss.		1.3	mg/l	16-Feb-11 17:14	lgjfa
Sulfate, Dissolved		770	mg/l	02-Mar-11 5:49	lgjfa
SM (18) 2540C					
Solids, Total Dissolved		1600	mg/l	21-Feb-11 12:24	asb
SM 4500 CN C/SW9012A					
Cyanide, Total	<	0.005	mg/l	23-Feb-11 12:35	lgtth
SW-846 6010B R2.0					
Iron, Dissolved		52	ug/l	24-Feb-11 15:00	JMW

Radium 226/228 subcontracted - Report attached

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Greensburg, PA 15601
(724)850-5600

March 09, 2011

Ms. Elaine Kaufmann
PDC Laboratories
2231 W. Altorfer Drive
Peoria, IL 61615

RE: Project: 11022668
Pace Project No.: 3041909

Dear Ms. Kaufmann:
Enclosed are the analytical results for sample(s) received by the laboratory on February 21, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Carin A. Ferris

Carin Ferris

carin.ferris@pacelabs.com
Project Manager

Enclosures

cc: Erin Lane, PDC Laboratories, Inc.

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CERTIFICATIONS

Project: 11022668
Pace Project No.: 3041909

Pennsylvania Certification IDs
1638 Roseytown Road Suites 2,3&4, Greensburg, PA 15601
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/NELAC Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH 0694
Delaware Certification
Florida/NELAC Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/NELAC Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/NELAC Certification #: LA080002
Louisiana/NELAC Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/NELAC Certification #: 2976
New Jersey/NELAC Certification #: PA 051
New Mexico Certification
New York/NELAC Certification #: 10888
North Carolina Certification #: 42706
Oregon/NELAC Certification #: PA200002
Pennsylvania/NELAC Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/NELAC Certification #: T104704188-09 TX
Utah/NELAC Certification #: ANTE
Virgin Island/PADEP Certification
Virginia Certification #: 00112
Washington Certification #: C1941
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

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SAMPLE SUMMARY

Project: 11022668
Pace Project No.: 3041909

Lab ID	Sample ID	Matrix	Date Collected	Date Received
3041909001	11022668-1	Water	02/15/11 11:35	02/21/11 09:00
3041909002	11022668-2	Water	02/15/11 09:45	02/21/11 09:00
3041909003	11022668-3	Water	02/15/11 10:40	02/21/11 09:00
3041909004	11022668-4	Water	02/15/11 12:15	02/21/11 09:00
3041909005	11022668-5	Water	02/15/11 13:20	02/21/11 09:00
3041909006	11022668-6	Water	02/15/11 13:05	02/21/11 09:00

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SAMPLE ANALYTE COUNT

Project: 11022668
Pace Project No.: 3041909

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
3041909001	**11022668-1**	EPA 903.1	RMD	1	PASI-PA
		EPA 904.0	DJL	1	PASI-PA
3041909002	**11022668-2**	EPA 903.1	RMD	1	PASI-PA
		EPA 904.0	DJL	1	PASI-PA
3041909003	**11022668-3**	EPA 903.1	RMD	1	PASI-PA
		EPA 904.0	DJL	1	PASI-PA
3041909004	**11022668-4**	EPA 903.1	RMD	1	PASI-PA
		EPA 904.0	DJL	1	PASI-PA
3041909005	**11022668-5**	EPA 903.1	RMD	1	PASI-PA
		EPA 904.0	DJL	1	PASI-PA
3041909006	**11022668-6**	EPA 903.1	RMD	1	PASI-PA
		EPA 904.0	DJL	1	PASI-PA

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(724)850-5600

PROJECT NARRATIVE

Project: 11022668
Pace Project No.: 3041909

Method: EPA 903.1
Description: 903.1 Radium 226
Client: PDC Laboratories, Inc.
Date: March 09, 2011

General Information:
6 samples were analyzed for EPA 903.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 11022668
Pace Project No.: 3041909

Method: EPA 904.0
Description: 904.0 Radium 228
Client: PDC Laboratories, Inc.
Date: March 09, 2011

General Information:
6 samples were analyzed for EPA 904.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 11022668
Pace Project No.: 3041909

Sample: 11022668-1 **Lab ID: 3041909001** Collected: 02/15/11 11:35 Received: 02/21/11 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.303 ± 0.432 (0.728)**	pCi/L	03/08/11 13:31	13982-63-3	
Radium-228	EPA 904.0	**0.187 ± 0.427 (0.983)**	pCi/L	03/08/11 12:05	15262-20-1	

Sample: 11022668-2 **Lab ID: 3041909002** Collected: 02/15/11 09:45 Received: 02/21/11 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.515 ± 0.369 (0.174)**	pCi/L	03/08/11 13:31	13982-63-3	
Radium-228	EPA 904.0	**0.561 ± 0.477 (0.967)**	pCi/L	03/08/11 12:04	15262-20-1	

Sample: 11022668-3 **Lab ID: 3041909003** Collected: 02/15/11 10:40 Received: 02/21/11 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.229 ± 0.262 (0.207)**	pCi/L	03/08/11 13:44	13982-63-3	
Radium-228	EPA 904.0	**1.28 ± 0.608 (0.973)**	pCi/L	03/08/11 14:30	15262-20-1	

Sample: 11022668-4 **Lab ID: 3041909004** Collected: 02/15/11 12:15 Received: 02/21/11 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.0608 ± 0.120 (0.165)**	pCi/L	03/08/11 13:44	13982-63-3	
Radium-228	EPA 904.0	**0.385 ± 0.451 (0.966)**	pCi/L	03/08/11 14:31	15262-20-1	

Sample: 11022668-5 **Lab ID: 3041909005** Collected: 02/15/11 13:20 Received: 02/21/11 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.422 ± 0.322 (0.163)**	pCi/L	03/08/11 13:44	13982-63-3	
Radium-228	EPA 904.0	**0.119 ± 0.410 (0.960)**	pCi/L	03/08/11 14:27	15262-20-1	

Sample: 11022668-6 **Lab ID: 3041909006** Collected: 02/15/11 13:05 Received: 02/21/11 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.321 ± 0.288 (0.174)**	pCi/L	03/08/11 13:58	13982-63-3	
Radium-228	EPA 904.0	**0.783 ± 0.511 (0.968)**	pCi/L	03/08/11 14:29	15262-20-1	

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QUALITY CONTROL DATA

Project: 11022668
Pace Project No.: 3041909

QC Batch: RADC/7580 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 3041909001, 3041909002, 3041909003, 3041909004, 3041909005, 3041909006

METHOD BLANK: 270430 Matrix: Water
Associated Lab Samples: 3041909001, 3041909002, 3041909003, 3041909004, 3041909005, 3041909006

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-226	0.205 ± 0.302 (0.503)	pCi/L	03/08/11 12:43	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11022668
Pace Project No.: 3041909

QC Batch: RADC/7587 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 3041909001, 3041909002

METHOD BLANK: 270447 Matrix: Water
Associated Lab Samples: 3041909001, 3041909002

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-228	0.340 ± 0.445 (0.972)	pCi/L	03/08/11 12:03	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 11022668
Pace Project No.: 3041909

QC Batch: RADC/7588 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 3041909003, 3041909004, 3041909005, 3041909006

METHOD BLANK: 270449 Matrix: Water
Associated Lab Samples: 3041909003, 3041909004, 3041909005, 3041909006

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-228	0.467 ± 0.460 (0.958)	pCi/L	03/08/11 14:30	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 11022668
Pace Project No.: 3041909

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

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PDC Laboratories
2231 W. Altorfer Drive
Peoria, IL 61615

Phone: 309-692-9688
Fax: 309-692-9689

~~3041909~~

Sub-Contracted Chain of Custody Record

3041909

Means Shipped: Fed Ex

Date Shipped: 02/17/11

Contact: Elaine Kaufmann

PO #: L38433

Sample #		Collect Date	Matrix	# Container	RADIUM 226/228
11022668-1	001	FEB-15-11 11:35	GW	1	1
11022668-2	002	FEB-15-11 09:45	GW	1	1
11022668-3	003	FEB-15-11 10:40	GW	1	1
11022668-4	004	FEB-15-11 12:15	GW	1	1
11022668-5	005	FEB-15-11 13:20	GW	1	1
11022668-6	006	FEB-15-11 13:05	GW	1	1

Turn-Around Time Requested (circle): NORMAL RUSH

Date Results Need: _____

Relinquished By (Signature)	Date-Time	Received by (Signature	Date-Time
[signature]	02-17-11 09:23	[signature]	2/21/11 0900
Relinquished By (Signature)	Date-Time	Received by (Signature	Date-Time

MWG13-15_4819

MLL

Sample Condition Upon Receipt

Pace Analytical

Client Name: PDC

Project # 3041909 ~~3041907~~ MLL

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other ____

Tracking #: 961242323794Z 15000303

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☒ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☒ Other Styro Pieces

Thermometer Used 3 5 Type of Ice: Wet Blue (None) ☐ Samples on ice, cooling process has begun

Cooler Temperature N/A Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: MLL 2/21/11

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☒No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☒No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC: -includes date/time/ID/Analysis Matrix: DW	☒Yes ☐No ☐N/A	12.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	13. pH<2 all samples
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☒No	Initial when completed MLL / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☒N/A	15.
Trip Blank Present:	☐Yes ☐No ☒N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: ____ Date/Time: ____

Comments/ Resolution: ____

Project Manager Review: Anna Fenn **Date:** 2/22/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALLC003-4 23Feb2010

MWG13-15_4820

Exhibit D7

ANDREWS ENVIRONMENTAL ENGINEERING INC. 3535 Mayflower Blvd., Springfield, Illinois 62707/(217) 787-2334

June 8, 2004

Michael Reed
Midwest Generation
Powerton Generating Station
13082 E. Manito Road
Pekin, IL 61554-8587

re: Report of Sampling the Limestone Runoff Basin,
Dredge Spoil Area and Coal Combustion Waste

Dear Mr. Reed:

Andrews Environmental Engineering, Inc. (AEEI) is pleased to provide Midwest Generation with a draft Sampling Plan Report for the Limestone Runoff Basin, the Dredge Spoil Area and the Coal Combustion Waste currently generated at the Midwest Generation, Powerton Generating Station.

Please review the enclosed report and contact me if you have any questions or comments. Thank you.

Sincerely,

Sean C. Chisek

Sean C. Chisek, P.E.
Project Engineer

SCC:sjb

cc: Maria Race, Midwest Generation

J:\2002-124B\doc\2004\SamplingPlan Report Cover Letter 6-2004.doc

Made with Recycled Fiber

FAX: (217) 787-9495

DRAFT
Sampling Plan Report

Midwest Generation, LLC
Powerton Generating Station

June 2004

Prepared for:
Midwest Generation, Powerton
Pekin, Illinois



Prepared by:
Andrews Environmental Engineering Inc.
3535 Mayflower Boulevard
Springfield, IL 62707

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MWG13-15_11304

1.0 Introduction

Midwest Generation, LLC (Midwest Generation) contracted with Andrews Environmental Engineering, Inc. (AEEI) to provide a sampling plan for the Limestone Runoff Basin (the Basin), the Dredge Spoils Area and Coal Combustion Waste (CCW) currently generated at the Powerton Generating Station.

The Midwest Generation, Powerton Generating Station is a coal-fired electric power plant. The plant is located at 13082 East Manito Road in Pekin, Tazewell County, Illinois. The facility occupies approximately 568 acres, with Powerton Lake covering approximately 1,426 additional acres.

The original plant was built in 1928 and the two active generating units, Units 5 and 6, began operations in 1972 and 1975, respectively. The plant has a capacity of 1,538 MW, which is enough electricity to meet the needs of approximately 1.8 million households.

This document contains a discussion of the sampling performed in the Limestone Runoff Basin (the Basin), the Dredge Spoil Area, and CCW currently generated at the Station. AEEI personnel collected the samples and the samples were analyzed by Severn Trent Laboratories, Inc. (STL) and SET Environmental, Inc. (SET).

2.0 Limestone Runoff Basin

Prior to obtaining samples from the Basin, the locations of test pits were surveyed and marked with stakes. Test pits were then excavated in 9 locations. Figure 1 indicates the locations test pits were excavated. Samples were analyzed for total metals using test method ASTM D3987-85, Standard Test Method for Shake Extraction of Solid Waste With Water, also known as the Neutral Leach method. Samples were also analyzed for disposal parameters in the event the material is disposed of at a landfill.

2.1 Basin Survey

Prior to excavating test pits and obtaining samples, AEEI staff surveyed the Basin. The Basin was surveyed on April 9, 2004. The purpose of the survey was to stake the locations where test pits were to be dug (i.e., grid off the Basin), and to obtain topographic information of the Basin. Section 3.2 of the February 2004 sampling plan indicated the Basin would be surveyed using Global Positioning System (GPS) survey equipment. During the Basin survey, a Pentax total station, and not GPS survey equipment, was utilized. A project specific coordinate system was established. The Basin coordinate system has not been tied into an established benchmark or coordinate system. If desired by Midwest Generation, the survey can be tied into an established benchmark or coordinate system. Figure 1 shows the locations staked during the April 9, 2004 survey.

2.2 Test Pit Excavation and Sampling

Test pits were excavated, and samples obtained on Thursday, May 6, 2004. During test pit excavation, the weather was sunny, with temperatures in the mid to upper 80s

MWG13-15_11305

Fahrenheit. The following personnel were present during test pit excavation and sampling:

Sean Chisek, Andrews Environmental Engineering, Inc.
Bob Howes, Iron Hustler Excavating, Inc.
Michael Reed, Midwest Generation, LLC, Powerton
Maria Race, Midwest Generation, LLC, Chicago

Test pits were excavated from locations TP-03, TP-12, TP-15, TP-16, TP-19, TP-23, TP-25, TP-27 and TP-29. Samples of material excavated from the test pits were obtained from locations TP-03, TP-12, TP-15, TP-16, TP-19, TP-23, TP-27 and TP-29. Samples of material that appeared to be ash from a fire (FS-01 and FS-02) were obtained, as well as a sample of what appeared to be set up and compressed fly ash (SFA-1).

The following is a discussion of the test pit excavation and sampling results. Figure 2 is a drawing highlighting the results of the test pit excavation and sampling. Photographs taken during test pit excavation and sampling are contained in Appendix A. A summary of the sampling results is contained in Appendix B, Tables 1 and 2, and the full analytical results are contained in Appendix C.

TP-03

Begin Excavation	1440
End Excavation	1506
Total Depth of Excavation (feet)	6.8
Sample Obtained (Yes/No)	Yes
Approx. Depth of Sample (feet)	2.9
Time Sampled	1450
Free Liquids Observed in Test Pit (Yes/No)	No
Non-CCW Observed in Test Pit (Yes/No)	No

The surficial material at test pit TP-03 was flakey, crusty and set up. The surficial material appeared to be fly ash. Material over 3 feet deep was dark brown/black and appeared to be bottom ash. Material excavated was loose and sandy in texture. Some of the light brown fly ash was mixed with bottom ash. As the excavation proceeded, the material was dark brown/black and was very firm and set up. This material was difficult to excavate. When brought to the surface, the material was moist.

Sampling results indicate the CCW in TP-03 exceeds the Class 1 Groundwater Quality Standard for selenium when tested using method ASTM D3987-85, Standard Test Method for Shake Extraction of Solid Waste With Water. Therefore, the CCW in the grid section containing test pit TP-03 could not be used as CCB in accordance with Section 3.135 of the Illinois Environmental Protection Act.

TP-12

Begin Excavation	0845
End Excavation	0855

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Total Depth of Excavation (feet)	3.0
Sample Obtained (Yes/No)	Yes
Approx. Depth of Sample (feet)	3.0
Time Sampled	0905
Free Liquids Observed in Test Pit (Yes/No)	No
Non-CCW Observed in Test Pit (Yes/No)	No

The surficial material, consisting of approximately the top 6 inches, at TP-12 was loose and light brown in color, and appeared to by fly ash. Approximately 6 inches below grade, the material was dark brown/black in color and was set up and firm. The dark brown/black material appeared to be a mixture of fly ash and bottom ash. Excavation of this test pit was not easy as the material was set up and very firm. The top 6 inches was brown, loose material. From 6 inches to 1 foot, the material was dark brown/black. Below 1 foot, the material was brown in color. The material sampled had a loose/sandy texture with some gravel size pieces. Larger flakes of material would break under hand pressure while smaller pieces would not. The materials in the test pit appeared to be fly ash and bottom ash. Non-CCW was not observed in test pit TP-12.

Sampling results indicate the CCW in TP-12 does not exceed the Class 1 Groundwater Quality Standards for metals when tested using method ASTM D3987-85, Standard Test Method for Shake Extraction of Solid Waste With Water. In addition, non-CCW was not encountered in test pit TP-12. Therefore, the material in the grid section containing test pit TP-12 could be used as CCB in accordance with Section 3.135 of the Illinois Environmental Protection Act.

TP-15

Begin Excavation	1106
End Excavation	
Total Depth of Excavation (feet)	7.7
Sample Obtained (Yes/No)	Yes
Approx. Depth of Sample (feet)	5.4
Time Sampled	1117
Free Liquids Observed in Test Pit (Yes/No)	No
Non-CCW Observed in Test Pit (Yes/No)	No

The surficial material was light brown and loose, and appeared to be fly ash. At approximately 8 inches in depth, the material was more set up and had a light brown color with a sand and gravel consistency. Some of the excavated material, when initially excavated, had a crystalline appearance to it. After this material was out of the test pit for some time, the crystalline appearance gave way to a white color. It is unknown what the material with the crystalline appearance is, though it is believed to be set up and compressed fly ash. This material is similar to the material observed in test pits TP-25 and TP-27. As the material sat in the ground, it was set up and very firm. As it was excavated, the material had a gravel consistency. Moist, light brown, clayey material was observed near the bottom of the test pit.

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Two samples were obtained from test pit TP-15. One sample of CCW (TP-15) was obtained and one sample of the material with the crystalline appearance (SFA-1) was obtained. Identification testing of sample SFA-1 indicated it consists of clay, calcium sulfate, calcium phosphate, iron oxide, alumina and silica. Analytical testing results indicate both samples obtained from test pit TP-15 exceed the Class 1 Groundwater Quality Standard for chromium and selenium when tested using method ASTM D3987-85, Standard Test Method for Shake Extraction of Solid Waste With Water. Therefore, the CCW in the grid section containing test pit TP-15 could not be used as CCB in accordance with Section 3.135 of the Illinois Environmental Protection Act.

TP-16

Begin Excavation	1247
End Excavation	
Total Depth of Excavation (feet)	9
Sample Obtained (Yes/No)	Yes
Approx. Depth of Sample (feet)	6.6
Time Sampled	1257
Free Liquids Observed in Test Pit (Yes/No)	No
Non-CCW Observed in Test Pit (Yes/No)	Yes

The surficial material in test pit TP-16 was light brown and loose, and appeared to be fly ash. As the excavation proceeded, the material was more set up and firm. Bottom ash was observed deep in the test pit. Excavation stopped at 9 feet for stability and safety reasons, due to the backhoe being so close to TP-15. A fabric hose was observed at approximately 2 feet in depth. Small rags were observed in the test pit. A small, crushed, blue, metal container was excavated. This container appeared to be 1-3 gallons in size. It is unknown what this container held.

Sampling results indicate the CCW in TP-16 does not exceed the Class 1 Groundwater Quality Standards for metals when tested using method ASTM D3987-85, Standard Test Method for Shake Extraction of Solid Waste With Water. Small amounts of non-CCW was encountered in test pit TP-16. If the CCW in the grid section containing test pit TP-16 is to be used as CCB, the non-CCW must be separated from the CCB.

TP-19

Begin Excavation	1522
End Excavation	
Total Depth of Excavation (feet)	2.7
Sample Obtained (Yes/No)	Yes
Approx. Depth of Sample (feet)	2.7
Time Sampled	1531
Free Liquids Observed in Test Pit (Yes/No)	No
Non-CCW Observed in Test Pit (Yes/No)	No

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The surface material at test pit TP-19 was vegetated. The surficial material was black and sparkly and appeared to be bottom ash. Approximately 8 inches below the surface, light brown material was encountered. This light brown material appeared to be sand. The Hypalon liner was broken at this location. The Hypalon liner was approximately 2.7 feet below grade. Non-CCW (excluding the sand), was not observed in test pit TP-19.

Sampling results indicate the CCW in TP-19 does not exceed the Class 1 Groundwater Quality Standards for metals when tested using method ASTM D3987-85, Standard Test Method for Shake Extraction of Solid Waste With Water. In addition, non-CCW was not observed in test pit TP-19. Therefore, the material in TP-19 could be used as CCB in accordance with Section 3.135 of the Illinois Environmental Protection Act.

TP-23

Begin Excavation	0822
End Excavation	
Total Depth of Excavation (feet)	4.8
Sample Obtained (Yes/No)	Yes
Approx. Depth of Sample (feet)	4.8
Time Sampled	0838
Free Liquids Observed in Test Pit (Yes/No)	Yes
Non-CCW Observed in Test Pit (Yes/No)	No

Surficial material at TP-23 was orange/rusty in color and somewhat loose. The surficial material appeared to be fly ash. As excavation proceeded, the material was set up and firm. Material towards the bottom of the test pit was dark brown and appeared to consist of fly ash and bottom ash. Free liquid was observed in the bottom of the test pit and the sampled material was moist. Non-CCW was not observed in test pit TP-23.

Sampling results indicate the CCW in TP-23 does not exceed the Class 1 Groundwater Quality Standards for metals when tested using method ASTM D3987-85, Standard Test Method for Shake Extraction of Solid Waste With Water. In addition, non-CCW was not observed in test pit TP-23. Therefore, the material in the grid section containing test pit TP-23 could be used as CCB in accordance with Section 3.135 of the Illinois Environmental Protection Act.

TP-25

Begin Excavation	0917
End Excavation	1031
Total Depth of Excavation (feet)	9.6
Sample Obtained (Yes/No)	No
Approx. Depth of Sample (feet)	N.A.
Time Sampled	N.A.
Free Liquids Observed in Test Pit (Yes/No)	No
Non-CCW Observed in Test Pit (Yes/No)	Yes

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Surficial material (approximately the top 8 inches) was light brown and very loose and appeared to be fly ash. Below 8 inches, the material was set up and firm. When scraped, the material had a sandy texture with some gravel size and larger pieces. The material was difficult to excavate due to its firmness. The western and eastern slopes of the test pit were not very stable, with the surficial material periodically falling into the test pit. On the test pit walls, approximately 2.5 feet in depth, dark brown material was observed. Deep material was very hard and set up, making excavation difficult. This set up material had a sandy consistency with scraped with the hand but appeared to be very firm while in place, as judged by the difficulty it was to excavate. Some of the excavated material, when initially excavated, had a crystalline appearance to it. After this material was out of the test pit for some time, the crystalline appearance gave way to a white color. It is unknown what the material with the crystalline appearance is, though it is believed to be set up and compressed fly ash. This material is similar to the crystalline appearing material in test pits TP-15 and TP-27. Material in this test pit appeared to be set up fly ash. The only material in the test pit that appeared not to be CCW was one metal wire. The one piece of wire was observed at approximately 3 feet in depth. The wire was dark brown/black in color. The one piece of wire was the only non-CCW observed in the test pit. Material deep in the pit appeared light brown and had the color of clay, this material was very brittle.

No sample was obtained from test pit TP-25.

TP-27

Begin Excavation	1037
End Excavation	
Total Depth of Excavation (feet)	9.0
Sample Obtained (Yes/No)	Yes
Approx. Depth of Sample (feet)	7.2
Time Sampled	1055
Free Liquids Observed in Test Pit (Yes/No)	No
Non-CCW Observed in Test Pit (Yes/No)	Yes

The surficial material in test pit TP-27 was light brown and loose, and appeared to be fly ash. Below the loose surficial material, the material was dark brown/black and appeared to be weathered fly ash and bottom ash. Some of the excavated material, when initially excavated, had a crystalline appearance to it. After this material was out of the test pit for some time, the crystalline appearance gave way to a white color. It is unknown what the material with the crystalline appearance is, though it is believed to be set up and compressed fly ash. This material is similar to the crystalline appearing material in test pits TP-15 and TP-25. Bottom ash was observed at the sampled depth, and the sample consisted of bottom ash and fly ash. At the bottom of the test pit, clay was observed. Pieces of red wire were observed in the test pit and one piece of steel ribbon was observed at approximately 1 foot in depth.

Sampling results indicate the CCW in TP-27 does not exceed the Class 1 Groundwater Quality Standards for metals when tested using method ASTM

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D3987-85, Standard Test Method for Shake Extraction of Solid Waste With Water. Small amounts of non-CCW was encountered in test pit TP-27. If the material in the grid section containing test pit TP-27 is to be used as CCB, the non-CCW must be separated from the CCB.

TP-29

Begin Excavation	1337
End Excavation	
Total Depth of Excavation (feet)	12.2
Sample Obtained (Yes/No)	Yes
Approx. Depth of Sample (feet)	8
Time Sampled	1353
Free Liquids Observed in Test Pit (Yes/No)	No
Non-CCW Observed in Test Pit (Yes/No)	Yes

Material that appeared to be ash from a fire was present at the surface near test pit TP-29. The sampling of this material is discussed on Page 8, Fire Spoils. Material under the fire spoils is light brown and had a sandy texture. A rubber coil was excavated from test pit TP-29. Excavated material was moist with a sandy texture. A plastic soda bottle was excavated from test pit TP-29. Material close to the toe of the slope (deeper material as measured from the start of the test pit) was dark brown to black in color and appeared to by bottom ash. At depths over 8 feet, bottom ash was the most prevalent material. The bottom ash material was moist. Materials in test pit TP-29 that did not appear to be CCW include the fire spoils, the rubber coil and the soda bottle.

Sampling results indicate the CCW in TP-29 does not exceed the Class 1 Groundwater Quality Standards for metals when tested using method ASTM D3987-85, Standard Test Method for Shake Extraction of Solid Waste With Water. The non-CCW encountered at test pit TP-29 includes the material believed to be ash from a fire, a rubber coil and a plastic soda bottle. If the ash material, rubber coil and plastic soda bottle are removed from the area of test pit TP-29, the CCW in test pit TP-29 could be used as CCB.

Fire Spoils

Material that appeared to be ash from a fire, or fire spoils, was observed near test pit TP-29. At the time of test pit excavation, it was not known what the material was, though it appeared to be ash material from a fire. Two samples of the fire spoils material (FS-01 and FS-02) were obtained. Both samples were analyzed by STL and one sample will be sent to SET for identification testing. The fire spoils was present as a surficial material and was not present beyond a few inches in depth.

The identification testing indicated the material believed to be fire spoils consisted of alumina, silica, iron oxide, calcium carbonate and calcium sulfate. The analytical testing indicated the material believed to be fire spoils contained selenium in concentrations exceeding the Tiered Approach to Corrective Action (TACO), Tier 1 Residential and Industrial/Commercial, clean up objectives

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presented in 35 Ill. Adm. Code 742, Appendix A, Tables A and B, respectively. It should be noted the material believed to be fire spoils was not analyzed for all the TACO inorganics, but only the waste disposal parameters.

2.3 Discussion of Results

This section discusses possible options for managing the Basin.

2.3.1 Disposal of Material in the Basin

This option includes excavating all material in the basin and disposing of the material and Hypalon® liner at a solid waste landfill. Based on information obtained during the survey of the Basin and the location of the Hypalon® liner in test pit TP-19, there is approximately 8,250 cubic yards of material in the Basin.

Free liquid was observed in test pit TP-23. Materials with free liquids, that fail the paint filter test (SW-846, Method 9095A), must have the free liquids removed prior to disposal at a landfill. The free liquids could be removed by drying, or mixing the material with free liquids with dry material.

The advantage of this option is future environmental liability associated with the Basin would be eliminated as the material would no longer be on-site at the Station.

The disadvantage of this option is the cost associated with disposing of 8,250 cubic yards of material.

Based on previous discussions with Midwest Generation personnel, the Tazewell Recycling and Disposal Facility is the landfill used by the Station. If this option is pursued, it is recommended the Station contact the Tazewell Recycling and Disposal Facility to discuss whether or not the landfill would require additional waste characterization sampling prior to disposal. It is believed the sampling already performed is adequate to characterize the material for disposal purposes. If the material is disposed of, it is believed the material could be used as an alternate daily cover material for the landfill. If the landfill can use the material as alternate daily cover, the disposal cost may be reduced.

If material in the Basin is disposed of, the Basin should be filled with soil and vegetated. The Basin could also be filled with the dredge spoils from the Dredge Spoil Area, discussed in Section 3.0. In any case, once the Basin has been emptied, it should be backfilled to discourage future dumping of waste material.

2.3.2 Enroll the Basin in the Illinois EPA's Site Remediation Program

This option involves enrolling the Basin in Illinois EPA's Site Remediation Program (SRP), with the goal of obtaining a No Further Remediation (NFR) letter for the Basin. This option would involve using the TACO regulations to demonstrate the material in the Basin does not pose a threat to human health and the environment.

Typically, clean ups performed under the TACO regulations require the source of contamination (for example, a leaking underground storage tank) be removed prior to

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receiving an NFR letter. In this case, the source of contamination is the waste material in the Basin. Some of the material in the test pits had constituents present in concentrations exceeding the TACO, Tier 1 Residential and Industrial/Commercial clean up objectives presented in 35 Ill. Adm. Code 742, Appendix A, Tables A and B (it should be noted for metals, the Tier 1 Residential and Industrial/Commercial clean up objectives are the same). Appendix B, Table 3 contains a summary of the TCLP analytical results compared to the TACO, Tier 1 Residential clean up objectives.

Based on the TCLP testing of material in the Basin, material from the test pits below had concentrations exceeding the TACO, Tier 1 Residential and Industrial/Commercial clean up objectives.

Test Pit	Constituent
TP-03	Selenium
TP-12	Selenium
TP-15	Chromium, Selenium
TP-16	Selenium
TP-19	Cadmium
TP-29	Selenium
SFA-1	Chromium, Selenium
FS-01	Selenium
FS-02	Selenium

It is not known if the Illinois EPA would issue a NFR letter to a site in which the source of contamination remains in place. In this case, the source of contamination would include the coal combustion waste material. Based on discussion with Greg Dunn of the Illinois EPA's SRP, it is possible to obtain an NFR letter while leaving waste in place. Mr. Dunn stated some sites have received NFR letters while leaving clean construction and demolition debris in place. If leaving the CCW in place is the desired option, Mr. Dunn suggested obtaining specific information about the waste (i.e., analytical results) and then meeting with the Illinois EPA to discuss the possibility of leaving the waste in place. If this option is pursued, it is recommended a meeting be scheduled with the Illinois EPA to discuss the possibility of leaving the material in place.

If an NFR letter from the SRP is possible, the Basin would need to be covered with an engineered barrier. Possible cover configuration include 3 feet of clay overlain with 6 inches of vegetative material, or a geomembrane overlain by 2 feet of protective soil.

The advantage of enrolling the Basin in the SRP would be that an NFR letter could be obtained for the Basin, thus reducing the environmental liability associated with the Basin.

The disadvantage of enrolling the Basin in the SRP is that it is unknown if Illinois EPA would consider issuing an NFR letter to the Basin as there would be waste remaining in place. If the Illinois EPA would not be willing to consider the Basin in the SRP program, then an alternative method of managing the material in the Basin would need to be used.

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2.3.3 Use the Material as Coal Combustion By-Product

Section 3.135 of the Illinois Environmental Protection Act contains the definition of Coal Combustion By-Product (CCB), and documents how CCB can be used. One possible use of CCB is in concrete blocks or other precast/prestressed concrete components. If the CCB is adequately ground, it may be possible to use the CCB as a raw material in the production of concrete products. Grinding the material would require a permit from the Illinois EPA, Bureau of Air, for the particulate emissions from the grinding unit.

CCB can also be used as structural fill, pavement base, pipe bedding, or foundation backfill, if the conditions in Section 3.135(10) of the Illinois Environmental Protection Act are met. Section 3.135(10)(c) of the Illinois Environmental Protection Act requires the CCB meet the Class 1 Groundwater Quality Standards for metals when tested using method ASTM D3987-85, Standard Test Method for Shake Extraction of Solid Waste With Water, also known as the Neutral Leach method.

Materials within test pits TP-03 and TP-15 did not meet the Class 1 Groundwater Quality Standards for metals. Materials from these test pits can not be used as CCB in accordance with Section 3.135(7) through (10) of the Illinois Environmental Protection Act. If material from the Basin is to be used as CCB in accordance with Section 3.135(7) through (10) of the Illinois Environmental Protection Act, the material in the grid sections containing test pits TP-03 and TP-15 would need to be disposed of at a permitted landfill.

Material that was not CCW was present in test pits TP-25, TP-16 and TP-29. If material in these test pits are to be used as CCB, the non-CCW must be removed from these test pits.

The advantage of using the material as CCB is the reduced cost associated with the management of the Basin.

The disadvantage of using the material as CCB, and leaving the material in place is material in the grid sections containing test pits TP-03 and TP-15 would require disposal. Another disadvantage is the non-CCW observed in test pits TP-16, TP-25 and TP-29 would also require disposal. It is also not known if there is non-CCW in other grid sections.

3.0 Dredge Spoil Area

3.1 Background

The primary goal sampling the dredge spoil material was to verify the cadmium content of the dredged material. Previous analysis of the dredged material did not use a reporting limit for cadmium below the TACO Tier 1, Residential, Class 1 Groundwater standard. The dredge spoil area was sampled on Friday, May 7, 2004. The weather was cloudy with temperatures in the low to mid 80s Fahrenheit. Two samples of the dredge spoils (DS-01N and DS-02S) were obtained. Figure 3 contains a drawing indicating the approximate location samples were obtained. Appendix A contains photographs of the locations dredge spoil samples were obtained.

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Samples were excavated with a hand auger. The hand auger was decontaminated with deionized water and alconox between sampling points.

3.2 Analytical Results

The table below summarizes the sampling of the dredge spoil area.

Sample ID	DS-01N	DS-02S
Begin Excavation	0921	1020
Total Depth of Excavation	3'-8"	4'-1"
Approx. Depth of Sample	3'-8"	4'-1"
Time Sampled	0946	1047

The dredge spoil samples were analyzed for the Toxicity Characteristic Leaching Procedure (TCLP) metals. Analytical results were compared to the TACO, Tier 1 Residential clean up objectives presented in 35 Ill. Adm. Code 742, Appendix B, Table A. A summary of the analytical results from the dredge spoil sampling is contained in Appendix B, Table 3, and the full analytical results for the dredged material are presented in Appendix C. The analytical results indicate the metals analyzed were not present in concentrations exceeding the TACO Tier 1 Residential, Class 1 Groundwater, clean up objectives.

3.3 Discussion of Results

The Illinois EPA typically regulates dredged material as a waste. However, as the dredged material did not contain metals above the TACO Tier 1 Residential, Class 1 Groundwater, clean up objectives, it is believed the dredged material could be used as fill, or in other grading applications. Prior to using the dredge material as fill, or in grading applications, Midwest Generation should obtain written authorization from the Illinois EPA to document the dredged material is not considered a waste.

4.0 Coal Combustion Waste

4.1 Background

The goal of sampling the CCW currently generated at the Station, is to determine if the CCW could be used as CCB. Three samples of CCW were obtained on Friday, May 7, 2004. Two samples of fly ash were obtained, one from Boiler 51 (51-BLR) and one from Boiler 52 (520BLR). In addition to the samples of fly ash, one sample of bottom ash (BA-01), was obtained. Samples were analyzed for total metals using test method ASTM D3987-85, Standard Test Method for Shake Extraction of Solid Waste With Water, also known as the Neutral Leach method.

4.2 Analytical Results

A summary of the analytical results from the CCW sampling is contained in Appendix B, Table 4, and the full analytical results are contained in Appendix C.

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The analytical results indicate samples 51-BLR and 52-BLR had concentrations of chromium and selenium exceeding the Class 1 Groundwater Quality Standard.

The analytical results indicate the bottom ash did not contain metals in concentrations exceeding the Class 1 Groundwater Quality Standard.

4.3 Discussion of Results

Because the samples of fly ash had concentrations of chromium and selenium exceeding the Class 1 Groundwater Quality Standard, at the present time, fly ash from Boilers 51 and 52 can not be used as CCB in accordance with Section 3.135 of the Illinois Environmental Protection Act.

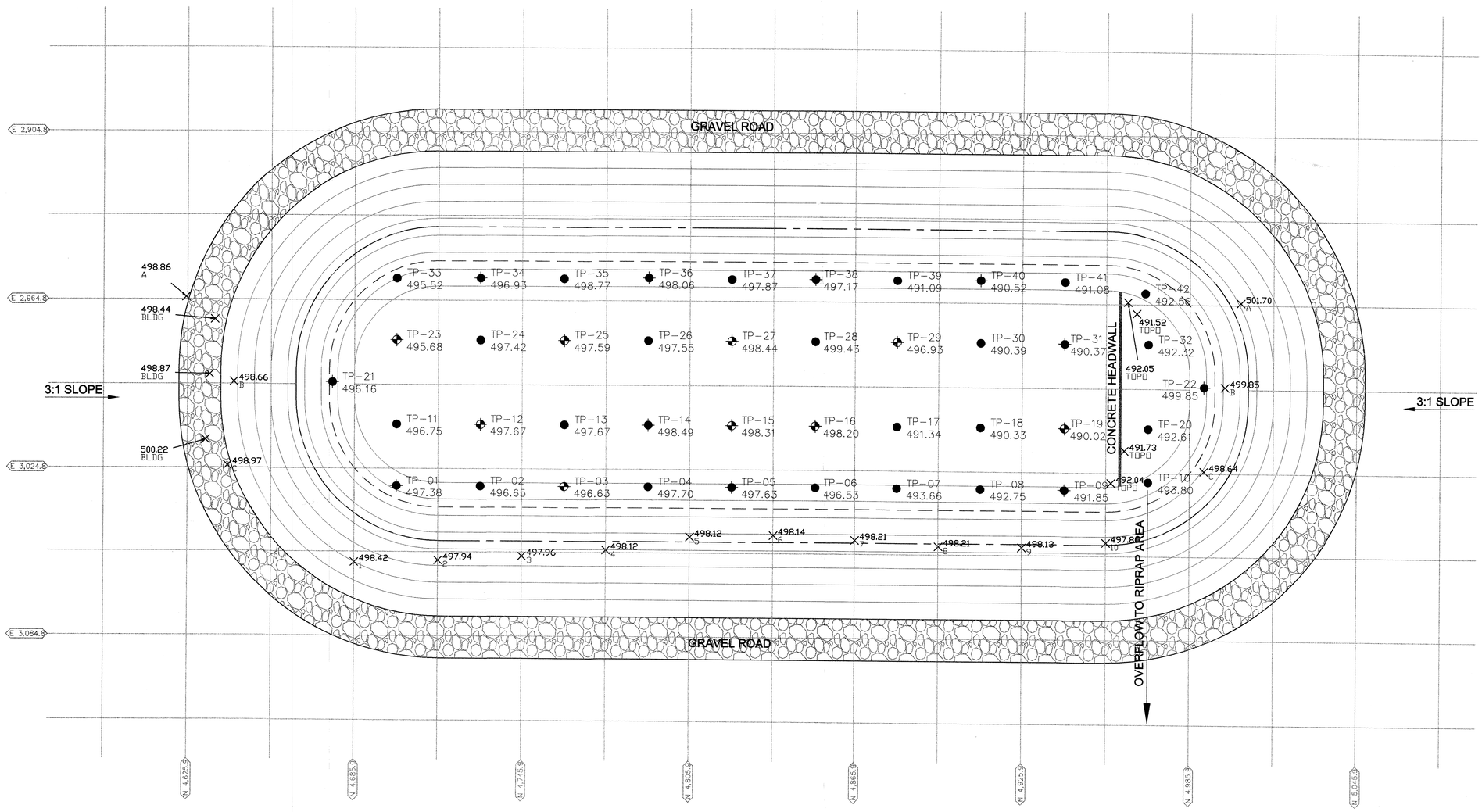
Because the sample of bottom ash did not contain metals at a concentration above the Class 1 Groundwater Quality Standard, the bottom ash could be used as CCB in accordance with Section 3.135 of the Illinois Environmental Protection Act.

MWG13-15_11316

Figures

FIGURES

MWG13-15_11318



EXPLANATION

- LIMIT OF HYPALON®
- LIMIT OF POZ-O-PAC
- MAY 6, 2004 TEST PIT LOCATIONS
- STEP 2 SAMPLING INITIAL TEST PIT LOCATIONS
- POSSIBLE TEST PIT LOCATIONS

N

20 0 10 20 40

SCALE: IN FEET

REVISIONS

NO.	DATE	DESCRIPTION	BY

ANDREWS ENVIRONMENTAL ENGINEERING INC.
3535 Mayflower Blvd., Springfield, IL 62707
Tel (217) 787-2334 Fax (217) 787-9495
Pontiac, IL • Warrenville, IL • Indianapolis, IN

APPROVED BY: SCC | DESIGNED BY: SCC | DRAWN BY: LJE

LIMESTONE RUNOFF BASIN GRID LOCATIONS

PLANS PREPARED FOR
MIDWEST GENERATION, LLC.
PEKIN, TAZEWELL COUNTY, ILLINOIS

DATE: JUNE 2004

PROJECT ID: 2002-124B

FILE: J:\\DWG\\...R...Basin2

SHEET NUMBER:

FIG. 1

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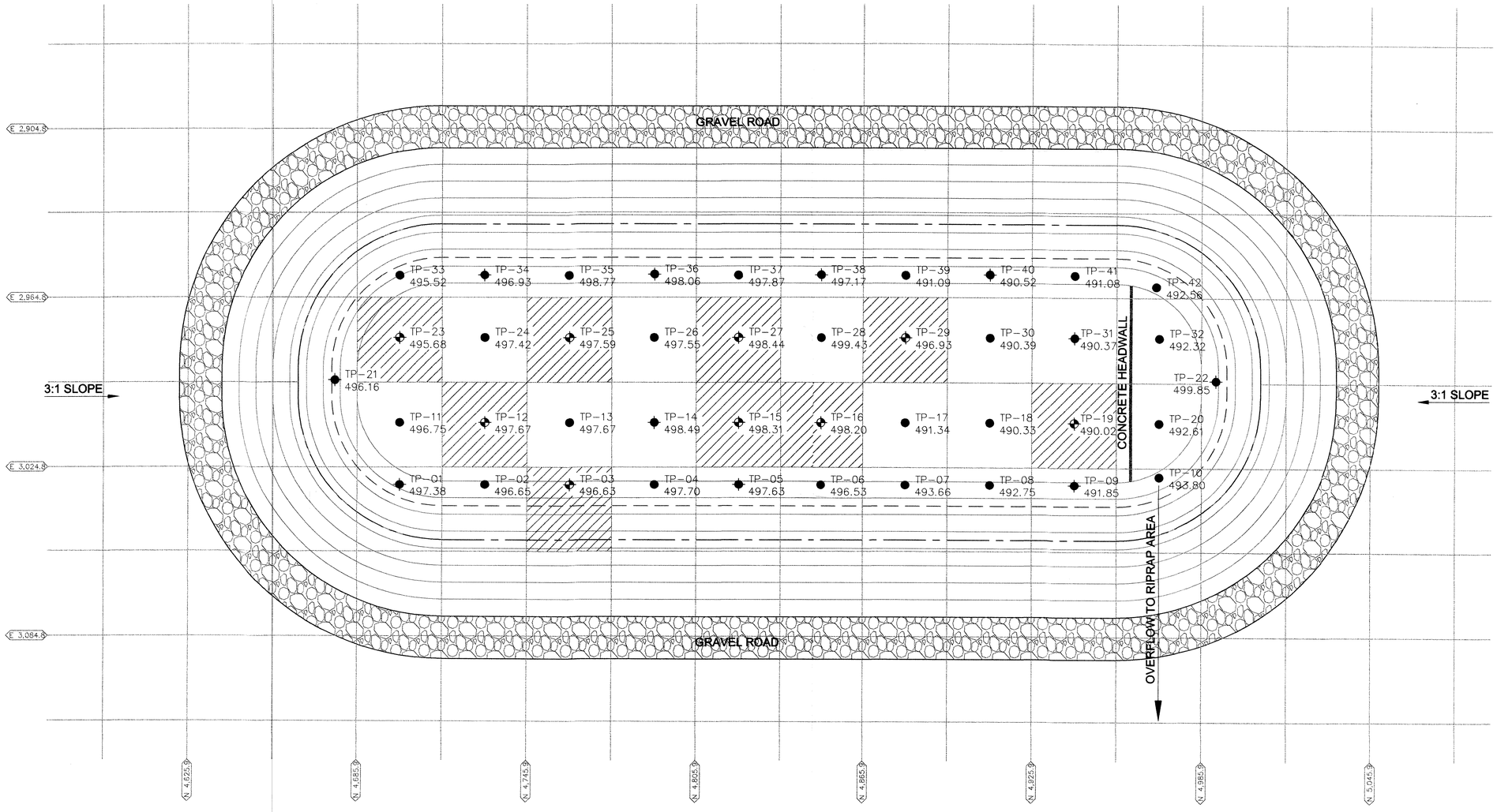
MWG13-15_11319



EXPLANATION

- LIMIT OF HYPALON®
- LIMIT OF POZ-O-PAC
- MAY 6, 2004 TEST PIT LOCATIONS
- STEP 2 SAMPLING INITIAL TEST PIT LOCATIONS
- POSSIBLE TEST PIT LOCATIONS

- SAMPLE RESULTS DID NOT EXCEED THE CLASS 1 GROUNDWATER QUALITY STANDARDS FOR METALS
- SAMPLE RESULTS DID NOT EXCEED THE CLASS 1 GROUNDWATER QUALITY STANDARDS FOR METALS, HOWEVER NON-CCW WAS OBSERVED IN THE TEST PIT. NOTE: NO SAMPLE WAS OBTAINED FROM TP-25
- SAMPLE RESULTS EXCEEDED THE CLASS 1 GROUNDWATER QUALITY STANDARDS FOR METALS

N

20 0 10 20 40

SCALE: IN FEET

REVISIONS

NO.	DATE	DESCRIPTION	BY

ANDREWS ENVIRONMENTAL ENGINEERING INC.
3535 Mayflower Blvd., Springfield, IL 62707
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APPROVED BY: SCC | DESIGNED BY: SCC | DRAWN BY: LJE

LIMESTONE RUNOFF BASIN GRID LOCATIONS

PLANS PREPARED FOR
MIDWEST GENERATION, LLC.
PEKIN, TAZEWELL COUNTY, ILLINOIS

DATE: JUNE 2004

PROJECT ID: 2002-124B

FILE: J:\\DWG\L...R...Basin2

SHEET NUMBER:

FIG. 2

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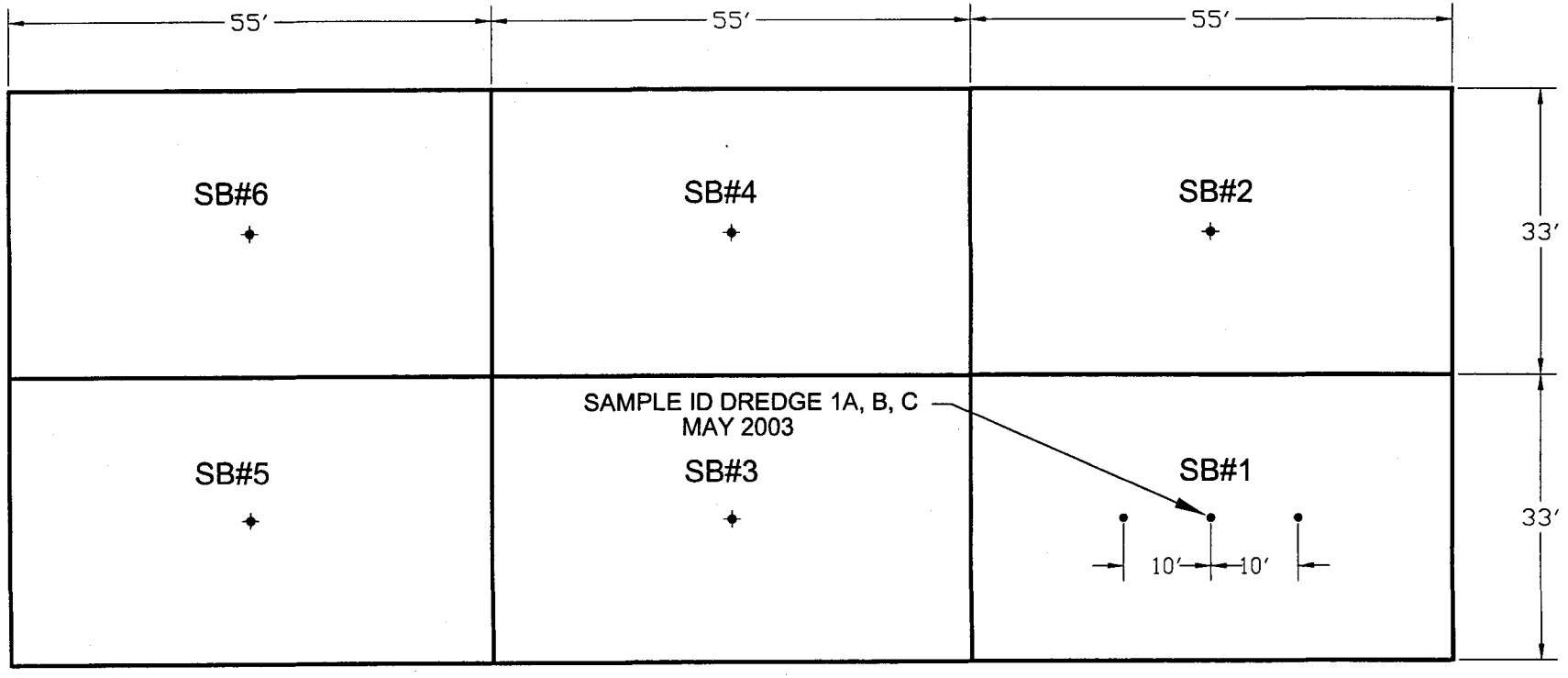
MWG13-15_11320



EXPLANATION

• - PROPOSED SAMPLE LOCATION
✦ - MAY 2003 SAMPLE LOCATION

N

0 20 40

SCALE: IN FEET

ANDREWS ENVIRONMENTAL ENGINEERING INC.
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APPROVED BY: SCC | DESIGNED BY: SCC | DRAWN BY: MPN

DREDGE SPOIL AREA SAMPLING LOCATIONS

PLANS PREPARED FOR
MIDWEST GENERATION, LLC
PEKIN, TAZEWELL COUNTY, ILLINOIS

DATE: JANUARY 2004
PROJECT ID: 2002-124B
FILE: J:\DWG\Lime..Basin
SHEET NUMBER: FIG. 3

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Appendices

A

APPENDIX A

PHOTOGRAPHS

MWG13-15_11324

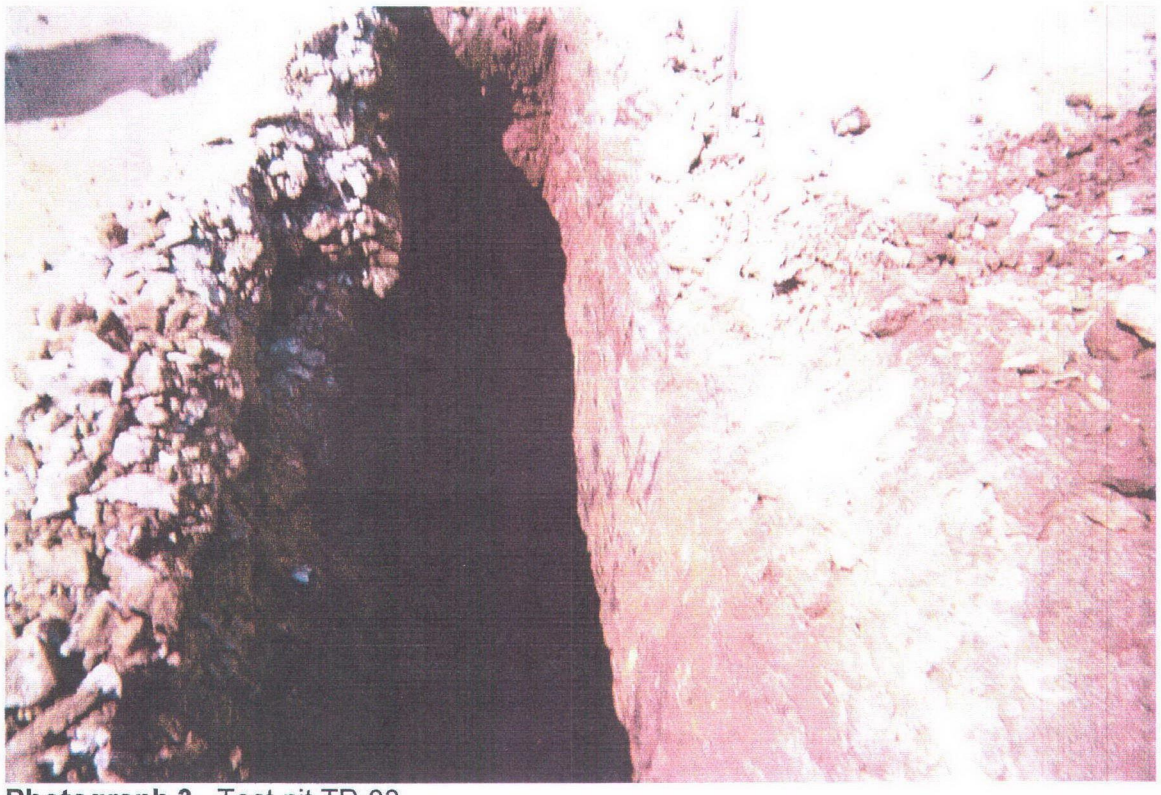


Photograph 1. TP-03 prior to excavation.



Photograph 2. Spoils from test pit TP-03.

MWG13-15_11325



Photograph 3. Test pit TP-03.



Photograph 4. Bucket the sample from test pit TP-03 was obtained.

MWG13-15_11326



Photograph 5. Spoils from test pit TP-03.

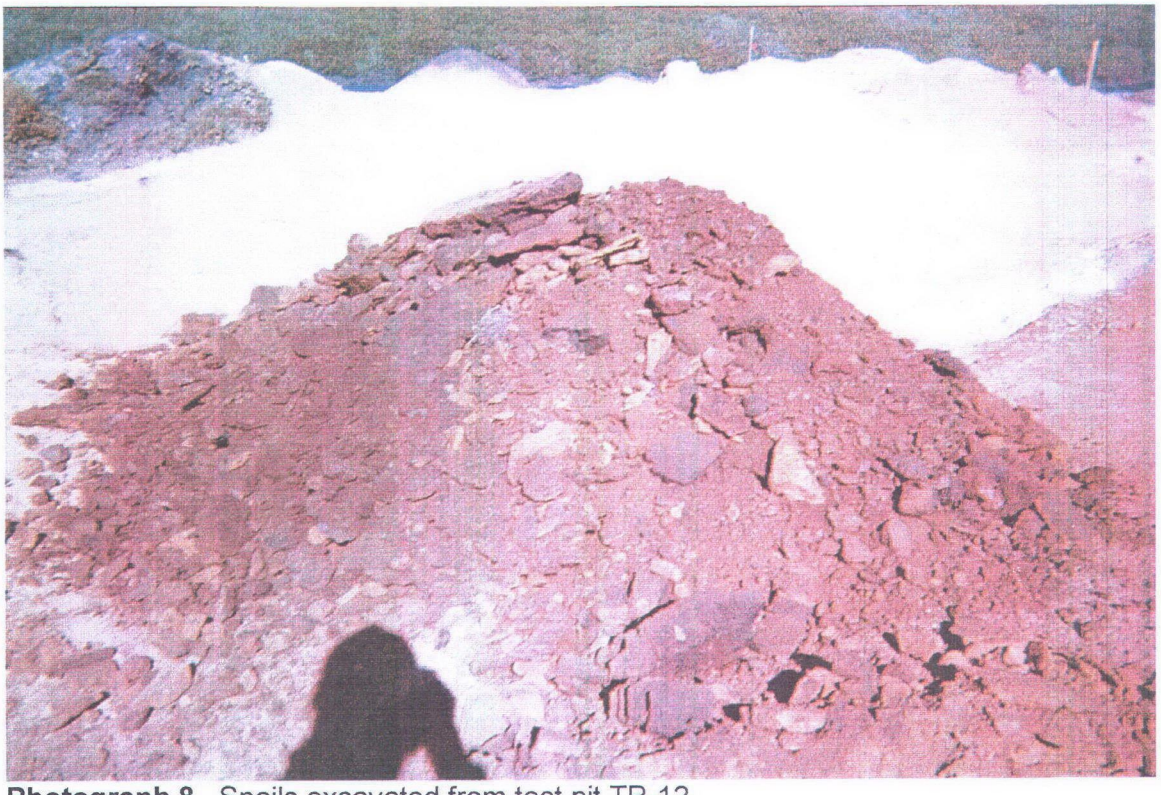


Photograph 6. Test pit TP-12 and spoils from TP-12.

MWG13-15_11327



Photograph 7. Test pit TP-12.



Photograph 8. Spoils excavated from test pit TP-12.

MWG13-15_11328



Photograph 9. Test pit TP-15.



Photograph 10. Test pit TP-15.

MWG13-15_11329



Photograph 11. Spoils from test pit TP-15. The white materials is the crystalline material believed to be set up, weathered fly ash.



Photograph 12. Test pit TP-16.

MWG13-15_11330



Photograph 13. Test pit TP-16.



Photograph 14. Bucket the sample from test pit TP-16 was obtained.

MWG13-15_11331



Photograph 15. Spoils from test pit TP-16.



Photograph 16. Test pit TP-19 prior to excavation.

MWG13-15_11332



Photograph 17. Bucket the sample from test pit TP-19 was obtained.



Photograph 18. Test pit TP-23.

MWG13-15_11333



Photograph 19. Spoils from test pit TP-23.



Photograph 20. Test pit TP-25.

MWG13-15_11334



Photograph 21. Spoils from test pit TP-25.



Photograph 22. Test pit TP-27.

MWG13-15_11335



Photograph 23. Test pit TP-27.



Photograph 24. Test pit TP-29.

MWG13-15_11336



Photograph 25. Spoils from TP-29. The spoils are in the background and include the black cinders and light brown fly ash.



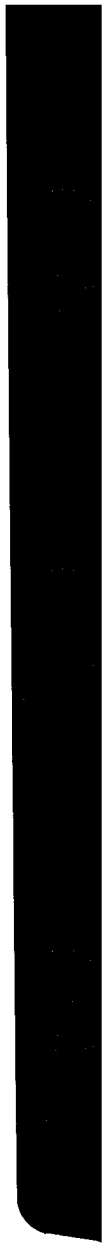
Photograph 26. Sampling location of dredge spoils DS-01N.

MWG13-15_11337



Photograph 27. Sampling location of dredge spoils DS-01S.

MWG13-15_11338



B



APPENDIX B

ANALYTICAL SUMMARY TABLES

MWG13-15_11340

TABLE 1
MIDWEST GENERATION, POWERTON
LIMESTONE RUNOFF BASIN SAMPLING RESULTS SUMMARY

Chemical	TP-03	TP-12	TP-15	SFA-1	TP-16	TP-19	TP-23	TP-27	TP-29	MDL	RL	Class 1 Groundwater Quality Standard
Antimony	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.003	0.006	0.006
Arsenic	ND	ND	0.013	ND	ND	0.011	ND	ND	ND	0.01	0.05	0.05
Barium	0.22	0.27	0.21	0.15	0.24	0.33	0.37	0.21	0.2	0.01	1.0	2
Beryllium	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.004	0.004	0.004
Boron	1.5	1.1	1.2	1	0.32	0.1	1.4	0.84	0.65	0.05	0.1	2
Cadmium	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002	0.005	0.005
Chromium	0.027	ND	**0.16**	**0.16**	0.032	ND	ND	0.036	0.092	0.01	0.05	0.1
Cobalt	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.05	1
Copper	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	0.05	0.65
Iron	ND	0.15	ND	ND	ND	0.31	ND	ND	ND	0.05	0.1	5
Lead	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.0075	0.0075
Manganese	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	0.05	0.15
Mercury	ND	ND	ND	ND	ND	ND	ND	0.0004	ND	0.0002	0.002	0.002
Nickel	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	0.05	0.1
Selenium	**0.08**	0.035	**0.15**	**0.099**	0.04	ND	ND	0.035	0.04	0.01	0.05	0.05
Silver	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.05	0.05
Thallium	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002	0.002	0.002
Zinc	0.07	0.17	0.098	0.037	0.041	0.067	0.053	0.054	0.056	0.02	0.1	5

All results are reported in mg/L.

MWG13-15_11341

TABLE 2
MIDWEST GENERATION, POWERTON
LIMESTONE RUNOFF BASIN SAMPLING RESULTS SUMMARY

Chemical	TP-03	TP-12	TP-15	SFA-1	TP-16	TP-19	TP-23	TP-27	TP-29	FS-01	FS-02	MDL	RL	TACO Tier 1 Residential, Class 1 Groundwater, Clean Up Objective
Arsenic	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01	0.05	0.05
Barium	0.18	0.43	0.21	0.22	0.095	1.5	0.17	0.17	0.17	0.18	0.18	0.01	1.0	2
Cadmium	ND	ND	ND	ND	ND	**0.008**	ND	ND	ND	ND	ND	0.002	0.005	0.005
Chromium	ND	0.027	**0.16**	**0.13**	0.024	ND	ND	0.028	0.053	ND	ND	0.01	0.05	0.1
Lead	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.0075	0.0075
Mercury	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.002	0.002	0.002
Selenium	**0.14**	**0.059**	**0.19**	**0.095**	**0.052**	0.016	0.021	0.046	**0.077**	**0.056**	**0.069**	0.01	0.05	0.05
Silver	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.005	0.05	0.05

All results are reported in mg/L.

TABLE 3
MIDWEST GENERATION, POWERTON
DREDGE SPOILS SAMPLING RESULTS SUMMARY

Chemical	DS-01N	DS-02S	MDL	RL	TACO Tier 1 Residential, Class 1 Groundwater, Clean Up Objective
Arsenic	ND	ND	0.01	0.05	0.05
Barium	0.42	0.095	0.01	1.0	2
Cadmium	0.003	ND	0.002	0.005	0.005
Chromium	ND	ND	0.01	0.05	0.1
Lead	ND	ND	0.005	0.0075	0.0075
Mercury	ND	ND	0.002	0.002	0.002
Selenium	ND	ND	0.01	0.05	0.05
Silver	ND	ND	0.005	0.05	0.05

All results are reported in mg/L.

MWG13-15_11343

TABLE 4
MIDWEST GENERATION, POWERTON
COAL COMBUSTION WASTE SAMPLING RESULTS SUMMARY

Chemical	51-BLR	52-BLR	BA-01	MDL	RL	Class 1 Groundwater Quality Standard
Antimony	0.0067	0.005	ND	0.003	0.006	0.006
Arsenic	ND	ND	ND	0.01	0.05	0.05
Barium	0.96	1.0	0.39	0.01	1.0	2
Beryllium	ND	ND	ND	0.004	0.004	0.004
Boron	0.14	0.18	0.087	0.05	0.1	2
Cadmium	ND	ND	ND	0.002	0.005	0.005
Chromium	**0.15**	**0.18**	ND	0.01	0.05	0.1
Cobalt	ND	ND	ND	0.005	0.05	1
Copper	ND	ND	ND	0.01	0.05	0.65
Iron	ND	ND	ND	0.05	0.1	5
Lead	ND	ND	ND	0.005	0.0075	0.0075
Manganese	ND	ND	ND	0.01	0.05	0.15
Mercury	ND	ND	ND	0.0002	0.002	0.002
Nickel	ND	ND	ND	0.01	0.05	0.1
Selenium	**0.073**	**0.11**	ND	0.01	0.05	0.05
Silver	ND	ND	ND	0.005	0.05	0.05
Thallium	ND	ND	ND	0.002	0.002	0.002
Zinc	0.032	0.034	0.044	0.02	0.1	5

All results are reported in mg/L.

MWG13-15_11344

C

APPENDIX C

ANALYTICAL RESULTS

MWG13-15_11346

SET Environmental, Inc.
450 Sumac Road
Wheeling, Illinois 60090-6382
Tel: (847) 537-9221 • Fax (847) 537-9265

Report # 4701-3870
Date: 5/17/04

Laboratory Report

Customer: Midwest Generation

Description of Samples Received: 2 Unknown Samples for Analysis

Description of Services Rendered: Unknown Identification

* Results are furnished on the attached page(s) *

If you have any questions concerning this report, please contact the SET Laboratory staff at (847) 537-9221.

Bijan Saeedi
Lab Manager

\\SETSYS\USER\BSAEEDI\WP2000\REPORT\4701.WPD

Report # 4701-3870
Date: 5/17/04

Customer: Midwest Generation

Unknown Identification Report

Sample Number	Approx. Qty.	Chemical Name
SFA-1	8 oz.	Clay / Calcium sulfate /Calcium phosphate / Iron oxide / Alumina / Silica / traces: Calcium carbonate / Calcium hydroxide / Sodium phosphate

Characteristics

Physical Appearance : brown solid (chunks)

Solubility in water	: slightly	Reducer	: no
Approximate pH	: 11.7	Flammability potential	: no
Oxidizer	: no	Reactive	: no
Polymerizable	: no	Unstable	: no

Sample Number	Approx. Qty.	Chemical Name
SF-02	8 oz.	Alumina / Silica / Carbon / Iron oxide / Calcium carbonate / Calcium sulfate / residual: Calcium hydroxide

Characteristics

Physical Appearance : black solid

Solubility in water	: slightly	Reducer	: no
Approximate pH	: 10.9	Flammability potential	: no
Oxidizer	: no	Reactive	: no
Polymerizable	: no	Unstable	: no

- END OF REPORT -

Note: Due to the heterogeneous nature of the samples, other components may be present at trace levels.

MWG13-15_11348

SEVERN TRENT **STL**

STL Chicago
2417 Bond Street
University Park, IL 60466
Phone: 708-534-5200
Fax: 708-534-5211

Report To:
Contact: Sean Chisek
Company: Andrews Engineering
Address: 3535 Mayflower Blvd
Springfield, IL 62707
Phone: (217) 787-2334
Fax: (217) 787-9495
E-Mail: schisek@andrews-eng.com

Bill To:
Contact: Mike Reed
Company: Midwest Generation
Address: 13082 E. Manito Rd
Pekin, IL 61554
Phone: (309) 477-5289
Fax:
PO#: Quote:

Shaded Areas For Internal Use Only ____ of ____

Lab Lot# 226535

Package Sealed: (Yes) No
Samples Sealed: Yes (No)
Received on Ice: (Yes) No
Samples Intact: Yes (No)
Temperature °C of Cooler: 4.1 3.6
Within Hold Time: (Yes) No
Preserv. Indicated: Yes No (NA)
pH Check OK: Yes No (NA)
Res Cl2 Check OK: Yes No (NA)
Sample Labels and COC Agree: (Yes) No
COC not present

Sampler Name: SEAN CHISEK
Signature: Sean Chisek
Project Name: MWGEN
Project Number:
Project Location: BASIN
Date Required Hard Copy: ___/___/___ Fax: ___/___/___
Lab PM:

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	Full TCLP	Neutral Leach Metals (Total)	Additional Analyses / Remarks
1		TP-23	5/6/04	0838	SO	G	X	X	
2		TP-12	5/6/04	0905	SO	G	X	X	
~~3~~		~~TP-25~~	~~5/6/04~~				*		
3A	X	TP-27	5/6/04	1055	SO	G	X	X	
4		TP-15	5/6/04	1117	SO	G	X	X	
5		TP-16	5/6/04	1257	SO	G	X	X	
6		FS-01	5/6/04	1320	SO	G	X	X	
7		FS-02	5/6/04	1323	SO	G	X	X	SEND TO SCT
8		TP-29	5/6/04	1353	SO	G	X	X	
9		SEA-1	5/6/04	1411	SO	G	X	X	SEND TO SCT
10		TP-03	5/6/04	1450	SO	G	X	X	

RELINQUISHED BY: Sean Chisek / SEAN CHISEK — COMPANY: Andrews Eng — DATE: 5/6/04 — TIME: 1745
RECEIVED BY: [signature] — COMPANY: STL — DATE: 5-7-04 — TIME: 0910
RELINQUISHED BY ____ COMPANY ____ DATE ____ TIME ____
RECEIVED BY ____ COMPANY ____ DATE ____ TIME ____

Matrix Key
WW = Wastewater, W = Water, S = Soil, SL = Sludge, MS = Miscellaneous, OL = Oil, A = Air, SE = Sediment, SD = Solid, DS = Drum Solid, DL = Drum Liquid, L = Leachate, WI = Wipe, O = ____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other ____

Preservative Key
1. HCl, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS

Date Received 5/7/04
Courier: FX Hand Delivered ☐
Bill of Lading

MWG13-15_11349

SEVERN TRENT STL

STL Chicago
2417 Bond Street
University Park, IL 60466

Tel: 708 534 5200 Fax: 708 534 5211
www.stl-inc.com

June 4, 2004

Mr. Sean Chisek
Andrews Environmental Engineering Inc.
3535 Mayflower Blvd.
Springfield, IL 62707

RE: Powerton Sampling
Revised Data Packages
Job# 226535 & 226578

Dear Mr. Chisek:

The enclosed revised analytical reports are for the project and job numbers listed above. Per your request, selenium was added to the neutral leach samples. If you have any questions, please contact me at 708-534-5200.

Sincerely,

Severn Trent Laboratories

Linda S. Mackley
Project Manager

pmb

Enclosure

Cc: Michael Reed, Midwest Generation EME, LLC

The results presented in this report relate only to the analytical testing and conditions of sample at receipt. This report pertains to only those samples actually tested. All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.

SEVERN TRENT STL

STL Chicago
2417 Bond Street
University Park, IL 60466

Tel: 708 534 5200 Fax: 708 534 5211
www.stl-inc.com

SEVERN TRENT LABORATORIES ANALYTICAL REPORT

JOB NUMBER: 226578

Prepared For:

Andrews Environmental Engineering Inc.
3535 Mayflower Blvd.
Springfield, IL 62707

Project: Powerton Sampling

Attention: Sean Chisek

Date: 06/04/2004

Linda S Mackley
Signature

6-4-04
Date

Name: Linda S. Mackley

Title: Project Manager

E-Mail: lmackley@stl-inc.com

STL Chicago
2417 Bond Street
University Park, IL 60466

PHONE: (708) 534-5200
FAX..: (708) 534-5211

This Report Contains (23) Pages

Severn Trent Laboratories Chicago
METALS CASE NARRATIVE

Client: Midwest Generation EME, LLC
Project ID: Powerton Sampling
STL Job #: 226578

Date Rec'd: 05/10/04

1. This narrative covers the Metals analysis of Samples in the above STL Job.

   Method Refs: USEPA, SW-846

2. All analyses were performed within the required holding times.

3. All Initial and Continuing Calibration Verification (ICV/CCV's) were within control limits.

4. All Initial and Continuing Calibration Blanks (ICB/CCB's) within control limits.

5. All Preparation/Method Blanks were below the Reporting Limits.

6. Laboratory Control Sample (LCS) recoveries were within control limits.

7. Matrix QC was performed on Sample 2.

   All Serial dilution analysis were within control limits.

   Matrix spike recoveries were within the 50-150% TCLP control limits (control limits are not applicable when the sample concentration exceeds the Spike concentration by a factor of 4 or more) except for Ba. Method of Standard addition was performed for Ba and the result was unchanged.

   Duplicate results were within the 20% RPD control limits for sample concentration greater than 5X the RL or +\- the RL for sample concentration less than 5X the RL.

Jodi L. Wojcik
Metals Section Manager

5-21-04
Date

STL Chicago is part of Severn Trent Laboratories, Inc.

SAMPLE INFORMATION
Date: 06/04/2004

Job Number.: 226578
Customer...: Midwest Generation EME, LLC
Attn.....: Michael Reed

Project Number.....: 20004182
Customer Project ID....: POWERTON STATION
Project Description....: Powerton Sampling

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
226578-1	DS-01N	Sediment	05/07/2004	09:46	05/10/2004	10:00
226578-2	DS-02S	Sediment	05/07/2004	10:20	05/10/2004	10:00
226578-3	BA-01	Sediment	05/07/2004	11:38	05/10/2004	10:00
226578-4	52-BLR	Sediment	05/07/2004	12:33	05/10/2004	10:00
226578-5	51-BLR	Sediment	05/07/2004	12:34	05/10/2004	10:00

MWG13-15_11353

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 226578

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON STATION | ATTN: Michael Reed

Customer Sample ID: DS-01N
Date Sampled.....: 05/07/2004
Time Sampled.....: 09:46
Sample Matrix.....: Sediment

Laboratory Sample ID: 226578-1
Date Received.....: 05/10/2004
Time Received.....: 10:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Leachable, Mercury (CVAA)											
	Mercury, TCLP Leach	ND	U		0.0020	0.0020	1	mg/L	117934		05/14/04 1627	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117852		05/14/04 1531	tds
	Barium, TCLP Leach	0.42	B		0.010	1.0	1	mg/L	117852		05/14/04 1531	tds
	Cadmium, TCLP Leach	0.003	B		0.002	0.005	1	mg/L	117852		05/14/04 1531	tds
	Chromium, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117852		05/14/04 1531	tds
	Lead, TCLP Leach	ND	U		0.0050	0.0075	1	mg/L	117852		05/14/04 1531	tds
	Selenium, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117852		05/14/04 1531	tds
	Silver, TCLP Leach	ND	U		0.005	0.050	1	mg/L	117852		05/14/04 1531	tds

* In Description = Dry Wgt.

MWG13-15_11354

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 226578

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON STATION | ATTN: Michael Reed

Customer Sample ID: DS-02S
Date Sampled.....: 05/07/2004
Time Sampled.....: 10:20
Sample Matrix.....: Sediment

Laboratory Sample ID: 226578-2
Date Received.....: 05/10/2004
Time Received.....: 10:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7470A	Leachable, Mercury (CVAA)											
	Mercury, TCLP Leach	ND	U		0.0020	0.0020	1	mg/L	117934		05/14/04 1634	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117852		05/14/04 1537	tds
	Barium, TCLP Leach	0.095	B		0.010	1.0	1	mg/L	117852		05/14/04 1537	tds
	Cadmium, TCLP Leach	ND	U		0.002	0.005	1	mg/L	117852		05/14/04 1537	tds
	Chromium, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117852		05/14/04 1537	tds
	Lead, TCLP Leach	ND	U		0.0050	0.0075	1	mg/L	117852		05/14/04 1537	tds
	Selenium, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117852		05/14/04 1537	tds
	Silver, TCLP Leach	ND	U		0.005	0.050	1	mg/L	117852		05/14/04 1537	tds

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226578 Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON STATION ATTN: Michael Reed

Customer Sample ID: BA-01
Date Sampled.....: 05/07/2004
Time Sampled.....: 11:38
Sample Matrix.....: Sediment

Laboratory Sample ID: 226578-3
Date Received.....: 05/10/2004
Time Received.....: 10:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7041	Leachable, Antimony (GFAA)											
	Antimony, Neutral Leach	ND	U		0.0030	0.0060	1	mg/L	117859		05/13/04 1618	daj
7841	Leachable, Thallium (GFAA)											
	Thallium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	117862		05/13/04 1815	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	117934		05/14/04 1618	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0555	tds
	Barium, Neutral Leach	0.39	B		0.010	1.0	1	mg/L	117667		05/14/04 0555	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	117667		05/14/04 0555	tds
	Boron, Neutral Leach	0.087	B		0.050	0.10	1	mg/L	117667		05/14/04 0555	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0555	tds
	Chromium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0555	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0555	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0555	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	117667		05/14/04 0555	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0555	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0555	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0555	tds
	Selenium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0555	tds
	Silver, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0555	tds
	Zinc, Neutral Leach	0.044	B		0.020	0.10	1	mg/L	117667		05/14/04 0555	tds

* In Description = Dry Wgt.

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 226578

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON STATION | ATTN: Michael Reed

Customer Sample ID: 52-BLR
Date Sampled.....: 05/07/2004
Time Sampled.....: 12:33
Sample Matrix.....: Sediment

Laboratory Sample ID: 226578-4
Date Received.....: 05/10/2004
Time Received.....: 10:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7041	Leachable, Antimony (GFAA)											
	Antimony, Neutral Leach	0.0050	B		0.0030	0.0060	1	mg/L	117859		05/13/04 1630	daj
7841	Leachable, Thallium (GFAA)											
	Thallium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	117862		05/13/04 1827	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	117934		05/14/04 1620	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0628	tds
	Barium, Neutral Leach	1.0			0.010	1.0	1	mg/L	117667		05/14/04 0628	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	117667		05/14/04 0628	tds
	Boron, Neutral Leach	0.18			0.050	0.10	1	mg/L	117667		05/14/04 0628	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0628	tds
	Chromium, Neutral Leach	0.18			0.010	0.050	1	mg/L	117667		05/14/04 0628	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0628	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0628	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	117667		05/14/04 0628	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0628	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0628	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0628	tds
	Selenium, Neutral Leach	0.11			0.010	0.050	1	mg/L	117667		05/14/04 0628	tds
	Silver, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0628	tds
	Zinc, Neutral Leach	0.034	B		0.020	0.10	1	mg/L	117667		05/14/04 0628	tds

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226578

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON STATION | ATTN: Michael Reed

Customer Sample ID: 51-BLR
Date Sampled.....: 05/07/2004
Time Sampled.....: 12:34
Sample Matrix.....: Sediment

Laboratory Sample ID: 226578-5
Date Received.....: 05/10/2004
Time Received.....: 10:00

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7041	Leachable, Antimony (GFAA)											
	Antimony, Neutral Leach	0.0067			0.0030	0.0060	1	mg/L	117859		05/13/04 1642	daj
7841	Leachable, Thallium (GFAA)											
	Thallium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	117862		05/13/04 1840	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	117934		05/14/04 1623	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0634	tds
	Barium, Neutral Leach	0.96	B		0.010	1.0	1	mg/L	117667		05/14/04 0634	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	117667		05/14/04 0634	tds
	Boron, Neutral Leach	0.14			0.050	0.10	1	mg/L	117667		05/14/04 0634	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0634	tds
	Chromium, Neutral Leach	0.15			0.010	0.050	1	mg/L	117667		05/14/04 0634	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0634	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0634	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	117667		05/14/04 0634	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0634	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0634	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0634	tds
	Selenium, Neutral Leach	0.073			0.010	0.050	1	mg/L	117667		05/14/04 0634	tds
	Silver, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0634	tds
	Zinc, Neutral Leach	0.032	B		0.020	0.10	1	mg/L	117667		05/14/04 0634	tds

* In Description = Dry Wgt.

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY CHRONICLE

Job Number: 226578 Date: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON STATION ATTN: Michael Reed

Lab ID: 226578-1 Client ID: DS-01N Date Recvd: 05/10/2004 Sample Date: 05/07/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	117582	117490	05/13/2004 1020	
7470A	Leachable, Mercury (CVAA)	1	117934	117933-117490	05/14/2004 1627	
6010B	Leachable, Metals Analysis (ICAP)	1	117852	117582-117490	05/14/2004 1531	
7470	SW846 Dig. Leachates (Hg)	1	117933		05/14/2004 1200	
1311	TCLP Extraction	1	117490		05/12/2004 1450	

Lab ID: 226578-2 Client ID: DS-02S Date Recvd: 05/10/2004 Sample Date: 05/07/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	117582	117490	05/13/2004 1020	
7470A	Leachable, Mercury (CVAA)	1	117934	117933-117490	05/14/2004 1634	
6010B	Leachable, Metals Analysis (ICAP)	1	117852	117582-117490	05/14/2004 1537	
7470	SW846 Dig. Leachates (Hg)	1	117933		05/14/2004 1200	
1311	TCLP Extraction	1	117490		05/12/2004 1450	

Lab ID: 226578-3 Client ID: BA-01 Date Recvd: 05/10/2004 Sample Date: 05/07/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	117521	117334	05/12/2004 1850	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	117522	117334	05/12/2004 1850	
7041	Leachable, Antimony (GFAA)	1	117859	117522-117334	05/13/2004 1618	
7470A	Leachable, Mercury (CVAA)	1	117934	117933-117334	05/14/2004 1618	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117521-117334	05/14/2004 0555	
7841	Leachable, Thallium (GFAA)	1	117862	117522-117334	05/13/2004 1815	
D3987	Neutral Leachate Extraction	1	117334		05/11/2004 1330	
7470	SW846 Dig. Leachates (Hg)	1	117933		05/14/2004 1200	

Lab ID: 226578-4 Client ID: 52-BLR Date Recvd: 05/10/2004 Sample Date: 05/07/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	117521	117334	05/12/2004 1850	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	117522	117334	05/12/2004 1850	
7041	Leachable, Antimony (GFAA)	1	117859	117522-117334	05/13/2004 1630	
7470A	Leachable, Mercury (CVAA)	1	117934	117933-117334	05/14/2004 1620	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117521-117334	05/14/2004 0628	
7841	Leachable, Thallium (GFAA)	1	117862	117522-117334	05/13/2004 1827	
D3987	Neutral Leachate Extraction	1	117334		05/11/2004 1330	
7470	SW846 Dig. Leachates (Hg)	1	117933		05/14/2004 1200	

Lab ID: 226578-5 Client ID: 51-BLR Date Recvd: 05/10/2004 Sample Date: 05/07/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED	DILUTION
3010A	Acid Dig. Leachates (ICAP)	1	117521	117334	05/12/2004 1850	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	117522	117334	05/12/2004 1850	
7041	Leachable, Antimony (GFAA)	1	117859	117522-117334	05/13/2004 1642	
7470A	Leachable, Mercury (CVAA)	1	117934	117933-117334	05/14/2004 1623	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117521-117334	05/14/2004 0634	
7841	Leachable, Thallium (GFAA)	1	117862	117522-117334	05/13/2004 1840	
D3987	Neutral Leachate Extraction	1	117334		05/11/2004 1330	
7470	SW846 Dig. Leachates (Hg)	1	117933		05/14/2004 1200	

MWG13-15_11359

QUALITY CONTROL RESULTS

Job Number.: 226578

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON STATION | ATTN: Michael Reed

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: 6010B
Method Description.: Leachable, Metals Analysis (ICAP)

Equipment Code....: ICP3
Batch.....: 117667

Analyst...: tds

EB1	Extraction Blank 1	117373	117373-001		05/14/2004	0027

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U							
Barium, TCLP Leach	mg/L	0.22309 B							
Cadmium, TCLP Leach	mg/L	0.00200 U							
Chromium, TCLP Leach	mg/L	0.01000 U							
Lead, TCLP Leach	mg/L	0.00500 U							
Selenium, TCLP Leach	mg/L	0.01000 U							
Silver, TCLP Leach	mg/L	0.00500 U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11360

QUALITY CONTROL RESULTS

Job Number.: 226578

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB2	Extraction Blank 2		117373-002		05/14/2004	0034

Test Method.....: 6010B
Method Description.: Leachable, Metals Analysis (ICAP)

Equipment Code....: ICP3
Batch.....: 117667

Analyst...: tds

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U							
Barium, TCLP Leach	mg/L	0.01849 B							
Cadmium, TCLP Leach	mg/L	0.00200 U							
Chromium, TCLP Leach	mg/L	0.01000 U							
Lead, TCLP Leach	mg/L	0.00500 U							
Selenium, TCLP Leach	mg/L	0.01000 U							
Silver, TCLP Leach	mg/L	0.00500 U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11361

QUALITY CONTROL RESULTS

Job Number.: 226578

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB3	DI Blank	117521	117521-001		05/14/2004	0320

Test Method.....: 6010B
Method Description.: Leachable, Metals Analysis (ICAP)

Equipment Code....: ICP3
Batch.....: 117667

Analyst...: tds

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, Neutral Leach	mg/L	0.01000 U							
Barium, Neutral Leach	mg/L	0.10463 B							
Beryllium, Neutral Leach	mg/L	0.00400 U							
Boron, Neutral Leach	mg/L	0.05000 U							
Cadmium, Neutral Leach	mg/L	0.00200 U							
Chromium, Neutral Leach	mg/L	0.01000 U							
Cobalt, Neutral Leach	mg/L	0.00500 U							
Copper, Neutral Leach	mg/L	0.01000 U							
Iron, Neutral Leach	mg/L	0.05000 U							
Lead, Neutral Leach	mg/L	0.00500 U							
Magnesium, Neutral Leach	mg/L	0.10000 U							
Manganese, Neutral Leach	mg/L	0.01000 U							
Nickel, Neutral Leach	mg/L	0.01000 U							
Selenium, Neutral Leach	mg/L	0.01000 U							
Silver, Neutral Leach	mg/L	0.00500 U							
Zinc, Neutral Leach	mg/L	0.03301 B							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11362

QUALITY CONTROL RESULTS

Job Number.: 226578 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 117667

LCS	Laboratory Control Sample	M04ESPK001	117373-003		05/14/2004	0040

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.09313	B	0.10000	0.01000	U 93	%	80-120	
Barium, TCLP Leach	mg/L	1.84654		2.00000	0.01849	B 92	%	80-120	
Cadmium, TCLP Leach	mg/L	0.04657	B	0.05000	0.00200	U 93	%	80-120	
Chromium, TCLP Leach	mg/L	0.18867		0.20000	0.01000	U 94	%	80-120	
Lead, TCLP Leach	mg/L	0.10201		0.10000	0.00500	U 102	%	80-120	
Selenium, TCLP Leach	mg/L	0.09238	B	0.10000	0.01000	U 92	%	80-120	
Silver, TCLP Leach	mg/L	0.04563	B	0.05000	0.00500	U 91	%	80-120	

LCS	Laboratory Control Sample	M04ESPK001	117521-002		05/14/2004	0326

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, Neutral Leach	mg/L	0.09683	B	0.10000	0.01000	U 97	%	80-120	
Barium, Neutral Leach	mg/L	1.91409		2.00000	0.10463	B 96	%	80-120	
Beryllium, Neutral Leach	mg/L	0.04842	B	0.05000	0.00400	U 97	%	80-120	
Boron, Neutral Leach	mg/L	0.94642		1.00000	0.05000	U 95	%	80-120	
Cadmium, Neutral Leach	mg/L	0.04800	B	0.05000	0.00200	U 96	%	80-120	
Chromium, Neutral Leach	mg/L	0.19306		0.20000	0.01000	U 97	%	80-120	
Cobalt, Neutral Leach	mg/L	0.47608		0.50000	0.00500	U 95	%	80-120	
Copper, Neutral Leach	mg/L	0.24406		0.25000	0.01000	U 98	%	80-120	
Iron, Neutral Leach	mg/L	0.95252		1.00000	0.05000	U 95	%	80-120	
Lead, Neutral Leach	mg/L	0.10548		0.10000	0.00500	U 105	%	80-120	
Magnesium, Neutral Leach	mg/L	9.45160		10.00000	0.10000	U 95	%	80-120	
Manganese, Neutral Leach	mg/L	0.48725		0.50000	0.01000	U 97	%	80-120	
Nickel, Neutral Leach	mg/L	0.47968		0.50000	0.01000	U 96	%	80-120	
Selenium, Neutral Leach	mg/L	0.09533	B	0.10000	0.01000	U 95	%	80-120	
Silver, Neutral Leach	mg/L	0.04700	B	0.05000	0.00500	U 94	%	80-120	
Zinc, Neutral Leach	mg/L	0.47263		0.50000	0.03301	B 95	%	80-120	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11363

QUALITY CONTROL RESULTS

Job Number.: 226578 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 117852

EB1	Extraction Blank 1	117582	117582-001		05/14/2004	1349

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U							
Barium, TCLP Leach	mg/L	0.23226 B							
Cadmium, TCLP Leach	mg/L	0.00200 U							
Chromium, TCLP Leach	mg/L	0.01000 U							
Lead, TCLP Leach	mg/L	0.00500 U							
Selenium, TCLP Leach	mg/L	0.01000 U							
Silver, TCLP Leach	mg/L	0.00500 U							

EB1	Extraction Blank 1		117582-009		05/14/2004	1525

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U							
Barium, TCLP Leach	mg/L	0.31289 B							
Cadmium, TCLP Leach	mg/L	0.00200 U							
Chromium, TCLP Leach	mg/L	0.01000 U							
Lead, TCLP Leach	mg/L	0.00500 U							
Selenium, TCLP Leach	mg/L	0.01000 U							
Silver, TCLP Leach	mg/L	0.00500 U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226578

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB3	DI Blank		117582-015		05/14/2004	1622

Test Method.....: 6010B
Method Description.: Leachable, Metals Analysis (ICAP)

Equipment Code....: ICP3
Batch.....: 117852

Analyst...: tds

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U							
Barium, TCLP Leach	mg/L	0.05769 B							
Cadmium, TCLP Leach	mg/L	0.00200 U							
Chromium, TCLP Leach	mg/L	0.01000 U							
Lead, TCLP Leach	mg/L	0.00500 U							
Selenium, TCLP Leach	mg/L	0.01000 U							
Silver, TCLP Leach	mg/L	0.00500 U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226578 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	M04ESPK001	117582-002		05/14/2004	1355

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 117852

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.09066 B		0.10000	0.01000 U	91	%	80-120	
Barium, TCLP Leach	mg/L	1.83445		2.00000	0.23226 B	92	%	80-120	
Cadmium, TCLP Leach	mg/L	0.04533 B		0.05000	0.00200 U	91	%	80-120	
Chromium, TCLP Leach	mg/L	0.18422		0.20000	0.01000 U	92	%	80-120	
Lead, TCLP Leach	mg/L	0.09869		0.10000	0.00500 U	99	%	80-120	
Selenium, TCLP Leach	mg/L	0.09111 B		0.10000	0.01000 U	91	%	80-120	
Silver, TCLP Leach	mg/L	0.04521 B		0.05000	0.00500 U	90	%	80-120	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11366

QUALITY CONTROL RESULTS

Job Number.: 226578 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MD	Method Duplicate		226578-2		05/14/2004	1550

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 117852

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U			0.01000 U	0	A	0.10000	
Barium, TCLP Leach	mg/L	0.09563 B			0.09469 B	0.00094	A	1.00000	
Cadmium, TCLP Leach	mg/L	0.00200 U			0.00200 U	0.00004	A	0.05000	
Chromium, TCLP Leach	mg/L	0.01000 U			0.01000 U	0.00021	A	0.05000	
Lead, TCLP Leach	mg/L	0.00500 U			0.00500 U	0.00034	A	0.05000	
Selenium, TCLP Leach	mg/L	0.01000 U			0.01000 U	0.00138	A	0.10000	
Silver, TCLP Leach	mg/L	0.00500 U			0.00500 U	0.00012	A	0.05000	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226578 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MS	Matrix Spike	M04DSPK001	226578-2		05/14/2004	1556

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 117852

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	5.22065		5.00000	0.01000 U	104	%	50-150	
Barium, TCLP Leach	mg/L	33.11253		100.00000	0.09469 B	33	%	50-150	N
Cadmium, TCLP Leach	mg/L	0.96528		1.00000	0.00200 U	97	%	50-150	
Chromium, TCLP Leach	mg/L	4.86443		5.00000	0.01000 U	97	%	50-150	
Lead, TCLP Leach	mg/L	4.58120		5.00000	0.00500 U	92	%	50-150	
Selenium, TCLP Leach	mg/L	1.01338		1.00000	0.01000 U	101	%	50-150	
Silver, TCLP Leach	mg/L	1.04852		1.00000	0.00500 U	105	%	50-150	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11368

QUALITY CONTROL RESULTS

Job Number.: 226578 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON STATION ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
SD	Serial Dilution		226578-2		05/14/2004	1543

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 117852

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U			0.01000 U				
Barium, TCLP Leach	mg/L	0.01930 B			0.09469 B				
Cadmium, TCLP Leach	mg/L	0.00200 U			0.00200 U				
Chromium, TCLP Leach	mg/L	0.01000 U			0.01000 U				
Lead, TCLP Leach	mg/L	0.00500 U			0.00500 U				
Selenium, TCLP Leach	mg/L	0.01000 U			0.01000 U				
Silver, TCLP Leach	mg/L	0.00500 U			0.00500 U				

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11369

QUALITY CONTROL RESULTS

Job Number.: 226578 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON STATION ATTN: Michael Reed

Test Method.....: 7041 Batch.....: 117859 Analyst...: daj
Method Description.: Leachable, Antimony (GFAA) Equipment Code....: AA8 Test Code.: SB
Parameter.....: Antimony

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
EB3	117522-001	117522	mg/L	0.00300 U								05/13/2004	1201
LCS	117522-002	M03LSPK001	mg/L	0.04230		0.05000	0.00300 U	85		%	80-120	05/13/2004	1213

Test Method.....: 7841 Batch.....: 117862 Analyst...: daj
Method Description.: Leachable, Thallium (GFAA) Equipment Code....: AA6 Test Code.: TL
Parameter.....: Thallium

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
EB3	117522-001	117522	mg/L	0.00200 U								05/13/2004	1349
LCS	117522-002	M03LSPK001	mg/L	0.05157		0.05000	0.00200 U	103		%	80-120	05/13/2004	1402

Test Method.....: 7470A Batch.....: 117934 Analyst...: gok
Method Description.: Leachable, Mercury (CVAA) Equipment Code....: HG4 Test Code.: HG
Parameter.....: Mercury

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
MB	117933-007		ug/L	0.20 U								05/14/2004	1513
LCS	117933-008	M02ESTK010	ug/L	2.14		2.00	0.20 U	107		%	80-120	05/14/2004	1515
EB3	117933-009	277	mg/L	0.00113								05/14/2004	1518
EB1	117933-020	278	mg/L	0.00200 U								05/14/2004	1625
MD	226578-2		mg/L	0.00200 U			0.00200 U	0		A	0.00200	05/14/2004	1637
MS	226578-2	M03DSTK008	mg/L	0.00906		0.01000	0.00200 U	91		%	50-150	05/14/2004	1639
EB3	117933-026	281	mg/L	0.00200 U								05/14/2004	1648

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

REPORT COMMENTS

1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.
2) Soil, sediment and sludge sample results are reported on a "dry weight" basis except when analyzed for landfill disposal or incineration parameters. All other solid matrix samples are reported on an "as received" basis unless noted differently.
3) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.
4) The test results for the noted analytical method(s) meet the requirements of NELAC. Lab Cert. ID# 100201
5) According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.

Glossary of flags, qualifiers and abbreviations (any number of which may appear in the report)

Inorganic Qualifiers (Q-Column)

U	Analyte was not detected at or above the stated limit.
<	Not detected at or above the reporting limit.
J	Result is less than the RL, but greater than or equal to the method detection limit.
B	Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
S	Result was determined by the Method of Standard Additions.
F	AFCEE: Result is less than the RL, but greater than or equal to the method detection limit.

Inorganic Flags (Flag Column)

^	ICV,CCV,ICB,CCB,ISA,ISB,CRI,CRA,MRL: Instrument related QC exceed the upper or lower control limits.
*	LCS, LCD, MD: Batch QC exceeds the upper or lower control limits.
+	MSA correlation coefficient is less than 0.995.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
E	SD: Serial dilution exceeds the control limits.
H	MB, EB1, EB2, EB3: Batch QC is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
N	MS, MSD: Spike recovery exceeds the upper or lower control limits.
W	AS(GFAA) Post-digestion spike was outside 85-115% control limits.

Organic Qualifiers (Q - Column)

U	Analyte was not detected at or above the stated limit.
ND	Compound not detected.
J	Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
Q	Result was qualitatively confirmed, but not quantified.
C	Pesticide identification was confirmed by GC/MS.
Y	The chromatographic response resembles a typical fuel pattern.
Z	The chromatographic response does not resemble a typical fuel pattern.
E	Result exceeded calibration range, secondary dilution required.
F	AFCEE:Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)

Organic Flags (Flags Column)

B	MB: Batch QC is greater than reporting limit.
*	LCS, LCD, ELC, ELD, CV, MS, MSD, Surrogate: Batch QC exceeds the upper or lower control limits.
^	EB1, EB2, EB3, MLE: Batch QC is greater than reporting Limit
A	Concentration exceeds the instrument calibration range
a	Concentration is below the method Reporting Limit (RL)
B	Compound was found in the blank and sample.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
H	Alternate peak selection upon analytical review
I	Indicates the presence of an interfence, recovery is not calculated.
M	Manually integrated compound.
P	The lower of the two values is reported when the % difference between the results of two GC columns is

MWG13-15_11371

greater than 25%.

Abbreviations

AS	Post Digestion Spike (GFAA Samples - See Note 1 below)
Batch	Designation given to identify a specific extraction, digestion, preparation set, or analysis set
CAP	Capillary Column CCB Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Confirmation analysis of original
C1	Confirmation analysis of A1 or D1
C2	Confirmation analysis of A2 or D2
C3	Confirmation analysis of A3 or D3
CRA	Low Level Standard Check - GFAA; Mercury
CRI	Low Level Standard Check - ICP
CV	Calilbration Verification Standard
Dil Fac	Dilution Factor - Secondary dilution analysis
D1	Dilution 1
D2	Dilution 2
D3	Dilution 3
DLFac	Detection Limit Factor
DSH	Distilled Standard - High Level
DSL	Distilled Standard - Low Level
DSM	Distilled Standard - Medium Level
EB1	Extraction Blank 1
EB2	Extraction Blank 2
EB3	DI Blank
ELC	Method Extracted LCS
ELD	Method Extracted LCD
ICAL	Initial calibration
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
ISA	Interference Check Sample A - ICAP
ISB	Interference Check Sample B - ICAP
Job No.	The first six digits of the sample ID which refers to a specific client, project and sample group
	Lab ID An 8 number unique laboratory identification
LCD	Laboratory Control Standard Duplicate
LCS	Laboratory Control Standard with reagent grade water or a matrix free from the analyte of interest
MB	Method Blank or (PB) Preparation Blank
MD	Method Duplicate
MDL	Method Detection Limit
MLE	Medium Level Extraction Blank
MRL	Method Reporting Limit Standard
MSA	Method of Standard Additions
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not Detected
PREPF	Preparation factor used by the Laboratory's Information Management System (LIMS)
PDS	Post Digestion Spike (ICAP)
RA	Re-analysis of original
A1	Re-analysis of D1
A2	Re-analysis of D2
A3	Re-analysis of D3
RD	Re-extraction of dilution
RE	Re-extraction of original
RC	Re-extraction Confirmation
RL	Reporting Limit
RPD	Relative Percent Difference of duplicate (unrounded) analyses
RRF	Relative Response Factor
RT	Retention Time

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RTW	Retention Time Window Sample ID A 9 digit number unique for each sample, the first six digits are referred as the job number
SCB	Seeded Control Blank
SD	Serial Dilution (Calculated when sample concentration exceeds 50 times the MDL)
UCB	Unseeded Control Blank
SSV	Second Source Verification Standard
SLCS	Solid Laboratory Control Standard(LCS)
PHC	pH Calibration Check LCSP pH Laboratory Control Sample
LCDP	pH Laboratory Control Sample Duplicate
MDPH	pH Sample Duplicate
MDFP	Flashpoint Sample Duplicate
LCFP	Flashpoint LCS
G1	Gelex Check Standard Range 0-1
G2	Gelex Check Standard Range 1-10
G3	Gelex Check Standard Range 10-100
G4	Gelex Check Standard Range 100-1000

Note 1: The Post Spike Designation on Batch QC for GFAA is designated with an "S" added to the current abbreviation used. EX. LCS S=LCS Post Spike (GFAA); MSS=MS Post Spike (GFAA)

Note 2: The MD calculates an absolute difference (A) when the sample concentration is less than 5 times the reporting limit. The control limit is represented as +/- the RL.

MWG13-15_11373

SEVERN TRENT **STL**

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Report To:
Contact: Sean Chisek
Company: Andrews Engineering
Address: 3535 Mayflower Blvd
Springfield, IL 62707
Phone: (217) 787-2334
Fax: (217) 787-9495
E-Mail: SChisek@andrews-eng.com

Bill To:
Contact: Mike Reed
Company: Midwest Generation
Address: 13082 E Manito Rd
Re Pekin, IL 61554
Phone: (309) 477-5289
Fax:
PO#: Quote:

Shaded Areas For Internal Use Only ____ of ____

Lab Lot# 226578

Package Sealed (Yes) No	Samples Sealed Yes (No)
Received on Ice (Yes) No	Samples Intact (Yes) No
Temperature °C of Cooler 4.7	
Within Hold Time (Yes) No	Preserv. Indicated Yes No (NA)
pH Check OK Yes No (NA)	Res Cl_2 Check OK Yes No (NA)
Sample Labels and COC Agree (Yes) No	COC not present

Sampler Name: Sean Chisek
Signature: Sean Chisek
Project Name: MW Gen
Project Number:
Project Location: Pekin
Date Required Standard
Hard Copy: ___/___/___
Fax: ___/___/___
Lab PM:

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	# / Cont.	TCLP metals	Neutral leach total metals	Additional Analyses / Remarks
1		DS-01N	5/7/04	0946	SE	G	1	X		
2	X	DS-02S	5/7/04	1020	SE	G	1	X		
3		BA-01	5/7/04	1138	SO	G	1		X	
4		SZ-BLR	5/7/04	1233	SO	G	1		X	
5		~~BT~~ 51-BLR	5/7/04	1234	SO	G	1		X	

RELINQUISHED BY Sean Chisek COMPANY AEEI DATE 5/7/04 TIME 1333
RECEIVED BY [signature] COMPANY STL DATE 5-10-04 TIME 1000
RELINQUISHED BY ____ COMPANY ____ DATE ____ TIME ____
RECEIVED BY ____ COMPANY ____ DATE ____ TIME ____

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous
OL = Oil
A = Air
SE = Sediment
SO = Solid
DS = Drum Solid
DL = Drum Liquid
L = Leachate
WI = Wipe
O = ____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other ____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS

Date Received 5/10/04
Courier: X **Hand Delivered** ☐
Bill of Lading

STL Chicago is a part of Severn Trent Laboratories, Inc.

STL-8208 (0600)

MWG13-15_11374

SEVERN TRENT STL

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University Park, IL 60466

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SEVERN TRENT LABORATORIES ANALYTICAL REPORT

JOB NUMBER: 226535

Prepared For:

Andrews Environmental Engineering Inc.
3535 Mayflower Blvd.
Springfield, IL 62707

Project: Powerton Sampling

Attention: Sean Chisek

Date: 06/04/2004

Linda S Mackley
Signature

6-4-04
Date

Name: Linda S. Mackley

Title: Project Manager

E-Mail: lmackley@stl-inc.com

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PHONE: (708) 534-5200
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This Report Contains (118) Pages

MWG13-15_11375

Severn Trent Laboratories Chicago
METALS CASE NARRATIVE

Client: Midwest Generation EME, LLC
Project ID: Powerton Sampling
STL Job #: 226535

Date Rec'd: 05/07/04

1. This narrative covers the Metals analysis of Samples in the above STL Job.

   Method Refs: USEPA, SW-846

2. All analyses were performed within the required holding times.

3. All Initial and Continuing Calibration Verification (ICV/CCV's) were within control limits.

4. All Initial and Continuing Calibration Blanks (ICB/CCB's) within control limits.

5. All Preparation/Method Blanks were below the Reporting Limits.

6. Laboratory Control Sample (LCS) recoveries were within control limits.

7. Matrix QC was performed on Samples 1 (TCLP) and Samples 3, 4 (TCLP/Neutral Leach).

   All Serial dilution analysis were within control limits.

   Matrix spike recoveries were within the 50-150% TCLP control limits (control limits are not applicable when the sample concentration exceeds the Spike concentration by a factor of 4 or more) except for Sample 1 Ba and Pb and Samples 3 and 4 for Ba. Method of Standard addition was performed on these samples for the out of control Spikes and the results were unchanged.

   Duplicate results were within the 20% RPD control limits for sample concentration greater than 5X the RL or +\- the RL for sample concentration less than 5X the RL.

Jodi L. Wojcik
Metals Section Manager

5-19-04
Date

Severn Trent Laboratories Chicago
GC/MS VOA Case Narrative

Midwest Generation EME, LLC
Powerton Sampling
Job Number: 226535
VOA DATA:

1. All samples were prepared and analyzed within the recommended hold times from the date of collection.

2. All Method Blank target compounds were below reporting limits

3. The LCS (Laboratory Control Sample) samples had all controlled spike recoveries within the in-house generated QC limits.

4. Matrix Spike/Matrix Spike Duplicate analyses were performed on sample 5. All controlled recoveries were within QC limits.

5. All of the volatile samples had surrogate recoveries within the in-house generated QC limits.

6. The TCLP sample was prepared using Method 5030. The samples were analyzed following SW846 Method 8260B and 8000B. All initial and continuing calibration criteria were met per method or SOP (for minimum R values for certain compounds). The low point in the initial calibration verifies the base reporting limits. The target compounds were quantitated using the initial calibration.

7. All of the volatile samples had internal standard areas and retention times within the acceptance limits as compared to the corresponding continuing calibration.

8. The TCLP samples were analyzed using a 10ml purge volume at a 1/20 dilution.

Jennifer S. O'Gorman
Jennifer S. O'Gorman
GC/MS VOA Dept.

5-24-4
Date

Severn Trent Laboratories - Chicago
GC/MS BNA Case Narrative

Midwest Generation EME, LLC/Powerton Sampling
Job Number: 226535
BNA DATA: TCLP

1. The TCLP extraction, organic extraction, and all analyses were performed within recommended hold times.

2. The MB (Method Blank) and the EB (TCLP Blank) samples had all analytes below the reporting limits.

3. In-house recovery limits and three method-control compounds were used as QC evaluation for the LCS (Laboratory Control Sample). All method-control spike recoveries were within the QC limits in the LCS.

4. In-house recovery limits and three method-control compounds were used as QC evaluation for the MS (Matrix Spike). All method-control spike recoveries were within the QC limits in the MS.

5. All samples had all surrogate recoveries within in-house QC limits.

6. All analyses were performed following USEPA SW846 method 8270C protocol. All samples had all internal standard areas and retention times within acceptance limits as compared to the corresponding calibration verification standard.

7. The samples and the TCLP Blank were extracted using 100 mL of the TCLP leachate. The MB and LCS were extracted using 1000 mL of deionized water. All samples were analyzed without dilution.

Gary Rynkar
GC/MS Section Manager

5/19/14
Date

STL Chicago
Pesticide Case Narrative

Midwest Generation EME, LLC
Analytical Testing
Job #: 226535-1 through 11
TCLP Pesticides

1. STL Chicago used the following Gas Chromatographic system for the analysis of these pesticides:

ID#	INSTRUMENT	COLUMN TYPE	DETECTOR
06	Varian 3400	Rtx-Clp1	Electron Capture

2. These TCLP extracts were extracted based on SW846 method 3520. The extracts were analyzed for TCLP pesticides based on SW846 method 8081A.

3. All required holding times were met for the original extractions. However, the matrix spike for the single response pesticides for sample 226535-3 (TP-27) was inadvertently not spiked, and was re-extracted 2 days beyond the required holding time. All required holding times were met for the analyses.

4. The method blanks was below the reporting limits for all target compounds.

5. The surrogate compounds used for this analysis were Decachlorobiphenyl (DCB) and Tetrachloro-m-xylene (TCX). All TCX recoveries were biased high and samples 226535-2 (TP-12), 226535-5 (TP-16) and 226535-9 (SFA-1) also had DCB biased high. The sample results were not impacted by the high surrogate recoveries because no target compounds were detected in the associated samples.

6. All blank spike recoveries were within statistical control limits except Heptachlor epoxide, which had 116% recovery.

7. A matrix spike was performed on sample 226535-3 (TP-27). All matrix spike recoveries were within statistical control limits.

8. All initial and continuing standard calibrations associated with these samples were in control.

9. Target compounds were not detected in the primary analysis. Therefore, a second column confirmation was not required.

Marilyn Krueding
QA Department

05-25-04
Date

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SAMPLE INFORMATION
Date: 06/04/2004

Job Number.: 226535
Customer...: Midwest Generation EME, LLC
Attn.....: Michael Reed

Project Number.....: 20004182
Customer Project ID....: POWERTON SAMPLING
Project Description....: Powerton Sampling

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
226535-1	TP-23	Soil	05/06/2004	08:38	05/07/2004	09:10
226535-2	TP-12	Soil	05/06/2004	09:05	05/07/2004	09:10
226535-3	TP-27	Soil	05/06/2004	10:55	05/07/2004	09:10
226535-4	TP-15	Soil	05/06/2004	11:17	05/07/2004	09:10
226535-5	TP-16	Soil	05/06/2004	12:57	05/07/2004	09:10
226535-6	FS-01	Soil	05/06/2004	13:20	05/07/2004	09:10
226535-7	FS-02	Soil	05/06/2004	13:23	05/07/2004	09:10
226535-8	TP-29	Soil	05/06/2004	13:53	05/07/2004	09:10
226535-9	SFA-1	Soil	05/06/2004	14:11	05/07/2004	09:10
226535-10	TP-03	Soil	05/06/2004	14:50	05/07/2004	09:10
226535-11	TP-19	Soil	05/06/2004	15:31	05/07/2004	09:10

MWG13-15_11380

STL Chicago is part of Severn Trent Laboratories, Inc.

Job Number: 226535

LABORATORY TEST RESULTS

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-23
Date Sampled.....: 05/06/2004
Time Sampled.....: 08:38
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-1
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7041	Leachable, Antimony (GFAA)											
	Antimony, Neutral Leach	ND	U		0.0030	0.0060	1	mg/L	117859		05/13/04 1225	daj
7841	Leachable, Thallium (GFAA)											
	Thallium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	117862		05/13/04 1414	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	117934		05/14/04 1520	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0332	tds
	Barium, Neutral Leach	0.37	B		0.010	1.0	1	mg/L	117667		05/14/04 0332	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	117667		05/14/04 0332	tds
	Boron, Neutral Leach	1.4			0.050	0.10	1	mg/L	117667		05/14/04 0332	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0332	tds
	Chromium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0332	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0332	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0332	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	117667		05/14/04 0332	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0332	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0332	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0332	tds
	Selenium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0332	tds
	Silver, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0332	tds
	Zinc, Neutral Leach	0.053	B		0.020	0.10	1	mg/L	117667		05/14/04 0332	tds
8082	PCB Analysis											
	Aroclor 1016, Solid	ND	U		2.8	16	1.00000	ug/Kg	118148		05/18/04 1901	bab
	Aroclor 1221, Solid	ND	U		6.6	16	1.00000	ug/Kg	118148		05/18/04 1901	bab

* In Description = Dry Wgt.

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Job Number: 226535

LABORATORY TEST RESULTS

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-23
Date Sampled.....: 05/06/2004
Time Sampled.....: 08:38
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-1
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Aroclor 1232, Solid	ND	U		2.9	16	1.00000	ug/Kg	118148		05/18/04 1901	bab
	Aroclor 1242, Solid	ND	U		6.2	16	1.00000	ug/Kg	118148		05/18/04 1901	bab
	Aroclor 1248, Solid	ND	U		2.3	16	1.00000	ug/Kg	118148		05/18/04 1901	bab
	Aroclor 1254, Solid	ND	U		2.6	16	1.00000	ug/Kg	118148		05/18/04 1901	bab
	Aroclor 1260, Solid	ND	U		2.4	16	1.00000	ug/Kg	118148		05/18/04 1901	bab
7.3.3.2/9014	Reactivity, Cyanide											
	Reactivity, Cyanide, Solid	ND	U		2.5	2.5	1	mg/Kg	117382		05/11/04 1533	rnm
1010	Ignitability (Pensky-Martens Closed-Cup)											
	Ignitability (Flashpoint), Solid	>200					1	degrees F	118229		04/09/03 0802	jmk
9095A	Paint Filter Test											
	Paint Filter Test, Solid	5					1	mL/100g	117217		05/10/04 1425	jmk
9066	Phenolics, Total Recoverable											
	Phenolics, Total Recoverable, Solid	ND	U		0.28	0.42	1	mg/Kg	117735		05/14/04 1507	kd
9045C	pH (Soil)											
	Corrosivity (pH Solid), Solid	10.3				0.2	1	pH Units	117254		05/10/04 1512	pmf
9038M	Sulfate, Turbidimetric											
	Sulfate, Solid	1900			150	230	5	mg/Kg	118383		05/20/04 2301	rnm
7.3.4.2/9034	Reactivity, Sulfide											
	Reactivity, Sulfide, Solid	ND	U		87	240	1	mg/Kg	117221		05/10/04 1443	mtb
8081A	Organochlorine Pesticide Analysis											
	gamma-BHC (Lindane), TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1410	kdl

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-23
Date Sampled.....: 05/06/2004
Time Sampled.....: 08:38
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-1
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Heptachlor, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1410	kdl
	Heptachlor epoxide, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1410	kdl
	Endrin, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1410	kdl
	Methoxychlor, TCLP Leach	ND	U		2.5	25	1.00000	ug/L	118476		05/14/04 1410	kdl
	Toxaphene, TCLP Leach	ND	U		5.0	50	1.00000	ug/L	118476		05/14/04 1410	kdl
	Chlordane, TCLP Leach	ND	U		1.0	10	1.00000	ug/L	118476		05/14/04 1410	kdl
8151A	Herbicides											
	2,4-D, TCLP Leach	ND	U		100	100	10.0000	ug/L	118079		05/15/04 0433	kdl
	2,4,5-TP (Silvex), TCLP Leach	ND	U		10	10	10.0000	ug/L	118079		05/15/04 0433	kdl
7470A	Leachable, Mercury (CVAA)											
	Mercury, TCLP Leach	ND	U		0.0020	0.0020	1	mg/L	117617		05/13/04 1417	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0055	tds
	Barium, TCLP Leach	0.17	B		0.010	1.0	1	mg/L	117667		05/14/04 0055	tds
	Cadmium, TCLP Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0055	tds
	Chromium, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0055	tds
	Lead, TCLP Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0055	tds
	Selenium, TCLP Leach	0.021	B		0.010	0.050	1	mg/L	117667		05/14/04 0055	tds
	Silver, TCLP Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0055	tds
8270C	Semivolatile Organics											
	Pyridine, TCLP Leach	ND	U		200	200	1.00000	ug/L	118013		05/17/04 1932	dpk
	1,4-Dichlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 1932	dpk
	2-Methylphenol (o-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 1932	dpk
	Hexachloroethane, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 1932	dpk
	4-Methylphenol (m/p-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 1932	dpk

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-23
Date Sampled.....: 05/06/2004
Time Sampled.....: 08:38
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-1
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Nitrobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 1932	dpk
	Hexachlorobutadiene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 1932	dpk
	2,4,6-Trichlorophenol, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 1932	dpk
	2,4,5-Trichlorophenol, TCLP Leach	ND	U	*	500	500	1.00000	ug/L	118013		05/17/04 1932	dpk
	2,4-Dinitrotoluene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 1932	dpk
	Hexachlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 1932	dpk
	Pentachlorophenol, TCLP Leach	ND	U		500	500	1.00000	ug/L	118013		05/17/04 1932	dpk
8260B	Volatile Organics											
	Vinyl chloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1508	jdn
	1,1-Dichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1508	jdn
	2-Butanone (MEK), TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1508	jdn
	Chloroform, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1508	jdn
	Carbon tetrachloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1508	jdn
	Benzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1508	jdn
	1,2-Dichloroethane, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1508	jdn
	Trichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1508	jdn
	Tetrachloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1508	jdn
	Chlorobenzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1508	jdn

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Customer Sample ID: TP-12
Date Sampled.....: 05/06/2004
Time Sampled.....: 09:05
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-2
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7041	Leachable, Antimony (GFAA)											
	Antimony, Neutral Leach	ND	U		0.0030	0.0060	1	mg/L	117859		05/13/04 1238	daj
7841	Leachable, Thallium (GFAA)											
	Thallium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	117862		05/13/04 1427	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	117934		05/14/04 1522	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0339	tds
	Barium, Neutral Leach	0.27	B		0.010	1.0	1	mg/L	117667		05/14/04 0339	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	117667		05/14/04 0339	tds
	Boron, Neutral Leach	1.1			0.050	0.10	1	mg/L	117667		05/14/04 0339	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0339	tds
	Chromium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0339	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0339	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0339	tds
	Iron, Neutral Leach	0.15			0.050	0.10	1	mg/L	117667		05/14/04 0339	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0339	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0339	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0339	tds
	Selenium, Neutral Leach	0.035	B		0.010	0.050	1	mg/L	117667		05/14/04 0339	tds
	Silver, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0339	tds
	Zinc, Neutral Leach	0.17			0.020	0.10	1	mg/L	117667		05/14/04 0339	tds
8082	PCB Analysis											
	Aroclor 1016, Solid	ND	U		2.9	17	1.00000	ug/Kg	118148		05/18/04 1936	bab
	Aroclor 1221, Solid	ND	U		6.6	17	1.00000	ug/Kg	118148		05/18/04 1936	bab

* In Description = Dry Wgt.

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Job Number: 226535

LABORATORY TEST RESULTS

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC

PROJECT: POWERTON SAMPLING

ATTN: Michael Reed

Customer Sample ID: TP-12
Date Sampled.....: 05/06/2004
Time Sampled.....: 09:05
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-2
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Aroclor 1232, Solid	ND	U		3.0	17	1.00000	ug/Kg	118148		05/18/04 1936	bab
	Aroclor 1242, Solid	ND	U		6.2	17	1.00000	ug/Kg	118148		05/18/04 1936	bab
	Aroclor 1248, Solid	ND	U		2.3	17	1.00000	ug/Kg	118148		05/18/04 1936	bab
	Aroclor 1254, Solid	ND	U		2.7	17	1.00000	ug/Kg	118148		05/18/04 1936	bab
	Aroclor 1260, Solid	ND	U		2.5	17	1.00000	ug/Kg	118148		05/18/04 1936	bab
7.3.3.2/9014	Reactivity, Cyanide											
	Reactivity, Cyanide, Solid	ND	U		2.5	2.5	1	mg/Kg	117382		05/11/04 1533	rnm
1010	Ignitability (Pensky-Martens Closed-Cup)											
	Ignitability (Flashpoint), Solid	>200					1	degrees F	118229		06/29/03 1428	jmk
9095A	Paint Filter Test											
	Paint Filter Test, Solid	0					1	mL/100g	117217		05/10/04 1430	jmk
9066	Phenolics, Total Recoverable											
	Phenolics, Total Recoverable, Solid	ND	U		0.29	0.43	1	mg/Kg	117735		05/14/04 1507	kd
9045C	pH (Soil)											
	Corrosivity (pH Solid), Solid	11.8				0.2	1	pH Units	117254		05/10/04 1514	pmf
9038M	Sulfate, Turbidimetric											
	Sulfate, Solid	1600			160	250	5	mg/Kg	118383		05/20/04 2302	rnm
7.3.4.2/9034	Reactivity, Sulfide											
	Reactivity, Sulfide, Solid	ND	U		89	240	1	mg/Kg	117221		05/10/04 1446	mtb
8081A	Organochlorine Pesticide Analysis											
	gamma-BHC (Lindane), TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1436	kdl

* In Description = Dry Wgt.

MWG13-15_11386

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-12
Date Sampled.....: 05/06/2004
Time Sampled.....: 09:05
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-2
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Heptachlor, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1436	kdl
	Heptachlor epoxide, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1436	kdl
	Endrin, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1436	kdl
	Methoxychlor, TCLP Leach	ND	U		2.5	25	1.00000	ug/L	118476		05/14/04 1436	kdl
	Toxaphene, TCLP Leach	ND	U		5.0	50	1.00000	ug/L	118476		05/14/04 1436	kdl
	Chlordane, TCLP Leach	ND	U		1.0	10	1.00000	ug/L	118476		05/14/04 1436	kdl
8151A	Herbicides											
	2,4-D, TCLP Leach	ND	U		100	100	10.0000	ug/L	118079		05/15/04 0500	kdl
	2,4,5-TP (Silvex), TCLP Leach	ND	U		10	10	10.0000	ug/L	118079		05/15/04 0500	kdl
7470A	Leachable, Mercury (CVAA)											
	Mercury, TCLP Leach	ND	U		0.0020	0.0020	1	mg/L	117617		05/13/04 1419	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0119	tds
	Barium, TCLP Leach	0.43	B		0.010	1.0	1	mg/L	117667		05/14/04 0119	tds
	Cadmium, TCLP Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0119	tds
	Chromium, TCLP Leach	0.027	B		0.010	0.050	1	mg/L	117667		05/14/04 0119	tds
	Lead, TCLP Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0119	tds
	Selenium, TCLP Leach	0.059			0.010	0.050	1	mg/L	117667		05/14/04 0119	tds
	Silver, TCLP Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0119	tds
8270C	Semivolatile Organics											
	Pyridine, TCLP Leach	ND	U		200	200	1.00000	ug/L	118013		05/17/04 2004	dpk
	1,4-Dichlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2004	dpk
	2-Methylphenol (o-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2004	dpk
	Hexachloroethane, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2004	dpk
	4-Methylphenol (m/p-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2004	dpk

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-12
Date Sampled.....: 05/06/2004
Time Sampled.....: 09:05
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-2
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Nitrobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2004	dpk
	Hexachlorobutadiene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2004	dpk
	2,4,6-Trichlorophenol, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2004	dpk
	2,4,5-Trichlorophenol, TCLP Leach	ND	U	*	500	500	1.00000	ug/L	118013		05/17/04 2004	dpk
	2,4-Dinitrotoluene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2004	dpk
	Hexachlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2004	dpk
	Pentachlorophenol, TCLP Leach	ND	U		500	500	1.00000	ug/L	118013		05/17/04 2004	dpk
8260B	Volatile Organics											
	Vinyl chloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1534	jdn
	1,1-Dichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1534	jdn
	2-Butanone (MEK), TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1534	jdn
	Chloroform, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1534	jdn
	Carbon tetrachloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1534	jdn
	Benzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1534	jdn
	1,2-Dichloroethane, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1534	jdn
	Trichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1534	jdn
	Tetrachloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1534	jdn
	Chlorobenzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1534	jdn

* In Description = Dry Wgt.

STL Chicago is part of Severn Trent Laboratories, Inc.

Job Number: 226535

LABORATORY TEST RESULTS

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-27
Date Sampled.....: 05/06/2004
Time Sampled.....: 10:55
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-3
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7041	Leachable, Antimony (GFAA)											
	Antimony, Neutral Leach	ND	U		0.0030	0.0060	1	mg/L	117859		05/13/04 1302	daj
7841	Leachable, Thallium (GFAA)											
	Thallium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	117862		05/13/04 1453	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	0.0004	B		0.0002	0.0020	1	mg/L	118158		05/18/04 1515	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0345	tds
	Barium, Neutral Leach	0.21	B		0.010	1.0	1	mg/L	117667		05/14/04 0345	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	117667		05/14/04 0345	tds
	Boron, Neutral Leach	0.84			0.050	0.10	1	mg/L	117667		05/14/04 0345	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0345	tds
	Chromium, Neutral Leach	0.036	B		0.010	0.050	1	mg/L	117667		05/14/04 0345	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0345	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0345	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	117667		05/14/04 0345	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0345	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0345	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0345	tds
	Selenium, Neutral Leach	0.035	B		0.010	0.050	1	mg/L	117667		05/14/04 0345	tds
	Silver, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0345	tds
	Zinc, Neutral Leach	0.054	B		0.020	0.10	1	mg/L	117667		05/14/04 0345	tds
8082	PCB Analysis											
	Aroclor 1016, Solid	ND	U		2.9	16	1.00000	ug/Kg	118148		05/18/04 2012	bab
	Aroclor 1221, Solid	ND	U		6.6	16	1.00000	ug/Kg	118148		05/18/04 2012	bab

* In Description = Dry Wgt.

MWG13-15_11389

STL Chicago is part of Severn Trent Laboratories, Inc.

Job Number: 226535

LABORATORY TEST RESULTS

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC

PROJECT: POWERTON SAMPLING

ATTN: Michael Reed

Customer Sample ID: TP-27
Date Sampled.....: 05/06/2004
Time Sampled.....: 10:55
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-3
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Aroclor 1232, Solid	ND	U		3.0	16	1.00000	ug/Kg	118148		05/18/04 2012	bab
	Aroclor 1242, Solid	ND	U		6.2	16	1.00000	ug/Kg	118148		05/18/04 2012	bab
	Aroclor 1248, Solid	ND	U		2.3	16	1.00000	ug/Kg	118148		05/18/04 2012	bab
	Aroclor 1254, Solid	ND	U		2.7	16	1.00000	ug/Kg	118148		05/18/04 2012	bab
	Aroclor 1260, Solid	ND	U		2.5	16	1.00000	ug/Kg	118148		05/18/04 2012	bab
7.3.3.2/9014	Reactivity, Cyanide											
	Reactivity, Cyanide, Solid	ND	U		2.5	2.5	1	mg/Kg	117382		05/11/04 1534	rnm
1010	Ignitability (Pensky-Martens Closed-Cup)											
	Ignitability (Flashpoint), Solid	>200					1	degrees F	118229		09/18/03 2053	jmk
9095A	Paint Filter Test											
	Paint Filter Test, Solid	0					1	mL/100g	117217		05/10/04 1435	jmk
9066	Phenolics, Total Recoverable											
	Phenolics, Total Recoverable, Solid	ND	U		0.17	0.26	1	mg/Kg	117735		05/14/04 1507	kd
9045C	pH (Soil)											
	Corrosivity (pH Solid), Solid	10.7				0.2	1	pH Units	117254		05/10/04 1516	pmf
9038M	Sulfate, Turbidimetric											
	Sulfate, Solid	5700			1600	2500	50	mg/Kg	118380		05/20/04 2137	rnm
7.3.4.2/9034	Reactivity, Sulfide											
	Reactivity, Sulfide, Solid	ND	U		84	230	1	mg/Kg	117221		05/10/04 1454	mtb
8081A	Organochlorine Pesticide Analysis											
	gamma-BHC (Lindane), TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1501	kdl

* In Description = Dry Wgt.

MWG13-15_11390

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Customer Sample ID: TP-27
Date Sampled.....: 05/06/2004
Time Sampled.....: 10:55
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-3
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Heptachlor, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1501	kdl
	Heptachlor epoxide, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1501	kdl
	Endrin, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1501	kdl
	Methoxychlor, TCLP Leach	ND	U		2.5	25	1.00000	ug/L	118476		05/14/04 1501	kdl
	Toxaphene, TCLP Leach	ND	U		5.0	50	1.00000	ug/L	118476		05/14/04 1501	kdl
	Chlordane, TCLP Leach	ND	U		1.0	10	1.00000	ug/L	118476		05/14/04 1501	kdl
8151A	Herbicides											
	2,4-D, TCLP Leach	ND	U		100	100	10.0000	ug/L	118079		05/15/04 0527	kdl
	2,4,5-TP (Silvex), TCLP Leach	ND	U		10	10	10.0000	ug/L	118079		05/15/04 0527	kdl
7470A	Leachable, Mercury (CVAA)											
	Mercury, TCLP Leach	ND	U		0.0020	0.0020	1	mg/L	117617		05/13/04 1421	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117852		05/14/04 1401	tds
	Barium, TCLP Leach	0.17	B		0.010	1.0	1	mg/L	117852		05/14/04 1401	tds
	Cadmium, TCLP Leach	ND	U		0.002	0.005	1	mg/L	117852		05/14/04 1401	tds
	Chromium, TCLP Leach	0.028	B		0.010	0.050	1	mg/L	117852		05/14/04 1401	tds
	Lead, TCLP Leach	ND	U		0.0050	0.0075	1	mg/L	117852		05/14/04 1401	tds
	Selenium, TCLP Leach	0.046	B		0.010	0.050	1	mg/L	117852		05/14/04 1401	tds
	Silver, TCLP Leach	ND	U		0.005	0.050	1	mg/L	117852		05/14/04 1401	tds
8270C	Semivolatile Organics											
	Pyridine, TCLP Leach	ND	U		200	200	1.00000	ug/L	118013		05/17/04 2037	dpk
	1,4-Dichlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2037	dpk
	2-Methylphenol (o-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2037	dpk
	Hexachloroethane, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2037	dpk
	4-Methylphenol (m/p-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2037	dpk

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-27
Date Sampled.....: 05/06/2004
Time Sampled.....: 10:55
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-3
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Nitrobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2037	dpk
	Hexachlorobutadiene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2037	dpk
	2,4,6-Trichlorophenol, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2037	dpk
	2,4,5-Trichlorophenol, TCLP Leach	ND	U	*	500	500	1.00000	ug/L	118013		05/17/04 2037	dpk
	2,4-Dinitrotoluene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2037	dpk
	Hexachlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2037	dpk
	Pentachlorophenol, TCLP Leach	ND	U		500	500	1.00000	ug/L	118013		05/17/04 2037	dpk
8260B	Volatile Organics											
	Vinyl chloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1600	jdn
	1,1-Dichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1600	jdn
	2-Butanone (MEK), TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1600	jdn
	Chloroform, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1600	jdn
	Carbon tetrachloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1600	jdn
	Benzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1600	jdn
	1,2-Dichloroethane, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1600	jdn
	Trichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1600	jdn
	Tetrachloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1600	jdn
	Chlorobenzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1600	jdn

* In Description = Dry Wgt.

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Job Number: 226535

LABORATORY TEST RESULTS

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-15
Date Sampled.....: 05/06/2004
Time Sampled.....: 11:17
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-4
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7041	Leachable, Antimony (GFAA)											
	Antimony, Neutral Leach	ND	U		0.0030	0.0060	1	mg/L	117859		05/13/04 1339	daj
7841	Leachable, Thallium (GFAA)											
	Thallium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	117862		05/13/04 1531	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	117934		05/14/04 1542	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	0.013	B		0.010	0.050	1	mg/L	117667		05/14/04 0416	tds
	Barium, Neutral Leach	0.21	B		0.010	1.0	1	mg/L	117667		05/14/04 0416	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	117667		05/14/04 0416	tds
	Boron, Neutral Leach	1.2			0.050	0.10	1	mg/L	117667		05/14/04 0416	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0416	tds
	Chromium, Neutral Leach	0.16			0.010	0.050	1	mg/L	117667		05/14/04 0416	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0416	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0416	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	117667		05/14/04 0416	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0416	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0416	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0416	tds
	Selenium, Neutral Leach	0.15			0.010	0.050	1	mg/L	117667		05/14/04 0416	tds
	Silver, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0416	tds
	Zinc, Neutral Leach	0.098	B		0.020	0.10	1	mg/L	117667		05/14/04 0416	tds
8082	PCB Analysis											
	Aroclor 1016, Solid	ND	U		2.9	17	1.00000	ug/Kg	118148		05/18/04 2047	bab
	Aroclor 1221, Solid	ND	U		6.7	17	1.00000	ug/Kg	118148		05/18/04 2047	bab

* In Description = Dry Wgt.

MWG13-15_11393

STL Chicago is part of Severn Trent Laboratories, Inc.

Job Number: 226535

LABORATORY TEST RESULTS

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC

PROJECT: POWERTON SAMPLING

ATTN: Michael Reed

Customer Sample ID: TP-15
Date Sampled.....: 05/06/2004
Time Sampled.....: 11:17
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-4
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Aroclor 1232, Solid	ND	U		3.0	17	1.00000	ug/Kg	118148		05/18/04 2047	bab
	Aroclor 1242, Solid	ND	U		6.3	17	1.00000	ug/Kg	118148		05/18/04 2047	bab
	Aroclor 1248, Solid	ND	U		2.3	17	1.00000	ug/Kg	118148		05/18/04 2047	bab
	Aroclor 1254, Solid	ND	U		2.7	17	1.00000	ug/Kg	118148		05/18/04 2047	bab
	Aroclor 1260, Solid	ND	U		2.5	17	1.00000	ug/Kg	118148		05/18/04 2047	bab
7.3.3.2/9014	Reactivity, Cyanide											
	Reactivity, Cyanide, Solid	ND	U		2.5	2.5	1	mg/Kg	117382		05/11/04 1534	rnm
1010	Ignitability (Pensky-Martens Closed-Cup)											
	Ignitability (Flashpoint), Solid	>200					1	degrees F	118229		02/28/04 0944	jmk
9095A	Paint Filter Test											
	Paint Filter Test, Solid	0					1	mL/100g	117217		05/10/04 1440	jmk
9066	Phenolics, Total Recoverable											
	Phenolics, Total Recoverable, Solid	0.81			0.28	0.43	1	mg/Kg	117735		05/14/04 1509	kd
9045C	pH (Soil)											
	Corrosivity (pH Solid), Solid	12.2				0.2	1	pH Units	117254		05/10/04 1519	pmf
9038M	Sulfate, Turbidimetric											
	Sulfate, Solid	24000			3200	5000	100	mg/Kg	118380		05/20/04 2140	rnm
7.3.4.2/9034	Reactivity, Sulfide											
	Reactivity, Sulfide, Solid	ND	U		89	240	1	mg/Kg	117221		05/10/04 1457	mtb
8081A	Organochlorine Pesticide Analysis											
	gamma-BHC (Lindane), TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1757	kdl

* In Description = Dry Wgt.

MWG13-15_11394

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-15
Date Sampled.....: 05/06/2004
Time Sampled.....: 11:17
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-4
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Heptachlor, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1757	kdl
	Heptachlor epoxide, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1757	kdl
	Endrin, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1757	kdl
	Methoxychlor, TCLP Leach	ND	U		2.5	25	1.00000	ug/L	118476		05/14/04 1757	kdl
	Toxaphene, TCLP Leach	ND	U		5.0	50	1.00000	ug/L	118476		05/14/04 1757	kdl
	Chlordane, TCLP Leach	ND	U		1.0	10	1.00000	ug/L	118476		05/14/04 1757	kdl
8151A	Herbicides											
	2,4-D, TCLP Leach	ND	U		100	100	10.0000	ug/L	118079		05/15/04 0621	kdl
	2,4,5-TP (Silvex), TCLP Leach	ND	U		10	10	10.0000	ug/L	118079		05/15/04 0621	kdl
7470A	Leachable, Mercury (CVAA)											
	Mercury, TCLP Leach	ND	U		0.0020	0.0020	1	mg/L	117617		05/13/04 1433	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117852		05/14/04 1432	tds
	Barium, TCLP Leach	0.21	B		0.010	1.0	1	mg/L	117852		05/14/04 1432	tds
	Cadmium, TCLP Leach	ND	U		0.002	0.005	1	mg/L	117852		05/14/04 1432	tds
	Chromium, TCLP Leach	0.16			0.010	0.050	1	mg/L	117852		05/14/04 1432	tds
	Lead, TCLP Leach	ND	U		0.0050	0.0075	1	mg/L	117852		05/14/04 1432	tds
	Selenium, TCLP Leach	0.19			0.010	0.050	1	mg/L	117852		05/14/04 1432	tds
	Silver, TCLP Leach	ND	U		0.005	0.050	1	mg/L	117852		05/14/04 1432	tds
8270C	Semivolatile Organics											
	Pyridine, TCLP Leach	ND	U		200	200	1.00000	ug/L	118013		05/17/04 2140	dpk
	1,4-Dichlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2140	dpk
	2-Methylphenol (o-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2140	dpk
	Hexachloroethane, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2140	dpk
	4-Methylphenol (m/p-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2140	dpk

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-15
Date Sampled.....: 05/06/2004
Time Sampled.....: 11:17
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-4
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Nitrobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2140	dpk
	Hexachlorobutadiene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2140	dpk
	2,4,6-Trichlorophenol, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2140	dpk
	2,4,5-Trichlorophenol, TCLP Leach	ND	U	*	500	500	1.00000	ug/L	118013		05/17/04 2140	dpk
	2,4-Dinitrotoluene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2140	dpk
	Hexachlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2140	dpk
	Pentachlorophenol, TCLP Leach	ND	U		500	500	1.00000	ug/L	118013		05/17/04 2140	dpk
8260B	Volatile Organics											
	Vinyl chloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1625	jdn
	1,1-Dichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1625	jdn
	2-Butanone (MEK), TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1625	jdn
	Chloroform, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1625	jdn
	Carbon tetrachloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1625	jdn
	Benzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1625	jdn
	1,2-Dichloroethane, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1625	jdn
	Trichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1625	jdn
	Tetrachloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1625	jdn
	Chlorobenzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1625	jdn

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-16
Date Sampled.....: 05/06/2004
Time Sampled.....: 12:57
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-5
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7041	Leachable, Antimony (GFAA)											
	Antimony, Neutral Leach	ND	U		0.0030	0.0060	1	mg/L	117859		05/13/04 1428	daj
7841	Leachable, Thallium (GFAA)											
	Thallium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	117862		05/13/04 1622	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	118158		05/18/04 1523	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0509	tds
	Barium, Neutral Leach	0.24	B		0.010	1.0	1	mg/L	117667		05/14/04 0509	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	117667		05/14/04 0509	tds
	Boron, Neutral Leach	0.32			0.050	0.10	1	mg/L	117667		05/14/04 0509	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0509	tds
	Chromium, Neutral Leach	0.032	B		0.010	0.050	1	mg/L	117667		05/14/04 0509	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0509	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0509	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	117667		05/14/04 0509	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0509	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0509	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0509	tds
	Selenium, Neutral Leach	0.040	B		0.010	0.050	1	mg/L	117667		05/14/04 0509	tds
	Silver, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0509	tds
	Zinc, Neutral Leach	0.041	B		0.020	0.10	1	mg/L	117667		05/14/04 0509	tds
8082	PCB Analysis											
	Aroclor 1016, Solid	ND	U		2.9	16	1.00000	ug/Kg	118148		05/18/04 2123	bab
	Aroclor 1221, Solid	ND	U		6.6	16	1.00000	ug/Kg	118148		05/18/04 2123	bab

* In Description = Dry Wgt.

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Job Number: 226535

LABORATORY TEST RESULTS

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC

PROJECT: POWERTON SAMPLING

ATTN: Michael Reed

Customer Sample ID: TP-16
Date Sampled.....: 05/06/2004
Time Sampled.....: 12:57
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-5
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Aroclor 1232, Solid	ND	U		2.9	16	1.00000	ug/Kg	118148		05/18/04 2123	bab
	Aroclor 1242, Solid	ND	U		6.2	16	1.00000	ug/Kg	118148		05/18/04 2123	bab
	Aroclor 1248, Solid	ND	U		2.3	16	1.00000	ug/Kg	118148		05/18/04 2123	bab
	Aroclor 1254, Solid	ND	U		2.7	16	1.00000	ug/Kg	118148		05/18/04 2123	bab
	Aroclor 1260, Solid	ND	U		2.5	16	1.00000	ug/Kg	118148		05/18/04 2123	bab
7.3.3.2/9014	Reactivity, Cyanide											
	Reactivity, Cyanide, Solid	ND	U		2.5	2.5	1	mg/Kg	117382		05/11/04 1537	rnm
1010	Ignitability (Pensky-Martens Closed-Cup)											
	Ignitability (Flashpoint), Solid	>200					1	degrees F	118403		05/20/04 0630	jmk
9095A	Paint Filter Test											
	Paint Filter Test, Solid	0					1	mL/100g	117217		05/10/04 1445	jmk
9066	Phenolics, Total Recoverable											
	Phenolics, Total Recoverable, Solid	ND	U		0.24	0.36	1	mg/Kg	117735		05/14/04 1510	kd
9045C	pH (Soil)											
	Corrosivity (pH Solid), Solid	10.4				0.2	1	pH Units	117254		05/10/04 1521	pmf
9038M	Sulfate, Turbidimetric											
	Sulfate, Solid	8400			790	1200	25	mg/Kg	118380		05/20/04 2145	rnm
7.3.4.2/9034	Reactivity, Sulfide											
	Reactivity, Sulfide, Solid	ND	U		85	230	1	mg/Kg	117221		05/10/04 1500	mtb
8081A	Organochlorine Pesticide Analysis											
	gamma-BHC (Lindane), TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1822	kdl

* In Description = Dry Wgt.

MWG13-15_11398

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-16
Date Sampled.....: 05/06/2004
Time Sampled.....: 12:57
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-5
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Heptachlor, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1822	kdl
	Heptachlor epoxide, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1822	kdl
	Endrin, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1822	kdl
	Methoxychlor, TCLP Leach	ND	U		2.5	25	1.00000	ug/L	118476		05/14/04 1822	kdl
	Toxaphene, TCLP Leach	ND	U		5.0	50	1.00000	ug/L	118476		05/14/04 1822	kdl
	Chlordane, TCLP Leach	ND	U		1.0	10	1.00000	ug/L	118476		05/14/04 1822	kdl
8151A	Herbicides											
	2,4-D, TCLP Leach	ND	U		100	100	10.0000	ug/L	118079		05/15/04 0715	kdl
	2,4,5-TP (Silvex), TCLP Leach	ND	U		10	10	10.0000	ug/L	118079		05/15/04 0715	kdl
7470A	Leachable, Mercury (CVAA)											
	Mercury, TCLP Leach	ND	U		0.0020	0.0020	1	mg/L	117617		05/13/04 1440	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0126	tds
	Barium, TCLP Leach	0.095	B		0.010	1.0	1	mg/L	117667		05/14/04 0126	tds
	Cadmium, TCLP Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0126	tds
	Chromium, TCLP Leach	0.024	B		0.010	0.050	1	mg/L	117667		05/14/04 0126	tds
	Lead, TCLP Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0126	tds
	Selenium, TCLP Leach	0.052			0.010	0.050	1	mg/L	117667		05/14/04 0126	tds
	Silver, TCLP Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0126	tds
8270C	Semivolatile Organics											
	Pyridine, TCLP Leach	ND	U		200	200	1.00000	ug/L	118013		05/17/04 2212	dpk
	1,4-Dichlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2212	dpk
	2-Methylphenol (o-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2212	dpk
	Hexachloroethane, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2212	dpk
	4-Methylphenol (m/p-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2212	dpk

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-16
Date Sampled.....: 05/06/2004
Time Sampled.....: 12:57
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-5
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Nitrobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2212	dpk
	Hexachlorobutadiene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2212	dpk
	2,4,6-Trichlorophenol, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2212	dpk
	2,4,5-Trichlorophenol, TCLP Leach	ND	U	*	500	500	1.00000	ug/L	118013		05/17/04 2212	dpk
	2,4-Dinitrotoluene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2212	dpk
	Hexachlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2212	dpk
	Pentachlorophenol, TCLP Leach	ND	U		500	500	1.00000	ug/L	118013		05/17/04 2212	dpk
8260B	Volatile Organics											
	Vinyl chloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1651	jdn
	1,1-Dichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1651	jdn
	2-Butanone (MEK), TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1651	jdn
	Chloroform, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1651	jdn
	Carbon tetrachloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1651	jdn
	Benzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1651	jdn
	1,2-Dichloroethane, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1651	jdn
	Trichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1651	jdn
	Tetrachloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1651	jdn
	Chlorobenzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1651	jdn

* In Description = Dry Wgt.

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Job Number: 226535

LABORATORY TEST RESULTS

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: FS-01
Date Sampled.....: 05/06/2004
Time Sampled.....: 13:20
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-6
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7041	Leachable, Antimony (GFAA)											
	Antimony, Neutral Leach	ND	U		0.0030	0.0060	1	mg/L	117859		05/13/04 1440	daj
7841	Leachable, Thallium (GFAA)											
	Thallium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	117862		05/13/04 1634	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	117934		05/14/04 1553	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0516	tds
	Barium, Neutral Leach	0.28	B		0.010	1.0	1	mg/L	117667		05/14/04 0516	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	117667		05/14/04 0516	tds
	Boron, Neutral Leach	4.0			0.050	0.10	1	mg/L	117667		05/14/04 0516	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0516	tds
	Chromium, Neutral Leach	0.018	B		0.010	0.050	1	mg/L	117667		05/14/04 0516	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0516	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0516	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	117667		05/14/04 0516	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0516	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0516	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0516	tds
	Selenium, Neutral Leach	0.044	B		0.010	0.050	1	mg/L	117667		05/14/04 0516	tds
	Silver, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0516	tds
	Zinc, Neutral Leach	0.053	B		0.020	0.10	1	mg/L	117667		05/14/04 0516	tds
8082	PCB Analysis											
	Aroclor 1016, Solid	ND	U		2.9	16	1.00000	ug/Kg	118148		05/18/04 2344	bab
	Aroclor 1221, Solid	ND	U		6.6	16	1.00000	ug/Kg	118148		05/18/04 2344	bab

* In Description = Dry Wgt.

MWG13-15_11401

STL Chicago is part of Severn Trent Laboratories, Inc.

Job Number: 226535

LABORATORY TEST RESULTS

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: FS-01
Date Sampled.....: 05/06/2004
Time Sampled.....: 13:20
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-6
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Aroclor 1232, Solid	ND	U		3.0	16	1.00000	ug/Kg	118148		05/18/04 2344	bab
	Aroclor 1242, Solid	ND	U		6.2	16	1.00000	ug/Kg	118148		05/18/04 2344	bab
	Aroclor 1248, Solid	ND	U		2.3	16	1.00000	ug/Kg	118148		05/18/04 2344	bab
	Aroclor 1254, Solid	ND	U		2.7	16	1.00000	ug/Kg	118148		05/18/04 2344	bab
	Aroclor 1260, Solid	ND	U		2.5	16	1.00000	ug/Kg	118148		05/18/04 2344	bab
7.3.3.2/9014	Reactivity, Cyanide											
	Reactivity, Cyanide, Solid	ND	U		2.5	2.5	1	mg/Kg	117382		05/11/04 1537	rnm
1010	Ignitability (Pensky-Martens Closed-Cup)											
	Ignitability (Flashpoint), Solid	>200					1	degrees F	118403		05/20/04 0904	jmk
9095A	Paint Filter Test											
	Paint Filter Test, Solid	0					1	mL/100g	117217		05/10/04 1450	jmk
9066	Phenolics, Total Recoverable											
	Phenolics, Total Recoverable, Solid	0.56			0.18	0.27	1	mg/Kg	117735		05/14/04 1511	kd
9045C	pH (Soil)											
	Corrosivity (pH Solid), Solid	8.7				0.2	1	pH Units	117254		05/10/04 1525	pmf
9038M	Sulfate, Turbidimetric											
	Sulfate, Solid	8000			790	1200	25	mg/Kg	118380		05/20/04 2146	rnm
7.3.4.2/9034	Reactivity, Sulfide											
	Reactivity, Sulfide, Solid	ND	U		89	240	1	mg/Kg	117221		05/10/04 1615	mtb
8081A	Organochlorine Pesticide Analysis											
	gamma-BHC (Lindane), TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1848	kdl

* In Description = Dry Wgt.

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: FS-01
Date Sampled.....: 05/06/2004
Time Sampled.....: 13:20
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-6
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Heptachlor, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1848	kdl
	Heptachlor epoxide, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1848	kdl
	Endrin, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1848	kdl
	Methoxychlor, TCLP Leach	ND	U		2.5	25	1.00000	ug/L	118476		05/14/04 1848	kdl
	Toxaphene, TCLP Leach	ND	U		5.0	50	1.00000	ug/L	118476		05/14/04 1848	kdl
	Chlordane, TCLP Leach	ND	U		1.0	10	1.00000	ug/L	118476		05/14/04 1848	kdl
8151A	Herbicides											
	2,4-D, TCLP Leach	ND	U		100	100	10.0000	ug/L	118079		05/15/04 0742	kdl
	2,4,5-TP (Silvex), TCLP Leach	ND	U		10	10	10.0000	ug/L	118079		05/15/04 0742	kdl
7470A	Leachable, Mercury (CVAA)											
	Mercury, TCLP Leach	ND	U		0.0020	0.0020	1	mg/L	117617		05/13/04 1442	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0156	tds
	Barium, TCLP Leach	0.18	B		0.010	1.0	1	mg/L	117667		05/14/04 0156	tds
	Cadmium, TCLP Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0156	tds
	Chromium, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0156	tds
	Lead, TCLP Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0156	tds
	Selenium, TCLP Leach	0.056			0.010	0.050	1	mg/L	117667		05/14/04 0156	tds
	Silver, TCLP Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0156	tds
8270C	Semivolatile Organics											
	Pyridine, TCLP Leach	ND	U		200	200	1.00000	ug/L	118013		05/17/04 2244	dpk
	1,4-Dichlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2244	dpk
	2-Methylphenol (o-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2244	dpk
	Hexachloroethane, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2244	dpk
	4-Methylphenol (m/p-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2244	dpk

* In Description = Dry Wgt.

MWG13-15_11403

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 226535 Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Customer Sample ID: FS-01
Date Sampled.....: 05/06/2004
Time Sampled.....: 13:20
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-6
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Nitrobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2244	dpk
	Hexachlorobutadiene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2244	dpk
	2,4,6-Trichlorophenol, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2244	dpk
	2,4,5-Trichlorophenol, TCLP Leach	ND	U	*	500	500	1.00000	ug/L	118013		05/17/04 2244	dpk
	2,4-Dinitrotoluene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2244	dpk
	Hexachlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/17/04 2244	dpk
	Pentachlorophenol, TCLP Leach	ND	U		500	500	1.00000	ug/L	118013		05/17/04 2244	dpk
82608	Volatile Organics											
	Vinyl chloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1808	jdn
	1,1-Dichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1808	jdn
	2-Butanone (MEK), TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1808	jdn
	Chloroform, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1808	jdn
	Carbon tetrachloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1808	jdn
	Benzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1808	jdn
	1,2-Dichloroethane, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1808	jdn
	Trichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1808	jdn
	Tetrachloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1808	jdn
	Chlorobenzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1808	jdn

* In Description = Dry Wgt.

MWG13-15_11404

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: FS-02
Date Sampled.....: 05/06/2004
Time Sampled.....: 13:23
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-7
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7041	Leachable, Antimony (GFAA)											
	Antimony, Neutral Leach	ND	U		0.0030	0.0060	1	mg/L	117859		05/13/04 1505	daj
7841	Leachable, Thallium (GFAA)											
	Thallium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	117862		05/13/04 1700	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	117934		05/14/04 1557	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0522	tds
	Barium, Neutral Leach	0.21	B		0.010	1.0	1	mg/L	117667		05/14/04 0522	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	117667		05/14/04 0522	tds
	Boron, Neutral Leach	3.0			0.050	0.10	1	mg/L	117667		05/14/04 0522	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0522	tds
	Chromium, Neutral Leach	0.021	B		0.010	0.050	1	mg/L	117667		05/14/04 0522	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0522	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0522	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	117667		05/14/04 0522	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0522	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0522	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0522	tds
	Selenium, Neutral Leach	0.038	B		0.010	0.050	1	mg/L	117667		05/14/04 0522	tds
	Silver, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0522	tds
	Zinc, Neutral Leach	0.053	B		0.020	0.10	1	mg/L	117667		05/14/04 0522	tds
8082	PCB Analysis											
	Aroclor 1016, Solid	ND	U		2.9	16	1.00000	ug/Kg	118148		05/19/04 0020	bab
	Aroclor 1221, Solid	ND	U		6.6	16	1.00000	ug/Kg	118148		05/19/04 0020	bab

* In Description = Dry Wgt.

MWG13-15_11405

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 226535 Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Customer Sample ID: FS-02
Date Sampled.....: 05/06/2004
Time Sampled.....: 13:23
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-7
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Aroclor 1232, Solid	ND	U		3.0	16	1.00000	ug/Kg	118148		05/19/04 0020	bab
	Aroclor 1242, Solid	ND	U		6.2	16	1.00000	ug/Kg	118148		05/19/04 0020	bab
	Aroclor 1248, Solid	ND	U		2.3	16	1.00000	ug/Kg	118148		05/19/04 0020	bab
	Aroclor 1254, Solid	ND	U		2.7	16	1.00000	ug/Kg	118148		05/19/04 0020	bab
	Aroclor 1260, Solid	ND	U		2.5	16	1.00000	ug/Kg	118148		05/19/04 0020	bab
7.3.3.2/9014	Reactivity, Cyanide											
	Reactivity, Cyanide, Solid	ND	U		2.5	2.5	1	mg/Kg	117382		05/11/04 1538	rnm
1010	Ignitability (Pensky-Martens Closed-Cup)											
	Ignitability (Flashpoint), Solid	>200					1	degrees F	118403		05/20/04 1021	jmk
9095A	Paint Filter Test											
	Paint Filter Test, Solid	0					1	mL/100g	117217		05/10/04 1455	jmk
9066	Phenolics, Total Recoverable											
	Phenolics, Total Recoverable, Solid	ND	U		0.28	0.43	1	mg/Kg	117735		05/14/04 1512	kd
9045C	pH (Soil)											
	Corrosivity (pH Solid), Solid	9.9				0.2	1	pH Units	117254		05/10/04 1526	pmf
9038M	Sulfate, Turbidimetric											
	Sulfate, Solid	5000			790	1200	25	mg/Kg	118380		05/20/04 2147	rnm
7.3.4.2/9034	Reactivity, Sulfide											
	Reactivity, Sulfide, Solid	ND	U		90	250	1	mg/Kg	117221		05/10/04 1617	mtb
8081A	Organochlorine Pesticide Analysis											
	gamma-BHC (Lindane), TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1913	kdl

* In Description = Dry Wgt.

MWG13-15_11406

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: FS-02
Date Sampled.....: 05/06/2004
Time Sampled.....: 13:23
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-7
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Heptachlor, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1913	kdl
	Heptachlor epoxide, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1913	kdl
	Endrin, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1913	kdl
	Methoxychlor, TCLP Leach	ND	U		2.5	25	1.00000	ug/L	118476		05/14/04 1913	kdl
	Toxaphene, TCLP Leach	ND	U		5.0	50	1.00000	ug/L	118476		05/14/04 1913	kdl
	Chlordane, TCLP Leach	ND	U		1.0	10	1.00000	ug/L	118476		05/14/04 1913	kdl
8151A	Herbicides											
	2,4-D, TCLP Leach	ND	U		100	100	10.0000	ug/L	118079		05/15/04 0809	kdl
	2,4,5-TP (Silvex), TCLP Leach	ND	U		10	10	10.0000	ug/L	118079		05/15/04 0809	kdl
7470A	Leachable, Mercury (CVAA)											
	Mercury, TCLP Leach	ND	U		0.0020	0.0020	1	mg/L	117617		05/13/04 1444	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0202	tds
	Barium, TCLP Leach	0.18	B		0.010	1.0	1	mg/L	117667		05/14/04 0202	tds
	Cadmium, TCLP Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0202	tds
	Chromium, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0202	tds
	Lead, TCLP Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0202	tds
	Selenium, TCLP Leach	0.069			0.010	0.050	1	mg/L	117667		05/14/04 0202	tds
	Silver, TCLP Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0202	tds
8270C	Semivolatile Organics											
	Pyridine, TCLP Leach	ND	U		200	200	1.00000	ug/L	118013		05/18/04 1013	dpk
	1,4-Dichlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1013	dpk
	2-Methylphenol (o-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1013	dpk
	Hexachloroethane, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1013	dpk
	4-Methylphenol (m/p-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1013	dpk

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: FS-02
Date Sampled.....: 05/06/2004
Time Sampled.....: 13:23
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-7
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Nitrobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1013	dpk
	Hexachlorobutadiene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1013	dpk
	2,4,6-Trichlorophenol, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1013	dpk
	2,4,5-Trichlorophenol, TCLP Leach	ND	U	*	500	500	1.00000	ug/L	118013		05/18/04 1013	dpk
	2,4-Dinitrotoluene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1013	dpk
	Hexachlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1013	dpk
	Pentachlorophenol, TCLP Leach	ND	U		500	500	1.00000	ug/L	118013		05/18/04 1013	dpk
8260B	Volatile Organics											
	Vinyl chloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1834	jdn
	1,1-Dichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1834	jdn
	2-Butanone (MEK), TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1834	jdn
	Chloroform, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1834	jdn
	Carbon tetrachloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1834	jdn
	Benzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1834	jdn
	1,2-Dichloroethane, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1834	jdn
	Trichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1834	jdn
	Tetrachloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1834	jdn
	Chlorobenzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1834	jdn

* In Description = Dry Wgt.

MWG13-15_11408

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-29
Date Sampled.....: 05/06/2004
Time Sampled.....: 13:53
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-8
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7041	Leachable, Antimony (GFAA)											
	Antimony, Neutral Leach	ND	U		0.0030	0.0060	1	mg/L	117859		05/13/04 1517	daj
7841	Leachable, Thallium (GFAA)											
	Thallium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	117862		05/13/04 1712	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	118158		05/18/04 1525	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0528	tds
	Barium, Neutral Leach	0.20	B		0.010	1.0	1	mg/L	117667		05/14/04 0528	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	117667		05/14/04 0528	tds
	Boron, Neutral Leach	0.65			0.050	0.10	1	mg/L	117667		05/14/04 0528	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0528	tds
	Chromium, Neutral Leach	0.092			0.010	0.050	1	mg/L	117667		05/14/04 0528	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0528	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0528	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	117667		05/14/04 0528	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0528	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0528	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0528	tds
	Selenium, Neutral Leach	0.040	B		0.010	0.050	1	mg/L	117667		05/14/04 0528	tds
	Silver, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0528	tds
	Zinc, Neutral Leach	0.056	B		0.020	0.10	1	mg/L	117667		05/14/04 0528	tds
8082	PCB Analysis											
	Aroclor 1016, Solid	ND	U		2.9	17	1.00000	ug/Kg	118148		05/19/04 0055	bab
	Aroclor 1221, Solid	ND	U		6.7	17	1.00000	ug/Kg	118148		05/19/04 0055	bab

* In Description = Dry Wgt.

MWG13-15_11409

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-29
Date Sampled.....: 05/06/2004
Time Sampled.....: 13:53
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-8
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Aroclor 1232, Solid	ND	U		3.0	17	1.00000	ug/Kg	118148		05/19/04 0055	bab
	Aroclor 1242, Solid	ND	U		6.3	17	1.00000	ug/Kg	118148		05/19/04 0055	bab
	Aroclor 1248, Solid	ND	U		2.3	17	1.00000	ug/Kg	118148		05/19/04 0055	bab
	Aroclor 1254, Solid	ND	U		2.7	17	1.00000	ug/Kg	118148		05/19/04 0055	bab
	Aroclor 1260, Solid	ND	U		2.5	17	1.00000	ug/Kg	118148		05/19/04 0055	bab
7.3.3.2/9014	Reactivity, Cyanide											
	Reactivity, Cyanide, Solid	ND	U		2.5	2.5	1	mg/Kg	117382		05/11/04 1538	rnm
1010	Ignitability (Pensky-Martens Closed-Cup)											
	Ignitability (Flashpoint), Solid	>200					1	degrees F	118403		05/20/04 1139	jmk
9095A	Paint Filter Test											
	Paint Filter Test, Solid	0					1	mL/100g	117217		05/10/04 1500	jmk
9066	Phenolics, Total Recoverable											
	Phenolics, Total Recoverable, Solid	ND	U		0.29	0.45	1	mg/Kg	117735		05/14/04 1513	kd
9045C	pH (Soil)											
	Corrosivity (pH Solid), Solid	10.8				0.2	1	pH Units	117254		05/10/04 1528	pmf
9038M	Sulfate, Turbidimetric											
	Sulfate, Solid	18000			1600	2500	50	mg/Kg	118380		05/20/04 2148	rnm
7.3.4.2/9034	Reactivity, Sulfide											
	Reactivity, Sulfide, Solid	ND	U		86	240	1	mg/Kg	117221		05/10/04 1619	mtb
8081A	Organochlorine Pesticide Analysis											
	gamma-BHC (Lindane), TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1938	kdl

* In Description = Dry Wgt.

MWG13-15_11410

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-29
Date Sampled.....: 05/06/2004
Time Sampled.....: 13:53
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-8
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Heptachlor, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1938	kdl
	Heptachlor epoxide, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1938	kdl
	Endrin, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 1938	kdl
	Methoxychlor, TCLP Leach	ND	U		2.5	25	1.00000	ug/L	118476		05/14/04 1938	kdl
	Toxaphene, TCLP Leach	ND	U		5.0	50	1.00000	ug/L	118476		05/14/04 1938	kdl
	Chlordane, TCLP Leach	ND	U		1.0	10	1.00000	ug/L	118476		05/14/04 1938	kdl
8151A	Herbicides											
	2,4-D, TCLP Leach	ND	U		100	100	10.0000	ug/L	118079		05/15/04 0836	kdl
	2,4,5-TP (Silvex), TCLP Leach	ND	U		10	10	10.0000	ug/L	118079		05/15/04 0836	kdl
7470A	Leachable, Mercury (CVAA)											
	Mercury, TCLP Leach	ND	U		0.0020	0.0020	1	mg/L	117617		05/13/04 1446	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0208	tds
	Barium, TCLP Leach	0.17	B		0.010	1.0	1	mg/L	117667		05/14/04 0208	tds
	Cadmium, TCLP Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0208	tds
	Chromium, TCLP Leach	0.053			0.010	0.050	1	mg/L	117667		05/14/04 0208	tds
	Lead, TCLP Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0208	tds
	Selenium, TCLP Leach	0.077			0.010	0.050	1	mg/L	117667		05/14/04 0208	tds
	Silver, TCLP Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0208	tds
8270C	Semivolatile Organics											
	Pyridine, TCLP Leach	ND	U		200	200	1.00000	ug/L	118013		05/18/04 1045	dpk
	1,4-Dichlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1045	dpk
	2-Methylphenol (o-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1045	dpk
	Hexachloroethane, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1045	dpk
	4-Methylphenol (m/p-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1045	dpk

* In Description = Dry Wgt.

MWG13-15_11411

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-29
Date Sampled.....: 05/06/2004
Time Sampled.....: 13:53
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-8
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Nitrobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1045	dpk
	Hexachlorobutadiene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1045	dpk
	2,4,6-Trichlorophenol, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1045	dpk
	2,4,5-Trichlorophenol, TCLP Leach	ND	U	*	500	500	1.00000	ug/L	118013		05/18/04 1045	dpk
	2,4-Dinitrotoluene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1045	dpk
	Hexachlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1045	dpk
	Pentachlorophenol, TCLP Leach	ND	U		500	500	1.00000	ug/L	118013		05/18/04 1045	dpk
8260B	Volatile Organics											
	Vinyl chloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1859	jdn
	1,1-Dichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1859	jdn
	2-Butanone (MEK), TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1859	jdn
	Chloroform, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1859	jdn
	Carbon tetrachloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1859	jdn
	Benzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1859	jdn
	1,2-Dichloroethane, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1859	jdn
	Trichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1859	jdn
	Tetrachloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1859	jdn
	Chlorobenzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1859	jdn

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Customer Sample ID: SFA-1
Date Sampled.....: 05/06/2004
Time Sampled.....: 14:11
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-9
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7041	Leachable, Antimony (GFAA)											
	Antimony, Neutral Leach	ND	U		0.0030	0.0060	1	mg/L	117859		05/13/04 1529	daj
7841	Leachable, Thallium (GFAA)											
	Thallium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	117862		05/13/04 1725	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	117934		05/14/04 1607	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0534	tds
	Barium, Neutral Leach	0.15	B		0.010	1.0	1	mg/L	117667		05/14/04 0534	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	117667		05/14/04 0534	tds
	Boron, Neutral Leach	1.0			0.050	0.10	1	mg/L	117667		05/14/04 0534	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0534	tds
	Chromium, Neutral Leach	0.16			0.010	0.050	1	mg/L	117667		05/14/04 0534	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0534	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0534	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	117667		05/14/04 0534	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0534	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0534	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0534	tds
	Selenium, Neutral Leach	0.099			0.010	0.050	1	mg/L	117667		05/14/04 0534	tds
	Silver, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0534	tds
	Zinc, Neutral Leach	0.037	B		0.020	0.10	1	mg/L	117667		05/14/04 0534	tds
8082	PCB Analysis											
	Aroclor 1016, Solid	ND	U		2.9	17	1.00000	ug/Kg	118148		05/19/04 0917	bab
	Aroclor 1221, Solid	ND	U		6.6	17	1.00000	ug/Kg	118148		05/19/04 0917	bab

* In Description = Dry Wgt.

MWG13-15_11413

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: SFA-1
Date Sampled.....: 05/06/2004
Time Sampled.....: 14:11
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-9
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Aroclor 1232, Solid	ND	U		3.0	17	1.00000	ug/Kg	118148		05/19/04 0917	bab
	Aroclor 1242, Solid	ND	U		6.2	17	1.00000	ug/Kg	118148		05/19/04 0917	bab
	Aroclor 1248, Solid	ND	U		2.3	17	1.00000	ug/Kg	118148		05/19/04 0917	bab
	Aroclor 1254, Solid	ND	U		2.7	17	1.00000	ug/Kg	118148		05/19/04 0917	bab
	Aroclor 1260, Solid	ND	U		2.5	17	1.00000	ug/Kg	118148		05/19/04 0917	bab
7.3.3.2/9014	Reactivity, Cyanide											
	Reactivity, Cyanide, Solid	ND	U		2.5	2.5	1	mg/Kg	117382		05/11/04 1538	rnm
1010	Ignitability (Pensky-Martens Closed-Cup)											
	Ignitability (Flashpoint), Solid	>200					1	degrees F	118403		05/20/04 1256	jmk
9095A	Paint Filter Test											
	Paint Filter Test, Solid	0					1	mL/100g	117217		05/10/04 1505	jmk
9066	Phenolics, Total Recoverable											
	Phenolics, Total Recoverable, Solid	ND	U		0.30	0.45	1	mg/Kg	117735		05/14/04 1513	kd
9045C	pH (Soil)											
	Corrosivity (pH Solid), Solid	11.4				0.2	1	pH Units	117254		05/10/04 1530	pmf
9038M	Sulfate, Turbidimetric											
	Sulfate, Solid	9200			760	1200	25	mg/Kg	118380		05/20/04 2150	rnm
7.3.4.2/9034	Reactivity, Sulfide											
	Reactivity, Sulfide, Solid	ND	U		91	250	1	mg/Kg	117221		05/10/04 1621	mtb
8081A	Organochlorine Pesticide Analysis											
	gamma-BHC (Lindane), TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 2003	kdl

* In Description = Dry Wgt.

MWG13-15_11414

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: SFA-1
Date Sampled.....: 05/06/2004
Time Sampled.....: 14:11
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-9
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Heptachlor, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 2003	kdl
	Heptachlor epoxide, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 2003	kdl
	Endrin, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 2003	kdl
	Methoxychlor, TCLP Leach	ND	U		2.5	25	1.00000	ug/L	118476		05/14/04 2003	kdl
	Toxaphene, TCLP Leach	ND	U		5.0	50	1.00000	ug/L	118476		05/14/04 2003	kdl
	Chlordane, TCLP Leach	ND	U		1.0	10	1.00000	ug/L	118476		05/14/04 2003	kdl
8151A	Herbicides											
	2,4-D, TCLP Leach	ND	U		100	100	10.0000	ug/L	118079		05/15/04 0903	kdl
	2,4,5-TP (Silvex), TCLP Leach	ND	U		10	10	10.0000	ug/L	118079		05/15/04 0903	kdl
7470A	Leachable, Mercury (CVAA)											
	Mercury, TCLP Leach	ND	U		0.0020	0.0020	1	mg/L	117617		05/13/04 1449	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0214	tds
	Barium, TCLP Leach	0.22	B		0.010	1.0	1	mg/L	117667		05/14/04 0214	tds
	Cadmium, TCLP Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0214	tds
	Chromium, TCLP Leach	0.13			0.010	0.050	1	mg/L	117667		05/14/04 0214	tds
	Lead, TCLP Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0214	tds
	Selenium, TCLP Leach	0.095			0.010	0.050	1	mg/L	117667		05/14/04 0214	tds
	Silver, TCLP Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0214	tds
8270C	Semivolatile Organics											
	Pyridine, TCLP Leach	ND	U		200	200	1.00000	ug/L	118013		05/18/04 1117	dpk
	1,4-Dichlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1117	dpk
	2-Methylphenol (o-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1117	dpk
	Hexachloroethane, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1117	dpk
	4-Methylphenol (m/p-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1117	dpk

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: SFA-1
Date Sampled.....: 05/06/2004
Time Sampled.....: 14:11
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-9
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Nitrobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1117	dpk
	Hexachlorobutadiene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1117	dpk
	2,4,6-Trichlorophenol, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1117	dpk
	2,4,5-Trichlorophenol, TCLP Leach	ND	U	*	500	500	1.00000	ug/L	118013		05/18/04 1117	dpk
	2,4-Dinitrotoluene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1117	dpk
	Hexachlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1117	dpk
	Pentachlorophenol, TCLP Leach	ND	U		500	500	1.00000	ug/L	118013		05/18/04 1117	dpk
8260B	Volatile Organics											
	Vinyl chloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1925	jdn
	1,1-Dichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1925	jdn
	2-Butanone (MEK), TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1925	jdn
	Chloroform, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1925	jdn
	Carbon tetrachloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1925	jdn
	Benzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1925	jdn
	1,2-Dichloroethane, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1925	jdn
	Trichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1925	jdn
	Tetrachloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1925	jdn
	Chlorobenzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1925	jdn

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226535 Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Customer Sample ID: TP-03
Date Sampled.....: 05/06/2004
Time Sampled.....: 14:50
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-10
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7041	Leachable, Antimony (GFAA)											
	Antimony, Neutral Leach	ND	U		0.0030	0.0060	1	mg/L	117859		05/13/04 1541	daj
7841	Leachable, Thallium (GFAA)											
	Thallium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	117862		05/13/04 1737	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	117934		05/14/04 1609	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0541	tds
	Barium, Neutral Leach	0.22	B		0.010	1.0	1	mg/L	117667		05/14/04 0541	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	117667		05/14/04 0541	tds
	Boron, Neutral Leach	1.5			0.050	0.10	1	mg/L	117667		05/14/04 0541	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0541	tds
	Chromium, Neutral Leach	0.027	B		0.010	0.050	1	mg/L	117667		05/14/04 0541	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0541	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0541	tds
	Iron, Neutral Leach	ND	U		0.050	0.10	1	mg/L	117667		05/14/04 0541	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0541	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0541	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0541	tds
	Selenium, Neutral Leach	0.080			0.010	0.050	1	mg/L	117667		05/14/04 0541	tds
	Silver, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0541	tds
	Zinc, Neutral Leach	0.070	B		0.020	0.10	1	mg/L	117667		05/14/04 0541	tds
8082	PCB Analysis											
	Aroclor 1016, Solid	ND	U		2.9	16	1.00000	ug/Kg	118148		05/19/04 0952	bab
	Aroclor 1221, Solid	ND	U		6.6	16	1.00000	ug/Kg	118148		05/19/04 0952	bab

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-03
Date Sampled.....: 05/06/2004
Time Sampled.....: 14:50
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-10
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Aroclor 1232, Solid	ND	U		3.0	16	1.00000	ug/Kg	118148		05/19/04 0952	bab
	Aroclor 1242, Solid	ND	U		6.2	16	1.00000	ug/Kg	118148		05/19/04 0952	bab
	Aroclor 1248, Solid	ND	U		2.3	16	1.00000	ug/Kg	118148		05/19/04 0952	bab
	Aroclor 1254, Solid	ND	U		2.7	16	1.00000	ug/Kg	118148		05/19/04 0952	bab
	Aroclor 1260, Solid	ND	U		2.5	16	1.00000	ug/Kg	118148		05/19/04 0952	bab
7.3.3.2/9014	Reactivity, Cyanide											
	Reactivity, Cyanide, Solid	ND	U		2.5	2.5	1	mg/Kg	117382		05/11/04 1539	rnm
1010	Ignitability (Pensky-Martens Closed-Cup)											
	Ignitability (Flashpoint), Solid	>200					1	degrees F	118403		05/20/04 1413	jmk
9095A	Paint Filter Test											
	Paint Filter Test, Solid	0					1	mL/100g	117217		05/10/04 1510	jmk
9066	Phenolics, Total Recoverable											
	Phenolics, Total Recoverable, Solid	ND	U		0.31	0.47	1	mg/Kg	117735		05/14/04 1514	kd
9045C	pH (Soil)											
	Corrosivity (pH Solid), Solid	11.5				0.2	1	pH Units	117254		05/10/04 1532	pmf
9038M	Sulfate, Turbidimetric											
	Sulfate, Solid	3000			790	1200	25	mg/Kg	118380		05/20/04 2151	rnm
7.3.4.2/9034	Reactivity, Sulfide											
	Reactivity, Sulfide, Solid	ND	U		85	230	1	mg/Kg	117221		05/10/04 1623	mtb
8081A	Organochlorine Pesticide Analysis											
	gamma-BHC (Lindane), TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 2028	kdl

* In Description = Dry Wgt.

STL Chicago is part of Severn Trent Laboratories, Inc.

LABORATORY TEST RESULTS

Job Number: 226535 Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Customer Sample ID: TP-03
Date Sampled.....: 05/06/2004
Time Sampled.....: 14:50
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-10
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Heptachlor, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 2028	kdl
	Heptachlor epoxide, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 2028	kdl
	Endrin, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 2028	kdl
	Methoxychlor, TCLP Leach	ND	U		2.5	25	1.00000	ug/L	118476		05/14/04 2028	kdl
	Toxaphene, TCLP Leach	ND	U		5.0	50	1.00000	ug/L	118476		05/14/04 2028	kdl
	Chlordane, TCLP Leach	ND	U		1.0	10	1.00000	ug/L	118476		05/14/04 2028	kdl
8151A	Herbicides											
	2,4-D, TCLP Leach	ND	U		100	100	10.0000	ug/L	118079		05/15/04 0930	kdl
	2,4,5-TP (Silvex), TCLP Leach	ND	U		10	10	10.0000	ug/L	118079		05/15/04 0930	kdl
7470A	Leachable, Mercury (CVAA)											
	Mercury, TCLP Leach	ND	U		0.0020	0.0020	1	mg/L	117617		05/13/04 1457	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0220	tds
	Barium, TCLP Leach	0.18	B		0.010	1.0	1	mg/L	117667		05/14/04 0220	tds
	Cadmium, TCLP Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0220	tds
	Chromium, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0220	tds
	Lead, TCLP Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0220	tds
	Selenium, TCLP Leach	0.14			0.010	0.050	1	mg/L	117667		05/14/04 0220	tds
	Silver, TCLP Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0220	tds
8270C	Semivolatile Organics											
	Pyridine, TCLP Leach	ND	U		200	200	1.00000	ug/L	118013		05/18/04 1150	dpk
	1,4-Dichlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1150	dpk
	2-Methylphenol (o-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1150	dpk
	Hexachloroethane, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1150	dpk
	4-Methylphenol (m/p-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1150	dpk

* In Description = Dry Wgt.

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Job Number: 226535

LABORATORY TEST RESULTS

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-03
Date Sampled.....: 05/06/2004
Time Sampled.....: 14:50
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-10
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Nitrobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1150	dpk
	Hexachlorobutadiene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1150	dpk
	2,4,6-Trichlorophenol, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1150	dpk
	2,4,5-Trichlorophenol, TCLP Leach	ND	U	*	500	500	1.00000	ug/L	118013		05/18/04 1150	dpk
	2,4-Dinitrotoluene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1150	dpk
	Hexachlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1150	dpk
	Pentachlorophenol, TCLP Leach	ND	U		500	500	1.00000	ug/L	118013		05/18/04 1150	dpk
8260B	Volatile Organics											
	Vinyl chloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1951	jdn
	1,1-Dichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1951	jdn
	2-Butanone (MEK), TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1951	jdn
	Chloroform, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1951	jdn
	Carbon tetrachloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1951	jdn
	Benzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1951	jdn
	1,2-Dichloroethane, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1951	jdn
	Trichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1951	jdn
	Tetrachloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1951	jdn
	Chlorobenzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 1951	jdn

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-19
Date Sampled.....: 05/06/2004
Time Sampled.....: 15:31
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-11
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
7041	Leachable, Antimony (GFAA)											
	Antimony, Neutral Leach	ND	U		0.0030	0.0060	1	mg/L	117859		05/13/04 1606	daj
7841	Leachable, Thallium (GFAA)											
	Thallium, Neutral Leach	ND	U		0.0020	0.0020	1	mg/L	117862		05/13/04 1802	daj
7470A	Leachable, Mercury (CVAA)											
	Mercury, Neutral Leach	ND	U		0.0002	0.0020	1	mg/L	117934		05/14/04 1616	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, Neutral Leach	0.011	B		0.010	0.050	1	mg/L	117667		05/14/04 0547	tds
	Barium, Neutral Leach	0.33	B		0.010	1.0	1	mg/L	117667		05/14/04 0547	tds
	Beryllium, Neutral Leach	ND	U		0.004	0.004	1	mg/L	117667		05/14/04 0547	tds
	Boron, Neutral Leach	0.10			0.050	0.10	1	mg/L	117667		05/14/04 0547	tds
	Cadmium, Neutral Leach	ND	U		0.002	0.005	1	mg/L	117667		05/14/04 0547	tds
	Chromium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0547	tds
	Cobalt, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0547	tds
	Copper, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0547	tds
	Iron, Neutral Leach	0.31			0.050	0.10	1	mg/L	117667		05/14/04 0547	tds
	Lead, Neutral Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0547	tds
	Manganese, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0547	tds
	Nickel, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0547	tds
	Selenium, Neutral Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0547	tds
	Silver, Neutral Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0547	tds
	Zinc, Neutral Leach	0.067	B		0.020	0.10	1	mg/L	117667		05/14/04 0547	tds
8082	PCB Analysis											
	Aroclor 1016, Solid	ND	U		2.9	16	1.00000	ug/Kg	118148		05/19/04 1028	bab
	Aroclor 1221, Solid	ND	U		6.6	16	1.00000	ug/Kg	118148		05/19/04 1028	bab

* In Description = Dry Wgt.

MWG13-15_11421

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Job Number: 226535

LABORATORY TEST RESULTS

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Customer Sample ID: TP-19
Date Sampled.....: 05/06/2004
Time Sampled.....: 15:31
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-11
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Aroclor 1232, Solid	ND	U		3.0	16	1.00000	ug/Kg	118148		05/19/04 1028	bab
	Aroclor 1242, Solid	ND	U		6.2	16	1.00000	ug/Kg	118148		05/19/04 1028	bab
	Aroclor 1248, Solid	ND	U		2.3	16	1.00000	ug/Kg	118148		05/19/04 1028	bab
	Aroclor 1254, Solid	ND	U		2.7	16	1.00000	ug/Kg	118148		05/19/04 1028	bab
	Aroclor 1260, Solid	ND	U		2.5	16	1.00000	ug/Kg	118148		05/19/04 1028	bab
7.3.3.2/9014	Reactivity, Cyanide											
	Reactivity, Cyanide, Solid	ND	U		2.5	2.5	1	mg/Kg	117382		05/11/04 1539	rnm
1010	Ignitability (Pensky-Martens Closed-Cup)											
	Ignitability (Flashpoint), Solid	>200					1	degrees F	118403		05/20/04 1530	jmk
9095A	Paint Filter Test											
	Paint Filter Test, Solid	0					1	mL/100g	117217		05/10/04 1515	jmk
9066	Phenolics, Total Recoverable											
	Phenolics, Total Recoverable, Solid	2.9			0.25	0.38	1	mg/Kg	117735		05/14/04 1514	kd
9045C	pH (Soil)											
	Corrosivity (pH Solid), Solid	8.6				0.2	1	pH Units	117254		05/10/04 1533	pmf
9038M	Sulfate, Turbidimetric											
	Sulfate, Solid	170			31	48	1	mg/Kg	118380		05/20/04 2152	rnm
7.3.4.2/9034	Reactivity, Sulfide											
	Reactivity, Sulfide, Solid	ND	U		86	240	1	mg/Kg	117221		05/10/04 1625	mtb
8081A	Organochlorine Pesticide Analysis											
	gamma-BHC (Lindane), TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 2054	kdl

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226535 Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Customer Sample ID: TP-19
Date Sampled.....: 05/06/2004
Time Sampled.....: 15:31
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-11
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Heptachlor, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 2054	kdl
	Heptachlor epoxide, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 2054	kdl
	Endrin, TCLP Leach	ND	U		0.50	5.0	1.00000	ug/L	118476		05/14/04 2054	kdl
	Methoxychlor, TCLP Leach	ND	U		2.5	25	1.00000	ug/L	118476		05/14/04 2054	kdl
	Toxaphene, TCLP Leach	ND	U		5.0	50	1.00000	ug/L	118476		05/14/04 2054	kdl
	Chlordane, TCLP Leach	ND	U		1.0	10	1.00000	ug/L	118476		05/14/04 2054	kdl
8151A	Herbicides											
	2,4-D, TCLP Leach	ND	U		100	100	10.0000	ug/L	118079		05/15/04 0957	kdl
	2,4,5-TP (Silvex), TCLP Leach	ND	U		10	10	10.0000	ug/L	118079		05/15/04 0957	kdl
7470A	Leachable, Mercury (CVAA)											
	Mercury, TCLP Leach	ND	U		0.0020	0.0020	1	mg/L	117617		05/13/04 1459	gok
6010B	Leachable, Metals Analysis (ICAP)											
	Arsenic, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0227	tds
	Barium, TCLP Leach	1.5			0.010	1.0	1	mg/L	117667		05/14/04 0227	tds
	Cadmium, TCLP Leach	0.008			0.002	0.005	1	mg/L	117667		05/14/04 0227	tds
	Chromium, TCLP Leach	ND	U		0.010	0.050	1	mg/L	117667		05/14/04 0227	tds
	Lead, TCLP Leach	ND	U		0.0050	0.0075	1	mg/L	117667		05/14/04 0227	tds
	Selenium, TCLP Leach	0.016	B		0.010	0.050	1	mg/L	117667		05/14/04 0227	tds
	Silver, TCLP Leach	ND	U		0.005	0.050	1	mg/L	117667		05/14/04 0227	tds
8270C	Semivolatile Organics											
	Pyridine, TCLP Leach	ND	U		200	200	1.00000	ug/L	118013		05/18/04 1222	dpk
	1,4-Dichlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1222	dpk
	2-Methylphenol (o-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1222	dpk
	Hexachloroethane, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1222	dpk
	4-Methylphenol (m/p-cresol), TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1222	dpk

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS

Job Number: 226535

Date:06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

Customer Sample ID: TP-19
Date Sampled.....: 05/06/2004
Time Sampled.....: 15:31
Sample Matrix.....: Soil

Laboratory Sample ID: 226535-11
Date Received.....: 05/07/2004
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
	Nitrobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1222	dpk
	Hexachlorobutadiene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1222	dpk
	2,4,6-Trichlorophenol, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1222	dpk
	2,4,5-Trichlorophenol, TCLP Leach	ND	U	*	500	500	1.00000	ug/L	118013		05/18/04 1222	dpk
	2,4-Dinitrotoluene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1222	dpk
	Hexachlorobenzene, TCLP Leach	ND	U		100	100	1.00000	ug/L	118013		05/18/04 1222	dpk
	Pentachlorophenol, TCLP Leach	ND	U		500	500	1.00000	ug/L	118013		05/18/04 1222	dpk
8260B	Volatile Organics											
	Vinyl chloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 2016	jdn
	1,1-Dichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 2016	jdn
	2-Butanone (MEK), TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 2016	jdn
	Chloroform, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 2016	jdn
	Carbon tetrachloride, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 2016	jdn
	Benzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 2016	jdn
	1,2-Dichloroethane, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 2016	jdn
	Trichloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 2016	jdn
	Tetrachloroethene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 2016	jdn
	Chlorobenzene, TCLP Leach	ND	U		25	100	1.0000	ug/L	118062		05/14/04 2016	jdn

* In Description = Dry Wgt.

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LABORATORY CHRONICLE

Job Number: 226535 Date: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Lab ID: 226535-1 Client ID: TP-23 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030B	5030CP TCLP/SPLP Prep	1	117791		05/14/2004	1508	
3010A	Acid Dig. Leachates (ICAP)	1	117373	117220	05/12/2004	0610	
3010A	Acid Dig. Leachates (ICAP)	1	117521	117334	05/12/2004	1850	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	117522	117334	05/12/2004	1850	
8150B	Extraction 8150B(Herbicides TCLP)	1	117539	117220	05/13/2004	1030	
3550B	Extraction Ultrasonic (PCBs)	1	117111		05/09/2004	1200	
3520C	Extraction for TCLP (Chlor.Pest.)	1	117560	117220	05/13/2004	1210	
3510C	Extraction for TCLP (SVOC)	1	117645	117220	05/14/2004	0900	
8151A	Herbicides	1	118079	117539-117220	05/15/2004	0433	10.0000
1010	Ignitability (Pensky-Martens Closed-Cup)	1	118229	118229	04/09/2003	0802	
7041	Leachable, Antimony (GFAA)	1	117859	117522-117334	05/13/2004	1225	
7470A	Leachable, Mercury (CVAA)	1	117617	117614-117220	05/13/2004	1417	
7470A	Leachable, Mercury (CVAA)	1	117934	117933-117334	05/14/2004	1520	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117373-117220	05/14/2004	0055	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117521-117334	05/14/2004	0332	
7841	Leachable, Thallium (GFAA)	1	117862	117522-117334	05/13/2004	1414	
D3987	Neutral Leachate Extraction	1	117334		05/11/2004	1330	
8081A	Organochlorine Pesticide Analysis	1	118476	117560-117220	05/14/2004	1410	1.00000
8082	PCB Analysis	1	118148	117111	05/18/2004	1901	1.00000
9095A	Paint Filter Test	1	117217	117217	05/10/2004	1425	
9066	Phenolics, Total Recoverable	1	117735	117735	05/14/2004	1507	1
7.3.3.2/9014	Reactivity, Cyanide	1	117382	117374	05/11/2004	1533	
7.3.4.2/9034	Reactivity, Sulfide	1	117221	117221	05/10/2004	1443	
7470	SW846 Dig. Leachates (Hg)	1	117614		05/13/2004	1130	
7470	SW846 Dig. Leachates (Hg)	1	117933		05/14/2004	1200	
8270C	Semivolatile Organics	1	118013	117645-117220	05/17/2004	1932	1.00000
9038M	Sulfate, Turbidimetric	1	118383	118383	05/20/2004	2301	5
1311	TCLP Extraction	1	117220		05/10/2004	1510	
1311	TCLP Zero Headspace Extraction	1	117610		05/13/2004	1435	
8260B	Volatile Organics	1	118062	117791-117610	05/14/2004	1508	1.0000
9045C	pH (Soil)	1	117254	117254	05/10/2004	1512	

Lab ID: 226535-2 Client ID: TP-12 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030B	5030CP TCLP/SPLP Prep	1	117791		05/14/2004	1534	
3010A	Acid Dig. Leachates (ICAP)	1	117373	117220	05/12/2004	0610	
3010A	Acid Dig. Leachates (ICAP)	1	117521	117334	05/12/2004	1850	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	117522	117334	05/12/2004	1850	
8150B	Extraction 8150B(Herbicides TCLP)	1	117539	117220	05/13/2004	1030	
3550B	Extraction Ultrasonic (PCBs)	1	117111		05/09/2004	1200	
3520C	Extraction for TCLP (Chlor.Pest.)	1	117560	117220	05/13/2004	1210	
3510C	Extraction for TCLP (SVOC)	1	117645	117220	05/14/2004	0900	
8151A	Herbicides	1	118079	117539-117220	05/15/2004	0500	10.0000
1010	Ignitability (Pensky-Martens Closed-Cup)	1	118229	118229	06/29/2003	1428	
7041	Leachable, Antimony (GFAA)	1	117859	117522-117334	05/13/2004	1238	
7470A	Leachable, Mercury (CVAA)	1	117617	117614-117220	05/13/2004	1419	
7470A	Leachable, Mercury (CVAA)	1	117934	117933-117334	05/14/2004	1522	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117373-117220	05/14/2004	0119	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117521-117334	05/14/2004	0339	
7841	Leachable, Thallium (GFAA)	1	117862	117522-117334	05/13/2004	1427	
D3987	Neutral Leachate Extraction	1	117334		05/11/2004	1330	
8081A	Organochlorine Pesticide Analysis	1	118476	117560-117220	05/14/2004	1436	1.00000
8082	PCB Analysis	1	118148	117111	05/18/2004	1936	1.00000
9095A	Paint Filter Test	1	117217	117217	05/10/2004	1430	
9066	Phenolics, Total Recoverable	1	117735	117735	05/14/2004	1507	1

MWG13-15_11425

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LABORATORY CHRONICLE

Job Number: 226535 Date: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Lab ID: 226535-2 Client ID: TP-12 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
7.3.3.2/9014	Reactivity, Cyanide	1	117382	117374	05/11/2004	1533	
7.3.4.2/9034	Reactivity, Sulfide	1	117221	117221	05/10/2004	1446	
7470	SW846 Dig. Leachates (Hg)	1	117614		05/13/2004	1130	
7470	SW846 Dig. Leachates (Hg)	1	117933		05/14/2004	1200	
8270C	Semivolatile Organics	1	118013	117645-117220	05/17/2004	2004	1.00000
9038M	Sulfate, Turbidimetric	1	118383	118383	05/20/2004	2302	5
1311	TCLP Extraction	1	117220		05/10/2004	1510	
1311	TCLP Zero Headspace Extraction	1	117610		05/13/2004	1435	
8260B	Volatile Organics	1	118062	117791-117610	05/14/2004	1534	1.0000
9045C	pH (Soil)	1	117254	117254	05/10/2004	1514	

Lab ID: 226535-3 Client ID: TP-27 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030B	5030CP TCLP/SPLP Prep	1	117791		05/14/2004	1600	
3010A	Acid Dig. Leachates (ICAP)	1	117521	117334	05/12/2004	1850	
3010A	Acid Dig. Leachates (ICAP)	1	117582	117220	05/13/2004	1020	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	117522	117334	05/12/2004	1850	
8150B	Extraction 8150B(Herbicides TCLP)	1	117539	117220	05/13/2004	1030	
3550B	Extraction Ultrasonic (PCBs)	1	117111		05/09/2004	1200	
3520C	Extraction for TCLP (Chlor.Pest.)	1	117560	117220	05/13/2004	1210	
3510C	Extraction for TCLP (SVOC)	1	117645	117220	05/14/2004	0900	
8151A	Herbicides	1	118079	117539-117220	05/15/2004	0527	10.0000
1010	Ignitability (Pensky-Martens Closed-Cup)	1	118229	118229	09/18/2003	2053	
7041	Leachable, Antimony (GFAA)	1	117859	117522-117334	05/13/2004	1302	
7470A	Leachable, Mercury (CVAA)	1	117617	117614-117220	05/13/2004	1421	
7470A	Leachable, Mercury (CVAA)	1	118158	118076-117334	05/18/2004	1515	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117521-117334	05/14/2004	0345	
6010B	Leachable, Metals Analysis (ICAP)	1	117852	117582-117220	05/14/2004	1401	
7841	Leachable, Thallium (GFAA)	1	117862	117522-117334	05/13/2004	1453	
D3987	Neutral Leachate Extraction	1	117334		05/11/2004	1330	
8081A	Organochlorine Pesticide Analysis	1	118476	117560-117220	05/14/2004	1501	1.00000
8082	PCB Analysis	1	118148	117111	05/18/2004	2012	1.00000
9095A	Paint Filter Test	1	117217	117217	05/10/2004	1435	
9066	Phenolics, Total Recoverable	1	117735	117735	05/14/2004	1507	1
7.3.3.2/9014	Reactivity, Cyanide	1	117382	117374	05/11/2004	1534	
7.3.4.2/9034	Reactivity, Sulfide	1	117221	117221	05/10/2004	1454	
7470	SW846 Dig. Leachates (Hg)	1	117614		05/13/2004	1130	
7470	SW846 Dig. Leachates (Hg)	1	118076		05/18/2004	1100	
8270C	Semivolatile Organics	1	118013	117645-117220	05/17/2004	2037	1.00000
9038M	Sulfate, Turbidimetric	1	118380	118380	05/20/2004	2137	50
1311	TCLP Extraction	1	117220		05/10/2004	1510	
1311	TCLP Zero Headspace Extraction	1	117610		05/13/2004	1435	
8260B	Volatile Organics	1	118062	117791-117610	05/14/2004	1600	1.0000
9045C	pH (Soil)	1	117254	117254	05/10/2004	1516	

Lab ID: 226535-4 Client ID: TP-15 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030B	5030CP TCLP/SPLP Prep	1	117791		05/14/2004	1625	
3010A	Acid Dig. Leachates (ICAP)	1	117521	117334	05/12/2004	1850	
3010A	Acid Dig. Leachates (ICAP)	1	117582	117220	05/13/2004	1020	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	117522	117334	05/12/2004	1850	
8150B	Extraction 8150B(Herbicides TCLP)	1	117539	117220	05/13/2004	1030	
3550B	Extraction Ultrasonic (PCBs)	1	117111		05/09/2004	1200	
3520C	Extraction for TCLP (Chlor.Pest.)	1	117560	117220	05/13/2004	1210	
3510C	Extraction for TCLP (SVOC)	1	117645	117220	05/14/2004	0900	

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Lab ID: 226535-4 Client ID: TP-15 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
8151A	Herbicides	1	118079	117539-117220	05/15/2004	0621	10.0000
1010	Ignitability (Pensky-Martens Closed-Cup)	1	118229	118229	02/28/2004	0944	
7041	Leachable, Antimony (GFAA)	1	117859	117522-117334	05/13/2004	1339	
7470A	Leachable, Mercury (CVAA)	1	117617	117614-117220	05/13/2004	1433	
7470A	Leachable, Mercury (CVAA)	1	117934	117933-117334	05/14/2004	1542	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117521-117334	05/14/2004	0416	
6010B	Leachable, Metals Analysis (ICAP)	1	117852	117582-117220	05/14/2004	1432	
7841	Leachable, Thallium (GFAA)	1	117862	117522-117334	05/13/2004	1531	
D3987	Neutral Leachate Extraction	1	117334		05/11/2004	1330	
8081A	Organochlorine Pesticide Analysis	1	118476	117560-117220	05/14/2004	1757	1.00000
8082	PCB Analysis	1	118148	117111	05/18/2004	2047	1.00000
9095A	Paint Filter Test	1	117217	117217	05/10/2004	1440	
9066	Phenolics, Total Recoverable	1	117735	117735	05/14/2004	1509	1
7.3.3.2/9014	Reactivity, Cyanide	1	117382	117374	05/11/2004	1534	
7.3.4.2/9034	Reactivity, Sulfide	1	117221	117221	05/10/2004	1457	
7470	SW846 Dig. Leachates (Hg)	1	117614		05/13/2004	1130	
7470	SW846 Dig. Leachates (Hg)	1	117933		05/14/2004	1200	
8270C	Semivolatile Organics	1	118013	117645-117220	05/17/2004	2140	1.00000
9038M	Sulfate, Turbidimetric	1	118380	118380	05/20/2004	2140	100
1311	TCLP Extraction	1	117220		05/10/2004	1510	
1311	TCLP Zero Headspace Extraction	1	117610		05/13/2004	1435	
8260B	Volatile Organics	1	118062	117791-117610	05/14/2004	1625	1.0000
9045C	pH (Soil)	1	117254	117254	05/10/2004	1519	

Lab ID: 226535-5 Client ID: TP-16 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030B	5030CP TCLP/SPLP Prep	1	117791		05/14/2004	1651	
3010A	Acid Dig. Leachates (ICAP)	1	117373	117220	05/12/2004	0610	
3010A	Acid Dig. Leachates (ICAP)	1	117521	117334	05/12/2004	1850	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	117522	117334	05/12/2004	1850	
8150B	Extraction 8150B(Herbicides TCLP)	1	117539	117220	05/13/2004	1030	
3550B	Extraction Ultrasonic (PCBs)	1	117111		05/09/2004	1200	
3520C	Extraction for TCLP (Chlor.Pest.)	1	117560	117220	05/13/2004	1210	
3510C	Extraction for TCLP (SVOC)	1	117645	117220	05/14/2004	0900	
8151A	Herbicides	1	118079	117539-117220	05/15/2004	0715	10.0000
1010	Ignitability (Pensky-Martens Closed-Cup)	1	118403	118403	05/20/2004	0630	
7041	Leachable, Antimony (GFAA)	1	117859	117522-117334	05/13/2004	1428	
7470A	Leachable, Mercury (CVAA)	1	117617	117614-117220	05/13/2004	1440	
7470A	Leachable, Mercury (CVAA)	1	118158	118076-117334	05/18/2004	1523	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117373-117220	05/14/2004	0126	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117521-117334	05/14/2004	0509	
7841	Leachable, Thallium (GFAA)	1	117862	117522-117334	05/13/2004	1622	
D3987	Neutral Leachate Extraction	1	117334		05/11/2004	1330	
8081A	Organochlorine Pesticide Analysis	1	118476	117560-117220	05/14/2004	1822	1.00000
8082	PCB Analysis	1	118148	117111	05/18/2004	2123	1.00000
9095A	Paint Filter Test	1	117217	117217	05/10/2004	1445	
9066	Phenolics, Total Recoverable	1	117735	117735	05/14/2004	1510	1
7.3.3.2/9014	Reactivity, Cyanide	1	117382	117374	05/11/2004	1537	
7.3.4.2/9034	Reactivity, Sulfide	1	117221	117221	05/10/2004	1500	
7470	SW846 Dig. Leachates (Hg)	1	117614		05/13/2004	1130	
7470	SW846 Dig. Leachates (Hg)	1	118076		05/18/2004	1100	
8270C	Semivolatile Organics	1	118013	117645-117220	05/17/2004	2212	1.00000
9038M	Sulfate, Turbidimetric	1	118380	118380	05/20/2004	2145	25
1311	TCLP Extraction	1	117220		05/10/2004	1510	
1311	TCLP Zero Headspace Extraction	1	117610		05/13/2004	1435	

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Lab ID: 226535-5 Client ID: TP-16 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
8260B	Volatile Organics	1	118062	117791-117610	05/14/2004	1651	1.0000
9045C	pH (Soil)	1	117254	117254	05/10/2004	1521	

Lab ID: 226535-6 Client ID: FS-01 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030B	5030CP TCLP/SPLP Prep	1	117791		05/14/2004	1808	
3010A	Acid Dig. Leachates (ICAP)	1	117373	117220	05/12/2004	0610	
3010A	Acid Dig. Leachates (ICAP)	1	117521	117334	05/12/2004	1850	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	117522	117334	05/12/2004	1850	
8150B	Extraction 8150B(Herbicides TCLP)	1	117539	117220	05/13/2004	1030	
3550B	Extraction Ultrasonic (PCBs)	1	117111		05/09/2004	1200	
3520C	Extraction for TCLP (Chlor.Pest.)	1	117560	117220	05/13/2004	1210	
3510C	Extraction for TCLP (SVOC)	1	117645	117220	05/14/2004	0900	
8151A	Herbicides	1	118079	117539-117220	05/15/2004	0742	10.0000
1010	Ignitability (Pensky-Martens Closed-Cup)	1	118403	118403	05/20/2004	0904	
7041	Leachable, Antimony (GFAA)	1	117859	117522-117334	05/13/2004	1440	
7470A	Leachable, Mercury (CVAA)	1	117617	117614-117220	05/13/2004	1442	
7470A	Leachable, Mercury (CVAA)	1	117934	117933-117334	05/14/2004	1553	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117373-117220	05/14/2004	0156	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117521-117334	05/14/2004	0516	
7841	Leachable, Thallium (GFAA)	1	117862	117522-117334	05/13/2004	1634	
D3987	Neutral Leachate Extraction	1	117334		05/11/2004	1330	
8081A	Organochlorine Pesticide Analysis	1	118476	117560-117220	05/14/2004	1848	1.00000
8082	PCB Analysis	1	118148	117111	05/18/2004	2344	1.00000
9095A	Paint Filter Test	1	117217	117217	05/10/2004	1450	
9066	Phenolics, Total Recoverable	1	117735	117735	05/14/2004	1511	1
7.3.3.2/9014	Reactivity, Cyanide	1	117382	117374	05/11/2004	1537	
7.3.4.2/9034	Reactivity, Sulfide	1	117221	117221	05/10/2004	1615	
7470	SW846 Dig. Leachates (Hg)	1	117614		05/13/2004	1130	
7470	SW846 Dig. Leachates (Hg)	1	117933		05/14/2004	1200	
8270C	Semivolatile Organics	1	118013	117645-117220	05/17/2004	2244	1.00000
9038M	Sulfate, Turbidimetric	1	118380	118380	05/20/2004	2146	25
1311	TCLP Extraction	1	117220		05/10/2004	1510	
1311	TCLP Zero Headspace Extraction	1	117610		05/13/2004	1435	
8260B	Volatile Organics	1	118062	117791-117610	05/14/2004	1808	1.0000
9045C	pH (Soil)	1	117254	117254	05/10/2004	1525	

Lab ID: 226535-7 Client ID: FS-02 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030B	5030CP TCLP/SPLP Prep	1	117791		05/14/2004	1834	
3010A	Acid Dig. Leachates (ICAP)	1	117373	117220	05/12/2004	0610	
3010A	Acid Dig. Leachates (ICAP)	1	117521	117334	05/12/2004	1850	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	117522	117334	05/12/2004	1850	
8150B	Extraction 8150B(Herbicides TCLP)	1	117539	117220	05/13/2004	1030	
3550B	Extraction Ultrasonic (PCBs)	1	117111		05/09/2004	1200	
3520C	Extraction for TCLP (Chlor.Pest.)	1	117560	117220	05/13/2004	1210	
3510C	Extraction for TCLP (SVOC)	1	117645	117220	05/14/2004	0900	
8151A	Herbicides	1	118079	117539-117220	05/15/2004	0809	10.0000
1010	Ignitability (Pensky-Martens Closed-Cup)	1	118403	118403	05/20/2004	1021	
7041	Leachable, Antimony (GFAA)	1	117859	117522-117334	05/13/2004	1505	
7470A	Leachable, Mercury (CVAA)	1	117617	117614-117220	05/13/2004	1444	
7470A	Leachable, Mercury (CVAA)	1	117934	117933-117334	05/14/2004	1557	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117373-117220	05/14/2004	0202	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117521-117334	05/14/2004	0522	
7841	Leachable, Thallium (GFAA)	1	117862	117522-117334	05/13/2004	1700	

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Lab ID: 226535-7 Client ID: FS-02 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
D3987	Neutral Leachate Extraction	1	117334		05/11/2004	1330	
8081A	Organochlorine Pesticide Analysis	1	118476	117560-117220	05/14/2004	1913	1.00000
8082	PCB Analysis	1	118148	117111	05/19/2004	0020	1.00000
9095A	Paint Filter Test	1	117217	117217	05/10/2004	1455	
9066	Phenolics, Total Recoverable	1	117735	117735	05/14/2004	1512	1
7.3.3.2/9014	Reactivity, Cyanide	1	117382	117374	05/11/2004	1538	
7.3.4.2/9034	Reactivity, Sulfide	1	117221	117221	05/10/2004	1617	
7470	SW846 Dig. Leachates (Hg)	1	117614		05/13/2004	1130	
7470	SW846 Dig. Leachates (Hg)	1	117933		05/14/2004	1200	
8270C	Semivolatile Organics	1	118013	117645-117220	05/18/2004	1013	1.00000
9038M	Sulfate, Turbidimetric	1	118380	118380	05/20/2004	2147	25
1311	TCLP Extraction	1	117220		05/10/2004	1510	
1311	TCLP Zero Headspace Extraction	1	117610		05/13/2004	1435	
8260B	Volatile Organics	1	118062	117791-117610	05/14/2004	1834	1.0000
9045C	pH (Soil)	1	117254	117254	05/10/2004	1526	

Lab ID: 226535-8 Client ID: TP-29 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030B	5030CP TCLP/SPLP Prep	1	117791		05/14/2004	1859	
3010A	Acid Dig. Leachates (ICAP)	1	117373	117220	05/12/2004	0610	
3010A	Acid Dig. Leachates (ICAP)	1	117521	117334	05/12/2004	1850	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	117522	117334	05/12/2004	1850	
8150B	Extraction 8150B(Herbicides TCLP)	1	117539	117220	05/13/2004	1030	
3550B	Extraction Ultrasonic (PCBs)	1	117111		05/09/2004	1200	
3520C	Extraction for TCLP (Chlor.Pest.)	1	117560	117220	05/13/2004	1210	
3510C	Extraction for TCLP (SVOC)	1	117645	117220	05/14/2004	0900	
8151A	Herbicides	1	118079	117539-117220	05/15/2004	0836	10.0000
1010	Ignitability (Pensky-Martens Closed-Cup)	1	118403	118403	05/20/2004	1139	
7041	Leachable, Antimony (GFAA)	1	117859	117522-117334	05/13/2004	1517	
7470A	Leachable, Mercury (CVAA)	1	117617	117614-117220	05/13/2004	1446	
7470A	Leachable, Mercury (CVAA)	1	118158	118076-117334	05/18/2004	1525	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117373-117220	05/14/2004	0208	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117521-117334	05/14/2004	0528	
7841	Leachable, Thallium (GFAA)	1	117862	117522-117334	05/13/2004	1712	
D3987	Neutral Leachate Extraction	1	117334		05/11/2004	1330	
8081A	Organochlorine Pesticide Analysis	1	118476	117560-117220	05/14/2004	1938	1.00000
8082	PCB Analysis	1	118148	117111	05/19/2004	0055	1.00000
9095A	Paint Filter Test	1	117217	117217	05/10/2004	1500	
9066	Phenolics, Total Recoverable	1	117735	117735	05/14/2004	1513	1
7.3.3.2/9014	Reactivity, Cyanide	1	117382	117374	05/11/2004	1538	
7.3.4.2/9034	Reactivity, Sulfide	1	117221	117221	05/10/2004	1619	
7470	SW846 Dig. Leachates (Hg)	1	117614		05/13/2004	1130	
7470	SW846 Dig. Leachates (Hg)	1	118076		05/18/2004	1100	
8270C	Semivolatile Organics	1	118013	117645-117220	05/18/2004	1045	1.00000
9038M	Sulfate, Turbidimetric	1	118380	118380	05/20/2004	2148	50
1311	TCLP Extraction	1	117220		05/10/2004	1510	
1311	TCLP Zero Headspace Extraction	1	117610		05/13/2004	1435	
8260B	Volatile Organics	1	118062	117791-117610	05/14/2004	1859	1.0000
9045C	pH (Soil)	1	117254	117254	05/10/2004	1528	

Lab ID: 226535-9 Client ID: SFA-1 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030B	5030CP TCLP/SPLP Prep	1	117791		05/14/2004	1925	
3010A	Acid Dig. Leachates (ICAP)	1	117373	117220	05/12/2004	0610	
3010A	Acid Dig. Leachates (ICAP)	1	117521	117334	05/12/2004	1850	

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Lab ID: 226535-9 Client ID: SFA-1 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	117522	117334	05/12/2004	1850	
8150B	Extraction 8150B(Herbicides TCLP)	1	117539	117220	05/13/2004	1030	
3550B	Extraction Ultrasonic (PCBs)	1	117111		05/09/2004	1200	
3520C	Extraction for TCLP (Chlor.Pest.)	1	117560	117220	05/13/2004	1210	
3510C	Extraction for TCLP (SVOC)	1	117645	117220	05/14/2004	0900	
8151A	Herbicides	1	118079	117539-117220	05/15/2004	0903	10.0000
1010	Ignitability (Pensky-Martens Closed-Cup)	1	118403	118403	05/20/2004	1256	
7041	Leachable, Antimony (GFAA)	1	117859	117522-117334	05/13/2004	1529	
7470A	Leachable, Mercury (CVAA)	1	117617	117614-117220	05/13/2004	1449	
7470A	Leachable, Mercury (CVAA)	1	117934	117933-117334	05/14/2004	1607	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117373-117220	05/14/2004	0214	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117521-117334	05/14/2004	0534	
7841	Leachable, Thallium (GFAA)	1	117862	117522-117334	05/13/2004	1725	
D3987	Neutral Leachate Extraction	1	117334		05/11/2004	1330	
8081A	Organochlorine Pesticide Analysis	1	118476	117560-117220	05/14/2004	2003	1.00000
8082	PCB Analysis	1	118148	117111	05/19/2004	0917	1.00000
9095A	Paint Filter Test	1	117217	117217	05/10/2004	1505	
9066	Phenolics, Total Recoverable	1	117735	117735	05/14/2004	1513	1
7.3.3.2/9014	Reactivity, Cyanide	1	117382	117374	05/11/2004	1538	
7.3.4.2/9034	Reactivity, Sulfide	1	117221	117221	05/10/2004	1621	
7470	SW846 Dig. Leachates (Hg)	1	117614		05/13/2004	1130	
7470	SW846 Dig. Leachates (Hg)	1	117933		05/14/2004	1200	
8270C	Semivolatile Organics	1	118013	117645-117220	05/18/2004	1117	1.00000
9038M	Sulfate, Turbidimetric	1	118380	118380	05/20/2004	2150	25
1311	TCLP Extraction	1	117220		05/10/2004	1510	
1311	TCLP Zero Headspace Extraction	1	117610		05/13/2004	1435	
8260B	Volatile Organics	1	118062	117791-117610	05/14/2004	1925	1.0000
9045C	pH (Soil)	1	117254	117254	05/10/2004	1530	

Lab ID: 226535-10 Client ID: TP-03 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030B	5030CP TCLP/SPLP Prep	1	117791		05/14/2004	1951	
3010A	Acid Dig. Leachates (ICAP)	1	117373	117220	05/12/2004	0610	
3010A	Acid Dig. Leachates (ICAP)	1	117521	117334	05/12/2004	1850	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	117522	117334	05/12/2004	1850	
8150B	Extraction 8150B(Herbicides TCLP)	1	117539	117220	05/13/2004	1030	
3550B	Extraction Ultrasonic (PCBs)	1	117111		05/09/2004	1200	
3520C	Extraction for TCLP (Chlor.Pest.)	1	117560	117220	05/13/2004	1210	
3510C	Extraction for TCLP (SVOC)	1	117645	117220	05/14/2004	0900	
8151A	Herbicides	1	118079	117539-117220	05/15/2004	0930	10.0000
1010	Ignitability (Pensky-Martens Closed-Cup)	1	118403	118403	05/20/2004	1413	
7041	Leachable, Antimony (GFAA)	1	117859	117522-117334	05/13/2004	1541	
7470A	Leachable, Mercury (CVAA)	1	117617	117614-117220	05/13/2004	1457	
7470A	Leachable, Mercury (CVAA)	1	117934	117933-117334	05/14/2004	1609	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117373-117220	05/14/2004	0220	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117521-117334	05/14/2004	0541	
7841	Leachable, Thallium (GFAA)	1	117862	117522-117334	05/13/2004	1737	
D3987	Neutral Leachate Extraction	1	117334		05/11/2004	1330	
8081A	Organochlorine Pesticide Analysis	1	118476	117560-117220	05/14/2004	2028	1.00000
8082	PCB Analysis	1	118148	117111	05/19/2004	0952	1.00000
9095A	Paint Filter Test	1	117217	117217	05/10/2004	1510	
9066	Phenolics, Total Recoverable	1	117735	117735	05/14/2004	1514	1
7.3.3.2/9014	Reactivity, Cyanide	1	117382	117374	05/11/2004	1539	
7.3.4.2/9034	Reactivity, Sulfide	1	117221	117221	05/10/2004	1623	
7470	SW846 Dig. Leachates (Hg)	1	117614		05/13/2004	1130	

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LABORATORY CHRONICLE

Job Number: 226535 Date: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Lab ID: 226535-10 Client ID: TP-03 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
7470	SW846 Dig. Leachates (Hg)	1	117933		05/14/2004	1200	
8270C	Semivolatile Organics	1	118013	117645-117220	05/18/2004	1150	1.00000
9038M	Sulfate, Turbidimetric	1	118380	118380	05/20/2004	2151	25
1311	TCLP Extraction	1	117220		05/10/2004	1510	
1311	TCLP Zero Headspace Extraction	1	117610		05/13/2004	1435	
8260B	Volatile Organics	1	118062	117791-117610	05/14/2004	1951	1.0000
9045C	pH (Soil)	1	117254	117254	05/10/2004	1532	

Lab ID: 226535-11 Client ID: TP-19 Date Recvd: 05/07/2004 Sample Date: 05/06/2004

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT #(S)	DATE/TIME ANALYZED		DILUTION
5030B	5030CP TCLP/SPLP Prep	1	117791		05/14/2004	2016	
3010A	Acid Dig. Leachates (ICAP)	1	117373	117220	05/12/2004	0610	
3010A	Acid Dig. Leachates (ICAP)	1	117521	117334	05/12/2004	1850	
3020A(M)	Acid Dig.+H202 Leachates (GFAA)	1	117522	117334	05/12/2004	1850	
8150B	Extraction 8150B(Herbicides TCLP)	1	117539	117220	05/13/2004	1030	
3550B	Extraction Ultrasonic (PCBs)	1	117111		05/09/2004	1200	
3520C	Extraction for TCLP (Chlor.Pest.)	1	117560	117220	05/13/2004	1210	
3510C	Extraction for TCLP (SVOC)	1	117645	117220	05/14/2004	0900	
8151A	Herbicides	1	118079	117539-117220	05/15/2004	0957	10.0000
1010	Ignitability (Pensky-Martens Closed-Cup)	1	118403	118403	05/20/2004	1530	
7041	Leachable, Antimony (GFAA)	1	117859	117522-117334	05/13/2004	1606	
7470A	Leachable, Mercury (CVAA)	1	117617	117614-117220	05/13/2004	1459	
7470A	Leachable, Mercury (CVAA)	1	117934	117933-117334	05/14/2004	1616	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117373-117220	05/14/2004	0227	
6010B	Leachable, Metals Analysis (ICAP)	1	117667	117521-117334	05/14/2004	0547	
7841	Leachable, Thallium (GFAA)	1	117862	117522-117334	05/13/2004	1802	
D3987	Neutral Leachate Extraction	1	117334		05/11/2004	1330	
8081A	Organochlorine Pesticide Analysis	1	118476	117560-117220	05/14/2004	2054	1.00000
8082	PCB Analysis	1	118148	117111	05/19/2004	1028	1.00000
9095A	Paint Filter Test	1	117217	117217	05/10/2004	1515	
9066	Phenolics, Total Recoverable	1	117735	117735	05/14/2004	1514	1
7.3.3.2/9014	Reactivity, Cyanide	1	117382	117374	05/11/2004	1539	
7.3.4.2/9034	Reactivity, Sulfide	1	117221	117221	05/10/2004	1625	
7470	SW846 Dig. Leachates (Hg)	1	117614		05/13/2004	1130	
7470	SW846 Dig. Leachates (Hg)	1	117933		05/14/2004	1200	
8270C	Semivolatile Organics	1	118013	117645-117220	05/18/2004	1222	1.00000
9038M	Sulfate, Turbidimetric	1	118380	118380	05/20/2004	2152	
1311	TCLP Extraction	1	117220		05/10/2004	1510	
1311	TCLP Zero Headspace Extraction	1	117610		05/13/2004	1435	
8260B	Volatile Organics	1	118062	117791-117610	05/14/2004	2016	1.0000
9045C	pH (Soil)	1	117254	117254	05/10/2004	1533	

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SURROGATE RECOVERIES REPORT

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Method.....: Organochlorine Pesticide Analysis Test Matrix...: TCLP Leach Prep Batch..: 117560
Method Code...: 8081 Batch(s).....: 118476

Lab ID	DT	Sample ID	Date	DCB	TCX
EB1			05/14/2004	54	119*
EB2			05/14/2004	63	137*
LCS			05/14/2004	34	109
LCS			05/14/2004	34	152*
MB			05/14/2004	69	119*
226535- 1		TP-23	05/14/2004	103	137*
226535- 2		TP-12	05/14/2004	125*	140*
226535- 3		TP-27	05/14/2004	108	120*
226535- 3	MS	TP-27	05/14/2004	110	152*
226535- 4		TP-15	05/14/2004	113	145*
226535- 5		TP-16	05/14/2004	151*	122*
226535- 6		FS-01	05/14/2004	98	142*
226535- 7		FS-02	05/14/2004	97	147*
226535- 8		TP-29	05/14/2004	102	117*
226535- 9		SFA-1	05/14/2004	122*	143*
226535- 10		TP-03	05/14/2004	110	125*
226535- 11		TP-19	05/14/2004	113	153*

Test	Test Description	Limits
DCB	Decachlorobiphenyl (surr)	20 - 120
TCX	Tetrachloro-m-xylene (surr)	36 - 112

Method.....: Organochlorine Pesticide Analysis Test Matrix...: TCLP Leach Prep Batch..: 118174
Method Code...: 8081 Batch(s).....: 118476

Lab ID	DT	Sample ID	Date	DCB	TCX
LCS			05/20/2004	22	97
MB			05/20/2004	55	94
226535- 3	MS	TP-27	05/20/2004	67	99

Test	Test Description	Limits
DCB	Decachlorobiphenyl (surr)	20 - 120
TCX	Tetrachloro-m-xylene (surr)	36 - 112

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SURROGATE RECOVERIES REPORT

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Method.....: PCB Analysis Test Matrix...: Solid Prep Batch..: 117111
Method Code...: 8082 Batch(s).....: 118148

Lab ID	DT	Sample ID	Date	DCB	TCX
LCS			05/18/2004	92	90
MB			05/18/2004	92	93
226535- 1		TP-23	05/18/2004	90	86
226535- 2		TP-12	05/18/2004	88	99
226535- 3		TP-27	05/18/2004	86	75
226535- 4		TP-15	05/18/2004	93	82
226535- 5		TP-16	05/18/2004	89	82
226535- 5	MS	TP-16	05/18/2004	92	73
226535- 5	MSD	TP-16	05/18/2004	92	90
226535- 6		FS-01	05/18/2004	91	88
226535- 7		FS-02	05/19/2004	92	94
226535- 8		TP-29	05/19/2004	90	88
226535- 9		SFA-1	05/19/2004	94	93
226535- 10		TP-03	05/19/2004	93	85
226535- 11		TP-19	05/19/2004	94	81

Test	Test Description	Limits
DCB	Decachlorobiphenyl (surr)	24 - 129
TCX	Tetrachloro-m-xylene (surr)	40 - 116

Method.....: PCB Analysis Test Matrix...: Solid Prep Batch..: 117866
Method Code...: 8082 Batch(s).....: 118148

Lab ID	DT	Sample ID	Date	DCB	TCX
LCS			05/21/2004	91	95
MB			05/21/2004	91	87
226535- 4	MS	TP-15	05/21/2004	92	89
226535- 4	MSD	TP-15	05/21/2004	91	87

Test	Test Description	Limits
DCB	Decachlorobiphenyl (surr)	24 - 129
TCX	Tetrachloro-m-xylene (surr)	40 - 116

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SURROGATE RECOVERIES REPORT

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Method.....: Herbicides Test Matrix...: TCLP Leach Prep Batch..: 117539
Method Code...: 8151 Batch(s).....: 118079

Lab ID	DT	Sample ID	Date	24DCAA
EB1			05/15/2004	99
EB2			05/15/2004	100
LCS			05/15/2004	107
MB			05/15/2004	96
226535- 1		TP-23	05/15/2004	96
226535- 2		TP-12	05/15/2004	92
226535- 3		TP-27	05/15/2004	93
226535- 3	MS	TP-27	05/15/2004	104
226535- 4		TP-15	05/15/2004	99
226535- 5		TP-16	05/15/2004	104
226535- 6		FS-01	05/15/2004	98
226535- 7		FS-02	05/15/2004	97
226535- 8		TP-29	05/15/2004	93
226535- 9		SFA-1	05/15/2004	99
226535- 10		TP-03	05/15/2004	96
226535- 11		TP-19	05/15/2004	94

Test	Test Description	Limits
24DCAA	DCAA (surr)	30 - 134

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SURROGATE RECOVERIES REPORT

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Method.....: Volatile Organics Test Matrix...: TCLP Leach Prep Batch..: 117791
Method Code...: 8260B Batch(s).....: 118062

Lab ID	DT	Sample ID	Date	12DCED	BRFLBE	DBRFLM	TOLD8
EB1			05/14/2004	98	109	109	108
LCS			05/14/2004	110	114	109	108
MB			05/14/2004	101	109	108	106
226535- 1		TP-23	05/14/2004	105	110	108	105
226535- 2		TP-12	05/14/2004	115	113	114	108
226535- 3		TP-27	05/14/2004	116	113	113	107
226535- 4		TP-15	05/14/2004	120	117	115	108
226535- 5		TP-16	05/14/2004	123	115	116	108
226535- 5	MS	TP-16	05/14/2004	128	121	117	109
226535- 5	MSD	TP-16	05/14/2004	118	114	113	110
226535- 6		FS-01	05/14/2004	102	108	106	105
226535- 7		FS-02	05/14/2004	109	112	109	108
226535- 8		TP-29	05/14/2004	111	111	110	106
226535- 9		SFA-1	05/14/2004	117	114	114	108
226535- 10		TP-03	05/14/2004	121	114	113	109
226535- 11		TP-19	05/14/2004	122	114	115	108

Test	Test Description	Limits
12DCED	1,2-Dichloroethane-d4 (surr)	66 - 132
BRFLBE	4-Bromofluorobenzene (surr)	79 - 122
DBRFLM	Dibromofluoromethane (surr)	66 - 132
TOLD8	Toluene-d8 (surr)	78 - 128

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SURROGATE RECOVERIES REPORT

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Method.....: Semivolatile Organics Test Matrix...: TCLP Leach Prep Batch..: 117645
Method Code...: 8270 Batch(s).....: 118013

Lab ID	DT	Sample ID	Date	246TBP	2FLUBP	2FLUPH	NITRD5	PHEND5	TERD14
EB1			05/17/2004	82	73	57	78	40	69
EB2			05/17/2004	79	65	51	71	36	69
LCS			05/17/2004	95	78	54	85	36	78
MB			05/17/2004	81	68	54	77	37	73
226535- 1		TP-23	05/17/2004	79	71	54	77	37	72
226535- 2		TP-12	05/17/2004	77	68	51	72	36	75
226535- 3		TP-27	05/17/2004	69	68	51	74	37	69
226535- 3	MS	TP-27	05/17/2004	95	74	52	79	34	69
226535- 4		TP-15	05/17/2004	84	73	54	81	38	73
226535- 5		TP-16	05/17/2004	74	69	50	73	37	68
226535- 6		FS-01	05/17/2004	72	71	55	78	39	73
226535- 7		FS-02	05/18/2004	66	69	53	77	39	73
226535- 8		TP-29	05/18/2004	69	69	52	76	39	74
226535- 9		SFA-1	05/18/2004	64	71	52	79	39	68
226535- 10		TP-03	05/18/2004	69	69	55	77	39	73
226535- 11		TP-19	05/18/2004	65	67	47	68	34	76

Test	Test Description	Limits
246TBP	2,4,6-Tribromophenol (surr)	29 - 126
2FLUBP	2-Fluorobiphenyl (surr)	34 - 112
2FLUPH	2-Fluorophenol (surr)	21 - 100
NITRD5	Nitrobenzene-d5 (surr)	38 - 113
PHEND5	Phenol-d5 (surr)	18 - 100
TERD14	Terphenyl-d14 (surr)	10 - 119

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QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB1	Extraction Blank 1		117560-004		05/14/2004	1255

Test Method.....: 8081A Equipment Code....: INST0506 Analyst...: kdl
Method Description.: Organochlorine Pesticide Analysis Batch.....: 118476

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
gamma-BHC (Lindane), TCLP Leach	ug/L	0.500	U						
Heptachlor, TCLP Leach	ug/L	0.500	U						
Heptachlor epoxide, TCLP Leach	ug/L	0.500	U						
Endrin, TCLP Leach	ug/L	0.500	U						
Methoxychlor, TCLP Leach	ug/L	2.500	U						
Toxaphene, TCLP Leach	ug/L	5.000	U						
Chlordane, TCLP Leach	ug/L	1.000	U						

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB2	Extraction Blank 2		117560-005		05/14/2004	1320

Test Method.....: 8081A Equipment Code....: INST0506 Analyst...: kdl
Method Description.: Organochlorine Pesticide Analysis Batch.....: 118476

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
gamma-BHC (Lindane), TCLP Leach	ug/L	0.500 U							
Heptachlor, TCLP Leach	ug/L	0.500 U							
Heptachlor epoxide, TCLP Leach	ug/L	0.500 U							
Endrin, TCLP Leach	ug/L	0.500 U							
Methoxychlor, TCLP Leach	ug/L	2.500 U							
Toxaphene, TCLP Leach	ug/L	5.000 U							
Chlordane, TCLP Leach	ug/L	1.000 U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	004BWLPTFA	117560-002		05/14/2004	1204

Test Method.....: 8081A Equipment Code....: INST0506 Analyst...: kdl
Method Description.: Organochlorine Pesticide Analysis Batch.....: 118476

Parameter/Test Description	Units	QC Result		QC Result	True Value	Orig. Value		QC Calc.	*	Limits	F
gamma-BHC (Lindane), TCLP Leach	ug/L	0.060	J		0.100	0.050	U	59	%	54-116	
Heptachlor, TCLP Leach	ug/L	0.054	J		0.100	0.050	U	54	%	46-114	
Heptachlor epoxide, TCLP Leach	ug/L	0.078	J		0.100	0.050	U	78	%	63-113	
Endrin, TCLP Leach	ug/L	0.097	J		0.100	0.050	U	96	%	60-112	
Methoxychlor, TCLP Leach	ug/L	0.860	J		1.002	0.250	U	86	%	44-143	
Chlordane, TCLP Leach	ug/L	0.100	U		0.100	0.100	U	80	%	65-108	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	004AWLPTTA	117560-003		05/14/2004	1230

Test Method.....: 8081A
Method Description.: Organochlorine Pesticide Analysis

Equipment Code....: INST0506
Batch.....: 118476

Analyst...: kdl

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Toxaphene, TCLP Leach	ug/L	8.454		10.020	0.500 U	84	%	69-133	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	004BWLPTFA	118174-002		05/20/2004	2029

Test Method.....: 8081A
Method Description.: Organochlorine Pesticide Analysis

Equipment Code....: INST0506
Batch.....: 118476

Analyst...: kdl

Parameter/Test Description	Units	QC Result		QC Result	True Value	Orig. Value		QC Calc.	*	Limits	F
gamma-BHC (Lindane), TCLP Leach	ug/L	0.107	J		0.100	0.050	U	106	%	54-116	
Heptachlor, TCLP Leach	ug/L	0.091	J		0.100	0.050	U	91	%	46-114	
Heptachlor epoxide, TCLP Leach	ug/L	0.100	J		0.100	0.050	U	99	%	63-113	
Endrin, TCLP Leach	ug/L	0.081	J		0.100	0.050	U	81	%	60-112	
Methoxychlor, TCLP Leach	ug/L	0.850	J		1.002	0.250	U	85	%	44-143	
Chlordane, TCLP Leach	ug/L	0.105	J		0.100	0.100	U	104	%	65-108	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank		117560-001		05/14/2004	1139

Test Method.....: 8081A
Method Description.: Organochlorine Pesticide Analysis
Equipment Code....: INST0506
Batch.....: 118476
Analyst...: kdl

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
gamma-BHC (Lindane), TCLP Leach	ug/L	0.050 U							
Heptachlor, TCLP Leach	ug/L	0.050 U							
Heptachlor epoxide, TCLP Leach	ug/L	0.050 U							
Endrin, TCLP Leach	ug/L	0.050 U							
Methoxychlor, TCLP Leach	ug/L	0.250 U							
Toxaphene, TCLP Leach	ug/L	0.500 U							
Chlordane, TCLP Leach	ug/L	0.100 U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank		118174-001		05/20/2004	2004

Test Method.....: 8081A Equipment Code....: INST0506 Analyst...: kdl
Method Description.: Organochlorine Pesticide Analysis Batch.....: 118476

Parameter/Test Description	Units	QC Result		QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
gamma-BHC (Lindane), TCLP Leach	ug/L	0.050	U							
Heptachlor, TCLP Leach	ug/L	0.050	U							
Heptachlor epoxide, TCLP Leach	ug/L	0.050	U							
Endrin, TCLP Leach	ug/L	0.050	U							
Methoxychlor, TCLP Leach	ug/L	0.250	U							
Toxaphene, TCLP Leach	ug/L	0.500	U							
Chlordane, TCLP Leach	ug/L	0.100	U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11443

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MS	Matrix Spike	004AWLPTTA	226535-3		05/14/2004	1526

Test Method.....: 8081A
Method Description.: Organochlorine Pesticide Analysis

Equipment Code....: INST0506
Batch.....: 118476

Analyst...: kdl

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Toxaphene, TCLP Leach	ug/L	85.264		100.200	5.000 U	85	%	69-133	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11444

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MS	Matrix Spike	004BWLPTFA	226535-3		05/20/2004	2054

Test Method.....: 8081A Equipment Code....: INST0506 Analyst...: kdl
Method Description.: Organochlorine Pesticide Analysis Batch.....: 118476

Parameter/Test Description	Units	QC Result		QC Result	True Value	Orig. Value		QC Calc.	*	Limits	F
gamma-BHC (Lindane), TCLP Leach	ug/L	0.894	J		1.004	0.500	U	89	%	54-116	
Heptachlor, TCLP Leach	ug/L	0.940	J		1.004	0.500	U	94	%	46-114	
Heptachlor epoxide, TCLP Leach	ug/L	1.015	J		1.004	0.500	U	101	%	63-113	
Endrin, TCLP Leach	ug/L	0.811	J		1.004	0.500	U	81	%	60-112	
Methoxychlor, TCLP Leach	ug/L	8.755	J		10.020	2.500	U	87	%	44-143	
Chlordane, TCLP Leach	ug/L	1.023	J		1.004	1.000	U	102	%	65-108	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	004DWLPCBB	117111-002		05/18/2004	1750

Test Method.....: 8082
Method Description.: PCB Analysis

Equipment Code....: INST4142
Batch.....: 118148

Analyst...: bab

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Aroclor 1016, Solid	ug/Kg	143.870		166.700	2.900 U	86	%	63-106	
Aroclor 1260, Solid	ug/Kg	159.517		167.000	2.500 U	96	%	68-105	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	004DWLPCBB	117866-002		05/21/2004	1704

Test Method.....: 8082
Method Description.: PCB Analysis

Equipment Code....: INST4142
Batch.....: 118148

Analyst...: bab

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Aroclor 1016, Solid	ug/Kg	152.553		166.700	2.900 U	92	%	63-106	
Aroclor 1260, Solid	ug/Kg	163.860		167.000	2.500 U	98	%	68-105	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank		117111-001		05/18/2004	1715

Test Method.....: 8082 Equipment Code....: INST4142 Analyst...: bab
Method Description.: PCB Analysis Batch.....: 118148

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Aroclor 1016, Solid	ug/Kg	2.900 U							
Aroclor 1221, Solid	ug/Kg	6.700 U							
Aroclor 1232, Solid	ug/Kg	3.000 U							
Aroclor 1242, Solid	ug/Kg	6.300 U							
Aroclor 1248, Solid	ug/Kg	2.300 U							
Aroclor 1254, Solid	ug/Kg	2.700 U							
Aroclor 1260, Solid	ug/Kg	2.500 U							

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank		117866-001		05/21/2004	1628

Test Method.....: 8082 Equipment Code....: INST4142 Analyst...: bab
Method Description.: PCB Analysis Batch.....: 118148

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Aroclor 1016, Solid	ug/Kg	2.900 U							
Aroclor 1221, Solid	ug/Kg	6.700 U							
Aroclor 1232, Solid	ug/Kg	3.000 U							
Aroclor 1242, Solid	ug/Kg	6.300 U							
Aroclor 1248, Solid	ug/Kg	2.300 U							
Aroclor 1254, Solid	ug/Kg	2.700 U							
Aroclor 1260, Solid	ug/Kg	2.500 U							

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MS	Matrix Spike	004DWLPCBB	226535-5		05/18/2004	2158

Test Method.....: 8082
Method Description.: PCB Analysis

Equipment Code....: INST4142
Batch.....: 118148

Analyst...: bab

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Aroclor 1016, Solid	ug/Kg	138.859		164.900	2.868 U	84	%	63-106	
Aroclor 1260, Solid	ug/Kg	158.273		165.200	2.472 U	96	%	68-105	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11450

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MS	Matrix Spike	004DWLPCBB	226535-4		05/21/2004	1814

Test Method.....: 8082 Equipment Code....: INST4142 Analyst...: bab
Method Description.: PCB Analysis Batch.....: 118148

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Aroclor 1016, Solid	ug/Kg	286.839		325.400	5.661 U	88	%	63-106	
Aroclor 1260, Solid	ug/Kg	320.552		325.900	4.880 U	98	%	68-105	

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11451

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MSD	Matrix Spike Duplicate	004DWLPCBB	226535-5		05/18/2004	2233

Test Method.....: 8082 Equipment Code....: INST4142 Analyst...: bab
Method Description.: PCB Analysis Batch.....: 118148

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Aroclor 1016, Solid	ug/Kg	142.739	138.859	165.400	2.877 U	86	%	63-106	
						2	R	30	
Aroclor 1260, Solid	ug/Kg	157.082	158.273	165.700	2.480 U	95	%	68-105	
						1	R	30	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MSD	Matrix Spike Duplicate	D04DWLPCBB	226535-4		05/21/2004	1849

Test Method.....: 8082
Method Description.: PCB Analysis

Equipment Code....: INST4142
Batch.....: 118148

Analyst...: bab

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Aroclor 1016, Solid	ug/Kg	297.831	286.839	330.600	5.751 U	90	%	63-106	
						2	R	30	
Aroclor 1260, Solid	ug/Kg	339.855	320.552	331.200	4.958 U	103	%	68-105	
						5	R	30	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11453

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB1	Extraction Blank 1		117539-003	10.0000	05/15/2004	0312

Test Method.....: 8151A
Method Description.: Herbicides

Equipment Code....: INST2930
Batch.....: 118079

Analyst...: kdl

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
2,4-D, TCLP Leach	ug/L	100.000	U						
2,4,5-TP (Silvex), TCLP Leach	ug/L	10.000	U						

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB2	Extraction Blank 2		117539-004	10.0000	05/15/2004	0339

Test Method.....: 8151A Equipment Code....: INST2930 Analyst...: kdl
Method Description.: Herbicides Batch.....: 118079

Parameter/Test Description	Units	QC Result		QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
2,4-D, TCLP Leach	ug/L	100.000	U							
2,4,5-TP (Silvex), TCLP Leach	ug/L	10.000	U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	004DPLHERA	117539-002	10.0000	05/15/2004	0244

Test Method.....: 8151A Equipment Code....: INST2930 Analyst...: kdl
Method Description.: Herbicides Batch.....: 118079

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
2,4-D, TCLP Leach	ug/L	56.294		53.700	10.000 U	105	%	20-117	
2,4,5-TP (Silvex), TCLP Leach	ug/L	12.106		10.240	1.000 U	118	%	30-122	

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank		117539-001	10.0000	05/15/2004	0217

Test Method.....: 8151A
Method Description.: Herbicides

Equipment Code....: INST2930
Batch.....: 118079

Analyst...: kdl

Parameter/Test Description	Units	QC Result		QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
2,4-D, TCLP Leach	ug/L	10.000	U							
2,4,5-TP (Silvex), TCLP Leach	ug/L	1.000	U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11457

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MS	Matrix Spike	004DPLHERA	226535-3	10.0000	05/15/2004	0554

Test Method.....: 8151A
Method Description.: Herbicides

Equipment Code....: INST2930
Batch.....: 118079

Analyst...: kdl

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
2,4-D, TCLP Leach	ug/L	516.930		5370.000	100.000 U	96	%	20-117	
2,4,5-TP (Silvex), TCLP Leach	ug/L	114.040		1024.000	10.000 U	111	%	30-122	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB1	Extraction Blank 1		117645-003		05/17/2004	1756

Test Method.....: 8270C Equipment Code....: GCL4 Analyst...: dpk
Method Description.: Semivolatile Organics Batch.....: 118013

Parameter/Test Description	Units	QC Result		QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Pyridine, TCLP Leach	ug/L	200.000	U							
1,4-Dichlorobenzene, TCLP Leach	ug/L	100.000	U							
2-Methylphenol (o-cresol), TCLP Leach	ug/L	100.000	U							
Hexachloroethane, TCLP Leach	ug/L	100.000	U							
4-Methylphenol (m/p-cresol), TCLP Leac	ug/L	100.000	U							
Nitrobenzene, TCLP Leach	ug/L	100.000	U							
Hexachlorobutadiene, TCLP Leach	ug/L	100.000	U							
2,4,6-Trichlorophenol, TCLP Leach	ug/L	100.000	U							
2,4,5-Trichlorophenol, TCLP Leach	ug/L	500.000	U							
2,4-Dinitrotoluene, TCLP Leach	ug/L	100.000	U							
Hexachlorobenzene, TCLP Leach	ug/L	100.000	U							
Pentachlorophenol, TCLP Leach	ug/L	500.000	U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB2	Extraction Blank 2		117645-004		05/17/2004	1828

Test Method.....: 8270C Equipment Code....: GCL4 Analyst...: dpk
Method Description.: Semivolatile Organics Batch.....: 118013

Parameter/Test Description	Units	QC Result		QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Pyridine, TCLP Leach	ug/L	200.000	U							
1,4-Dichlorobenzene, TCLP Leach	ug/L	100.000	U							
2-Methylphenol (o-cresol), TCLP Leach	ug/L	100.000	U							
Hexachloroethane, TCLP Leach	ug/L	100.000	U							
4-Methylphenol (m/p-cresol), TCLP Leac	ug/L	100.000	U							
Nitrobenzene, TCLP Leach	ug/L	100.000	U							
Hexachlorobutadiene, TCLP Leach	ug/L	100.000	U							
2,4,6-Trichlorophenol, TCLP Leach	ug/L	100.000	U							
2,4,5-Trichlorophenol, TCLP Leach	ug/L	500.000	U							
2,4-Dinitrotoluene, TCLP Leach	ug/L	100.000	U							
Hexachlorobenzene, TCLP Leach	ug/L	100.000	U							
Pentachlorophenol, TCLP Leach	ug/L	500.000	U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	004DWLBNAA	117645-002		05/17/2004	1723

Test Method.....: 8270C Equipment Code....: GCL4 Analyst...: dpk
Method Description.: Semivolatile Organics Batch.....: 118013

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Pyridine, TCLP Leach	ug/L	60.053		100.000	20.000 U	60	%	16-100	
1,4-Dichlorobenzene, TCLP Leach	ug/L	71.705		100.000	10.000 U	72	%	38-100	
2-Methylphenol (o-cresol), TCLP Leach	ug/L	82.011		100.000	10.000 U	82	%	37-100	
Hexachloroethane, TCLP Leach	ug/L	68.010		100.000	10.000 U	68	%	34-100	
4-Methylphenol (m/p-cresol), TCLP Leac	ug/L	77.723		100.000	10.000 U	78	%	35-106	
Nitrobenzene, TCLP Leach	ug/L	91.112		100.000	10.000 U	91	%	41-105	
Hexachlorobutadiene, TCLP Leach	ug/L	70.330		100.000	10.000 U	70	%	41-100	
2,4,6-Trichlorophenol, TCLP Leach	ug/L	101.211		100.000	10.000 U	101	%	51-101	
2,4,5-Trichlorophenol, TCLP Leach	ug/L	108.164		100.000	50.000 U	108	%	54-107	*
2,4-Dinitrotoluene, TCLP Leach	ug/L	112.067		100.000	10.000 U	112	%	56-115	
Hexachlorobenzene, TCLP Leach	ug/L	95.674		100.000	10.000 U	96	%	50-113	
Pentachlorophenol, TCLP Leach	ug/L	88.126		100.000	50.000 U	88	%	50-112	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MS	Matrix Spike	004DWLBNAA	226535-3		05/17/2004	2108

Test Method.....: 8270C Equipment Code....: GCL4 Analyst...: dpk
Method Description.: Semivolatile Organics Batch.....: 118013

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Pyridine, TCLP Leach	ug/L	637.505		1000.000	200.000 U	64	%	16-100	
1,4-Dichlorobenzene, TCLP Leach	ug/L	696.356		1000.000	100.000 U	70	%	38-100	
2-Methylphenol (o-cresol), TCLP Leach	ug/L	767.292		1000.000	100.000 U	77	%	37-100	
Hexachloroethane, TCLP Leach	ug/L	646.757		1000.000	100.000 U	65	%	34-100	
4-Methylphenol (m/p-cresol), TCLP Leac	ug/L	722.105		1000.000	100.000 U	72	%	35-106	
Nitrobenzene, TCLP Leach	ug/L	875.692		1000.000	100.000 U	88	%	41-105	
Hexachlorobutadiene, TCLP Leach	ug/L	638.931		1000.000	100.000 U	64	%	41-100	
2,4,6-Trichlorophenol, TCLP Leach	ug/L	930.500		1000.000	100.000 U	93	%	51-101	
2,4,5-Trichlorophenol, TCLP Leach	ug/L	1006.170		1000.000	500.000 U	101	%	54-107	
2,4-Dinitrotoluene, TCLP Leach	ug/L	1144.860		1000.000	100.000 U	114	%	56-115	
Hexachlorobenzene, TCLP Leach	ug/L	901.985		1000.000	100.000 U	90	%	50-113	
Pentachlorophenol, TCLP Leach	ug/L	878.349		1000.000	500.000 U	88	%	50-112	

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB1	Extraction Blank 1	-225535	117791-018		05/14/2004	1350

Test Method.....: 8260B Equipment Code....: GCL7 Analyst...: jdn
Method Description.: Volatile Organics Batch.....: 118062

Parameter/Test Description	Units	QC Result		QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Vinyl chloride, TCLP Leach	ug/L	25.000	U							
1,1-Dichloroethene, TCLP Leach	ug/L	25.000	U							
2-Butanone (MEK), TCLP Leach	ug/L	25.000	U							
Chloroform, TCLP Leach	ug/L	25.000	U							
Carbon tetrachloride, TCLP Leach	ug/L	25.000	U							
Benzene, TCLP Leach	ug/L	25.000	U							
1,2-Dichloroethane, TCLP Leach	ug/L	25.000	U							
Trichloroethene, TCLP Leach	ug/L	25.000	U							
Tetrachloroethene, TCLP Leach	ug/L	25.000	U							
Chlorobenzene, TCLP Leach	ug/L	25.000	U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	V04E14DSG	117791-017		05/14/2004	1312

Test Method.....: 8260B
Method Description.: Volatile Organics

Equipment Code....: GCL7
Batch.....: 118062

Analyst...: jdn

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Vinyl chloride, TCLP Leach	ug/L	396.454		500.000	25.000 U	79	%	50-141	
1,1-Dichloroethene, TCLP Leach	ug/L	408.672		500.000	25.000 U	82	%	48-132	
2-Butanone (MEK), TCLP Leach	ug/L	424.432		500.000	25.000 U	85	%	55-140	
Chloroform, TCLP Leach	ug/L	488.514		500.000	25.000 U	98	%	66-127	
Carbon tetrachloride, TCLP Leach	ug/L	503.856		500.000	25.000 U	101	%	66-121	
Benzene, TCLP Leach	ug/L	464.338		500.000	25.000 U	93	%	68-130	
1,2-Dichloroethane, TCLP Leach	ug/L	508.902		500.000	25.000 U	102	%	68-125	
Trichloroethene, TCLP Leach	ug/L	511.666		500.000	25.000 U	102	%	71-128	
Tetrachloroethene, TCLP Leach	ug/L	519.810		500.000	25.000 U	104	%	74-123	
Chlorobenzene, TCLP Leach	ug/L	498.780		500.000	25.000 U	100	%	77-121	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11464

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MB	Method Blank		117791-016		05/14/2004	1246

Test Method.....: 8260B
Method Description.: Volatile Organics

Equipment Code....: GCL7
Batch.....: 118062

Analyst...: jdn

Parameter/Test Description	Units	QC Result		QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Vinyl chloride, TCLP Leach	ug/L	25.000	U							
1,1-Dichloroethene, TCLP Leach	ug/L	25.000	U							
2-Butanone (MEK), TCLP Leach	ug/L	25.000	U							
Chloroform, TCLP Leach	ug/L	25.000	U							
Carbon tetrachloride, TCLP Leach	ug/L	25.000	U							
Benzene, TCLP Leach	ug/L	25.000	U							
1,2-Dichloroethane, TCLP Leach	ug/L	25.000	U							
Trichloroethene, TCLP Leach	ug/L	25.000	U							
Tetrachloroethene, TCLP Leach	ug/L	25.000	U							
Chlorobenzene, TCLP Leach	ug/L	25.000	U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MS	Matrix Spike	V04E14DSG	226535-5		05/14/2004	1717

Test Method.....: 8260B
Method Description.: Volatile Organics

Equipment Code....: GCL7
Batch.....: 118062

Analyst...: jdn

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Vinyl chloride, TCLP Leach	ug/L	377.054		500.000	25.000 U	75	%	50-141	
1,1-Dichloroethene, TCLP Leach	ug/L	392.032		500.000	25.000 U	78	%	48-132	
2-Butanone (MEK), TCLP Leach	ug/L	577.610		500.000	25.000 U	116	%	55-140	
Chloroform, TCLP Leach	ug/L	548.114		500.000	25.000 U	110	%	66-127	
Carbon tetrachloride, TCLP Leach	ug/L	585.088		500.000	25.000 U	117	%	66-121	
Benzene, TCLP Leach	ug/L	461.910		500.000	25.000 U	92	%	68-130	
1,2-Dichloroethane, TCLP Leach	ug/L	601.632		500.000	25.000 U	120	%	68-125	
Trichloroethene, TCLP Leach	ug/L	496.488		500.000	25.000 U	99	%	71-128	
Tetrachloroethene, TCLP Leach	ug/L	497.552		500.000	25.000 U	100	%	74-123	
Chlorobenzene, TCLP Leach	ug/L	489.034		500.000	25.000 U	98	%	77-121	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MSD	Matrix Spike Duplicate	V04E14DSG	226535-5		05/14/2004	1742

Test Method.....: 8260B
Method Description.: Volatile Organics

Equipment Code....: GCL7
Batch.....: 118062

Analyst...: jdn

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value		QC Calc.	*	Limits	F
Vinyl chloride, TCLP Leach	ug/L	365.550	377.054	500.000	25.000	U	73	%	50-141	
							3	R	20	
1,1-Dichloroethene, TCLP Leach	ug/L	340.220	392.032	500.000	25.000	U	68	%	48-132	
							14	R	20	
2-Butanone (MEK), TCLP Leach	ug/L	477.782	577.610	500.000	25.000	U	96	%	55-140	
							19	R	20	
Chloroform, TCLP Leach	ug/L	449.204	548.114	500.000	25.000	U	90	%	66-127	
							20	R	20	
Carbon tetrachloride, TCLP Leach	ug/L	476.834	585.088	500.000	25.000	U	95	%	66-121	
							21	R	20	*
Benzene, TCLP Leach	ug/L	404.370	461.910	500.000	25.000	U	81	%	68-130	
							13	R	20	
1,2-Dichloroethane, TCLP Leach	ug/L	482.112	601.632	500.000	25.000	U	96	%	68-125	
							22	R	20	*
Trichloroethene, TCLP Leach	ug/L	439.846	496.488	500.000	25.000	U	88	%	71-128	
							12	R	20	
Tetrachloroethene, TCLP Leach	ug/L	436.816	497.552	500.000	25.000	U	87	%	74-123	
							14	R	20	
Chlorobenzene, TCLP Leach	ug/L	426.876	489.034	500.000	25.000	U	85	%	77-121	
							14	R	20	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC | PROJECT: POWERTON SAMPLING | ATTN: Michael Reed

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB1	Extraction Blank 1	117373	117373-001		05/14/2004	0027

Test Method.....: 6010B
Method Description.: Leachable, Metals Analysis (ICAP)

Equipment Code....: ICP3
Batch.....: 117667

Analyst...: tds

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U							
Barium, TCLP Leach	mg/L	0.22309 B							
Cadmium, TCLP Leach	mg/L	0.00200 U							
Chromium, TCLP Leach	mg/L	0.01000 U							
Lead, TCLP Leach	mg/L	0.00500 U							
Selenium, TCLP Leach	mg/L	0.01000 U							
Silver, TCLP Leach	mg/L	0.00500 U							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11468

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB2	Extraction Blank 2		117373-002		05/14/2004	0034

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 117667

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U							
Barium, TCLP Leach	mg/L	0.01849 B							
Cadmium, TCLP Leach	mg/L	0.00200 U							
Chromium, TCLP Leach	mg/L	0.01000 U							
Lead, TCLP Leach	mg/L	0.00500 U							
Selenium, TCLP Leach	mg/L	0.01000 U							
Silver, TCLP Leach	mg/L	0.00500 U							

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB3	DI Blank	117521	117521-001		05/14/2004	0320

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 117667

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, Neutral Leach	mg/L	0.01000 U							
Barium, Neutral Leach	mg/L	0.10463 B							
Beryllium, Neutral Leach	mg/L	0.00400 U							
Boron, Neutral Leach	mg/L	0.05000 U							
Cadmium, Neutral Leach	mg/L	0.00200 U							
Chromium, Neutral Leach	mg/L	0.01000 U							
Cobalt, Neutral Leach	mg/L	0.00500 U							
Copper, Neutral Leach	mg/L	0.01000 U							
Iron, Neutral Leach	mg/L	0.05000 U							
Lead, Neutral Leach	mg/L	0.00500 U							
Magnesium, Neutral Leach	mg/L	0.10000 U							
Manganese, Neutral Leach	mg/L	0.01000 U							
Nickel, Neutral Leach	mg/L	0.01000 U							
Selenium, Neutral Leach	mg/L	0.01000 U							
Silver, Neutral Leach	mg/L	0.00500 U							
Zinc, Neutral Leach	mg/L	0.03301 B							

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11470

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 117667

LCS	Laboratory Control Sample	M04ESPK001	117373-003		05/14/2004 0040

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.09313	B	0.10000	0.01000	U 93	%	80-120	
Barium, TCLP Leach	mg/L	1.84654		2.00000	0.01849	B 92	%	80-120	
Cadmium, TCLP Leach	mg/L	0.04657	B	0.05000	0.00200	U 93	%	80-120	
Chromium, TCLP Leach	mg/L	0.18867		0.20000	0.01000	U 94	%	80-120	
Lead, TCLP Leach	mg/L	0.10201		0.10000	0.00500	U 102	%	80-120	
Selenium, TCLP Leach	mg/L	0.09238	B	0.10000	0.01000	U 92	%	80-120	
Silver, TCLP Leach	mg/L	0.04563	B	0.05000	0.00500	U 91	%	80-120	

LCS	Laboratory Control Sample	M04ESPK001	117521-002		05/14/2004 0326

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, Neutral Leach	mg/L	0.09683	B	0.10000	0.01000	U 97	%	80-120	
Barium, Neutral Leach	mg/L	1.91409		2.00000	0.10463	B 96	%	80-120	
Beryllium, Neutral Leach	mg/L	0.04842	B	0.05000	0.00400	U 97	%	80-120	
Boron, Neutral Leach	mg/L	0.94642		1.00000	0.05000	U 95	%	80-120	
Cadmium, Neutral Leach	mg/L	0.04800	B	0.05000	0.00200	U 96	%	80-120	
Chromium, Neutral Leach	mg/L	0.19306		0.20000	0.01000	U 97	%	80-120	
Cobalt, Neutral Leach	mg/L	0.47608		0.50000	0.00500	U 95	%	80-120	
Copper, Neutral Leach	mg/L	0.24406		0.25000	0.01000	U 98	%	80-120	
Iron, Neutral Leach	mg/L	0.95252		1.00000	0.05000	U 95	%	80-120	
Lead, Neutral Leach	mg/L	0.10548		0.10000	0.00500	U 105	%	80-120	
Magnesium, Neutral Leach	mg/L	9.45160		10.00000	0.10000	U 95	%	80-120	
Manganese, Neutral Leach	mg/L	0.48725		0.50000	0.01000	U 97	%	80-120	
Nickel, Neutral Leach	mg/L	0.47968		0.50000	0.01000	U 96	%	80-120	
Selenium, Neutral Leach	mg/L	0.09533	B	0.10000	0.01000	U 95	%	80-120	
Silver, Neutral Leach	mg/L	0.04700	B	0.05000	0.00500	U 94	%	80-120	
Zinc, Neutral Leach	mg/L	0.47263		0.50000	0.03301	B 95	%	80-120	

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11471

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 117667

MD	Method Duplicate		226535-1		05/14/2004	0107

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U			0.01000 U	0	A	0.10000	
Barium, TCLP Leach	mg/L	0.16289 B			0.16843 B	0.00554	A	1.00000	
Cadmium, TCLP Leach	mg/L	0.00200 U			0.00200 U	0.00003	A	0.05000	
Chromium, TCLP Leach	mg/L	0.01000 U			0.01000 U	0.00081	A	0.05000	
Lead, TCLP Leach	mg/L	0.00500 U			0.00500 U	0	A	0.05000	
Selenium, TCLP Leach	mg/L	0.01983 B			0.02081 B	0.00098	A	0.10000	
Silver, TCLP Leach	mg/L	0.00500 U			0.00500 U	0.00027	A	0.05000	

MD	Method Duplicate		226535-3		05/14/2004	0357

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, Neutral Leach	mg/L	0.01000 U			0.01000 U	0.00043	A	0.10000	
Barium, Neutral Leach	mg/L	0.21233 B			0.21072 B	0.00161	A	1.00000	
Beryllium, Neutral Leach	mg/L	0.00400 U			0.00400 U				
Boron, Neutral Leach	mg/L	0.84995			0.84215	0.9	R	20.0	
Cadmium, Neutral Leach	mg/L	0.00200 U			0.00200 U	0.00013	A	0.05000	
Chromium, Neutral Leach	mg/L	0.03575 B			0.03573 B	0.00002	A	0.05000	
Cobalt, Neutral Leach	mg/L	0.00500 U			0.00500 U	0	A	0.05000	
Copper, Neutral Leach	mg/L	0.01000 U			0.01000 U	0.00005	A	0.05000	
Iron, Neutral Leach	mg/L	0.05000 U			0.05000 U	0.00511	A	0.10000	
Lead, Neutral Leach	mg/L	0.00500 U			0.00500 U	0.00041	A	0.05000	
Magnesium, Neutral Leach	mg/L	0.10000 U			0.10000 U	0.00039	A	5.00000	
Manganese, Neutral Leach	mg/L	0.01000 U			0.01000 U	0	A	0.05000	
Nickel, Neutral Leach	mg/L	0.01000 U			0.01000 U	0.00000	A	0.05000	
Selenium, Neutral Leach	mg/L	0.03569 B			0.03470 B	0.00099	A	0.10000	
Silver, Neutral Leach	mg/L	0.00500 U			0.00500 U				
Zinc, Neutral Leach	mg/L	0.05432 B			0.05409 B	0.00023	A	0.10000	

MD	Method Duplicate		226535-4		05/14/2004	0453

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, Neutral Leach	mg/L	0.01154 B			0.01263 B	0.00109	A	0.10000	
Barium, Neutral Leach	mg/L	0.21336 B			0.21431 B	0.00095	A	1.00000	
Beryllium, Neutral Leach	mg/L	0.00400 U			0.00400 U	0.00001	A	0.05000	
Boron, Neutral Leach	mg/L	1.16371			1.16746	0.3	R	20.0	
Cadmium, Neutral Leach	mg/L	0.00200 U			0.00200 U	0.00011	A	0.05000	
Chromium, Neutral Leach	mg/L	0.15792			0.15959	0.00167	A	0.05000	
Cobalt, Neutral Leach	mg/L	0.00500 U			0.00500 U	0	A	0.05000	
Copper, Neutral Leach	mg/L	0.01000 U			0.01000 U	0.00035	A	0.05000	
Iron, Neutral Leach	mg/L	0.05000 U			0.05000 U	0.00007	A	0.10000	
Lead, Neutral Leach	mg/L	0.00500 U			0.00500 U	0.00007	A	0.05000	
Magnesium, Neutral Leach	mg/L	0.10000 U			0.10000 U	0.00394	A	5.00000	
Manganese, Neutral Leach	mg/L	0.01000 U			0.01000 U	0.00016	A	0.05000	
Nickel, Neutral Leach	mg/L	0.01000 U			0.01000 U	0	A	0.05000	
Selenium, Neutral Leach	mg/L	0.15071			0.14713	0.00358	A	0.10000	
Silver, Neutral Leach	mg/L	0.00500 U			0.00500 U	0	A	0.05000	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11472

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MD	Method Duplicate		226535-4		05/14/2004	0453

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Zinc, Neutral Leach	mg/L	0.09705 B			0.09835 B	0.00130	A	0.10000	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11473

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 117667

MS	Matrix Spike	M04DSPK001	226535-1		05/14/2004	0113

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	4.46333		5.00000	0.01000 U	89	%	50-150	
Barium, TCLP Leach	mg/L	22.13083		100.00000	0.16843 B	22	%	50-150	N
Cadmium, TCLP Leach	mg/L	0.83127		1.00000	0.00200 U	83	%	50-150	
Chromium, TCLP Leach	mg/L	4.07653		5.00000	0.01000 U	82	%	50-150	
Lead, TCLP Leach	mg/L	1.70118		5.00000	0.00500 U	34	%	50-150	N
Selenium, TCLP Leach	mg/L	0.88348		1.00000	0.02081 B	88	%	50-150	
Silver, TCLP Leach	mg/L	0.93707		1.00000	0.00500 U	94	%	50-150	

MS	Matrix Spike	M04ESPK001	226535-3		05/14/2004	0403

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, Neutral Leach	mg/L	0.09982 B		0.10000	0.01000 U	100	%	50-150	
Barium, Neutral Leach	mg/L	2.11430		2.00000	0.21072 B	106	%	50-150	
Beryllium, Neutral Leach	mg/L	0.04851 B		0.05000	0.00400 U	97	%	50-150	
Boron, Neutral Leach	mg/L	1.82567		1.00000	0.84215	98	%	50-150	
Cadmium, Neutral Leach	mg/L	0.04763 B		0.05000	0.00200 U	95	%	50-150	
Chromium, Neutral Leach	mg/L	0.22490		0.20000	0.03573 B	112	%	50-150	
Cobalt, Neutral Leach	mg/L	0.47834		0.50000	0.00500 U	96	%	50-150	
Copper, Neutral Leach	mg/L	0.24968		0.25000	0.01000 U	100	%	50-150	
Iron, Neutral Leach	mg/L	0.94438		1.00000	0.05000 U	94	%	50-150	
Lead, Neutral Leach	mg/L	0.10461		0.10000	0.00500 U	105	%	50-150	
Magnesium, Neutral Leach	mg/L	9.27244		10.00000	0.10000 U	93	%	50-150	
Manganese, Neutral Leach	mg/L	0.48472		0.50000	0.01000 U	97	%	50-150	
Nickel, Neutral Leach	mg/L	0.48013		0.50000	0.01000 U	96	%	50-150	
Selenium, Neutral Leach	mg/L	0.13283		0.10000	0.03470 B	133	%	50-150	
Silver, Neutral Leach	mg/L	0.04769 B		0.05000	0.00500 U	95	%	50-150	
Zinc, Neutral Leach	mg/L	0.54240		0.50000	0.05409 B	108	%	50-150	

MS	Matrix Spike	M04ESPK001	226535-4		05/14/2004	0459

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, Neutral Leach	mg/L	0.11644		0.10000	0.01263 B	116	%	50-150	
Barium, Neutral Leach	mg/L	2.06009		2.00000	0.21431 B	103	%	50-150	
Beryllium, Neutral Leach	mg/L	0.04919 B		0.05000	0.00400 U	98	%	50-150	
Boron, Neutral Leach	mg/L	2.18908		1.00000	1.16746	102	%	50-150	
Cadmium, Neutral Leach	mg/L	0.04929 B		0.05000	0.00200 U	99	%	50-150	
Chromium, Neutral Leach	mg/L	0.34878		0.20000	0.15959	95	%	50-150	
Cobalt, Neutral Leach	mg/L	0.48500		0.50000	0.00500 U	97	%	50-150	
Copper, Neutral Leach	mg/L	0.25091		0.25000	0.01000 U	100	%	50-150	
Iron, Neutral Leach	mg/L	0.95370		1.00000	0.05000 U	95	%	50-150	
Lead, Neutral Leach	mg/L	0.10578		0.10000	0.00500 U	106	%	50-150	
Magnesium, Neutral Leach	mg/L	9.14785		10.00000	0.10000 U	91	%	50-150	
Manganese, Neutral Leach	mg/L	0.48546		0.50000	0.01000 U	97	%	50-150	
Nickel, Neutral Leach	mg/L	0.48814		0.50000	0.01000 U	98	%	50-150	
Selenium, Neutral Leach	mg/L	0.24826		0.10000	0.14713	101	%	50-150	
Silver, Neutral Leach	mg/L	0.04900 B		0.05000	0.00500 U	98	%	50-150	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11474

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
MS	Matrix Spike	M04ESPK001	226535-4		05/14/2004	0459

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Zinc, Neutral Leach	mg/L	0.60825		0.50000	0.09835 B	122	%	50-150	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 117667

SD	Serial Dilution		226535-1		05/14/2004	0101

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U			0.01000 U				
Barium, TCLP Leach	mg/L	0.03430 B			0.16843 B				
Cadmium, TCLP Leach	mg/L	0.00200 U			0.00200 U				
Chromium, TCLP Leach	mg/L	0.01000 U			0.01000 U				
Lead, TCLP Leach	mg/L	0.00500 U			0.00500 U				
Selenium, TCLP Leach	mg/L	0.01000 U			0.02081 B				
Silver, TCLP Leach	mg/L	0.00500 U			0.00500 U				

SD	Serial Dilution		226535-3		05/14/2004	0351

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, Neutral Leach	mg/L	0.01000 U			0.01000 U				
Barium, Neutral Leach	mg/L	0.04362 B			0.21072 B				
Beryllium, Neutral Leach	mg/L	0.00400 U			0.00400 U				
Boron, Neutral Leach	mg/L	0.17222			0.84215	2.3	D	10.0	
Cadmium, Neutral Leach	mg/L	0.00200 U			0.00200 U				
Chromium, Neutral Leach	mg/L	0.01000 U			0.03573 B				
Cobalt, Neutral Leach	mg/L	0.00500 U			0.00500 U				
Copper, Neutral Leach	mg/L	0.01000 U			0.01000 U				
Iron, Neutral Leach	mg/L	0.05489 B			0.05000 U				
Lead, Neutral Leach	mg/L	0.00500 U			0.00500 U				
Magnesium, Neutral Leach	mg/L	0.10000 U			0.10000 U				
Manganese, Neutral Leach	mg/L	0.01000 U			0.01000 U				
Nickel, Neutral Leach	mg/L	0.01000 U			0.01000 U				
Selenium, Neutral Leach	mg/L	0.01028 B			0.03470 B				
Silver, Neutral Leach	mg/L	0.00500 U			0.00500 U				
Zinc, Neutral Leach	mg/L	0.02000 U			0.05409 B				

SD	Serial Dilution		226535-4		05/14/2004	0423

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, Neutral Leach	mg/L	0.01000 U			0.01263 B				
Barium, Neutral Leach	mg/L	0.04502 B			0.21431 B				
Beryllium, Neutral Leach	mg/L	0.00400 U			0.00400 U				
Boron, Neutral Leach	mg/L	0.23811			1.16746	2.0	D	10.0	
Cadmium, Neutral Leach	mg/L	0.00200 U			0.00200 U				
Chromium, Neutral Leach	mg/L	0.03163 B			0.15959	0.9	D	10.0	
Cobalt, Neutral Leach	mg/L	0.00500 U			0.00500 U				
Copper, Neutral Leach	mg/L	0.01000 U			0.01000 U				
Iron, Neutral Leach	mg/L	0.05000 U			0.05000 U				
Lead, Neutral Leach	mg/L	0.00500 U			0.00500 U				
Magnesium, Neutral Leach	mg/L	0.10000 U			0.10000 U				
Manganese, Neutral Leach	mg/L	0.01000 U			0.01000 U				
Nickel, Neutral Leach	mg/L	0.01000 U			0.01000 U				
Selenium, Neutral Leach	mg/L	0.03144 B			0.14713	6.8	D	10.0	
Silver, Neutral Leach	mg/L	0.00500 U			0.00500 U				

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11476

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
SD	Serial Dilution		226535-4		05/14/2004	0423

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Zinc, Neutral Leach	mg/L	0.02071 B			0.09835 B				

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 117852

EB1	Extraction Blank 1	117582	117582-001		05/14/2004	1349

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U							
Barium, TCLP Leach	mg/L	0.23226 B							
Cadmium, TCLP Leach	mg/L	0.00200 U							
Chromium, TCLP Leach	mg/L	0.01000 U							
Lead, TCLP Leach	mg/L	0.00500 U							
Selenium, TCLP Leach	mg/L	0.01000 U							
Silver, TCLP Leach	mg/L	0.00500 U							

EB1	Extraction Blank 1		117582-009		05/14/2004	1525

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U							
Barium, TCLP Leach	mg/L	0.31289 B							
Cadmium, TCLP Leach	mg/L	0.00200 U							
Chromium, TCLP Leach	mg/L	0.01000 U							
Lead, TCLP Leach	mg/L	0.00500 U							
Selenium, TCLP Leach	mg/L	0.01000 U							
Silver, TCLP Leach	mg/L	0.00500 U							

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
EB3	DI Blank		117582-015		05/14/2004	1622

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 117852

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U							
Barium, TCLP Leach	mg/L	0.05769 B							
Cadmium, TCLP Leach	mg/L	0.00200 U							
Chromium, TCLP Leach	mg/L	0.01000 U							
Lead, TCLP Leach	mg/L	0.00500 U							
Selenium, TCLP Leach	mg/L	0.01000 U							
Silver, TCLP Leach	mg/L	0.00500 U							

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535

Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time
LCS	Laboratory Control Sample	M04ESPK001	117582-002		05/14/2004	1355

Test Method.....: 6010B
Method Description.: Leachable, Metals Analysis (ICAP)

Equipment Code....: ICP3
Batch.....: 117852

Analyst...: tds

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.09066	B	0.10000	0.01000 U	91	%	80-120	
Barium, TCLP Leach	mg/L	1.83445		2.00000	0.23226 B	92	%	80-120	
Cadmium, TCLP Leach	mg/L	0.04533	B	0.05000	0.00200 U	91	%	80-120	
Chromium, TCLP Leach	mg/L	0.18422		0.20000	0.01000 U	92	%	80-120	
Lead, TCLP Leach	mg/L	0.09869		0.10000	0.00500 U	99	%	80-120	
Selenium, TCLP Leach	mg/L	0.09111	B	0.10000	0.01000 U	91	%	80-120	
Silver, TCLP Leach	mg/L	0.04521	B	0.05000	0.00500 U	90	%	80-120	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11480

QUALITY CONTROL RESULTS

Job Number.: 226535 — Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC — PROJECT: POWERTON SAMPLING — ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: 6010B — Equipment Code....: ICP3 — Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) — Batch.....: 117852

MD	Method Duplicate		226535-3		05/14/2004	1414

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U			0.01000 U	0	A	0.10000	
Barium, TCLP Leach	mg/L	0.16206 B			0.16584 B	0.00378	A	1.00000	
Cadmium, TCLP Leach	mg/L	0.00200 U			0.00200 U	0	A	0.05000	
Chromium, TCLP Leach	mg/L	0.02796 B			0.02816 B	0.00020	A	0.05000	
Lead, TCLP Leach	mg/L	0.00500 U			0.00500 U	0	A	0.05000	
Selenium, TCLP Leach	mg/L	0.04441 B			0.04609 B	0.00168	A	0.10000	
Silver, TCLP Leach	mg/L	0.00500 U			0.00500 U	0.00030	A	0.05000	

MD	Method Duplicate		226535-4		05/14/2004	1444

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U			0.01000 U	0.00162	A	0.10000	
Barium, TCLP Leach	mg/L	0.21114 B			0.20992 B	0.00122	A	1.00000	
Cadmium, TCLP Leach	mg/L	0.00200 U			0.00200 U	0	A	0.05000	
Chromium, TCLP Leach	mg/L	0.16162			0.15941	0.00221	A	0.05000	
Lead, TCLP Leach	mg/L	0.00500 U			0.00500 U	0	A	0.05000	
Selenium, TCLP Leach	mg/L	0.19244			0.18881	0.00363	A	0.10000	
Silver, TCLP Leach	mg/L	0.00500 U			0.00500 U	0.00025	A	0.05000	

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 117852

MS	Matrix Spike	M04DSPK001	226535-3		05/14/2004	1421

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	5.31502		5.00000	0.01000 U	106	%	50-150	
Barium, TCLP Leach	mg/L	26.14197		100.00000	0.16584 B	26	%	50-150	N
Cadmium, TCLP Leach	mg/L	0.94652		1.00000	0.00200 U	95	%	50-150	
Chromium, TCLP Leach	mg/L	4.77797		5.00000	0.02816 B	96	%	50-150	
Lead, TCLP Leach	mg/L	3.00263		5.00000	0.00500 U	60	%	50-150	
Selenium, TCLP Leach	mg/L	1.09165		1.00000	0.04609 B	109	%	50-150	
Silver, TCLP Leach	mg/L	1.07806		1.00000	0.00500 U	108	%	50-150	

MS	Matrix Spike	M04DSPK001	226535-4		05/14/2004	1450

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	5.20297		5.00000	0.01000 U	104	%	50-150	
Barium, TCLP Leach	mg/L	13.53250		100.00000	0.20992 B	14	%	50-150	N
Cadmium, TCLP Leach	mg/L	0.94329		1.00000	0.00200 U	94	%	50-150	
Chromium, TCLP Leach	mg/L	4.77663		5.00000	0.15941	92	%	50-150	
Lead, TCLP Leach	mg/L	3.30551		5.00000	0.00500 U	66	%	50-150	
Selenium, TCLP Leach	mg/L	1.17680		1.00000	0.18881	99	%	50-150	
Silver, TCLP Leach	mg/L	0.94225		1.00000	0.00500 U	94	%	50-150	

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: 6010B Equipment Code....: ICP3 Analyst...: tds
Method Description.: Leachable, Metals Analysis (ICAP) Batch.....: 117852

SD	Serial Dilution		226535-3		05/14/2004	1407

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U			0.01000 U				
Barium, TCLP Leach	mg/L	0.03473 B			0.16584 B				
Cadmium, TCLP Leach	mg/L	0.00200 U			0.00200 U				
Chromium, TCLP Leach	mg/L	0.01000 U			0.02816 B				
Lead, TCLP Leach	mg/L	0.00500 U			0.00500 U				
Selenium, TCLP Leach	mg/L	0.01058 B			0.04609 B				
Silver, TCLP Leach	mg/L	0.00500 U			0.00500 U				

SD	Serial Dilution		226535-4		05/14/2004	1438

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	*	Limits	F
Arsenic, TCLP Leach	mg/L	0.01000 U			0.01000 U				
Barium, TCLP Leach	mg/L	0.04378 B			0.20992 B				
Cadmium, TCLP Leach	mg/L	0.00200 U			0.00200 U				
Chromium, TCLP Leach	mg/L	0.03505 B			0.15941	9.9	D	10.0	
Lead, TCLP Leach	mg/L	0.00500 U			0.00500 U				
Selenium, TCLP Leach	mg/L	0.03864 B			0.18881	2.3	D	10.0	
Silver, TCLP Leach	mg/L	0.00500 U			0.00500 U				

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Test Method.....: 7.3.3.2/9014 Batch.....: 117382 Analyst...: rnm
Method Description.: Reactivity, Cyanide Equipment Code....: SPEC4 Test Code.: REACCN
Parameter.....: Reactivity, Cyanide

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
MB	117374-004		mg/L	0.01000 U								05/11/2004	1531
LCS	117374-005	I04CSTCN1	mg/L	0.09000		0.10000	0.01000 U	90		%	85-115	05/11/2004	1531
MS	226535-4	I04CSTCN2	mg/L	1.27027		1.80200	0.02066	69	N	%	75-125	05/11/2004	1536
MSD	226535-4	I04CSTCN2	mg/L	1.60811	1.27027	1.80200	0.02066	88		%	75-125	05/11/2004	1536
								24.2	*	R	20		

Test Method.....: 1010 Batch.....: 118229 Analyst...: jmk
Method Description.: Ignitability (Pensky-Martens Closed-Cup) Equipment Code....: Test Code.: IGNPMC
Parameter.....: Ignitability (Flashpoint)

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
MD	226535-3		degrees F	>200			>200					12/09/2003	0319
MD	226535-4		degrees F	>200			>200					05/19/2004	1610

Test Method.....: 1010 Batch.....: 118403 Analyst...: jmk
Method Description.: Ignitability (Pensky-Martens Closed-Cup) Equipment Code....: Test Code.: IGNPMC
Parameter.....: Ignitability (Flashpoint)

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
MD	226535-5		degrees F	>200			>200					05/20/2004	0747

Test Method.....: 9066 Batch.....: 117735 Analyst...: kd
Method Description.: Phenolics, Total Recoverable Equipment Code....: LACHAT1 Test Code.: PHENTR
Parameter.....: Phenolics, Total Recoverable

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
LCS	117735-005	I03LSTPE2	mg/L	0.09340		0.10000		93		%	80-120	05/14/2004	1501
MB	117735-004		mg/L	0.00330 U								05/14/2004	1501
MS	226535-3	I03LSTPE2	mg/Kg	4.89		8.40	0.28 U	58	N	%	75-125	05/14/2004	1508
MSD	226535-3	I03LSTPE2	mg/Kg	4.88	4.89	9.43	0.31 U	52	N	%	75-125	05/14/2004	1508
								10.9		R	20		
MS	226535-4	I03LSTPE2	mg/Kg	3.26		9.71	0.81	25	N	%	75-125	05/14/2004	1509
MSD	226535-4	I03LSTPE2	mg/Kg	3.50	3.26	9.01	0.81	30	N	%	75-125	05/14/2004	1510
								18.2		R	20		

Test Method.....: 9045C Batch.....: 117254 Analyst...: pmf
Method Description.: pH (Soil) Equipment Code....: Test Code.: CORSOL
Parameter.....: Corrosivity (pH Solid)

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
DPH	226535-3		pH Units	10.63000			10.66000	0.03000		A	0.20000	05/10/2004	1518

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11484

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Test Method.....: 9045C Batch.....: 117254 Analyst...: pmf
Method Description.: pH (Soil) Equipment Code....: Test Code.: PH
Parameter.....: pH

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
LCSP	117254-002	I04CPH7B	pH Units	7.00000		7.00000		0.00		A	0.20000	05/10/2004	1502
LCDP	117254-003	I04CPH7B	pH Units	6.99000		7.00000		0.01000		A	0.20000	05/10/2004	1504

Test Method.....: 9038M Batch.....: 118380 Analyst...: rnm
Method Description.: Sulfate, Turbidimetric Equipment Code....: SPEC3 Test Code.: SO4
Parameter.....: Sulfate

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
MB	118380-004		mg/L	2.10000 U								05/20/2004	2133
LCS	118380-005	I03KSTSA2	mg/L	20.96000		20.00000		105		%	80-120	05/20/2004	2134
MS	226535-3	I03KSTSA2	mg/Kg	26157.58		1996000.00	5685.60	103		%	75-125	05/20/2004	2138
MSD	226535-3	I03KSTSA2	mg/Kg	24480.94	26157.58	1996000.00	5685.60	94		%	75-125	05/20/2004	2139
								9.1		R	20		
MS	226535-4	I03KSTSA2	mg/Kg	56473.40		7951000.00	23726.22	82		%	75-125	05/20/2004	2141
MSD	226535-4	I03KSTSA2	mg/Kg	57109.49	56473.40	7951000.00	23726.22	84		%	75-125	05/20/2004	2142
								2.4		R	20		

Test Method.....: 9038M Batch.....: 118383 Analyst...: rnm
Method Description.: Sulfate, Turbidimetric Equipment Code....: SPEC3 Test Code.: SO4
Parameter.....: Sulfate

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
MB	118383-004		mg/L	2.10000 U								05/20/2004	2213
LCS	118383-005	I03KSTSA2	mg/L	19.49000		20.00000		97		%	80-120	05/20/2004	2214

Test Method.....: 7.3.4.2/9034 Batch.....: 117221 Analyst...: mtb
Method Description.: Reactivity, Sulfide Equipment Code....: Test Code.: REACS
Parameter.....: Reactivity, Sulfide

QC	Lab ID	Reagent	Units	QC Result		QC Result		True Value	Orig. Value		QC Calc.	F	*	Limits	Date	Time
MB	117221-001		mg/Kg	91.00	U										05/10/2004	1435
LCS	117221-002	I04DSTSF1	mg/Kg	149.17	B			195.20	91.00	U	76		%	0-200	05/10/2004	1438
MS	226535-2	I04DSTSF1	mg/Kg	84.08	U			180.40	84.08	U	12		%	0-200	05/10/2004	1449
MSD	226535-2	I04DSTSF1	mg/Kg	87.36	U	87.36	U	187.30	87.36	U	11		%	0-200	05/10/2004	1452
											9		R	200		

Test Method.....: 7041 Batch.....: 117859 Analyst...: daj
Method Description.: Leachable, Antimony (GFAA) Equipment Code....: AA8 Test Code.: SB
Parameter.....: Antimony

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
EB3	117522-001	117522	mg/L	0.00300 U								05/13/2004	1201
LCS	117522-002	M03LSPK001	mg/L	0.04230		0.05000	0.00300 U	85		%	80-120	05/13/2004	1213
MD	226535-3		mg/L	0.00300 U			0.00300 U	0.00086		A	0.00300	05/13/2004	1314
MS	226535-3	M03LSPK001	mg/L	0.04955		0.05000	0.00300 U	99		%	50-150	05/13/2004	1327

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Test Method.....: 7041 Batch.....: 117859 Analyst...: daj
Method Description.: Leachable, Antimony (GFAA) Equipment Code....: AA8 Test Code.: SB
Parameter.....: Antimony

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
MD	226535-4		mg/L	0.00300 U			0.00300 U	0.00001		A	0.00300	05/13/2004	1403
MS	226535-4	M03LSPK001	mg/L	0.05119		0.10000	0.00300 U	102		%	50-150	05/13/2004	1416

Test Method.....: 7841 Batch.....: 117862 Analyst...: daj
Method Description.: Leachable, Thallium (GFAA) Equipment Code....: AA6 Test Code.: TL
Parameter.....: Thallium

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
EB3	117522-001	117522	mg/L	0.00200 U								05/13/2004	1349
LCS	117522-002	M03LSPK001	mg/L	0.05157		0.05000	0.00200 U	103		%	80-120	05/13/2004	1402
MD	226535-3		mg/L	0.00200 U			0.00200 U	0.00050		A	0.00200	05/13/2004	1505
MS	226535-3	M03LSPK001	mg/L	0.05218		0.05000	0.00200 U	104		%	50-150	05/13/2004	1518
MD	226535-4		mg/L	0.00200 U			0.00200 U	0		A	0.00200	05/13/2004	1556
MS	226535-4	M03LSPK001	mg/L	0.04762		0.05000	0.00200 U	95		%	50-150	05/13/2004	1609

Test Method.....: 7470A Batch.....: 117617 Analyst...: gok
Method Description.: Leachable, Mercury (CVAA) Equipment Code....: HG4 Test Code.: HG
Parameter.....: Mercury

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
MB	117614-007		ug/L	0.20 U								05/13/2004	1339
LCS	117614-008	M02ESTK010	ug/L	2.07		2.00	0.20 U	104		%	80-120	05/13/2004	1342
EB1	117617-014	274	mg/L	0.00200 U								05/13/2004	1405
EB1	117617-016	275	mg/L	0.00200 U								05/13/2004	1410
EB2	117617-017	275	mg/L	0.00200 U								05/13/2004	1412
MD	226535-3		mg/L	0.00200 U			0.00200 U	0.00008		A	0.00200	05/13/2004	1428
MS	226535-3	M03DSTK008	mg/L	0.01096		0.01000	0.00200 U	110		%	50-150	05/13/2004	1430
MD	226535-4		mg/L	0.00200 U			0.00200 U	0.00005		A	0.00200	05/13/2004	1435
MS	226535-4	M03DSTK008	mg/L	0.01014		0.01000	0.00200 U	101		%	50-150	05/13/2004	1437

Test Method.....: 7470A Batch.....: 117934 Analyst...: gok
Method Description.: Leachable, Mercury (CVAA) Equipment Code....: HG4 Test Code.: HG
Parameter.....: Mercury

QC	Lab ID	Reagent	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	F	*	Limits	Date	Time
MB	117933-007		ug/L	0.20 U								05/14/2004	1513
LCS	117933-008	M02ESTK010	ug/L	2.14		2.00	0.20 U	107		%	80-120	05/14/2004	1515
EB3	117933-009	277	mg/L	0.00113								05/14/2004	1518
MS	226535-4	M03DSTK008	mg/L	0.00797		0.01000	0.00020 U	80		%	50-150	05/14/2004	1545
MD	226535-4		mg/L	0.00020 U			0.00020 U	0		A	0.00020	05/14/2004	1548
EB1	117933-020	278	mg/L	0.00200 U								05/14/2004	1625
EB3	117933-026	281	mg/L	0.00200 U								05/14/2004	1648

 * %=% REC, R=RPD, A=ABS Diff., D=% Diff.

MWG13-15_11486

QUALITY CONTROL RESULTS

Job Number.: 226535 Report Date.: 06/04/2004

CUSTOMER: Midwest Generation EME, LLC PROJECT: POWERTON SAMPLING ATTN: Michael Reed

Test Method.....: 7470A Batch.....: 118158 Analyst...: gok
Method Description.: Leachable, Mercury (CVAA) Equipment Code....: HG4 Test Code.: HG
Parameter.....: Mercury

QC	Lab ID	Reagent	Units	QC Result		QC Result	True Value	Orig. Value		QC Calc.	F	*	Limits	Date	Time
MB	118076-007		ug/L	0.20	U									05/18/2004	1441
LCS	118076-008	M02ESTK010	ug/L	1.97			2.00	0.20	U	98		%	80-120	05/18/2004	1444
EB1	118076-009	252	mg/L	0.00200	U									05/18/2004	1446
EB3	118076-013	284	mg/L	0.00200	U									05/18/2004	1456
EB3	118076-017	277	mg/L	0.00020	U									05/18/2004	1513
MD	226535-3		mg/L	0.00020	U			0.00045		0.00447		A	0.00020	05/18/2004	1518
MS	226535-3	M03DSTK008	mg/L	0.00912			0.01000	0.00045		87		%	50-150	05/18/2004	1520
EB1	118076-023	286	mg/L	0.00200	U									05/18/2004	1528
EB1	118076-027	287	ug/L	2.00	U									05/18/2004	1542

* %=% REC, R=RPD, A=ABS Diff., D=% Diff.

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REPORT COMMENTS

1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.
2) Soil, sediment and sludge sample results are reported on a "dry weight" basis except when analyzed for landfill disposal or incineration parameters. All other solid matrix samples are reported on an "as received" basis unless noted differently.
3) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.
4) The test results for the noted analytical method(s) meet the requirements of NELAC. Lab Cert. ID# 100201
5) According to 40CFR Part 136.3, pH, Chlorine Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.

Glossary of flags, qualifiers and abbreviations (any number of which may appear in the report)

Inorganic Qualifiers (Q-Column)

U	Analyte was not detected at or above the stated limit.
<	Not detected at or above the reporting limit.
J	Result is less than the RL, but greater than or equal to the method detection limit.
B	Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
S	Result was determined by the Method of Standard Additions.
F	AFCEE: Result is less than the RL, but greater than or equal to the method detection limit.

Inorganic Flags (Flag Column)

-	ICV,CCV,ICB,CCB,ISA,ISB,CRI,CRA,MRL: Instrument related QC exceed the upper or lower control limits.
*	LCS, LCD, MD: Batch QC exceeds the upper or lower control limits.
+	MSA correlation coefficient is less than 0.995.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
E	SD: Serial dilution exceeds the control limits.
H	MB, EB1, EB2, EB3: Batch QC is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
N	MS, MSD: Spike recovery exceeds the upper or lower control limits.
W	AS(GFAA) Post-digestion spike was outside 85-115% control limits.

Organic Qualifiers (Q - Column)

U	Analyte was not detected at or above the stated limit.
ND	Compound not detected.
J	Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
Q	Result was qualitatively confirmed, but not quantified.
C	Pesticide identification was confirmed by GC/MS.
Y	The chromatographic response resembles a typical fuel pattern.
Z	The chromatographic response does not resemble a typical fuel pattern.
E	Result exceeded calibration range, secondary dilution required.
F	AFCEE:Result is an estimated value below the reporting limit or a tentatively identified compound (TIC)

Organic Flags (Flags Column)

B	MB: Batch QC is greater than reporting limit.
*	LCS, LCD, ELC, ELD, CV, MS, MSD, Surrogate: Batch QC exceeds the upper or lower control limits.
-	EB1, EB2, EB3, MLE: Batch QC is greater than reporting Limit
A	Concentration exceeds the instrument calibration range
a	Concentration is below the method Reporting Limit (RL)
B	Compound was found in the blank and sample.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
H	Alternate peak selection upon analytical review
I	Indicates the presence of an interfence, recovery is not calculated.
M	Manually integrated compound.
P	The lower of the two values is reported when the % difference between the results of two GC columns is

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greater than 25%.

Abbreviations

AS	Post Digestion Spike (GFAA Samples - See Note 1 below)
Batch	Designation given to identify a specific extraction, digestion, preparation set, or analysis set
CAP	Capillary Column CCB Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Confirmation analysis of original
C1	Confirmation analysis of A1 or D1
C2	Confirmation analysis of A2 or D2
C3	Confirmation analysis of A3 or D3
CRA	Low Level Standard Check - GFAA; Mercury
CRI	Low Level Standard Check - ICP
CV	Calilbration Verification Standard
Dil Fac	Dilution Factor - Secondary dilution analysis
D1	Dilution 1
D2	Dilution 2
D3	Dilution 3
DLFac	Detection Limit Factor
DSH	Distilled Standard - High Level
DSL	Distilled Standard - Low Level
DSM	Distilled Standard - Medium Level
EB1	Extraction Blank 1
EB2	Extraction Blank 2
EB3	DI Blank
ELC	Method Extracted LCS
ELD	Method Extracted LCD
ICAL	Initial calibration
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
ISA	Interference Check Sample A - ICAP
ISB	Interference Check Sample B - ICAP
Job No.	The first six digits of the sample ID which refers to a specific client, project and sample group
	Lab ID An 8 number unique laboratory identification
LCD	Laboratory Control Standard Duplicate
LCS	Laboratory Control Standard with reagent grade water or a matrix free from the analyte of interest
MB	Method Blank or (PB) Preparation Blank
MD	Method Duplicate
MDL	Method Detection Limit
MLE	Medium Level Extraction Blank
MRL	Method Reporting Limit Standard
MSA	Method of Standard Additions
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not Detected
PREPF	Preparation factor used by the Laboratory's Information Management System (LIMS)
PDS	Post Digestion Spike (ICAP)
RA	Re-analysis of original
A1	Re-analysis of D1
A2	Re-analysis of D2
A3	Re-analysis of D3
RD	Re-extraction of dilution
RE	Re-extraction of original
RC	Re-extraction Confirmation
RL	Reporting Limit
RPD	Relative Percent Difference of duplicate (unrounded) analyses
RRF	Relative Response Factor
RT	Retention Time

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RTW	Retention Time Window Sample ID A 9 digit number unique for each sample, the first six digits are referred as the job number
SCB	Seeded Control Blank
SD	Serial Dilution (Calculated when sample concentration exceeds 50 times the MDL)
UCB	Unseeded Control Blank
SSV	Second Source Verification Standard
SLCS	Solid Laboratory Control Standard(LCS)
PHC	pH Calibration Check LCSP pH Laboratory Control Sample
LCDP	pH Laboratory Control Sample Duplicate
MDPH	pH Sample Duplicate
MDFP	Flashpoint Sample Duplicate
LCFP	Flashpoint LCS
G1	Gelex Check Standard Range 0-1
G2	Gelex Check Standard Range 1-10
G3	Gelex Check Standard Range 10-100
G4	Gelex Check Standard Range 100-1000

Note 1: The Post Spike Designation on Batch QC for GFAA is designated with an "S" added to the current abbreviation used. EX. LCS S=LCS Post Spike (GFAA); MSS=MS Post Spike (GFAA)

Note 2: The MD calculates an absolute difference (A) when the sample concentration is less than 5 times the reporting limit. The control limit is represented as +/- the RL.

Report To: Bill To: Shaded Areas For Internal Use Only ____ of ____

SEVERN TRENT STL

TL Chicago
117 Bond Street
niversity Park, IL 60466
ione: 708-534-5200
x: 708-534-5211

Contact: Sean Chisek
Company: Andrews Engineering
Address: 3535 Mayflower Blvd.
Springfield, IL 62707
Phone: (217) 787-2334
Fax: (217) 787-9495
E-Mail: schisek@andrews-eng.com

Contact: Mike Reed
Company: Midwest Generation
Address: 13082 E. Manito Rd
Pekin IL 61554
Phone: (309) 477-5289
Fax:
PO#: Quote:

Lab Lot# 226535

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No

Temperature °C of Cooler: 4.1, 3.6

Within Hold Time / Preserv. Indicated: Yes No — Yes No NA
pH Check OK: Yes No NA — Res Cl_2 Check OK: Yes No NA
Sample Labels and COC Agree: Yes No — COC not present

Sampler Name: SEAN CHISEK
Signature: Sean Chisek
Project Name: NWGen
Project Number:
Project Location: Basin
Lab PM:
Date Required
Hard Copy: ___/___/___
Fax: ___/___/___

Refrg #												
# / Cont.												
Volume												
Preserv												

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	Full TCLP	pH	ignitability	reactivity	reactive CN	PCBs	Neutral leach total metals				Additional Analyses / Remarks
1		TP-23	5/6/04	0840	SO	6		X	X	X	X	X					
2		TP-12	5/6/04	0911	SO	6		X	X	X	X	X					
3		TP-27	5/6/04	1057	SO	6		X	X	X	X	X					
4	X	TP-15	5/6/04	1121	SO	6		X	X	X	X	X					
5		TP-16	5/6/04	1259	SO	6		X	X	X	X	X					
6		FS-01	5/6/04	1328	SO	6		X	X	X	X	X					
7		FS-02	5/6/04	1332	SO	6		X	X	X	X	X					
8		TP-29	5/6/04	1355	SO	6		X	X	X	X	X					
9		SFA-01	5/6/04	1417	SO	6		X	X	X	X	X					
10		TP-03	5/6/04	1452	SO	6		X	X	X	X	X					
11		TP-19	5/6/04	1531	SO	6		X	X	X	X	X					
12		TP-19	5/6/04	1533	SO	6	X						X				

RELINQUISHED BY: ~~Sean Chisek~~ Sean Chisek COMPANY: Andrews Eng DATE: 5/6/04 TIME: ~~1745~~
RELINQUISHED BY: COMPANY: DATE: TIME:

RECEIVED BY: COMPANY: DATE: TIME:
RECEIVED BY: COMPANY: DATE: TIME:

Matrix Key
W = Wastewater, SE = Sediment
= Water, SO = Solid
= Soil, DS = Drum Solid
= Sludge, DL = Drum Liquid
S = Miscellaneous, L = Leachate
= Oil, WI = Wipe
= Air, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS

Date Received 5.7.04
Courier: FX Hand Delivered ☐
Bill of Lading

STL Chicago is a part of Severn Trent Laboratories, Inc.

STL-8208 (0600)

MWG13-15_11491

Report To: Bill To: Shaded Areas For Internal Use Only ____ of ____

SEVERN TRENT **STL**

STL Chicago
17 Bond Street
University Park, IL 60466
Phone: 708-534-5200
Fax: 708-534-5211

Contact: Sean Chisek	Contact: Mike Reed
Company: Andrews Engineering	Company: Midwest Generation
Address: 3535 Mayflower Blvd	Address: 13082 E. Manito Rd
Springfield, IL 62707	Pekin, IL 61554
Phone: (217) 787-2334	Phone: (309) 477-5289
Fax: (217) 787-9495	Fax:
E-Mail: schisek@andrews-eng.com	PO#: Quote:

Lab Lot# 226535

Package Sealed Yes / No	Samples Sealed Yes / No
Received on Ice Yes / No	Samples Intact Yes / No
Temperature °C of Cooler 4.1 3.6	

Sampler Name: SEAN CHISEK
Signature: Sean Chisek
Project Name: MWGEN
Project Number:
Project Location: BASIN
Lab PM:
Date Required Hard Copy: ___/___/___ Fax: ___/___/___

Within Hold Time Yes / No — Preserv. Indicated Yes / No / NA
pH Check OK Yes / No / NA — Res Cl_2 Check OK Yes / No / NA
Sample Labels and COC Agree Yes / No — COC not present

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	Comp/Grab	Full TCLP	Neutral leach Metals (total)	Additional Analyses / Remarks
1		TP-23	5/6/04	0838	SO	G	X	X	
2		TP-12	5/6/04	0905	SO	G	X	X	
3		~~TP-25~~	~~5/6/04~~				*		
4	X	TP-27	5/6/04	1055	SO	G	X	X	
5		TP-15	5/6/04	1117	SO	G	X	X	
6		TP-16	5/6/04	1257	SO	G	X	X	
7		FS-01	5/6/04	1320	SO	G	X	X	
8		FS-02	5/6/04	1323	SO	G	X	X	SEND TO SET
9		TP-29	5/6/04	1353	SO	G	X	X	
10		SEA-1	5/6/04	1411	SO	G	X	X	SEND TO SET
11		TP-03	5/6/04	1450	SO	G	X	X	

RELINQUISHED BY: Sean Chisek / SEAN CHISEK — COMPANY: Andrews Eng — DATE: 5/6/04 — TIME: 1745
RECEIVED BY: [signature] — COMPANY: STL — DATE: 5-7-04 — TIME: 0910
RELINQUISHED BY — COMPANY — DATE — TIME
RECEIVED BY — COMPANY — DATE — TIME

Matrix Key
= Wastewater; = Water; = Soil; = Sludge; = Miscellaneous; = Oil; = Air
SE = Sediment; SO = Solid; DS = Drum Solid; DL = Drum Liquid; L = Leachate; WI = Wipe; O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS

Date Received 5/7/04
Courier: fx — Hand Delivered ☐
Bill of Lading

MWG13-15_11492

Exhibit D8

PATRICK
ENGINEERING

October 21, 2011

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Subject: Quarterly Groundwater Monitoring Results – Third Quarter 2011
Powerton Generating Station – Bypass Cleaning Basin
Water Pollution Control Permit No. 2010-EB-0664

Reference: Patrick Project No. 21153.018

To Whom It May Concern:

Patrick Engineering Inc. (Patrick) has prepared this letter report, on behalf of Midwest Generation, LLC, to provide groundwater monitoring results associated with the Powerton Generating Facility located at 13082 East Manito Road in Pekin, Illinois. Groundwater is monitored quarterly in the vicinity of the bypass cleaning basin at this facility in three monitoring wells in accordance with requirements of Illinois Environmental Protection Agency (Illinois EPA) Water Pollution Control Permit No. 2010-EB-0664.

MONITORING WELL INSTALLATION

In accordance with the permit referenced above, three monitoring wells (MW-9, MW-11, and MW-12) have been installed in the vicinity of the bypass cleaning basin. The locations of these wells were selected so that at least one of the monitoring wells (MW-09) was installed downgradient of the basin, based upon available data regarding the expected groundwater flow direction. Figure 1 shows the location of the three monitoring wells. Drilling logs and well completion reports have been included as Attachment A.

GROUNDWATER SAMPLING

Prior to collecting groundwater samples from the three wells noted above, a number of field measurements were collected from each well location, including groundwater elevation, temperature, conductivity, and pH. Groundwater elevation data is summarized in Table 1. Other field parameter data is provided in Table 2.

On September 19, 2011, groundwater samples were collected from each of the three on-site monitoring wells, either using disposable polyethylene bailers (MW-11), or by the direct use of a peristaltic pump (for MW-9 and MW-12). Each well was purged until at least three well volumes had been extracted, or until the groundwater was observed to be clear. Groundwater was pumped or bailed into a decontaminated, stainless steel container and thereafter transferred to sample containers via peristaltic pump. All groundwater samples were filtered in the field using

a disposable, 0.45µm, in-line filter to allow for the analytical testing of dissolved compounds. The samples were immediately placed on ice in a cooler and kept at a temperature no higher than 4° F. The samples were transported to PDC Laboratories, an Illinois-EPA accredited analytical laboratory, in accordance with chain-of-custody procedures to maintain sample integrity.

ANALYTICAL RESULTS

The groundwater samples were analyzed for all of the inorganic compounds listed in 35 Illinois Administrative Code (IAC) 620.410(a) and 620.410(d), including radium 226/228. Analytical results (both current and historical) are summarized in Table 3. Laboratory analytical reports provided by PDC Laboratories are provided as Attachment B.

In accordance with Water Pollution Control Permit No. 2010-EB-0664, these three wells will continue to be sampled and reported on a quarterly basis for at least one year to establish a statistically valid representation of existing background conditions.

If you have any questions, please contact me at 630-795-7464.

Sincerely,

PATRICK ENGINEERING INC.

Richard M. Frendt, P.E
Senior Project Manager

RMF/DCM
Enclosures: Figure 1: Monitoring Well Location Map
Table 1: Groundwater Elevation Data
Table 2: Field Parameter Data
Table 3: Groundwater Analytical Results
Attachment A: Boring Logs/Well Completion Reports
Attachment B: Laboratory Analytical Results

FIGURE 1

MONITORING WELL LOCATION MAP



LEGEND

MW-01 Existing Monitoring Well Location

N

1" = 600'

AERIAL IMAGE SOURCE:
2005 ORTHOPHOTO TAKEN FROM THE ILLINOIS NATURAL RESOURCES CLEARINGHOUSE

Date: SEPT. 2011	EXISTING MONITORING WELL LOCATION MAP Bypass Basin Map	PATRICK ENGINEERING INC.
Proj No.: 21153.018	POWERTON STATION PEKIN, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_4091

TABLE 1

GROUNDWATER ELEVATION DATA

Table 1
BYPASS BASIN
GROUNDWATER ELEVATION DATA
Powerton Station, Pekin, Illinois
Midwest Generation
21153.018

PATRICK ENGINEERING	Groundwater Elevation Data							
Monitoring Well	**Date**	**Water Elevation (Feet)**	**Depth to Water Pre-Sampling (Feet bmp)**	**Depth to Water Post Sampling (Feet bmp)**	**Water Elevation Post Sampling (bmp)**	**Depth to Bottom of Well (Feet)**	**Ground Elevation (Feet)**	**Top of Riser Elevation (Feet)**
MW-09	2/15/2011	443.416	25.77	25.80	443.386	35.13	466.214	469.186
	6/16/2011	449.306	19.88	19.89	449.296	35.13	466.214	469.186
	9/19/2011	443.636	25.55	25.55	443.636	35.13	466.214	469.186
MW-11	2/15/2011	440.779	30.81	30.82	440.769	43.65	468.074	471.589
	6/16/2011	448.199	23.39	23.40	448.189	43.65	468.074	471.589
	9/19/2011	440.489	31.10	31.10	440.489	43.65	468.074	471.589
MW-12	2/15/2011	450.390	22.99	23.01	450.370	32.57	469.999	473.380
	6/16/2011	451.180	22.20	22.20	451.180	32.57	469.999	473.380
	9/19/2011	449.880	23.50	23.50	449.880	32.57	469.999	473.380

Notes:
- Elevations are leveled from site control points per Drawing "Control Network, IL State Plane (West Zone) Powerton Station" revised 10/22/2010

-Elevations are shown in feet

bmp -below monitoring point

TABLE 2

FIELD PARAMETER DATA

Table 2
BYPASS BASIN
FIELD PARAMETER DATA
Powerton Station, Pekin, Illinois
Midwest Generation
21153.018

Groundwater Field Paramter Data - Powerton Station					
Monitoring Well	**Date**	**Time**	**Conductance (S/cm)***	**Temperature °C**	**pH**
MW-09	2/15/2011	11:20	0.782	12.71	7.62
	2/15/2011	11:22	0.777	12.82	7.42
	2/15/2011	11:24	0.774	13.04	7.43
	2/15/2011	11:26	0.771	13.21	7.36
	2/15/2011	11:28	0.774	13.29	7.29
	2/15/2011	11:30	0.776	13.47	7.24
MW-09	6/16/2011	13:30	0.85	16.28	7.63
	6/16/2011	13:32	0.85	14.96	7.34
	6/16/2011	13:34	0.84	14.78	7.24
	6/16/2011	13:36	0.84	14.73	7.16
	6/16/2011	13:38	0.84	14.61	7.11
	6/16/2011	13:40	0.84	14.51	7.10
MW-09	9/19/2011	13:30	0.66	14.46	7.41
	9/19/2011	13:32	0.66	14.38	7.35
	9/19/2011	13:34	0.66	14.23	7.34
	9/19/2011	13:36	0.66	14.12	7.33
	9/19/2011	13:38	0.66	14.11	7.32
	9/19/2011	13:40	0.66	14.08	7.32
MW-11	2/15/2011	9:42	1.14	13.66	7.13
MW-11	6/16/2011	14:32	1.46	17.97	7.32
	6/16/2011	14:34	1.45	17.75	7.14
	6/16/2011	14:36	1.45	17.67	7.08
	6/16/2011	14:38	1.44	17.66	7.04
	6/16/2011	14:40	1.44	17.48	7.03
	6/16/2011	14:42	1.44	17.58	7.02
MW-11	9/19/2011	16:14	0.85	14.67	7.31
MW-12	2/15/2011	10:24	1.66	13.88	7.49
	2/15/2011	10:26	1.66	16.33	7.51
	2/15/2011	10:28	1.66	16.44	7.51
	2/15/2011	10:30	1.67	16.70	7.51
	2/15/2011	10:23	1.66	16.73	7.51
	2/15/2011	10:34	1.66	16.77	7.51
MW-12	6/16/2011	15:14	1.65	19.33	7.41
	6/16/2011	15:16	1.65	18.94	7.28
	6/16/2011	15:18	1.63	18.70	7.04
	6/16/2011	15:20	1.62	18.79	6.94
	6/16/2011	15:22	1.63	18.66	6.95
	6/16/2011	15:24	1.63	18.77	6.98
MW-12	9/19/2011	16:48	1.35	18.02	7.71
	9/19/2011	16:50	1.34	17.87	7.67
	9/19/2011	16:52	1.34	17.71	7.65
	9/19/2011	16:54	1.34	17.73	7.65
	9/19/2011	16:56	1.34	17.75	7.66
	9/19/2011	16:58	1.34	17.75	7.66

Notes:

* (S/cm) - specific conductivity measured in Siemens/Centimeters

°C - degrees Celcius

TABLE 3

GROUNDWATER ANALYTICAL RESULTS

Table 3
BYPASS BASIN
GROUNDWATER ANALYTICAL RESULTS
Powerton Station, Illinois
Midwest Generation
21153.018

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L) Class I*	MW-9 (mg/L) 12/15/10	MW-9 (mg/L) 2/15/11	MW-9 (mg/L) 9/19/11	MW-9 (mg/L) 6/16/11	MW-11 (mg/L) 12/16/10	MW-11 (mg/L) 2/15/11	MW-11 (mg/L) 9/19/11	MW-11 (mg/L) 6/16/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	ND	ND	ND	0.0017	0.0021	0.0025	0.0016	0.0019
Barium	Metals 6020	2.0	0.038	0.042	0.03	0.038	0.17	0.11	0.11	0.18
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	0.0028	0.0041	ND	0.0024
Copper	Metals 6020	0.65	ND	ND	ND	ND	0.0032	0.0032	ND	0.0043
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	0.19	ND	ND	0.44	0.01	0.018	0.029
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**0.19**	**0.43**	**0.14**	**0.48**	**3.2**	**3.6**	**2.2**	**2.9**
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.001	0.011	0.0065	0.0063	0.019	0.016	0.011	0.013
Selenium	Metals 6020	0.05	0.005	ND	0.0043	0.0017	0.0026	0.0015	0.004	0.0018
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	0.0082	ND	ND	ND	0.012	ND	ND	ND
Boron	Metals 6020	2	**2.2**	1.9	**2.5**	1.9	1.6	1.8	1.5	1.6
Sulfate	Dissolved 9038	400	110	99	130	110	170	160	140	210
Chloride	Dissolved 9251	200	25	33	30	28	70	66	53	120
Nitrate as N	Nitrogen By calc	10	2.7	3.7	3.7	5.6	0.41	0.17	0.78	0.04
Total Dissolved Solids	Dissolved 2540C	1,200	510	470	500	540	740	710	620	930
Fluoride	Dissolved 4500 FC	4	ND	0.32	0.25	0.34	0.53	0.56	0.58	0.67
Radium 226 (pCi/L)	EPA 903.1	20	0.673	0.728	0.117	0.955	0.445	0.174	0.332	0.929
Radium 228 (pCi/L)	EPA 904.0	20	0.941	0.983	0.553	0.974	0.915	0.967	0.355	0.914

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
mg/L- milligrams per Liter

Table 3
BYPASS BASIN
GROUNDWATER ANALYTICAL RESULTS
Powerton Station, Illinois
Midwest Generation
21153.018

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L) Class I*	MW-12 (mg/L) 12/15/10	MW-12 (mg/L) 2/15/11	MW-12 (mg/L) 6/16/11	MW-12 (mg/L) 9/19/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.0088	0.013	0.0064	0.0087
Barium	Metals 6020	2.0	0.089	0.11	0.091	0.085
Beryllium	Metals 6020	0.004	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	0.0056	0.0044	0.0071
Cobalt	Metals 6020	1.0	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	0.0032	0.0036
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND
Iron	Metals 6020	5.0	**5.5**	**6.3**	**5.6**	4
Lead	Metals 6020	0.0075	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**0.32**	**0.58**	**0.26**	**0.37**
Mercury	Mercury 7470A	0.002	**0.0096**	ND	ND	ND
Nickel	Metals 6020	0.1	0.0026	0.01	0.0072	0.0075
Selenium	Metals 6020	0.05	ND	0.0027	ND	0.0023
Silver	Metals 6020	0.05	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND
Boron	Metals 6020	2	1.6	1.4	1.3	1.2
Sulfate	Dissolved 9038	400	290	270	350	360
Chloride	Dissolved 9251	200	170	180	180	190
Nitrate as N	Nitrogen By calc	10	ND	ND	0.14	ND
Total Dissolved Solids	Dissolved 2540C	1,200	980	1,000	1,100	970
Fluoride	Dissolved 4500 FC	4	0.71	0.61	0.64	0.74
Radium 226 (pCi/L)	EPA 903.1	20	0.617	0.207	0.893	0.373
Radium 228 (pCi/L)	EPA 904.0	20	0.97	0.973	0.956	0.859

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
mg/L- milligrams per Liter

ATTACHMENT A

BORING LOGS / WELL COMPLETION REPORTS

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-9-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **466.2**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
466.2	0.0		Black cinders, fine gravel, crushed rock, dry FILL	SS-1 1.0-2.5			
				SS-2 3.5-5.0			Bentonite seal 3.0'-20.0'. Stickup protective cover installed.
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
456.2	10.0		Black cinders, coarse to fine sand, brick, fine gravel, dry FILL	SS-5 11.0-12.5 14"R	6 12 15		qu=NT
				SS-6 13.5-15.0 18"R	5 6 7		qu=NT
				SS-7 16.0-17.5 18"R	6 9 10		qu=NT
449.2	17.0		Moist Brown clayey silt, trace fine sand, moist CL				
447.2	19.0		Light brown fine to medium sand, loose, well graded	SS-8 18.5-20.0 18"R	3 6 11		qu=NT

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/28/10** ENDED **9/28/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **23.5**
▼ **21.6**
▼

MWG13-15_4100

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-9-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **466.2**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
446.2	20.0		SW				Sand pack 20.0'-32.0'
444.6	21.6		▼	SS-9 21.0-22.5 18"R	3 3 4		Set screen (slot 0.010") 22.0'-32.0'
442.7	23.5		▽ Saturated	SS-10 23.5-25.0 18"R	1 3 8		
				SS-11 26.0-27.5 18"R	0 2 2		
			Medium dense	SS-12 28.5-30.0 18"R	2 6 13		
			Trace fine gravel	SS-13 31.0-32.5 18"R	2 5 10		
433.7	32.5		End of Boring at 32.5'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/28/10** ENDED **9/28/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **23.5**
▼ **21.6**
▼

MWG13-15_4101

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-11-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **468.1**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
468.1	0.0		Cinders, gravel, sand, silt FILL				
				SS-1 1.0-2.5			
							Bentonite seal 3.0'-28.0'. Stickup protective cover installed.
				SS-2 3.5-5.0			
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
458.1	10.0		Black and brown clay, fine gravel, cinders, bricks, silt, coarse sand, dry FILL				
				SS-5 11.0-12.5 16"R	8 10 10		qu=NT
				SS-6 13.5-15.0 17"R	2 2 3		qu=2.5**tsf
452.1	16.0		Brown and gray silty clay, trace fine gravel, trace fine sand, stiff, dry CL	SS-7 16.0-17.5 18"R	1 3 4		qu=1.5**tsf
449.6	18.5		Gray clayey silt, organics, very soft, moist ML	SS-8 18.5-20.0 18"R	WOH 2 2		qu=0.5**tsf

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/28/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **32.5** while drilling
▼ **26.5** after 12 hours
▼ **26.5** after 48 hours

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-11-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **468.1**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) * (1 2 3 4 5)	NOTES & TEST RESULTS
				SS-9 21.0-22.5 0"R	1 2 3		qu=NT
				SS-10 23.5-25.0 18"R	WOH WOH 1		qu=0.5**tsf
442.1	26.0						
441.6	26.5		▼ Dark gray silty clay, some organics, medium stiff, dry CL	SS-11 26.0-27.5 18"R	1 3 4		qu=1.5**tsf
				SS-12 28.5-30.0 18"R	3 4 6		Sand pack 28.0'-40.0' qu=2.5**tsf
							Set screen (slot 0.010") 30.0'-40.0'
				SS-13 31.0-32.5 18"R	3 4 6		qu=2.5**tsf
~~435.6~~	~~32.5~~		▽				
			Brown and gray coarse to fine gravel, coarse to fine sand, loose, saturated GP				
				SS-14 33.5-35.0 18"R	1 2 1		qu=NT
431.6	36.5			SS-15 36.0-37.5 18"R	1 0 0		qu=NT
			Light brown fine sand, well graded, very loose, saturated SW				
				SS-16 38.5-40.0 18"R	2 3 4		qu=NT
428.1	40.0		End of Boring at 40.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/28/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **32.5** while drilling
▼ **26.5** after 12 hours
▼ **26.5** after 48 hours

MWG13-15_4103

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-12-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **470.0**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) (1 2 3 4 5)	NOTES & TEST RESULTS
470.0	0.0		Black cinders, fine gravel, silty clay, dry FILL				
				SS-1 1.0-2.5			
							Bentonite seal 3.0'-18.0'. Stickup protective cover installed.
				SS-2 3.5-5.0			
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
460.0	10.0		Black cinders FILL				
				SS-5 11.0-12.5 18"R	17 18 11		qu=NT
				SS-6 13.5-15.0 18"R	12 20 17		qu=NT
			Seam of l ight brown coarse sand	SS-7 16.0-17.5 18"R	6 7 6		qu=NT
451.5	18.5						Sand pack 18.0'-35.0' qu=NT Set screen (slot 0.010") 19.0'-29.0'
450.5	19.5		▼ Gray silt, little to some coarse to fine sand, trace clay, very soft, saturated	SS-8 18.5-20.0 18"R	1 5 2		

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/29/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **20.5**
▼ **19.5**
▼

MWG13-15_4104

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-12-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **470.0**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL LL / Unconfined Compressive Strength (TSF)	NOTES & TEST RESULTS
450.0 449.5	20.0 20.5		▽ ML				
				SS-9 21.0-22.5 18"R	1 2 1		qu=0.25**tsf
			Trace peat	SS-10 23.5-25.0 18"R	WOH 2 1		qu=0.5**tsf
444.0	26.0		Gray mottled black clayey silt, with some organics, trace peat, very soft, medium stiff, moist OH	SS-11 26.0-27.5 18"R	WOH WOH 2		qu=0.5**tsf
				SS-12 28.5-30.0 18"R	1 3 4		qu=1.75**tsf
				SS-13 31.0-32.5 18"R	2 3 3		qu=2.0**tsf
437.5	32.5		Dark brown and gray silty clay, trace coarse sand, trace organics, stiff to very stiff, dry CL				
				SS-14 33.5-35.0 18"R	4 6 6		qu=2.5**tsf
435.0	35.0		End of Boring at 35.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/29/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **20.5**
▼ **19.5**
▼

MWG13-15_4105

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 32

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 32 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	9		3	20	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	20	32

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 28, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-09

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 28, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NE Quarter of the SE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 32.3 N

Lon: Degrees 89 Minutes 40 Seconds 34.4 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	22

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	22	32

24. Water from sand at a depth of (ft.) 19 To (ft.) 32

a. Static water level (ft.) below top of casing 21.6 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
gravel, crushed rock, cinders	0	10
cinders, sand, brick	10	17
clayey silt	17	19
sand	19	32

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_4106

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well:** Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well:** Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well:** PVC Casing Formation Packer Set at Depth of (ft.) 40

d. **Drilled Well:** Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 40 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	12		3	28	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	28	40

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 28, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____

Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-11

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 28, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. SW Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 35.2 N

Lon: Degrees 89 Minutes 40 Seconds 33.2 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	30

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	30	40

24. Water from sand and gravel at a depth of (ft.) 32.5 To (ft.) 40

a. Static water level (ft.) below top of casing 26.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
gravel, sand, cinders	0	10
clay and gravel	10	16
silt and clay	16	20
organic silt	20	26
silty clay	26	32.5
sand and gravel	32.5	40

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____

Licensed Water Well Contractor Signature

MWG13-15_4107

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well:** Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well:** Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well:** PVC Casing Formation Packer Set at Depth of (ft.) 29

d. **Drilled Well:** Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 29 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	6		3	18	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	18	29

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 29, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-12

14. Driller: _____ License # _____

15. Name of Drilling Company: Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 29, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. SE Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 34.2 N

Lon: Degrees 89 Minutes 40 Seconds 35.7 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	19

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	19	29

24. Water from silt and sand at a depth of (ft.) 20 To (ft.) 26

a. Static water level (ft.) below top of casing 19.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
cinders, gravel, clay	0	10
cinders	10	18.5
silt and sand	18.5	26
clayey silt	26	29

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_4108

ATTACHMENT B

LABORATORY ANALYTICAL RESULTS

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 09/20/11 7:00
Report Date: 10/17/11
Customer #: 233203
PO#: 4500073039

Sample No: **1091955-08**
Sample Description: **WELL #8**

Collect Date: **09/19/11 17:55**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Mercury	< 0.20 ug/L		09/20/11 15:19	JMW	SW 6020
Nickel	7.0 ug/L		09/20/11 15:19	JMW	SW 6020
Selenium	3.1 ug/L		09/21/11 08:10	JMW	SW 6020
Silver	< 5.0 ug/L		09/20/11 15:19	JMW	SW 6020
Thallium	< 1.0 ug/L		09/20/11 15:19	JMW	SW 6020
Zinc	< 6.0 ug/L		09/20/11 15:19	JMW	SW 6020

Sample No: **1091955-09**
Sample Description: **WELL #9**

Collect Date: **09/19/11 13:40**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		09/26/11 10:12	lgtth	335.4
Solids - total dissolved solids (TDS)	500 mg/L		09/26/11 10:28	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	30 mg/L		09/21/11 17:33	SJW	EPA 300.0 R2.1
Fluoride	0.25 mg/L		09/21/11 16:44	SJW	EPA 300.0 R2.1
Nitrate-N	3.7 mg/L		09/21/11 17:33	SJW	EPA 300.0 R2.1
Sulfate	130 mg/L		09/21/11 17:49	SJW	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		09/20/11 15:41	JMW	SW 6020
Arsenic	< 1.0 ug/L		09/20/11 15:41	JMW	SW 6020
Barium	30 ug/L		09/20/11 15:41	JMW	SW 6020
Beryllium	< 1.0 ug/L		09/20/11 15:41	JMW	SW 6020
Boron	2500 ug/L		09/20/11 15:41	JMW	SW 6020
Cadmium	< 1.0 ug/L		09/20/11 15:41	JMW	SW 6020
Chromium	< 4.0 ug/L		09/20/11 15:41	JMW	SW 6020
Cobalt	< 2.0 ug/L		09/20/11 15:41	JMW	SW 6020
Copper	< 3.0 ug/L		09/20/11 15:41	JMW	SW 6020
Iron	< 0.010 mg/L		09/20/11 14:52	eck	SW 6010B
Lead	< 1.0 ug/L		09/20/11 15:41	JMW	SW 6020
Manganese	140 ug/L		09/20/11 15:41	JMW	SW 6020
Mercury	< 0.20 ug/L		09/20/11 15:41	JMW	SW 6020
Nickel	6.5 ug/L		09/20/11 15:41	JMW	SW 6020
Selenium	4.3 ug/L		09/21/11 08:32	JMW	SW 6020

1091955

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 09/20/11 7:00
Report Date: 10/17/11
Customer #: 233203
PO#: 4500073039

Sample No: **1091955-09**
Sample Description: **WELL #9**

Collect Date: **09/19/11 13:40**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Silver	< 5.0 ug/L		09/20/11 15:41	JMW	SW 6020
Thallium	< 1.0 ug/L		09/20/11 15:41	JMW	SW 6020
Zinc	< 6.0 ug/L		09/20/11 15:41	JMW	SW 6020

Sample No: **1091955-10**
Sample Description: **WELL #10**

Collect Date: **09/19/11 15:00**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		09/26/11 10:12	lgtth	335.4
Solids - total dissolved solids (TDS)	470 mg/L		09/26/11 10:28	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	49 mg/L		09/21/11 18:21	SJW	EPA 300.0 R2.1
Fluoride	< 0.25 mg/L		09/21/11 18:05	SJW	EPA 300.0 R2.1
Nitrate-N	4.5 mg/L		09/21/11 18:21	SJW	EPA 300.0 R2.1
Sulfate	64 mg/L		09/21/11 18:21	SJW	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		09/20/11 15:46	JMW	SW 6020
Arsenic	< 1.0 ug/L		09/20/11 15:46	JMW	SW 6020
Barium	250 ug/L		09/20/11 15:46	JMW	SW 6020
Beryllium	< 1.0 ug/L		09/20/11 15:46	JMW	SW 6020
Boron	420 ug/L		09/20/11 15:46	JMW	SW 6020
Cadmium	< 1.0 ug/L		09/20/11 15:46	JMW	SW 6020
Chromium	< 4.0 ug/L		09/20/11 15:46	JMW	SW 6020
Cobalt	2.5 ug/L		09/20/11 15:46	JMW	SW 6020
Copper	< 3.0 ug/L		09/20/11 15:46	JMW	SW 6020
Iron	< 0.010 mg/L		09/21/11 09:18	eck	SW 6010B
Lead	< 1.0 ug/L		09/20/11 15:46	JMW	SW 6020
Manganese	2300 ug/L		09/20/11 15:46	JMW	SW 6020
Mercury	< 0.20 ug/L		09/20/11 15:46	JMW	SW 6020
Nickel	10 ug/L		09/20/11 15:46	JMW	SW 6020
Selenium	5.7 ug/L		09/21/11 08:36	JMW	SW 6020
Silver	< 5.0 ug/L		09/20/11 15:46	JMW	SW 6020
Thallium	< 1.0 ug/L		09/20/11 15:46	JMW	SW 6020
Zinc	< 6.0 ug/L		09/20/11 15:46	JMW	SW 6020

1091955

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 09/20/11 7:00
Report Date: 10/17/11
Customer #: 233203
PO#: 4500073039

Sample No: **1091955-11**
Sample Description: **MW -11**

Collect Date: **09/19/11 16:15**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		09/26/11 10:13	lgtth	335.4
Solids - total dissolved solids (TDS)	620 mg/L		09/26/11 10:28	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	53 mg/L		09/21/11 19:25	SJW	EPA 300.0 R2.1
Fluoride	0.58 mg/L		09/21/11 18:37	SJW	EPA 300.0 R2.1
Nitrate-N	0.74 mg/L		09/21/11 18:37	SJW	EPA 300.0 R2.1
Sulfate	140 mg/L		09/21/11 19:25	SJW	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		09/20/11 15:52	JMW	SW 6020
Arsenic	1.6 ug/L		09/20/11 15:52	JMW	SW 6020
Barium	110 ug/L		09/20/11 15:52	JMW	SW 6020
Beryllium	< 1.0 ug/L		09/20/11 15:52	JMW	SW 6020
Boron	1500 ug/L		09/20/11 15:52	JMW	SW 6020
Cadmium	< 1.0 ug/L		09/20/11 15:52	JMW	SW 6020
Chromium	< 4.0 ug/L		09/20/11 15:52	JMW	SW 6020
Cobalt	< 2.0 ug/L		09/20/11 15:52	JMW	SW 6020
Copper	< 3.0 ug/L		09/20/11 15:52	JMW	SW 6020
Iron	0.018 mg/L		09/21/11 09:25	eck	SW 6010B
Lead	< 1.0 ug/L		09/20/11 15:52	JMW	SW 6020
Manganese	2200 ug/L		09/20/11 15:52	JMW	SW 6020
Mercury	< 0.20 ug/L		09/20/11 15:52	JMW	SW 6020
Nickel	11 ug/L		09/20/11 15:52	JMW	SW 6020
Selenium	4.0 ug/L		09/21/11 08:40	JMW	SW 6020
Silver	< 5.0 ug/L		09/20/11 15:52	JMW	SW 6020
Thallium	< 1.0 ug/L		09/20/11 15:52	JMW	SW 6020
Zinc	< 6.0 ug/L		09/20/11 15:52	JMW	SW 6020

Sample No: **1091955-12**
Sample Description: **MW -12**

Collect Date: **09/19/11 17:00**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		09/26/11 10:16	lgtth	335.4
Solids - total dissolved solids (TDS)	970 mg/L		09/26/11 10:28	BNS	SM 2540C 18Ed

1091955

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 09/20/11 7:00
Report Date: 10/17/11
Customer #: 233203
PO#: 4500073039

Sample No: **1091955-12**
Sample Description: **MW -12**

Collect Date: **09/19/11 17:00**
Matrix: **Ground Water**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Anions - PIA					
Chloride	190 mg/L		09/21/11 19:58	SJW	EPA 300.0 R2.1
Fluoride	0.74 mg/L		09/21/11 19:41	SJW	EPA 300.0 R2.1
Nitrate-N	< 0.02 mg/L		09/21/11 19:41	SJW	EPA 300.0 R2.1
Sulfate	360 mg/L		09/21/11 19:58	SJW	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		09/20/11 15:57	JMW	SW 6020
Arsenic	8.7 ug/L		09/20/11 15:57	JMW	SW 6020
Barium	85 ug/L		09/20/11 15:57	JMW	SW 6020
Beryllium	< 1.0 ug/L		09/20/11 15:57	JMW	SW 6020
Boron	1200 ug/L		09/20/11 15:57	JMW	SW 6020
Cadmium	< 1.0 ug/L		09/20/11 15:57	JMW	SW 6020
Chromium	7.1 ug/L		09/20/11 15:57	JMW	SW 6020
Cobalt	< 2.0 ug/L		09/20/11 15:57	JMW	SW 6020
Copper	3.6 ug/L		09/20/11 15:57	JMW	SW 6020
Iron	4.0 mg/L		09/21/11 09:40	eck	SW 6010B
Lead	< 1.0 ug/L		09/20/11 15:57	JMW	SW 6020
Manganese	370 ug/L		09/20/11 15:57	JMW	SW 6020
Mercury	< 0.20 ug/L		09/20/11 15:57	JMW	SW 6020
Nickel	7.5 ug/L		09/20/11 15:57	JMW	SW 6020
Selenium	2.3 ug/L		09/21/11 08:44	JMW	SW 6020
Silver	< 5.0 ug/L		09/20/11 15:57	JMW	SW 6020
Thallium	< 1.0 ug/L		09/20/11 15:57	JMW	SW 6020
Zinc	< 6.0 ug/L		09/20/11 15:57	JMW	SW 6020

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 09/20/11 7:00
Report Date: 10/17/11
Customer #: 233203
PO#: 4500073039

Notes

This report shall not be reproduced, except in full, without the written approval of the laboratory.

PDC Laboratories participates in the following accreditation/certification and proficiency programs at the following locations. Endorsement by Federal or State Governments or their agencies is not implied.

PIA PDC Laboratories - Peoria, IL
NELAC Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications: Kansas (E-10338); Missouri (870); Wisconsin (998284430); Indiana (C-IL-040); Iowa (240)
Wastewater Certifications: Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
Hazardous/Solid Waste Certifications; Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
UST Certification; Iowa (240)
SPM PDC Laboratories - Springfield, MO
EPA DMR-QA Program
STL PDC Laboratories - St. Louis, MO
NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS EPA Lab No. E-10389

Subcontract Report attached for Rad 226/228

Janet L. Clutters

Certified by: Janet L. Clutters, Project Manager

PDC LABORATORIES, INC.
2231 WEST ALTORFER DRIVE
PEORIA, IL 61615

PHONE # 800-752-6651
FAX # 309-692-9689

State where samples collected IL

CHAIN OF CUSTODY RECORD

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT) - (SAMPLE ACCEPTANCE POLICY ON REVERSE)

1 CLIENT	PROJECT NUMBER	P.O. NUMBER	MEANS SHIPPED
Patrick Eng.			
ADDRESS: 4995 Varsity Dr.	PHONE NUMBER	FAX NUMBER	DATE SHIPPED
CITY STATE ZIP: Lisle, IL 60532	SAMPLER (PLEASE PRINT): Justin Jessoyne		MATRIX TYPES: WW-WASTEWATER, DW-DRINKING WATER, GW-GROUND WATER, WWSL-SLUDGE, NAS-SOLID, LCHT-LEACHATE, OTHER:
CONTACT PERSON: Doyle McCord	SAMPLER'S SIGNATURE:		

2 SAMPLE DESCRIPTION AS YOU WANT ON REPORT	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE GRAB / COMP	MATRIX TYPE	BOTTLE COUNT	3 ANALYSIS REQUESTED: Dissolved Metals	Cyanide	CE, F, NO3, Sol'd Diss	Total Diss. Solids	Radium 226/228	REMARKS
MW-1	9/19/11	1405		GW	4	X	X	X	X		
MW-2		0930									
MW-3		1010									
MW-4		1050									
MW-5		1130									
MW-6		1320									
MW-7		1230									
MW-8		1755									
MW-9		1340			5					X	
MW-10		1500			4						
MW-11		1615			5					X	
MW-12		1700			5					X	

4 (FOR LAB USE ONLY)
LOGIN # 109155-13
LOGGED BY: LM
LAB PROJ. #:
TEMPLATE: Midwest Gen - Pond
PROJ. MGR.:
Oct. 2011

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH DATE RESULTS NEEDED
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE E-MAIL
FAX # PHONE # EMAIL ADDRESS

8 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.*

7	RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME
		9/19/11 1700		
	RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED BY: (SIGNATURE)	DATE / TIME
	RELINQUISHED BY: (SIGNATURE)	DATE / TIME	RECEIVED AT LAB BY: (SIGNATURE) Valerie Bennett	9/20/11 7:00

6 COMMENTS: (FOR LAB USE ONLY)

SAMPLE TEMPERATURE UPON RECEIPT 1.1 °C
CHILL PROCESS STARTED PRIOR TO RECEIPT (Y) OR N
SAMPLE(S) RECEIVED ON ICE (Y) OR N
PROPER BOTTLES RECEIVED IN GOOD CONDITION (Y) OR N
BOTTLES FILLED WITH ADEQUATE VOLUME (Y) OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) (Y) OR N
(EXCLUDES TYPICAL FIELD PARAMETERS)
DATE AND TIME TAKEN FROM SAMPLE BOTTLE

Copies: white should accompany samples to PDC Labs. Yellow copy to be retained by the client.

PAGE ____ OF ____

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

October 17, 2011

Ms. Janet Clutters
PDC Laboratories
2231 W. Altorfer Drive
Peoria, IL 61615

RE: Project: 1091955
Pace Project No.: 3054614

Dear Ms. Clutters:
Enclosed are the analytical results for sample(s) received by the laboratory on September 28, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Carin A. Ferris

Carin Ferris

carin.ferris@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: 1091955
Pace Project No.: 3054614

Pennsylvania Certification IDs
1638 Roseytown Road Suites 2,3&4, Greensburg, PA 15601
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/NELAC Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH 0694
Delaware Certification
Florida/NELAC Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/NELAC Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/NELAC Certification #: LA080002
Louisiana/NELAC Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/NELAC Certification #: 2976
New Jersey/NELAC Certification #: PA 051
New Mexico Certification
New York/NELAC Certification #: 10888
North Carolina Certification #: 42706
Oregon/NELAC Certification #: PA200002
Pennsylvania/NELAC Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/NELAC Certification #: T104704188-09 TX
Utah/NELAC Certification #: ANTE
Virgin Island/PADEP Certification
Virginia Certification #: 00112
Washington Certification #: C1941
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

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SAMPLE SUMMARY

Project: 1091955
Pace Project No.: 3054614

Lab ID	Sample ID	Matrix	Date Collected	Date Received
3054614001	1091955-09	Water	09/19/11 13:40	09/28/11 09:00
3054614002	1091955-11	Water	09/19/11 16:15	09/28/11 09:00
3054614003	1091955-12	Water	09/19/11 17:00	09/28/11 09:00

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SAMPLE ANALYTE COUNT

Project: 1091955
Pace Project No.: 3054614

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
3054614001	**1091955-09**	EPA 903.1	SLA	1	PASI-PA
		EPA 904.0	AMK	1	PASI-PA
3054614002	**1091955-11**	EPA 903.1	SLA	1	PASI-PA
		EPA 904.0	AMK	1	PASI-PA
3054614003	**1091955-12**	EPA 903.1	SLA	1	PASI-PA
		EPA 904.0	AMK	1	PASI-PA

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PROJECT NARRATIVE

Project: 1091955
Pace Project No.: 3054614

Method: EPA 903.1
Description: 903.1 Radium 226
Client: PDC Laboratories, Inc.
Date: October 17, 2011

General Information:
3 samples were analyzed for EPA 903.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1091955
Pace Project No.: 3054614

Method: EPA 904.0
Description: 904.0 Radium 228
Client: PDC Laboratories, Inc.
Date: October 17, 2011

General Information:
3 samples were analyzed for EPA 904.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 1091955
Pace Project No.: 3054614

Sample: 1091955-09 **Lab ID: 3054614001** Collected: 09/19/11 13:40 Received: 09/28/11 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.117 ± 0.230 (0.430)**	pCi/L	10/10/11 13:53	13982-63-3	
Radium-228	EPA 904.0	**0.553 ± 0.478 (0.966)**	pCi/L	10/12/11 12:58	15262-20-1	

Sample: 1091955-11 **Lab ID: 3054614002** Collected: 09/19/11 16:15 Received: 09/28/11 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.332 ± 0.350 (0.489)**	pCi/L	10/10/11 13:53	13982-63-3	
Radium-228	EPA 904.0	**0.355 ± 0.448 (0.949)**	pCi/L	10/12/11 12:52	15262-20-1	

Sample: 1091955-12 **Lab ID: 3054614003** Collected: 09/19/11 17:00 Received: 09/28/11 09:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.373 ± 0.490 (0.803)**	pCi/L	10/10/11 13:53	13982-63-3	
Radium-228	EPA 904.0	**0.859 ± 0.540 (0.996)**	pCi/L	10/12/11 13:01	15262-20-1	

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QUALITY CONTROL DATA

Project: 1091955
Pace Project No.: 3054614

QC Batch: RADC/9642 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 3054614001, 3054614002, 3054614003

METHOD BLANK: 348705 Matrix: Water
Associated Lab Samples: 3054614001, 3054614002, 3054614003

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-228	-0.0213 ± 0.410 (0.951)	pCi/L	10/12/11 12:55	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 1091955
Pace Project No.: 3054614

QC Batch: RADC/9660 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 3054614001, 3054614002, 3054614003

METHOD BLANK: 349943 Matrix: Water
Associated Lab Samples: 3054614001, 3054614002, 3054614003

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-226	0.000 ± 0.297 (0.667)	pCi/L	10/10/11 13:42	

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Greensburg, PA 15601
(724)850-5600

QUALIFIERS

Project: 1091955
Pace Project No.: 3054614

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

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SUBCONTRACT ORDER

PDC Laboratories, Inc.

1091955

9/26/2011

3054614

PDC Laboratories, Inc.
2231 W. Altorfer Drive
Peoria, IL 61615
Project Manager: Janet L. Clutters
jclutters@pdclab.com Phone: 309-683-1743

PACE Analytical - Greensburg
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
Phone :(724) 850-5600

Sample Origin (State) IL

PO# L38872

Analysis	Due	Expires	Comments
Sample ID: 1091955-09	**Ground Water**		**Sampled: 09/19/11 13:40**
Rad 226 228	09/30/11 16:00	03/17/12 13:40	001
Sample ID: 1091955-11	**Ground Water**		**Sampled: 09/19/11 16:15**
Rad 226 228	09/30/11 16:00	03/17/12 16:15	002
Sample ID: 1091955-12	**Ground Water**		**Sampled: 09/19/11 17:00**
Rad 226 228	09/30/11 16:00	03/17/12 17:00	003

Relinquished By	Date/Time	Received By	Date/Time
[signature]	9-26-11 11:30	[signature]	9/28/11 0900

Sample Temperature Upon Receipt	____ C
Sample(s) Received on Ice	Y or N
Proper Bottles Received in Good Condition	Y or N
Bottles Filled with Adequate Volume	Y or N
Samples Received Within Hold Time	Y or N
Date/Time Taken From Sample Bottle	Y or N

Sample Condition Upon Receipt

Pace Analytical

Client Name: PDC Project # 3054614

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 2317942150006 17

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☒ Other peanuts

Thermometer Used 3 5 Type of Ice: Wet Blue (None) ☐ Samples on ice, cooling process has begun

Cooler Temperature NA Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: SmB 9/

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☒No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☐No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☒No ☐N/A	7.
Sufficient Volume:	☒Yes ☐No ☐N/A	8.
Correct Containers Used:	☒Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☒No ☐N/A	
Containers Intact:	☒Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC: 9/28/11 SmB	☒Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: ~~AQ~~ WT		
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	13. 9/28/11 @ 1040 12mLs
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☒No	Initial when completed SmB Lot # of added preservative RF11-0136 3
Samples checked for dechlorination:	☐Yes ☐No ☒N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☒N/A	15.
Trip Blank Present:	☐Yes ☐No ☒N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Carmen Ferrero **Date:** 9/28/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALLC003-4 23Feb2010

PATRICK
ENGINEERING

January 18, 2012

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Subject: Quarterly Groundwater Monitoring Results –Fourth Quarter 2011
Powerton Generating Station – Bypass Cleaning Basin
Water Pollution Control Permit No. 2010-EB-0664

Reference: Patrick Project No. 21153.018

To Whom It May Concern:

Patrick Engineering Inc. (Patrick) has prepared this letter report, on behalf of Midwest Generation, LLC, to provide groundwater monitoring results associated with the Powerton Generating Facility located at 13082 East Manito Road in Pekin, Illinois. Groundwater is monitored quarterly in the vicinity of the bypass cleaning basin at this facility in three monitoring wells in accordance with requirements of Illinois Environmental Protection Agency (Illinois EPA) Water Pollution Control Permit No. 2010-EB-0664.

MONITORING WELL INSTALLATION

In accordance with the permit referenced above, three monitoring wells (MW-9, MW-11, and MW-12) have been installed in the vicinity of the bypass cleaning basin. The locations of these wells were selected so that at least one of the monitoring wells (MW-09) was installed downgradient of the basin, based upon available data regarding the expected groundwater flow direction. Figure 1 shows the location of the three monitoring wells. Drilling logs and well completion reports have been included as Attachment A.

GROUNDWATER SAMPLING

Prior to collecting groundwater samples from the three wells noted above, a number of field measurements were collected from each well location, including groundwater elevation, temperature, conductivity, and pH. Groundwater elevation data is summarized in Table 1. Other field parameter data is provided in Table 2.

On December 12, 2011, groundwater samples were collected from each of the three on-site monitoring wells, by the direct use of a peristaltic pump. Each well was purged until at least three well volumes had been extracted, or until the groundwater was observed to be clear. Groundwater was pumped or bailed into a decontaminated, stainless steel container and thereafter transferred to sample containers via peristaltic pump. All groundwater samples were filtered in the field using a disposable, 0.45µm, in-line filter to allow for the analytical testing of

dissolved compounds. The samples were immediately placed on ice in a cooler and kept at a temperature no higher than 4° F. The samples were transported to PDC Laboratories, an Illinois-EPA accredited analytical laboratory, in accordance with chain-of-custody procedures to maintain sample integrity.

ANALYTICAL RESULTS

The groundwater samples were analyzed for all of the inorganic compounds listed in 35 Illinois Administrative Code (IAC) 620.410(a) and 620.410(d), including radium 226/228. Analytical results (both current and historical) are summarized in Table 3. Laboratory analytical reports provided by PDC Laboratories are provided as Attachment B.

In accordance with Water Pollution Control Permit No. 2010-EB-0664, these three wells will continue to be sampled and reported on a quarterly basis for at least one year to establish a statistically valid representation of existing background conditions.

If you have any questions, please contact me at 630-795-7464.

Sincerely,

PATRICK ENGINEERING INC.

Richard M. Frendt, P.E
Senior Project Manager

RMF/DCM
Enclosures: Figure 1: Monitoring Well Location Map
Table 1: Groundwater Elevation Data
Table 2: Field Parameter Data
Table 3: Groundwater Analytical Results
Attachment A: Boring Logs/Well Completion Reports
Attachment B: Laboratory Analytical Results

FIGURE 1

MONITORING WELL LOCATION MAP



LEGEND

MW-01 Existing Monitoring Well Location

N

1" = 600'

AERIAL IMAGE SOURCE:
2005 ORTHOPHOTO TAKEN FROM THE ILLINOIS NATURAL RESOURCES CLEARINGHOUSE

Date: DEC. 2011	EXISTING MONITORING WELL LOCATION MAP Bypass Basin Map	PATRICK ENGINEERING INC.
Proj No.: 21153.018	POWERTON STATION PEKIN, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_4131

TABLE 1

GROUNDWATER ELEVATION DATA

Table 1
BYPASS BASIN
GROUNDWATER ELEVATION DATA
Powerton Station, Pekin, Illinois
Midwest Generation
21153.018

PATRICK ENGINEERING	Groundwater Elevation Data							
Monitoring Well	**Date**	**Water Elevation (Feet)**	**Depth to Water Pre-Sampling (Feet bmp)**	**Depth to Water Post Sampling (Feet bmp)**	**Water Elevation Post Sampling (bmp)**	**Depth to Bottom of Well (Feet)**	**Ground Elevation (Feet)**	**Top of Riser Elevation (Feet)**
MW-09	2/15/2011	443.416	25.77	25.80	443.386	35.13	466.214	469.186
	6/16/2011	449.306	19.88	19.89	449.296	35.13	466.214	469.186
	9/19/2011	443.636	25.55	25.55	443.636	35.13	466.214	469.186
	12/12/2011	443.076	26.11	26.11	443.076	35.13	466.214	469.186
MW-11	2/15/2011	440.779	30.81	30.82	440.769	43.65	468.074	471.589
	6/16/2011	448.199	23.39	23.40	448.189	43.65	468.074	471.589
	9/19/2011	440.489	31.10	31.10	440.489	43.65	468.074	471.589
	12/12/2011	440.509	31.08	31.09	440.499	43.65	468.074	471.589
MW-12	2/15/2011	450.390	22.99	23.01	450.370	32.57	469.999	473.380
	6/16/2011	451.180	22.20	22.20	451.180	32.57	469.999	473.380
	9/19/2011	449.880	23.50	23.50	449.880	32.57	469.999	473.380
	12/12/2011	450.030	23.35	23.35	450.030	32.57	469.999	473.380

Notes:
- Elevations are leveled from site control points per Drawing "Control Network, IL State Plane (West Zone) Powerton Station" revised 10/22/2010

-Elevations are shown in feet

bmp -below monitoring point

TABLE 2

FIELD PARAMETER DATA

Table 2
BYPASS BASIN
FIELD PARAMETER DATA
Powerton Station, Pekin, Illinois
Midwest Generation
21153.018

PATRICK ENGINEERING	Groundwater Field Paramter Data - Powerton Station				
Monitoring Well	**Date**	**Time**	**Conductance (S/cm)***	**Temperature °C**	**pH**
MW-09	2/15/2011	11:20	0.782	12.71	7.62
		11:22	0.777	12.82	7.42
		11:24	0.774	13.04	7.43
		11:26	0.771	13.21	7.36
		11:28	0.774	13.29	7.29
		11:30	0.776	13.47	7.24
MW-09	6/16/2011	13:30	0.85	16.28	7.63
		13:32	0.85	14.96	7.34
		13:34	0.84	14.78	7.24
		13:36	0.84	14.73	7.16
		13:38	0.84	14.61	7.11
		13:40	0.84	14.51	7.10
MW-09	9/19/2011	13:30	0.66	14.46	7.41
		13:32	0.66	14.38	7.35
		13:34	0.66	14.23	7.34
		13:36	0.66	14.12	7.33
		13:38	0.66	14.11	7.32
		13:40	0.66	14.08	7.32
MW-09	12/12/2011	13:14	0.66	14.11	6.53
		13:16	0.66	14.35	6.39
		13:18	0.66	14.46	6.33
		13:20	0.66	14.52	6.32
		13:22	0.66	14.52	6.3
		13:24	0.66	14.56	6.31
MW-11	2/15/2011	9:42	1.14	13.66	7.13
MW-11	6/16/2011	14:32	1.46	17.97	7.32
		14:34	1.45	17.75	7.14
		14:36	1.45	17.67	7.08
		14:38	1.44	17.66	7.04
		14:40	1.44	17.48	7.03
		14:42	1.44	17.58	7.02
MW-11	9/19/2011	16:14	0.85	14.67	7.31
MW-11	12/12/2011	15:50	0.89	13.85	6.48
MW-12	2/15/2011	10:24	1.66	13.88	7.49
		10:26	1.66	16.33	7.51
		10:28	1.66	16.44	7.51
		10:30	1.67	16.70	7.51
		10:23	1.66	16.73	7.51
		10:34	1.66	16.77	7.51
MW-12	6/16/2011	15:14	1.65	19.33	7.41
		15:16	1.65	18.94	7.28
		15:18	1.63	18.70	7.04
		15:20	1.62	18.79	6.94
		15:22	1.63	18.66	6.95
		15:24	1.63	18.77	6.98
MW-12	9/19/2011	16:48	1.35	18.02	7.71
		16:50	1.34	17.87	7.67
		16:52	1.34	17.71	7.65
		16:54	1.34	17.73	7.65
		16:56	1.34	17.75	7.66
		16:58	1.34	17.75	7.66
MW-12	12/12/2011	16:20	1.37	17.04	7.50
		16:22	1.37	17.45	7.39
		16:24	1.37	17.59	7.37
		16:26	1.37	17.65	7.38
		16:28	1.37	17.71	7.38
		16:30	1.38	17.78	7.38

Notes:

* (S/cm) - specific conductivity measured in Siemens/Centimeters

°C - degrees Celcius

TABLE 3

GROUNDWATER ANALYTICAL RESULTS

Table 3
BYPASS BASIN
GROUNDWATER ANALYTICAL RESULTS
Powerton Station, Illinois
Midwest Generation
21153.018

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L) Class I*	MW-9 (mg/L) 12/15/10	MW-9 (mg/L) 2/15/11	MW-9 (mg/L) 9/19/11	MW-9 (mg/L) 6/16/11	MW-9 (mg/L) 12/12/11	MW-11 (mg/L) 12/16/10	MW-11 (mg/L) 2/15/11	MW-11 (mg/L) 9/19/11	MW-11 (mg/L) 6/16/11	MW-11 (mg/L) 12/12/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	ND	ND	ND	0.0017	0.0012	0.0021	0.0025	0.0016	0.0019	0.0019
Barium	Metals 6020	2.0	0.038	0.042	0.03	0.038	0.038	0.17	0.11	0.11	0.18	0.11
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND	0.0028	0.0041	ND	0.0024	ND
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND	0.0032	0.0032	ND	0.0043	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	0.19	ND	ND	ND	0.44	0.01	0.018	0.029	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**0.19**	**0.43**	**0.14**	**0.48**	**0.28**	**3.2**	**3.6**	**2.2**	**2.9**	**2.5**
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.001	0.011	0.0065	0.0063	0.0088	0.019	0.016	0.011	0.013	0.013
Selenium	Metals 6020	0.05	0.005	ND	0.0043	0.0017	0.0041	0.0026	0.0015	0.004	0.0018	0.0031
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	0.0082	ND	ND	ND	ND	0.012	ND	ND	ND	ND
Boron	Metals 6020	2	**2.2**	1.9	**2.5**	1.9	2.7	1.6	1.8	1.5	1.6	1.8
Sulfate	Dissolved 9038	400	110	99	130	110	110	170	160	140	210	160
Chloride	Dissolved 9251	200	25	33	30	28	30	70	66	53	120	87
Nitrate as N	Nitrogen By calc	10	2.7	3.7	3.7	5.6	2.6	0.41	0.17	0.78	0.04	1.5
Total Dissolved Solids	Dissolved 2540C	1,200	510	470	500	540	520	740	710	620	930	730
Fluoride	Dissolved 4500 FC	4	ND	0.32	0.25	0.34	ND	0.53	0.56	0.58	0.67	0.44
Radium 226 (pCi/L)	EPA 903.1	20	0.673	0.728	0.117	0.955	0.621	0.445	0.174	0.332	0.929	0.733
Radium 228 (pCi/L)	EPA 904.0	20	0.941	0.983	0.553	0.974	0.966	0.915	0.967	0.355	0.914	1.03

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
mg/L- milligrams per Liter

Table 3
BYPASS BASIN
GROUNDWATER ANALYTICAL RESULTS
Powerton Station, Illinois
Midwest Generation
21153.018

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L) Class I*	MW-12 (mg/L) 12/15/10	MW-12 (mg/L) 2/15/11	MW-12 (mg/L) 6/16/11	MW-12 (mg/L) 9/19/11	MW-12 (mg/L) 12/12/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.0088	0.013	0.0064	0.0087	0.0089
Barium	Metals 6020	2.0	0.089	0.11	0.091	0.085	0.09
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	0.0056	0.0044	0.0071	0.0047
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	0.0032	0.0036	0.0031
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	**5.5**	**6.3**	**5.6**	4	3.1
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**0.32**	**0.58**	**0.26**	**0.37**	**0.25**
Mercury	Mercury 7470A	0.002	**0.0096**	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.0026	0.01	0.0072	0.0075	0.0091
Selenium	Metals 6020	0.05	ND	0.0027	ND	0.0023	0.0034
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND
Boron	Metals 6020	2	1.6	1.4	1.3	1.2	1.3
Sulfate	Dissolved 9038	400	290	270	350	360	300
Chloride	Dissolved 9251	200	170	180	180	190	210
Nitrate as N	Nitrogen By calc	10	ND	ND	0.14	ND	ND
Total Dissolved Solids	Dissolved 2540C	1,200	980	1,000	1,100	970	970
Fluoride	Dissolved 4500 FC	4	0.71	0.61	0.64	0.74	0.61
Radium 226 (pCi/L)	EPA 903.1	20	0.617	0.207	0.893	0.373	0.923
Radium 228 (pCi/L)	EPA 904.0	20	0.97	0.973	0.956	0.859	0.952

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
mg/L- milligrams per Liter

ATTACHMENT A

BORING LOGS / WELL COMPLETION REPORTS

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-9-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **466.2**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
466.2	0.0		Black cinders, fine gravel, crushed rock, dry FILL	SS-1 1.0-2.5			
				SS-2 3.5-5.0			Bentonite seal 3.0'-20.0'. Stickup protective cover installed.
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
456.2	10.0		Black cinders, coarse to fine sand, brick, fine gravel, dry FILL	SS-5 11.0-12.5 14"R	6 12 15		qu=NT
				SS-6 13.5-15.0 18"R	5 6 7		qu=NT
				SS-7 16.0-17.5 18"R	6 9 10		qu=NT
449.2	17.0		Moist Brown clayey silt, trace fine sand, moist CL				
447.2	19.0		Light brown fine to medium sand, loose, well graded	SS-8 18.5-20.0 18"R	3 6 11		qu=NT

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/28/10** ENDED **9/28/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **23.5**
▼ **21.6**
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-9-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **466.2**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
446.2	20.0		SW				Sand pack 20.0'-32.0'
444.6	21.6		▼	SS-9 21.0-22.5 18"R	3 3 4		Set screen (slot 0.010") 22.0'-32.0'
442.7	23.5		▽ Saturated	SS-10 23.5-25.0 18"R	1 3 8		
				SS-11 26.0-27.5 18"R	0 2 2		
			Medium dense	SS-12 28.5-30.0 18"R	2 6 13		
			Trace fine gravel	SS-13 31.0-32.5 18"R	2 5 10		
433.7	32.5		End of Boring at 32.5'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/28/10** ENDED **9/28/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **23.5**
▼ **21.6**
▼

MWG13-15_4141

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-11-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **468.1**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL LL 10 20 30 40 50 / Unconfined Compressive Strength (TSF) 1 2 3 4 5	NOTES & TEST RESULTS
468.1	0.0		Cinders, gravel, sand, silt FILL				
				SS-1 1.0-2.5			
				SS-2 3.5-5.0			Bentonite seal 3.0'-28.0'. Stickup protective cover installed.
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
458.1	10.0		Black and brown clay, fine gravel, cinders, bricks, silt, coarse sand, dry FILL				
				SS-5 11.0-12.5 16"R	8 10 10		qu=NT
				SS-6 13.5-15.0 17"R	2 2 3		qu=2.5**tsf
452.1	16.0		Brown and gray silty clay, trace fine gravel, trace fine sand, stiff, dry CL	SS-7 16.0-17.5 18"R	1 3 4		qu=1.5**tsf
449.6	18.5		Gray clayey silt, organics, very soft, moist ML	SS-8 18.5-20.0 18"R	WOH 2 2		qu=0.5**tsf

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/28/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **32.5** while drilling
▼ **26.5** after 12 hours
▼ **26.5** after 48 hours

MWG13-15_4142

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-11-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **468.1**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) * (1 2 3 4 5)	NOTES & TEST RESULTS
				SS-9 21.0-22.5 0"R	1 2 3		qu=NT
				SS-10 23.5-25.0 18"R	WOH WOH 1		qu=0.5**tsf
442.1	26.0						
441.6	26.5		▼ Dark gray silty clay, some organics, medium stiff, dry CL	SS-11 26.0-27.5 18"R	1 3 4		qu=1.5**tsf
				SS-12 28.5-30.0 18"R	3 4 6		Sand pack 28.0'-40.0' qu=2.5**tsf
							Set screen (slot 0.010") 30.0'-40.0'
				SS-13 31.0-32.5 18"R	3 4 6		qu=2.5**tsf
~~435.6~~	~~32.5~~		▽				
			Brown and gray coarse to fine gravel, coarse to fine sand, loose, saturated GP				
				SS-14 33.5-35.0 18"R	1 2 1		qu=NT
431.6	36.5			SS-15 36.0-37.5 18"R	1 0 0		qu=NT
			Light brown fine sand, well graded, very loose, saturated SW				
				SS-16 38.5-40.0 18"R	2 3 4		qu=NT
428.1	40.0		End of Boring at 40.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/28/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **32.5** while drilling
▼ **26.5** after 12 hours
▼ **26.5** after 48 hours

MWG13-15_4143

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-12-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **470.0**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) ✳ 1 2 3 4 5	NOTES & TEST RESULTS
470.0	0.0		Black cinders, fine gravel, silty clay, dry FILL				
				SS-1 1.0-2.5			
							Bentonite seal 3.0'-18.0'. Stickup protective cover installed.
				SS-2 3.5-5.0			
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
460.0	10.0		Black cinders FILL				
				SS-5 11.0-12.5 18"R	17 18 11		qu=NT
				SS-6 13.5-15.0 18"R	12 20 17		qu=NT
			Seam of l ight brown coarse sand	SS-7 16.0-17.5 18"R	6 7 6		qu=NT
451.5	18.5						Sand pack 18.0'-35.0' qu=NT Set screen (slot 0.010") 19.0'-29.0'
450.5	19.5		▼ Gray silt, little to some coarse to fine sand, trace clay, very soft, saturated	SS-8 18.5-20.0 18"R	1 5 2		

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/29/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **20.5**
▼ **19.5**
▼

MWG13-15_4144

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-12-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **470.0**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL LL / Unconfined Compressive Strength (TSF)	NOTES & TEST RESULTS
450.0 449.5	20.0 20.5		▽ ML				
				SS-9 21.0-22.5 18"R	1 2 1		qu=0.25**tsf
			Trace peat	SS-10 23.5-25.0 18"R	WOH 2 1		qu=0.5**tsf
444.0	26.0		Gray mottled black clayey silt, with some organics, trace peat, very soft, medium stiff, moist OH	SS-11 26.0-27.5 18"R	WOH WOH 2		qu=0.5**tsf
				SS-12 28.5-30.0 18"R	1 3 4		qu=1.75**tsf
				SS-13 31.0-32.5 18"R	2 3 3		qu=2.0**tsf
437.5	32.5		Dark brown and gray silty clay, trace coarse sand, trace organics, stiff to very stiff, dry CL				
				SS-14 33.5-35.0 18"R	4 6 6		qu=2.5**tsf
435.0	35.0		End of Boring at 35.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/29/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **20.5**
▼ **19.5**
▼

MWG13-15_4145

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 32

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 32 ; (in.) ___ to (ft.) _____ ; (in.) ___ to (ft.) _____

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	9		3	20	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	20	32

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 28, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

IL 482-0126
Revised 6/09

13. Property Owner: Midwest Generation LLC Well # PEI-MW-09

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 28, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NE Quarter of the SE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 32.3 N

Lon: Degrees 89 Minutes 40 Seconds 34.4 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	22

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	22	32

24. Water from sand at a depth of (ft.) 19 To (ft.) 32

a. Static water level (ft.) below top of casing 21.6 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
gravel, crushed rock, cinders	0	10
cinders, sand, brick	10	17
clayey silt	17	19
sand	19	32

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_4146

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well:** Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well:** Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well:** PVC Casing Formation Packer Set at Depth of (ft.) 40

d. **Drilled Well:** Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 40 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	12		3	28	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	28	40

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 28, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____

Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

IL 482-0126
Revised 6/09

13. Property Owner: Midwest Generation LLC Well # PEI-MW-11

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 28, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. SW Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 35.2 N

Lon: Degrees 89 Minutes 40 Seconds 33.2 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	30

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	30	40

24. Water from sand and gravel at a depth of (ft.) 32.5 To (ft.) 40

a. Static water level (ft.) below top of casing 26.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
gravel, sand, cinders	0	10
clay and gravel	10	16
silt and clay	16	20
organic silt	20	26
silty clay	26	32.5
sand and gravel	32.5	40

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____

Licensed Water Well Contractor Signature

MWG13-15_4147

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well:** Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well:** Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well:** PVC Casing Formation Packer Set at Depth of (ft.) 29

d. **Drilled Well:** Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 29 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	6		3	18	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	18	29

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 29, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-12

14. Driller: _____ License # _____

15. Name of Drilling Company: Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 29, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. SE Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 34.2 N

Lon: Degrees 89 Minutes 40 Seconds 35.7 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	19

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	19	29

24. Water from silt and sand at a depth of (ft.) 20 To (ft.) 26

a. Static water level (ft.) below top of casing 19.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
cinders, gravel, clay	0	10
cinders	10	18.5
silt and sand	18.5	26
clayey silt	26	29

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_4148

ATTACHMENT B

LABORATORY ANALYTICAL RESULTS

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Sample No: **1121476-08**
Sample Description: **MW-8**

Collect Date: **12/12/11 17:15**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Copper	10 ug/L		01/04/12 19:17	JMW	SW 6020
Iron	0.94 mg/L		12/19/11 12:04	KJP	SW 6010B
Lead	< 1.0 ug/L		01/04/12 19:17	JMW	SW 6020
Manganese	200 ug/L		01/05/12 14:04	JMW	SW 6020
Mercury	< 0.20 ug/L		01/04/12 19:17	JMW	SW 6020
Nickel	9.0 ug/L		01/04/12 19:17	JMW	SW 6020
Selenium	3.6 ug/L		01/05/12 14:04	JMW	SW 6020
Silver	< 5.0 ug/L		01/05/12 14:04	JMW	SW 6020
Thallium	< 1.0 ug/L		01/04/12 19:17	JMW	SW 6020
Zinc	< 6.0 ug/L		01/04/12 19:17	JMW	SW 6020

Sample No: **1121476-09**
Sample Description: **MW-9**

Collect Date: **12/12/11 15:25**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		12/15/11 13:45	lgtth	335.4
Solids - total dissolved solids (TDS)	520 mg/L		12/16/11 11:47	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	30 mg/L		12/13/11 16:20	JFA	EPA 300.0 R2.1
Fluoride	< 0.25 mg/L		12/13/11 15:38	JFA	EPA 300.0 R2.1
Nitrate-N	2.6 mg/L		12/13/11 16:20	JFA	EPA 300.0 R2.1
Sulfate	110 mg/L		12/13/11 16:20	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		01/04/12 19:23	JMW	SW 6020
Arsenic	1.2 ug/L		01/04/12 19:23	JMW	SW 6020
Barium	38 ug/L		01/05/12 11:04	JMW	SW 6020
Beryllium	< 1.0 ug/L		01/06/12 11:18	JMW	SW 6020
Boron	2700 ug/L		01/06/12 11:18	JMW	SW 6020
Cadmium	< 1.0 ug/L		01/05/12 14:09	JMW	SW 6020
Chromium	< 4.0 ug/L		01/04/12 19:23	JMW	SW 6020
Cobalt	< 2.0 ug/L		01/04/12 19:23	JMW	SW 6020
Copper	< 3.0 ug/L		01/04/12 19:23	JMW	SW 6020
Iron	< 0.010 mg/L		12/19/11 12:07	KJP	SW 6010B

1121476

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Sample No: **1121476-09**
Sample Description: **MW-9**

Collect Date: **12/12/11 15:25**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Lead	< 1.0 ug/L		01/04/12 19:23	JMW	SW 6020
Manganese	280 ug/L		01/05/12 14:09	JMW	SW 6020
Mercury	< 0.20 ug/L		01/04/12 19:23	JMW	SW 6020
Nickel	8.8 ug/L		01/04/12 19:23	JMW	SW 6020
Selenium	4.1 ug/L		01/05/12 14:09	JMW	SW 6020
Silver	< 5.0 ug/L		01/05/12 14:09	JMW	SW 6020
Thallium	< 1.0 ug/L		01/04/12 19:23	JMW	SW 6020
Zinc	< 6.0 ug/L		01/04/12 19:23	JMW	SW 6020

Sample No: **1121476-10**
Sample Description: **MW-10**

Collect Date: **12/12/11 14:45**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		12/15/11 13:46	lgtth	335.4
Solids - total dissolved solids (TDS)	540 mg/L		12/16/11 11:47	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	42 mg/L		12/13/11 16:49	JFA	EPA 300.0 R2.1
Fluoride	< 0.25 mg/L		12/13/11 16:35	JFA	EPA 300.0 R2.1
Nitrate-N	4.9 mg/L		12/13/11 16:49	JFA	EPA 300.0 R2.1
Sulfate	72 mg/L		12/13/11 16:49	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		01/04/12 19:29	JMW	SW 6020
Arsenic	< 1.0 ug/L		01/04/12 19:29	JMW	SW 6020
Barium	260 ug/L		01/05/12 11:07	JMW	SW 6020
Beryllium	< 1.0 ug/L		01/06/12 11:21	JMW	SW 6020
Boron	570 ug/L		01/06/12 11:21	JMW	SW 6020
Cadmium	< 1.0 ug/L		01/05/12 14:14	JMW	SW 6020
Chromium	< 4.0 ug/L		01/04/12 19:29	JMW	SW 6020
Cobalt	2.6 ug/L		01/04/12 19:29	JMW	SW 6020
Copper	4.1 ug/L		01/04/12 19:29	JMW	SW 6020
Iron	< 0.010 mg/L		12/19/11 12:10	KJP	SW 6010B
Lead	< 1.0 ug/L		01/04/12 19:29	JMW	SW 6020
Manganese	2300 ug/L		01/05/12 14:14	JMW	SW 6020

1121476

MWG13-15_4151

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P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Sample No: **1121476-10**
Sample Description: **MW-10**

Collect Date: **12/12/11 14:45**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Mercury	< 0.20 ug/L		01/04/12 19:29	JMW	SW 6020
Nickel	13 ug/L		01/04/12 19:29	JMW	SW 6020
Selenium	6.5 ug/L		01/05/12 14:14	JMW	SW 6020
Silver	< 5.0 ug/L		01/05/12 14:14	JMW	SW 6020
Thallium	< 1.0 ug/L		01/04/12 19:29	JMW	SW 6020
Zinc	< 6.0 ug/L		01/04/12 19:29	JMW	SW 6020

Sample No: **1121476-11**
Sample Description: **MW-11**

Collect Date: **12/12/11 15:50**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		12/15/11 13:47	lgtth	335.4
Solids - total dissolved solids (TDS)	730 mg/L		12/16/11 11:47	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	87 mg/L		12/13/11 17:45	JFA	EPA 300.0 R2.1
Fluoride	0.44 mg/L		12/13/11 17:03	JFA	EPA 300.0 R2.1
Nitrate-N	1.5 mg/L		12/13/11 17:03	JFA	EPA 300.0 R2.1
Sulfate	160 mg/L		12/13/11 17:45	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		01/04/12 19:35	JMW	SW 6020
Arsenic	1.9 ug/L		01/04/12 19:35	JMW	SW 6020
Barium	110 ug/L		01/05/12 11:10	JMW	SW 6020
Beryllium	< 1.0 ug/L		01/06/12 11:23	JMW	SW 6020
Boron	1800 ug/L		01/06/12 11:23	JMW	SW 6020
Cadmium	< 1.0 ug/L		01/05/12 14:19	JMW	SW 6020
Chromium	< 4.0 ug/L		01/04/12 19:35	JMW	SW 6020
Cobalt	< 2.0 ug/L		01/04/12 19:35	JMW	SW 6020
Copper	< 3.0 ug/L		01/04/12 19:35	JMW	SW 6020
Iron	< 0.010 mg/L		12/19/11 12:12	KJP	SW 6010B
Lead	< 1.0 ug/L		01/04/12 19:35	JMW	SW 6020
Manganese	2500 ug/L		01/05/12 14:19	JMW	SW 6020
Mercury	< 0.20 ug/L		01/04/12 19:35	JMW	SW 6020
Nickel	13 ug/L		01/04/12 19:35	JMW	SW 6020

1121476

MWG13-15_4152

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Sample No: **1121476-11**
Sample Description: **MW-11**

Collect Date: **12/12/11 15:50**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Selenium	3.1 ug/L		01/05/12 14:19	JMW	SW 6020
Silver	< 5.0 ug/L		01/05/12 14:19	JMW	SW 6020
Thallium	< 1.0 ug/L		01/04/12 19:35	JMW	SW 6020
Zinc	< 6.0 ug/L		01/04/12 19:35	JMW	SW 6020

Sample No: **1121476-12**
Sample Description: **MW-12**

Collect Date: **12/12/11 16:30**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		12/15/11 13:48	lgtth	335.4
Solids - total dissolved solids (TDS)	970 mg/L		12/16/11 11:47	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	210 mg/L		12/13/11 18:13	JFA	EPA 300.0 R2.1
Fluoride	0.61 mg/L		12/13/11 17:59	JFA	EPA 300.0 R2.1
Nitrate-N	< 0.02 mg/L		12/13/11 17:59	JFA	EPA 300.0 R2.1
Sulfate	300 mg/L		12/13/11 18:13	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		01/04/12 19:41	JMW	SW 6020
Arsenic	8.9 ug/L		01/04/12 19:41	JMW	SW 6020
Barium	90 ug/L		01/05/12 11:13	JMW	SW 6020
Beryllium	< 1.0 ug/L		01/06/12 11:26	JMW	SW 6020
Boron	1300 ug/L		01/06/12 11:26	JMW	SW 6020
Cadmium	< 1.0 ug/L		01/05/12 14:24	JMW	SW 6020
Chromium	4.7 ug/L		01/04/12 19:41	JMW	SW 6020
Cobalt	< 2.0 ug/L		01/04/12 19:41	JMW	SW 6020
Copper	3.1 ug/L		01/04/12 19:41	JMW	SW 6020
Iron	3.1 mg/L		12/19/11 12:14	KJP	SW 6010B
Lead	< 1.0 ug/L		01/04/12 19:41	JMW	SW 6020
Manganese	250 ug/L		01/05/12 14:24	JMW	SW 6020
Mercury	< 0.20 ug/L		01/04/12 19:41	JMW	SW 6020
Nickel	9.1 ug/L		01/04/12 19:41	JMW	SW 6020
Selenium	3.4 ug/L		01/05/12 14:24	JMW	SW 6020
Silver	< 5.0 ug/L		01/05/12 14:24	JMW	SW 6020

1121476

MWG13-15_4153

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Sample No: **1121476-12**
Sample Description: **MW-12**

Collect Date: **12/12/11 16:30**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Thallium	< 1.0 ug/L		01/04/12 19:41	JMW	SW 6020
Zinc	< 6.0 ug/L		01/04/12 19:41	JMW	SW 6020

Sample No: **1121476-13**
Sample Description: **MW-13**

Collect Date: **12/12/11 19:35**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		12/15/11 13:48	lgtth	335.4
Solids - total dissolved solids (TDS)	2100 mg/L		12/16/11 11:47	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	180 mg/L		12/13/11 19:09	JFA	EPA 300.0 R2.1
Fluoride	< 0.25 mg/L		12/13/11 18:27	JFA	EPA 300.0 R2.1
Nitrate-N	0.07 mg/L		12/13/11 18:27	JFA	EPA 300.0 R2.1
Sulfate	1100 mg/L		12/15/11 07:38	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		01/04/12 19:47	JMW	SW 6020
Arsenic	23 ug/L		01/04/12 19:47	JMW	SW 6020
Barium	210 ug/L		01/05/12 11:16	JMW	SW 6020
Beryllium	< 1.0 ug/L		01/06/12 11:29	JMW	SW 6020
Boron	4100 ug/L		01/06/12 11:29	JMW	SW 6020
Cadmium	< 1.0 ug/L		01/05/12 14:29	JMW	SW 6020
Chromium	5.5 ug/L		01/04/12 19:47	JMW	SW 6020
Cobalt	< 2.0 ug/L		01/04/12 19:47	JMW	SW 6020
Copper	6.6 ug/L		01/04/12 19:47	JMW	SW 6020
Iron	0.11 mg/L		12/19/11 12:16	KJP	SW 6010B
Lead	< 1.0 ug/L		01/04/12 19:47	JMW	SW 6020
Manganese	3500 ug/L		01/05/12 14:29	JMW	SW 6020
Mercury	< 0.20 ug/L		01/04/12 19:47	JMW	SW 6020
Nickel	22 ug/L		01/04/12 19:47	JMW	SW 6020
Selenium	3.6 ug/L		01/05/12 14:29	JMW	SW 6020
Silver	< 5.0 ug/L		01/05/12 14:29	JMW	SW 6020
Thallium	< 1.0 ug/L		01/04/12 19:47	JMW	SW 6020
Zinc	< 6.0 ug/L		01/04/12 19:47	JMW	SW 6020

PDC Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Notes

This report shall not be reproduced, except in full, without the written approval of the laboratory.

PDC Laboratories participates in the following accreditation/certification and proficiency programs at the following locations. Endorsement by Federal or State Governments or their agencies is not implied.

PIA PDC Laboratories - Peoria, IL
NELAC Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications: Kansas (E-10338); Missouri (870); Wisconsin (998284430); Indiana (C-IL-040); Iowa (240)
Wastewater Certifications: Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
Hazardous/Solid Waste Certifications; Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
UST Certification; Iowa (240)
SPM PDC Laboratories - Springfield, MO
EPA DMR-QA Program
STL PDC Laboratories - St. Louis, MO
NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS EPA Lab No. E-10389

Subcontract report attached for Rad 226/228

Janet L. Clutters

Certified by: Janet L. Clutters, Project Manager

CHAIN OF CUSTODY RECORD

PDC LABORATORIES, INC.
2231 WEST ALTORFER DRIVE
PEORIA, IL 61615

PHONE # 800-752-6651
FAX # 309-692-9689

State where samples collected: IL

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT) - (SAMPLE ACCEPTANCE POLICY ON REVERSE)

(1) CLIENT: Patrick Engineering
ADDRESS: 4985 Varsity Dr.
CITY STATE ZIP: Lisle, IL 60532
CONTACT PERSON: Dave McCoy
PROJECT NUMBER:
PHONE NUMBER:
P.O. NUMBER:
FAX NUMBER:
MEANS SHIPPED:
DATE SHIPPED:
SAMPLER (PLEASE PRINT): Justin Jessogne
SAMPLER'S SIGNATURE: Justin Jessogne

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
LCHT-LEACHATE
OTHER:

(4) (FOR LAB USE ONLY)
LOGIN # 1121476-15
LOGGED BY: 138
LAB PROJ. #:
TEMPLATE:
PROJ. MGR.:

(2) SAMPLE DESCRIPTION AS YOU WANT ON REPORT	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE GRAB	SAMPLE TYPE COMP	MATRIX TYPE	BOTTLE COUNT	(3) Dissolved Metals	Cyanide	Cl, F, NO3, SO4 Diss.	Total Diss. Solids	Radium 226/228			REMARKS
MW-1	12/12/11	1355			GW	4	X	X	X	X				
MW-2		0945												
MW-3		1020												
MW-4		1100												
MW-5		1140												
MW-6		1315												
MW-7		1230												
MW-8		1715												
MW-9		1525				5					X			
MW-10		1445				4								
MW-11		1550				5					X			
MW-12		1630				5					X			

(5) TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
DATE RESULTS NEEDED:
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE E-MAIL
FAX # PHONE # EMAIL ADDRESS

(6) *The sample temperature will be measured upon receipt at the lab. By initiating this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initiating this area you allow the lab to proceed with analytical testing regardless of the sample temperature.* _____

(7)
RELINQUISHED BY: (SIGNATURE) Justin Jessogne — DATE 12/13/11 TIME 0630 — RECEIVED BY: (SIGNATURE) — DATE 12/13/11 TIME 0630
RELINQUISHED BY: (SIGNATURE) — DATE — TIME — RECEIVED BY: (SIGNATURE) — DATE — TIME
RELINQUISHED BY: (SIGNATURE) — DATE — TIME — RECEIVED AT LAB BY: (SIGNATURE) Brenda Ramos — DATE 12-13-11 TIME 0800

(8) COMMENTS: (FOR LAB USE ONLY)
4 °C
SAMPLE TEMPERATURE UPON RECEIPT
CHILL PROCESS STARTED PRIOR TO RECEIPT (Y) OR N
SAMPLE(S) RECEIVED ON ICE (Y) OR N
PROPER BOTTLES RECEIVED IN GOOD CONDITION (Y) OR N
BOTTLES FILLED WITH ADEQUATE VOLUME (Y) OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) (Y) OR N
(EXCLUDES TYPICAL FIELD PARAMETERS)
DATE AND TIME TAKEN FROM SAMPLE BOTTLE

Copies: white should accompany samples to PDC Labs. Yellow copy to be retained by the client.

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

January 17, 2012

Ms. Janet Clutters
PDC Laboratories
2231 W. Altorfer Drive
Peoria, IL 61615

RE: Project: 1121476
Pace Project No.: 3059493

Dear Ms. Clutters:
Enclosed are the analytical results for sample(s) received by the laboratory on December 16, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacquelyn Collins for
Carin Ferris
carin.ferris@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: 1121476
Pace Project No.: 3059493

Pennsylvania Certification IDs
1638 Roseytown Road Suites 2,3&4, Greensburg, PA 15601
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/NELAC Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH 0694
Delaware Certification
Florida/NELAC Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/NELAC Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/NELAC Certification #: LA080002
Louisiana/NELAC Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/NELAC Certification #: 2976
New Jersey/NELAC Certification #: PA 051
New Mexico Certification
New York/NELAC Certification #: 10888
North Carolina Certification #: 42706
Oregon/NELAC Certification #: PA200002
Pennsylvania/NELAC Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/NELAC Certification #: T104704188-09 TX
Utah/NELAC Certification #: ANTE
Virgin Island/PADEP Certification
Virginia Certification #: 00112
Virginia VELAP (Cert # 460198)
Washington Certification #: C1941
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

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SAMPLE SUMMARY

Project: 1121476
Pace Project No.: 3059493

Lab ID	Sample ID	Matrix	Date Collected	Date Received
3059493001	**1121476-09**	Water	12/12/11 15:25	12/16/11 10:00
3059493002	**1121476-11**	Water	12/12/11 15:50	12/16/11 10:00
3059493003	**1121476-12**	Water	12/12/11 16:30	12/16/11 10:00
3059493004	**1121476-13**	Water	12/12/11 19:35	12/16/11 10:00
3059493005	**1121476-14**	Water	12/12/11 18:40	12/16/11 10:00
3059493006	**1121476-15**	Water	12/12/11 17:55	12/16/11 10:00

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SAMPLE ANALYTE COUNT

Project: 1121476
Pace Project No.: 3059493

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
3059493001	**1121476-09**	EPA 903.1	SLA	1	PASI-PA
		EPA 904.0	AMK	1	PASI-PA
3059493002	**1121476-11**	EPA 903.1	SLA	1	PASI-PA
		EPA 904.0	AMK	1	PASI-PA
3059493003	**1121476-12**	EPA 903.1	SLA	1	PASI-PA
		EPA 904.0	AMK	1	PASI-PA
3059493004	**1121476-13**	EPA 903.1	SLA	1	PASI-PA
		EPA 904.0	AMK	1	PASI-PA
3059493005	**1121476-14**	EPA 903.1	SLA	1	PASI-PA
		EPA 904.0	AMK	1	PASI-PA
3059493006	**1121476-15**	EPA 903.1	SLA	1	PASI-PA
		EPA 904.0	AMK	1	PASI-PA

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PROJECT NARRATIVE

Project: 1121476
Pace Project No.: 3059493

Method: **EPA 903.1**
Description: 903.1 Radium 226
Client: PDC Laboratories, Inc.
Date: January 17, 2012

General Information:
6 samples were analyzed for EPA 903.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 1121476
Pace Project No.: 3059493

Method: **EPA 904.0**
Description: 904.0 Radium 228
Client: PDC Laboratories, Inc.
Date: January 17, 2012

General Information:
6 samples were analyzed for EPA 904.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 1121476
Pace Project No.: 3059493

Sample: 1121476-09 **Lab ID: 3059493001** Collected: 12/12/11 15:25 Received: 12/16/11 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.422 ± 0.445 (0.621)**	pCi/L	01/10/12 13:28	13982-63-3	
Radium-228	EPA 904.0	**0.889 ± 0.528 (0.966)**	pCi/L	01/05/12 11:59	15262-20-1	

Sample: 1121476-11 **Lab ID: 3059493002** Collected: 12/12/11 15:50 Received: 12/16/11 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.000 ± 0.309 (0.733)**	pCi/L	01/10/12 13:57	13982-63-3	
Radium-228	EPA 904.0	**1.09 ± 0.597 (1.03)**	pCi/L	01/09/12 17:41	15262-20-1	

Sample: 1121476-12 **Lab ID: 3059493003** Collected: 12/12/11 16:30 Received: 12/16/11 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.857 ± 0.691 (0.923)**	pCi/L	01/10/12 13:57	13982-63-3	
Radium-228	EPA 904.0	**1.08 ± 0.556 (0.952)**	pCi/L	01/09/12 17:26	15262-20-1	

Sample: 1121476-13 **Lab ID: 3059493004** Collected: 12/12/11 19:35 Received: 12/16/11 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**-0.059 ± 0.454 (0.955)**	pCi/L	01/10/12 13:57	13982-63-3	
Radium-228	EPA 904.0	**0.968 ± 0.565 (1.01)**	pCi/L	01/05/12 12:14	15262-20-1	

Sample: 1121476-14 **Lab ID: 3059493005** Collected: 12/12/11 18:40 Received: 12/16/11 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.365 ± 0.550 (0.857)**	pCi/L	01/10/12 14:27	13982-63-3	
Radium-228	EPA 904.0	**1.80 ± 0.672 (0.985)**	pCi/L	01/09/12 17:26	15262-20-1	

Sample: 1121476-15 **Lab ID: 3059493006** Collected: 12/12/11 17:55 Received: 12/16/11 10:00 Matrix: Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.000 ± 0.452 (0.979)**	pCi/L	01/10/12 14:13	13982-63-3	
Radium-228	EPA 904.0	**0.378 ± 0.445 (0.937)**	pCi/L	01/05/12 12:01	15262-20-1	

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QUALITY CONTROL DATA

Project: 1121476
Pace Project No.: 3059493

QC Batch: RADC/10566 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 3059493001, 3059493002, 3059493003, 3059493004, 3059493005, 3059493006

METHOD BLANK: 382088 Matrix: Water
Associated Lab Samples: 3059493001, 3059493002, 3059493003, 3059493004, 3059493005, 3059493006

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-226	0.0269 ± 0.463 (0.831)	pCi/L	01/10/12 11:50	

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QUALITY CONTROL DATA

Project: 1121476
Pace Project No.: 3059493

QC Batch: RADC/10567 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 3059493001, 3059493002, 3059493003, 3059493004, 3059493005, 3059493006

METHOD BLANK: 382089 Matrix: Water
Associated Lab Samples: 3059493001, 3059493002, 3059493003, 3059493004, 3059493005, 3059493006

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-228	0.951 ± 0.546 (0.979)	pCi/L	01/05/12 12:00	

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QUALIFIERS

Project: 1121476
Pace Project No.: 3059493

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

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SUBCONTRACT ORDER

PDC Laboratories, Inc.

1121476

12/14/2011

PDC Laboratories, Inc.
2231 W. Altorfer Drive
Peoria, IL 61615
Project Manager: Janet L. Clutters
jclutters@pdclab.com Phone: 309-683-1743

3059493

PACE Analytical - Greensburg
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
Phone :(724) 850-5600

Sample Origin (State) IL

PO# L38872

Analysis	Due	Expires	Comments
Sample ID: 1121476-09	**Ground Water**		**Sampled: 12/12/11 15:25** 001
Rad 226 228	12/23/11 16:00	06/09/12 15:25	
Sample ID: 1121476-11	**Ground Water**		**Sampled: 12/12/11 15:50** 002
Rad 226 228	12/23/11 16:00	06/09/12 15:50	
Sample ID: 1121476-12	**Ground Water**		**Sampled: 12/12/11 16:30** 003
Rad 226 228	12/23/11 16:00	06/09/12 16:30	
Sample ID: 1121476-13	**Ground Water**		**Sampled: 12/12/11 19:35** 004
Rad 226 228	12/23/11 16:00	06/09/12 19:35	
Sample ID: 1121476-14	**Ground Water**		**Sampled: 12/12/11 18:40** 005
Rad 226 228	12/23/11 16:00	06/09/12 18:40	
Sample ID: 1121476-15	**Ground Water**		**Sampled: 12/12/11 17:55** 006
Rad 226 228	12/23/11 16:00	06/09/12 17:55	

Relinquished By	Date/Time	Received By	Date/Time
[signature]	12-14-11 15:35	[signature]	12-16-11 1000
Relinquished By	Date/Time	Received By	Date/Time

Sample Temperature Upon Receipt X.7 C
Sample(s) Received on Ice Y or (N)
Proper Bottles Received in Good Condition (Y) or N
Bottles Filled with Adequate Volume (Y) or N
Samples Received Within Hold Time (Y) or N
Date/Time Taken From Sample Bottle (Y) or N

JH

Sample Condition Upon Receipt

Pace Analytical

Client Name: PDC lab Project # 3059493

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 2317942150 00693

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Thermometer Used 3 (5) 6 Type of Ice: Wet Blue (None) ☐ Samples on ice, cooling process has begun

Cooler Temperature 8.7 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: JH 12-16-11

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody Filled Out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody Relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler Name & Signature on COC:	☐ Yes ☒ No ☐ N/A	4.
Samples Arrived within Hold Time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time Analysis (<72hr):	☐ Yes ☒ No ☐ N/A	6.
Rush Turn Around Time Requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient Volume:	☒ Yes ☐ No ☐ N/A	8.
Correct Containers Used:	☒ Yes ☐ No ☐ N/A	9.
-Pace Containers Used:	☐ Yes ☒ No ☐ N/A	
Containers Intact:	☒ Yes ☐ No ☐ N/A	10.
Filtered volume received for Dissolved tests	☐ Yes ☐ No ☒ N/A	11.
Sample Labels match COC:	☒ Yes ☐ No ☐ N/A	12.
-Includes date/time/ID/Analysis Matrix: WT		
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	13. 9ml added to all bottles
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	1100 12-16-11 ph<2
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐ Yes ☐ No	Initial when completed JH Lot # of added preservative CF11-0192-10
Samples checked for dechlorination:	☐ Yes ☐ No ☒ N/A	14.
Headspace in VOA Vials (>6mm):	☐ Yes ☐ No ☒ N/A	15.
Trip Blank Present:	☐ Yes ☐ No ☒ N/A	16.
Trip Blank Custody Seals Present	☐ Yes ☐ No ☐ N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Carrie Ferris **Date:** 12/19/11

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALLC003-4 23Feb2010

Table 3. East Yard Run-off Basin Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Date	12/14/2012		2/28/2013		5/13/2013	
Parameter	DL	Result	DL	Result	DL	Result
Antimony	0.0050	ND	0.003	ND	0.0030	ND
Arsenic	0.0050	0.0062	0.001	0.0043	0.0010	0.0030
Barium	0.0020	0.19	0.001	0.15	0.0025	0.16
Beryllium	0.0010	ND	0.001	ND	0.0010	ND
Boron	0.40	0.41	0.01	0.35	0.050	0.35 ^
Cadmium	0.0010	ND	0.001	ND	0.00050	ND
Chloride	50	220	50	200	10	130
Chromium	0.0030	0.0094	0.004	0.0041	0.0050	ND
Cobalt	0.0030	ND	0.002	ND	0.0010	ND
Copper	0.010	ND	0.003	0.0032	0.0020	0.0057
Cyanide	0.0050	ND	0.005	ND	0.010	ND
Fluoride	0.25	0.68	0.25	0.29	0.10	0.42
Iron	0.010	ND	0.01	0.025	0.10	0.62
Lead	0.0050	ND	0.001	ND	0.00050	0.0044
Manganese	0.0020	0.0026	0.001	0.0037	0.0025	0.060
Mercury	0.00020	ND	0.0002	ND	0.00020	ND
Nickel	0.010	ND	0.005	0.0066	0.0020	0.0029
Nitrogen/Nitrate	0.02	0.49	0.02	0.48	0.10	ND
Nitrogen/Nitrate, Nitrite	NS	NS	NS	NS	0.10	ND ^
Nitrogen/Nitrite	0.15	ND	NS	NS	0.020	ND
Perchlorate	NS	NS	NS	NS	0.0040	ND
Selenium	0.0050	ND	0.001	0.0037	0.0025	ND
Silver	0.010	ND	0.005	ND	0.00050	ND
Sulfate	50	280	50	220	50	160
Thallium	0.0010	ND	0.001	ND	0.0020	ND
Total Dissolved Solids	26	940	26	820	10	590
Vanadium	0.0080	0.015	0.005	0.011	0.0050	0.0071
Zinc	0.020	ND	0.006	ND	0.020	0.042
Benzene	0.005	ND	0.005	ND	0.00050	ND
BETX	0.03	ND	0.03	ND	0.00250	ND

Notes: All values are in mg/L (ppm) unless otherwise noted.
^ - Denotes instrument related QC exceeds the control limits
DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured
NR - Not Required
NS - Not Sampled

Exhibit D9

NIJMAN · FRANZETTI LLP

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312.251.5250 · fax 312.251.4610 · www.nijmanfranzetti.com

ennifer T. Nijman
@nijmanfranzetti.com

Susan M. Franzetti
sf@nijmanfranzetti.com

July 27, 2012

VIA OVERNIGHT MAIL

Illinois EPA
Division of Public Water Supplies
Attn: Andrea Rhodes, CAS #19
P.O. Box 19276
Springfield, IL 62794-9276

Re: Violation Notice: Midwest Generation, LLC, Powerton Generating Station
Identification No.: 6282
Violation Notice No.: W-2012-00057

Dear Ms. Rhodes:

In response to the above-referenced June 11, 2012 Violation Notice ("VN"), received on June 14, 2012, this written response is timely submitted on behalf of the Midwest Generation, LLC ("MWG"), Powerton Generating Station ("Powerton"). MWG also requests a meeting with the Illinois Environmental Protection Agency ("Illinois EPA" or the "Agency") to discuss the VN and information provided in this response.

MWG regrets that the Illinois EPA decided to issue the VN because MWG has tried to work cooperatively with the Agency concerning the hydrogeologic assessment of the coal ash ponds at Powerton even though it had significant concerns and objections to how the VN has proceeded in this matter.[1] Nevertheless, MWG complied with the Agency's request that it conduct a hydrogeologic assessment of the area around the coal ash ponds and followed its requirements and comments for how the hydrogeologic assessment should be conducted, even though it was under no legal obligation to do so.[2] At no time however did MWG agree that the scope and nature of the hydrological assessment the Agency required it to perform would provide any basis for concluding that the ash ponds were impacting groundwater. The alleged

[1] *See, e.g.*, MWG (B. Constantelos) letter to Illinois EPA (A. Keller) dated July 15, 2009. MWG is also working cooperatively with the USEPA with regards to the Coal Combustion Residuals Proposed Rules, EPA-HQ-RCRA-2009-0640, and is trying to coordinate the responses and requirements of both Agencies. USEPA first issued the proposed rules on June 21, 2010, and requested additional comments and information on Oct. 12, 2011. The additional information comment period closed on November 14, 2011, and MWG is now waiting for the USEPA to issue the final rule.

[2] MWG continues to reserve its objection that the Illinois EPA did not have the legal authority to require the hydrological assessments of the ash ponds under Sections 4 or 12 of the Illinois Environmental Protection Act (the "Act") or the Groundwater Quality Regulations, 35 Ill. Adm. Code Part 620.

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violations in the VN are based solely on the results of the hydrogeologic assessment MWG performed at the Agency's request. The results of the hydrogeologic assessment do not show that the coal ash ponds at the Powerton Station are impacting the groundwater and do not provide the necessary evidence to support the alleged violations contained in the VN.

Well prior to the issuance of this VN, MWG met with the Agency to discuss the groundwater monitoring results and to discuss cooperatively how to proceed based on those results, including what additional actions, if any, the Agency believed were necessary. The Agency told MWG that it had not yet decided how to proceed. The next development was the issuance of the VN. The VN itself provides no information concerning the basis for the Agency's apparent conclusion that the ash impoundments are the cause of the alleged groundwater impacts, other than the conclusory statement that "[o]perations at ash impoundments [sic] have resulted in violations of the Groundwater Quality Standards." The VN also provides no information concerning the nature or type of corrective action which the Agency may deem acceptable to address the alleged violations. The Agency is not pursuing this matter in a way that allows MWG to prepare an effective response or a Compliance Commitment Agreement.

This letter provides a detailed response to each of the alleged violations in Attachment A of the VN to the extent possible given the lack of information provided in the VN. It also advances MWG's general objection to the legal sufficiency of the notice of the alleged violations contained in the VN. MWG maintains that the Illinois EPA cannot prove the alleged violations in the VN, and does not, by submitting this response, make any admissions of fact or law, or waive any of its defenses to those alleged violations.

I. General Objection to the Legal Sufficiency of the Violation Notice

The VN does not comply with the requirements of Section 31 of the Act. Section 31(a)(1)(B) of the Act requires the Illinois EPA to provide a detailed explanation of the violations alleged. 415 ILCS 5/31(a)(1)(B). Under the Act, MWG is entitled to notice of the specific violation charged against it and notice of the specific conduct constituting the violation.[3] The VN fails to provide adequate notice to MWG of either the alleged violations or the activities which the Agency believes are necessary to address them. The VN states that "[o]perations at ash impoundments have resulted in violations of the Groundwater Quality Standards...." (Violation Notice, Attachment A, page 1, 1st paragraph) No further description of the alleged "ash impoundments" is provided in the VN. Multiple ash impoundments exist at the Powerton Station. It is impossible to identify from the contents of the VN what operations or activities at the Powerton Station the Agency is claiming are the cause of the alleged violations, including whether it is the Agency's position that each of the Station's ash ponds, or only certain ones,

[3] *Citizens Utilities Co., v. IPCB*, 9 Ill.App.3d 158, 164, 289 N.E.2d 642, 648 (2nd Dist., 1972) (a person is entitled to notice of the specific violation charged against it and notice of the specific conduct constituting the violation). *See also, City of Pekin v. Environmental Protection Agency*, 47 Ill.App.3d 187, 192, 361 N.E.2d 889, 893 (3rd Dist., 1977.

have caused the alleged violations. Absent an accurate or complete description of the activities or operations that the Agency is alleging caused the violations, it is also not possible to identify what action might be necessary to resolve them. Attachment A to the VN states: "Included with each type of violation is an explanation of the activities that the Illinois EPA believes may resolve the violation." However, no such explanation is provided in the VN. In sum, the VN fails to comply with the legal requirement that it include a detailed explanation of the violations alleged, does not inform MWG of the specific conduct constituting the alleged violations and provides no notice of what is necessary to resolve the alleged violations. The Section 31 process is based on fundamental principles of due process. MWG should not have to speculate about what activities it allegedly engaged in that caused the violations and how to address them to resolve the alleged violations. In the absence of this material, statutorily-required information, the Agency also has effectively denied MWG's statutory right to formulate an acceptable Compliance Commitment Agreement to submit for the Agency's approval.

The VN is also deficient regarding its explanation of what laws MWG has allegedly violated. The VN solely alleges that MWG violated "Section 12" of the Act. 415 ILCS 5/12. It does not provide any further specification as to which of the provisions of Section 12 MWG has allegedly violated.

Section 12 of the Act has nine subsections, consecutively numbered (a) through (i). Each of these subsections describes a different and distinct water pollution prohibition. 415 ILCS 5/12(a)-(i). However, the VN issued to MWG does not identify which of the nine subsections the Agency is alleging MWG violated. Based on the contents of Section 12 of the Act, the Agency is taking the position that MWG violated each and every one of the provisions of Section 12. Based on the relevant facts, it is highly unlikely that this is the intent of the VN. Therefore, the VN's general reference to Section 12 of the Act, without any other explanation, is not a "detailed explanation of the violations." This is yet another example of how the VN fails to provide MWG with adequate notice as a matter of law and thereby violates MWG's due process rights.[4]

By failing to provide a detailed explanation of the violations and any explanation of the activities that the Illinois EPA believes may resolve the violations, the Illinois EPA has effectively denied MWG the opportunity to properly and thoroughly respond to the alleged violations and to make an acceptable offer to resolve them. The VN's deficiencies conflict with the intent and purpose of Section 31 of the Act, which is to avoid unnecessary litigation. Therefore, MWG respectfully requests that the Agency rescind the VN and suspend any further enforcement action unless and until it has taken the necessary actions to correct and cure the legal deficiencies in the notice of the alleged violations by following the statutory requirements under Section 31(a)(1)(B) of the Act. 415 ILCS 5/31(a)(1)(B)

[4] *See, e.g., Grigoleit Co. v. Illinois EPA*, PCB 89-184, slip op at p. 11 (November 29, 1990) (Failure to notify permit applicant of alleged violations and provide an opportunity to provide information in response was a violation of applicant's due process rights).

II. Response to Alleged Violations in the VN

Subject to and without waiving its objections to the legal sufficiency of the VN, MWG nevertheless has attempted to discern the legal basis for the alleged violations and to prepare this response in defense to those allegations based on various assumptions. MWG reserves the right to supplement this response, including by submitting a separate response should the Agency provide the legally required notice under Section 31 of the Act.

The VN alleges "[o]perations at ash impoundments" at MWG's Powerton Station have resulted in violations of certain of the Groundwater Quality Standards at the respective monitoring wells identified in the VN. (Violation Notice at Attachment A) MWG believes the Agency's use of the term "ash impoundments" is intended to refer to the structures which the Powerton Station commonly refers to as "ash ponds;" that is how they will be referred to here. The Agency further alleges that the alleged violations of the groundwater quality standards in 35 Ill. Admin. Code Part 620 also constitute violations of Section 12 of the Act and the underlying groundwater regulations in 35 Ill. Admin. Code Part 620. It is undisputable that the Agency has the burden to prove these alleged violations both in proceedings before the Illinois Pollution Control Board ("Board") and in the courts.[5] However, the groundwater monitoring data on which the Agency primarily, if not solely, relies to assert these violations is not sufficient, legally or technically, to prove that any "ash impoundments" is the source of the alleged groundwater impacts. Further, based on the existing condition of the ash ponds, it is not likely that they are a source of the alleged impacts.

To support its defense to the alleged violations, MWG has set forth below a description of: (1) the condition and use of the ash ponds at Powerton; (2) the hydrogeologic assessment performed at the Powerton Station; (3) the site hydrology; and (4) why the analytical data from the monitoring wells does not establish that the ash ponds are the source of the alleged exceedances of the groundwater standards.[6] In addition, for certain of the alleged exceedances, additional information not considered by the Agency shows that it is either more likely, or at least as likely, that the source of the alleged exceedance is something other than the ash ponds. In either case, the Agency cannot sustain its burden to prove the alleged violations.

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[5] Section 31(e) of the Act provides in relevant part: "In hearings before the Board under this Title, the burden shall be on the Agency...to show either that the respondent has caused or threatened to cause...water pollution or that the respondent has violated or threatens to violate any provision of this Act or any rule or regulation of the Board or permit or term or condition thereof." 415 ILCS 5/31(e); *Citizens Utilities v. IPCB*, 9 Ill. App. 3d 158, 164, 289 N.E.2d 642, 646 (1972) (the Agency has the burden of proof in enforcement actions).

[6] In preparing this response, MWG closely reviewed the groundwater monitoring reports previously submitted to the Agency for the monitoring wells which are identified in the VN. In the course of this review, some data transcription errors were found in the previously submitted data tables included in the groundwater monitoring reports. Copies of the corrected data tables are enclosed. The tables are annotated to identify the nature of the corrections made to the previously submitted reports. The most significant changes are: (i) consistent with previous data for MW-1, there was no boron exceedance at monitoring well MW-1 in the first quarter 2012 sampling event; (ii) there was no exceedance of selenium at wells MW-7 (4th quarter 2011), MW-9 (1st quarter 2011) and MW-13 (August 2011); and (iii) there was no exceedance of mercury at well MW-12 (4th quarter 2010).

A. The Condition of the Ash Ponds

For several reasons, the construction and operation of the Powerton ash ponds makes it unlikely that they are the cause of the alleged violations. The construction and operation of the ponds minimizes the potential for leakage from the ash ponds to groundwater.

First, the Powerton ash ponds are not disposal sites. The ash that enters the ponds is routinely removed. This operating condition limits the amount of ash accumulated over time which serves to minimize the potential for the release of ash constituents to the groundwater.

Second, unlike many other ash ponds in Illinois, two of the ash ponds at Powerton, the Ash Surge Pond and the Ash Bypass Basin are lined to prevent releases to groundwater. The third pond, the Secondary Ash Settling Basin, is not presently lined. However, as described below, there are no groundwater exceedances of coal ash constituents downgradient of the Secondary Ash Settling Basin, thus supporting the conclusion that it is not a source. When the final federal Coal Combustion Residual Rules are issued, MWG will rely on those rules to make a decision regarding any further modifications to, or the continued use of, the Secondary Ash Settling Basin.

The Ash Surge Pond at Powerton is constructed of Poz-o-Pac material which meets accepted standards for preventing the migration of constituents to the environment.[7] The permeability of the Poz-o-Pac liner is 10^{-7} cm/sec. Notably, this is the same degree of permeability that is required in the Board Regulations for constructing a new solid waste landfill where, unlike the ash ponds, waste materials are to be disposed of on a permanent basis. *See* 35 IAC 811.306(d). Pursuant to a construction permit issued by the Agency, the second ash pond, called the Ash Bypass Basin, was relined in 2010 with a high-density polypropylene (HDPE) liner.[8] The HDPE liner provides an even greater degree of protection against leakage with a permeability of approximately 10^{-13} cm/sec. The liners in the two ash ponds achieve and exceed the level of permeability which the Illinois regulations expressly recognize is sufficient to prevent the release of constituents to the environment. Hence, the facts regarding the liners in place for these two ash ponds also support the conclusion that the ash ponds are not the source of the exceedances of groundwater standards alleged in the VN.

The VN contains no facts concerning the condition of the liners in the Powerton ash ponds that would indicate that they are allowing ash constituents to escape from the ponds. For example, the Agency does not contend that there are any breaches in the integrity of the ash pond liners that are allowing ash constituents to be released to the groundwater. The Agency similarly does not claim that the materials used for the existing liners are inadequate to prevent the migration of constituents, and it would be hard pressed to do so given that the materials either meet or exceed the analogous requirements for Illinois landfills. In the absence of such

[7] Poz-o-Pac is an aggregate liner similar to concrete.
[8] *See* Illinois EPA Water Pollution Control Permit No. 2010-EP-0664 for the Bypass Basin Expansion and Liner Upgrade

evidence, it is certainly far more likely than not that the existing ash ponds at the Powerton Station are not the source of the groundwater impacts alleged in the VN.

B. Hydrogeologic Assessment and Site Hydrology

The VN appears to be based on the flawed premise that the hydrogeologic assessment which the Agency directed MWG to perform in the vicinity of the ash ponds would be sufficient to identify the ash ponds as the source of any elevated levels of constituents in the groundwater. This is simply not the case. The results of the hydrogeologic assessment at best give rise to more questions about the source of the alleged groundwater impacts, and do not prove that the existing ash ponds are the source of those impacts.

The results of the hydrogeologic assessment show that there is some complexity to the site hydrology at Powerton. The complexity of the groundwater flow system arises from the existence of two distinct, though connected, groundwater units underlying the Powerton Station. The first unit is a localized, saturated silt and clay layer and the lower unit is a more extensive sand layer. When the groundwater elevations from all fifteen of the existing monitoring wells are plotted and analyzed for a single monitoring event (*i.e.,* the silt/clay unit wells and the sand unit wells), the groundwater flow system appears very complex. It shows a general groundwater flow direction of south to north, but with very unusual, localized groundwater highs, making a reasonable interpretation of groundwater flow difficult and suggests the presence of some localized, divergent flow. However, when the five monitoring wells that are screened in the silt/clay unit and the ten wells that are screened in the sand unit are plotted separately, it becomes evident that there are two distinct, though connected, groundwater units beneath this portion of the Site. In both units, the groundwater flows from the south/southeast to the north/northwest, toward the adjoining outlet channel west of the ponds. The elevation of the groundwater surface is approximately 10 feet higher in the silt/clay unit than in the sand unit. Because both units flow in the same direction and are in direct physical contact with each other, it is likely that they share some degree of hydraulic connection. Given this groundwater flow system, the data provides no indication of divergent or radial flow associated with the ash ponds.

The VN's allegations fail to make any distinctions among the fifteen monitoring wells that have been installed at the Powerton Station. There is no apparent attempt to evaluate the quarterly groundwater monitoring results, whether on a parameter-by-parameter basis or relative to each of the ash ponds themselves. When these evaluations are performed, the results show that the monitoring data does not support the VN's allegations that the operations of the ash impoundments have caused these groundwater impacts. The results of the evaluations are set forth below, beginning with the parameter-by-parameter evaluation.

Boron and sulfate are constituents known to be associated with coal ash. However, the monitoring data does not support a finding that the alleged boron and sulfate exceedances are due to the operations of the ash ponds. There are no exceedances of boron concentrations in any of the wells within the clay unit (*i.e.,* MW-6, MW-8, MW-12, MW-14 and MW-15) and boron is generally considered a reliable tracer of potential ash leachate impacts. Further, in the course of

this review, a transcription error was discovered in the previously reported first quarter 2012 groundwater sampling results for monitoring well MW-1. There was no exceedance of boron at monitoring well MW-1 in the first quarter 2012 sampling event, which is consistent with previous monitoring results for this well. Corrected data tables for the Powerton groundwater monitoring wells quarterly monitoring results are included with this response.

In addition, of all of the clay unit wells, only MW-14 had reproducible exceedances of sulfate. MW-15 had only one exceedance of sulfate, which did not occur again in any of the subsequent quarterly monitoring results. The remaining groundwater monitoring wells sampling results have reported no sulfate exceedances. Of the monitoring wells located in the underlying sand unit, only wells MW-9 and MW-13 had reproducible exceedances for either boron or sulfate.

As further discussed below, monitoring well MW-9 is the furthest upgradient well within the overall monitoring network. It has the highest detections of boron relative to all the other wells, with the exception of well MW-13. However, monitoring well MW-13 was not installed as part of the hydrogeologic assessment of the ash ponds. It was installed as an upgradient monitoring point pursuant to the construction permit requirements for the Metals Cleaning Basin, which as its name implies, does not receive or store any coal ash. The Metals Cleaning Basin is not associated in any way with the ash storage pond system. Thus, boron present in MW-13 is not evidence of any impact caused by the operation of the ash ponds.

Turning to the alleged pH exceedances, all nine pH exceedances noted in the VN were from a single sampling event - the December 2011 sampling event. They were not detected in the previous quarterly sampling events and have not been repeated since the December 2011 sampling event. Moreover, for MW-2, the alleged pH exceedance reported from this December 2011 sampling event is the only exceedance detected for any parameter over all of the six consecutive quarters of sampling. Given that pH is a field parameter, and no other pH exceedances were detected in any of the wells in any of the other quarterly sampling events, it is far more likely that the December 2011 pH measurements were associated with a malfunctioning field meter. Therefore, the December 2011 pH monitoring results are not indicative of alleged impacts from the ash ponds or that the groundwater in the vicinity of the subject monitoring wells is actually exceeding the pH standard.

A review of the chloride groundwater monitoring results also shows that they are not associated with the operations of the ash impoundments, as alleged in the VN. There were alleged chloride exceedances at monitoring well locations MW-8, MW-12, MW-14 and MW-15. Except for well MW-8, each of these was a single non-reproducible exceedance at each location. At monitoring well MW-8, the chloride exceedances are from only the last two rounds of the six consecutive quarters of groundwater sampling. Chloride is not an indicator of potential coal ash impacts. There are various other potential non-ash related sources of this compound. None of the wells where these alleged chloride exceedances were found had any exceedances of the boron standard.

The only exceedance detected for thallium in all six, consecutive sampling events is an isolated exceedance recorded for a single monitoring well, MW-14. Monitoring well MW-14 was not installed as part of the hydrogeologic assessment of the ash ponds. It instead was installed as a downgradient monitoring well for the Metals Cleaning Basin, which is not associated with the ash storage pond system. Thallium is not a constituent typically associated with ash storage facilities. It was not detected in any of the other fourteen monitoring wells at the Powerton Station in any of six consecutive quarters of groundwater monitoring. Hence, the isolated and unique detection of thallium is not evidence of a release from the ash ponds.

The alleged selenium and mercury exceedances alleged in the VN are almost exclusively the result of transcription errors which occurred in the previous reporting of these results to the Agency. There was no exceedance of selenium detected at monitoring wells MW-7 (4th Quarter 2011), MW-9 (1st Quarter 2011) and MW-13 (3 rd Quarter 2011). The original laboratory data package shows selenium concentrations at ten times lower than what was reported in the monitoring results submitted to the Agency. In the quarterly reports submitted to the Agency, the decimal point was erroneously placed in the reported monitoring values, resulting in the reporting of values ten times higher than the actual laboratory results. The single selenium exceedance in monitoring well MW-14 is an isolated event, which occurred over a year ago. No subsequent selenium exceedances have been reported in the quarterly sampling events to date. Like thallium, the isolated detection of selenium is not evidence of a release from an ash pond. There also was no exceedance of mercury at well MW-12 (4th Quarter 2010). The previously reported elevated mercury level was also due to a transcription error. The corrected selenium and mercury groundwater monitoring results are included in the enclosed, corrected Tables.

In summary, a parameter-by-parameter evaluation shows that the monitoring data does not support the VN's allegation that the operation of the ash ponds has caused the alleged exceedances. Isolated monitoring well results showing exceedances of a given parameter that are not seen in any of the other fourteen monitoring wells (*e.g.,* thallium, selenium) do not support the VN's allegations. Multiple pH exceedances from a single sampling event are more indicative of an equipment error than actual groundwater conditions. Similarly, the chloride exceedances, most of which were not reproducible in subsequent sampling events and none are which are associated with boron and sulfate exceedances, also are not consistent with the ash ponds being the source of the exceedances. For other parameters, such as arsenic, manganese and iron, the monitoring results are far more consistent with the presence of a reducing environment in the area of groundwater where these elevated levels were detected. Finally, the alleged exceedances for selenium are not real. They are the result of transcription errors which occurred in the preparation of its quarterly reporting to the Agency due to the incorrect placement of a decimal point in the monitoring results values. This is now corrected in the enclosed Tables.

The separate evaluation of the groundwater monitoring results relative to each of the three active ash ponds and the former ash pond individually also reveals several deficiencies in the alleged violations. Each of these ash ponds is discussed separately below.

Ash Bypass Basin:

The furthest south (upgradient) pond is known as the "Ash Bypass Basin." As previously stated, the Ash Bypass Basin was relined with a HDPE liner in 2010. Monitoring well MW-9 is the upgradient monitoring well for the Ash Bypass Basin and wells MW-11 and MW-12 are the two immediately downgradient wells. Monitoring well MW-12 is screened within the silt/clay unit and monitoring wells MW-9 and MW-11 are screened within the underlying sand unit. For upgradient well MW-9, multiple exceedances of boron and manganese were detected. Monitoring well MW-11 had one exceedance of boron, but this occurred during the last round of quarterly sampling and hence, additional monitoring data is not yet available to determine whether this is an isolated event. While there were multiple exceedances of manganese in monitoring well MW-12, it did not have any reported exceedances of boron. The highest boron concentrations were reported in upgradient well MW-9. This indicates that the boron source is not associated with the operation of the Ash Bypass Basin. Further, the manganese concentrations in well MW-12 are similar to the concentrations measured at upgradient well location MW-9; however, the manganese concentrations at MW-11 (ranging from 2.2 mg/l to 3.6 mg/l) are higher than in the upgradient well which ranges from 0.19 mg/l to 0.48 mg/l. Elevated manganese concentrations can be associated with sources other that ash ponds and can be reflective of localized mineralogy and reduction-oxidation (redox) conditions, especially when elevated levels of both boron and sulfate are absent. Similarly, the alleged iron exceedances in well MW-12 can also be reflective of localized mineralogy and redox conditions especially in the absence of elevated concentrations of boron and sulfate, as is the case here.

The conclusion that the elevated manganese and iron levels are not due to the operation of the ash ponds is further supported by analytical testing performed in August 2008 of plant bottom ash, fly ash and fines. The analytical testing, which included Toxic Characteristic Leaching Procedure (TCLP) analyses, provides relevant information concerning the leaching nature of the ash compounds. The analytical data shows no detections of manganese in TCLP leachate from any of the samples. The leached iron detections range from non-detect to 0.044 mg/l, which is substantially lower than the iron exceedances in monitoring well MW-12. The analytical data does not support the VN's allegations that the source of the alleged exceedances in these monitoring wells is associated with the operation of the Ash Bypass Basin.

The weight of the evidence shows that the Ash Bypass Basin is not causing the alleged groundwater impacts. Moreover, even if a case could be made that it was, MWG has already taken the necessary steps to address it. As described above, the Ash Bypass Basin was relined in 2010 with a state of the art HDPE liner.

Ash Surge Pond:

The Ash Surge Pond is located north (*i.e.*, downgradient) of the Ash Bypass Basin. It is the largest of the ash ponds and is lined. Monitoring wells upgradient of the Ash Surge Pond are MW-12, MW-11 (previously discussed above because they are also downgradient of the Ash Bypass Basin) and monitoring well MW-10. Wells MW-15 and MW-8 are immediately

downgradient of the Ash Surge Pond.[9] Monitoring wells MW-8 and MW-15 are screened within the silt/clay unit and well MW-10 is within the underlying sand unit.

Upgradient well MW-10 had multiple reported exceedances of manganese, ranging from 2.1 mg/l to 3.8 mg/l.[10] (Downgradient well MW-15 has six exceedances of manganese ranging from 0.25 mg/l to 0.60 mg/l and well MW-8 has five exceedances of manganese ranging from 0.18 to 0.28 mg/l. The downgradient concentrations of manganese are clearly lower than in the upgradient wells suggesting that the manganese is not associated with operation of the Ash Surge Basin. It is also noted that neither wells MW-8 nor MW-15 have exceedances of boron, an ash impact indicator. There is also only one reported exceedance of sulfate in monitoring well MW-15 (650 mg/l), which was not reproducible during subsequent, consecutive sampling events. This alleged, isolated sulfate exceedance also was anomalously and significantly higher than all other sulfate detections at this monitoring well location, which ranged from 140 mg/l to 300 mg/l. Hence, the level of the single, alleged sulfate exceedance at MW-15 is more than twice that of any other reported value for this monitoring well.

Monitoring well MW-13 is slightly side gradient of the Ash Surge Basin (located just west of the southwest corner of the basin). As discussed previously, the boron and sulfate detections at this location were the highest of any monitoring well. These levels do not support a finding that that they are caused by the Ash Surge Basin's operations because none of the downgradient monitoring wells from this basin had any similar boron and sulfate levels detected throughout numerous, consecutive sampling events.

Ash Settling Pond:

The Ash Settling Pond is located to the north (downgradient) of the Ash Surge Basin. Monitoring well MW-8's location is considered upgradient of this pond. Monitoring wells MW-6 and MW-7 are immediately downgradient of the Ash Settling Pond. MW-6 is screened within the silt/clay unit and MW-7 is screened within the underlying sand unit. None of these three wells (MWs 6, 7 or 8) had reported exceedances of boron or sulfate. The range of boron detections at MW-6 (0.35 mg/l to 0.63 mg/l) and at MW-7 (0.34 mg/l to 0.61 mg/l) are significantly lower than the range of boron detections in the upgradient monitoring well MW-8 (0.57 mg/l to 0.93 mg/l). Hence, the monitoring data indicates that the concentrations of boron are lower on the downgradient side of the Ash Settling Pond. The same observation is true for the sulfate levels among these same monitoring wells. These findings support the conclusion that the alleged groundwater impacts in the vicinity of the Ash Settling Pond are not associated with its operation.

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[9] Monitoring well MW-15 is also adjacent to the northwest corner of the Metals Cleaning Basin, which is not part of the ash pond system.

[10] The manganese levels are similar to the elevated detections in monitoring well MW-11. Hence, these results are further evidence that the elevated manganese at MW-11 is not associated with the operation of the Ash Bypass Basin because monitoring well MW-10 is approximately 600 feet away from the Ash Bypass Basin and is not downgradient of it.

There were other alleged exceedances in MW-6 and/or MW-7, including a single alleged exceedance of chloride (MW-6) and one for lead (MW-7), as well as manganese, arsenic, iron, and Total Dissolved Solids (TDS)[11], as discussed above regarding iron and manganese, in the absence of elevated concentrations of the coal ash indicators such as boron and sulfate, these alleged exceedances are as likely due to other sources that are unrelated to the Ash Settling Pond or any of the other Powerton ash ponds.

Former Ash Pond:

Monitoring wells MW-1 through MW-5 are located around a former ash pond which is no longer in operation. Monitoring wells MW-1 and MW-10 are located upgradient of this former ash pond. Monitoring wells MW-2 through MW-5 are located downgradient of it. All six of these wells are screened within the sand unit. None of these wells have any exceedances of boron or sulfate. The single boron exceedance noted in the VN for these wells was at well MW-1, which a further review has found to be a transcription error in the prior reporting to the Agency. (See corrected value for MW-1 in enclosed Tables) The boron levels both upgradient and downgradient of the former ash pond are similar to each other, further evidence that the former ash pond is not the source of groundwater impacts. Although there are alleged manganese exceedances in monitoring wells MW-4 and MW-5, the range of these manganese values was lower than in these wells than in the upgradient monitoring well MW-10. The single alleged nitrate exceedance in upgradient monitoring well MW-1 is an isolated, unconfirmed exceedance that is insufficient to prove a violation of the nitrate standard. Further, there are various sources of nitrate in groundwater that are not associated with ash pond operations, especially when no elevated levels of known coal ash indicator compounds are present, which is the case here.

The Agency's broad and all-encompassing allegations regarding the ash ponds are simply not supported by a careful evaluation of the underlying groundwater monitoring data for the respective monitoring wells that are located upgradient and downgradient of each of the subject ash ponds. The groundwater monitoring data on which the VN is based is not sufficient to show that the ash ponds are the source of the alleged exceedances.

C. The Powerton Ash Ponds Are Not Causing Groundwater Exceedances

Because the Agency failed to specify which of the provisions of Section 12 of the Act MWG allegedly violated, MWG has had to speculate to identify the potential Section 12 violations this response needs to address. As stated above, MWG objects to the vagueness of, and legally deficient notice provided by, the VN and reserves its right to respond further when and if the Agency properly identifies the provisions of Section 12 on which it is relying.

[11] The single alleged exceedance for selenium in MW-7 that is included in the VN is due to a transcription error in prior reporting of monitoring results to the Agency. It has been corrected in the enclosed Tables.

For purposes of this response, based upon the regulations cited by the Agency in the VN, MWG has assumed that the Agency's alleged violations of Section 12 are limited to Sections 12(a), which prohibits causing or allowing water pollution, and to Section 12(d), which prohibits causing or allowing the creation of a water pollution hazard. 415 ILCS 5/12(a), (d). Based on these assumptions regarding the substance of the Illinois EPA's alleged violations, MWG submits that the Agency cannot show that the ash ponds at Powerton caused or allowed water pollution or created a water pollution hazard.

The overwhelming number of the alleged exceedances of the Class 1 groundwater standards are random and inconsistent. For all but a few of the parameters, the necessary confirmation of the existence of groundwater impacts above the Class 1 groundwater standards is absent. For the remaining few, the data is insufficient to prove that the source is one or more of the subject ash ponds.

To show a violation of Section 12(a) and 12(d), there must be a showing not only of the presence of a potential source of contamination, but also that it is in sufficient quantity and concentration to render the waters harmful. *Bliss v. Illinois EPA,* 138 Ill. App. 3d 699, 704 (1985) ("mere presence of a potential source of water pollutants on the land does not necessarily constitute a water pollution hazard"). In other words, there must be a causal link between the potential source and the water or groundwater. The groundwater monitoring data on which the Agency relies does not establish this essential causal link between the ash ponds and the groundwater. Therefore, the Agency has failed to meet its burden to prove that the ash ponds are the cause of the alleged exceedances of the groundwater standards as required to prove a violation of Sections 12(a) or 12(d) of the Act. 415 ILCS 5/12(a), (d).

Illinois EPA also alleges violations of the groundwater quality regulations based on exceedances of the groundwater quality standards in 35 Ill. Admin. Code § 620.401. There is no violation here of Section 620.401. Section 620.401 solely provides the legal criteria that groundwater must meet the standards appropriate to the groundwater's class. It is a foundational regulation, allowing for different classes of groundwater to meet different groundwater standards. It is not a prohibition regulation. There is no conduct prohibited by this section of the regulations in which MWG is alleged to have engaged. MWG cannot and did not violate Section 620.401.

The remaining alleged groundwater regulation violations, Sections 620.115, 620.301, 620.405, and 620.410 of the Board Regulations, are all based on the Agency's contention that MWG's operation of the ash ponds has caused the exceedances of the groundwater standards detected in the monitoring data. To sustain these allegations, the Agency must show that MWG caused a discharge of the subject constituents from ash ponds which in turn caused the

exceedances of the groundwater standards.[12] The relevant facts and circumstances do not support either conclusion.

The use and condition of the ash ponds does not support a finding that they are releasing constituents to the groundwater. They are not disposal sites. The ash is regularly removed from the ponds by MWG. The linings in two of the ash ponds are of sufficient permeability, consistent with accepted regulatory guidance, to prevent the release of constituents. Moreover, the groundwater down-gradient of the only unlined ash pond shows no impacts from coal ash constituents. Finally, pursuant to the terms of the Powerton Station's NPDES Permit, these ash ponds are part of the flow-through wastewater treatment process at the station. MWG's operation of the ash ponds has been carried out in accordance with the terms and conditions of the NPDES Permit. Under Section 12(f) of the Act, compliance with the terms and conditions of any permit issued under Section 39(b) of the Act is deemed compliance with this subsection.

Similarly, the groundwater data on which the Agency relies does not provide a sufficient scientific or technical evidentiary basis on which to conclude that the ash ponds are causing the alleged groundwater exceedances. The essential "causal link" between the ash ponds and the elevated constituents in the groundwater is missing. The data is at best inconclusive on this issue, while certain aspects of the data clearly point to other, unrelated causes.

Because the ash ponds have not been shown to have caused a release of any contaminants that are causing the groundwater exceedances, the Agency's VN does not support its claims that MWG has violated Sections 620.405 or 620.301 of the Board regulations. Accordingly, MWG also has not violated Section 620.115 of the Board regulations.

III. Compliance Commitment Agreement

This VN should not have been issued. Given the absence of proof that the ash ponds are the cause of the alleged groundwater exceedances, the Agency's request for a Compliance Commitment Agreement (CCA) is an attempt to compel MWG to conduct unnecessary corrective action.

Moreover, with the pending federal regulatory process to enact regulations for the design and operation of ash ponds, it is prudent to await the outcome of the proposed federal regulations to determine whether any changes to the ash ponds construction or operation are required by those regulations. The Agency itself has previously advanced this position. In 2010, the Agency's Steven Nightingale testified before the Illinois Pollution Control Board that the Board should consider initiating a temporary moratorium on the closure of coal ash impoundments because of the U.S. EPA's intention to regulate them. (*See In the Matter of Ameren Ash Pond Closure Rules (Hutsonville Power Station): Proposed 35 Ill.Adm.Code Part 840.101 Through*

[12] *See People of the State of Illinois v. ESG Watts, Inc.*, PCB 96-107 slip op. at p. 41 (February 5, 1998) (By finding the respondent caused a discharge of constituents into the groundwater causing a violation of the Class II Groundwater standards, the Board found the respondent also violated 35 IAC §§ 620.301 and 620.115).

840.152, Docket R09-21 (October 7, 2010) at p. 64) On behalf of the Agency, Mr. Nightingale told the Board that if industry had to take action in the interim, it "could end up expending substantial money and resources only to find they are subject to additional and/or different closure requirements for those units." (*Id.*) The Agency's pursuit of this enforcement action, particularly given the deficiencies in its alleged evidence, also threatens to force MWG to take actions that may conflict with or otherwise differ from the requirements in the upcoming federal regulations.

As the hydrogeologic assessment showed, there is no threat to human health presented by the alleged exceedances of the groundwater standards. The hydrogeologic assessment investigated the presence of potable water sources within a 2,500-foot radius of the site. Six wells are located within the 2,500-foot radius of the site; however none of the wells are down-gradient of the ash ponds. In fact, two of the wells supply the Powerton Station with water, and are regularly sampled for potable water constituents. The sampling results have consistently been in compliance with potable water regulations.[13] In the absence of any potable groundwater receptors or use, groundwater at the Powerton site does not pose any risk to human health. Accordingly, awaiting the outcome of the federal regulatory proposal is appropriate under these circumstances.

Because MWG's preference is to cooperate with the Agency in this matter, MWG presents here a proposed CCA that should be acceptable based on the relevant facts and circumstances. The proposed CCA terms are as follows:

A. The ash ponds will not be used as disposal sites and ash will continue to be removed from the ponds on a periodic basis.

B. MWG has installed a new liner in the Ash Bypass Basin that provides protection against the migration of ash constituents to the groundwater.

C. The ash ponds and the Ash Bypass Basin will be maintained and operated in a manner which protects the integrity of the existing liners. During the removal of ash from the ponds, appropriate procedures will be followed to protect the integrity of the existing liners, including operating the ash removal equipment in a manner which minimizes the risk of any damage to the liner.

D. During the ash removal process, visual inspections of the ponds will be conducted to identify any signs of a breach in the integrity of the pond liner. In the event that a breach of the pond liner is detected, MWG will notify the Agency and will submit a corrective action plan for repair or replacement, as necessary, of the liner. Upon the Agency's approval, and the issuance of any necessary construction permit, MWG will implement the correction action plan.

[13] See previously submitted Hydrogeologic Assessment of Midwest Generation Electric Generation Stations: Will County Station, Waukegan Station, Joliet 29 Station, Crawford Station, Powerton Station.

E. MWG proposes to establish a Groundwater Management Zone ("GMZ") below the ash ponds pursuant to Section 620.250 of the Board's regulations. 35 Ill. Admin. Code § 620.250. The corrective action required by the GMZ regulations is addressed by the existing pond liners. MWG is also willing to evaluate the inclusion of institutional controls regarding the area of impacted groundwater, provided that any institutional controls allow for the continued use of the Powerton potable water wells which are located outside of the subject area and for which regular, repeated testing has confirmed are not affected.

F. MWG will continue to monitor the groundwater through the existing fifteen groundwater monitoring wells and report its findings to Illinois EPA, pursuant to Section 620.250(c) of the GMZ Regulations, 35 Ill. Admin. Code § 620.250(c). MWG reserves the right to request the Agency's approval of a cessation of all or some of the monitoring requirements based on future monitoring results.

G. MWG will continue to monitor the development of the Coal Combustion Residuals Proposed Rules, EPA-HQ-RCRA-2009-0640. When the final rule is issued, MWG will promptly notify Illinois EPA how it will comply with the new Federal Rules.

This letter constitutes our response to and proposed CCA for the Violation Notice W-2012-00057. MWG also reserves the right to raise additional defenses and mitigation arguments as may be necessary, in defense of the allegations listed in the Violation Notice in the event of any future enforcement. We look forward to discussing the above information further at the soon to be scheduled meeting with the Agency's representatives. Please contact me to schedule a mutually convenient date for the meeting.

Very truly yours,

Susan M. Franzetti
Counsel for Midwest Generation, LLC

Enclosures

cc: Maria L. Race, Midwest Generation, LCC

Exhibit D10

PATRICK
ENGINEERING

August 18, 2010

Mr. Joe Bocian
Project Manager
Edison Mission Energy (EME)
Midwest Generation, LLC
235 Remington Boulevard
Suite A
Bolingbrook, Illinois 60440

Subject: Proposal for Ash Pond Investigation
Powerton Generating Station
Pekin, Illinois
Reference: Patrick Proposal Number: 2B053.568

Dear Mr. Bocian:

Patrick Engineering Inc. (Patrick) is pleased to present this proposal to Midwest Generation, LLC (MWG) to implement a hydrogeologic assessment plan at the on-site ash impoundment areas at the Powerton Generating Station in Pekin, Illinois (the Site).

This assessment is to be performed as a result of numerous communications between MWG and the Illinois Environmental Protection Agency (Illinois EPA), the most recent being a meeting held at the Illinois EPA's offices in Springfield, Illinois on June 10, 2010. During that meeting, a conceptual approach to completing hydrogeologic assessments of MWG's ash ponds at a number of sites (including Powerton) was presented by MWG and agreed to by the Illinois EPA. This letter proposal describes the scope of work associated with that conceptual agreement, and includes a schedule for its implementation, and its associated costs.

SCOPE OF SERVICES

The scope of work conceptually outlined during the June 10, 2010 meeting with the Illinois EPA is outlined below:

Task 1: Installation of Groundwater Monitoring Wells
Task 2: Hydraulic Testing of Selected Wells
Task 3: Topographic and Water Elevation Surveys
Task 4: Sampling and Analytical Testing
Task 5: Assessment Reporting

Each of these tasks is described briefly below.

MWG13-15_10759

Task 1: Installation of Groundwater Monitoring Wells
Ten (10) permanent groundwater monitoring wells will be installed approximately 400 feet apart around the perimeter of the ash disposal ponds. Two of the wells will be up-gradient of the ponds; the other eight wells will be down-/side-gradient wells. The borings will be advanced using hollow-stem augers to an approximate depth of 40 feet below ground surface. Soil samples will be collected at regular intervals and logged by the geologist/engineer. The final depth of the borings will be determined in the field by an experienced geologist/engineer based upon the depth that groundwater is encountered. Upon termination of the soil borings, a 2-inch-diameter PVC well will be installed in order to collect samples of the groundwater in the uppermost aquifer. The actual depth of the screened interval will be determined in the field. The wells will be completed to approximately 3 feet above grade with PVC casing and covered with a stick-up, steel well protector.

Task 2: Hydraulic Conductivity Testing
All wells will be developed using either peristaltic pump (low flow) or by hand bailing until at least three well volumes have been removed and the evacuated water appears clear. Five of the ten wells will be selected for hydraulic conductivity testing using rising- and falling-head slug tests. Each slug test will be performed by inserting a 'slug' into the well and instantaneously displacing water in the well. A down-hole water level measuring and recording device will measure the rate at which the water level returns to its static level. The slug will then be removed, lowering the water level in the well, and we will again measure the rate at which the water level recovers to its static level. This data will be used to calculate the hydraulic conductivity of the uppermost aquifer at the Site.

Task 3: Water Elevation and Topographic Surveying
The top-of-casing and ground surface elevations of all installed monitoring wells will be surveyed as well as groundwater elevations within each of the monitoring wells. The survey crew will also concurrently measure the water elevation in all of the ash ponds, Lake Powerton, the Illinois River, the intake and outflow channels, and other surface water bodies nearby. This data will assist Patrick in determining the hydrogeologic flow characteristics of the Site. The survey data will also assist Patrick in constructing geologic cross-sections of the Site.

Task 4: Groundwater Sampling and Analytical Testing
Groundwater elevation will be measured in each of the ten wells, and pH and conductivity measurements will be obtained using a portable meter. Groundwater samples will be collected from each of the wells with a peristaltic pump, using low-flow sampling techniques. The groundwater samples will be filtered in the field using a disposable, 0.45µm, in-line filter to allow for the analytical testing of dissolved compounds. The samples will be immediately placed on ice in a cooler and kept at a temperature no higher than 4°F. The samples will be transported to TestAmerica, an Illinois-EPA accredited analytical laboratory, under strict chain-of-custody procedures.

The analytical laboratory will test groundwater samples from each of the wells for the compounds listed in the attached Table 1. Proposed analytes include the inorganic compounds

listed in Illinois Administrative Code, Title 35: Environmental Protection, Part 620, Groundwater Quality, Section 620.410(a), excluding radium and poly-aromatic hydrocarbons (PAHs) listed in Section 620.410(b).

Task 5: Assessment Reporting
Patrick will develop a summary report detailing the field methods employed and results of the assessment investigation. This report will include soil boring logs and monitoring well construction diagrams, geologic cross-sections, analytical data tables, hydraulic conductivity testing results, a potentiometric surface map, and a map detailing locations of nearby potable water wells. A draft copy of the report will be forwarded to MWG for review and comment. Patrick will resolve and incorporate MWG comments and prepare a final report for submittal to the Illinois EPA.

Throughout implementation of the ash pond assessment, Patrick will communicate and coordinate the investigative effort with MWG through a series of phone calls/conferences and periodic meetings as needed. We have assumed that at least one weekly meeting (in person or via phone) will be needed throughout the duration of the investigation project.

ASSUMPTIONS AND LIMITATIONS

Patrick has made certain assumptions in preparing this proposal:

1. MWG will provide access to the Site during normal business hours (7:00 am to 6:00 pm);
2. Groundwater will be encountered within 30 feet of ground surface;
3. All field work will be accomplished using modified Level C personal protective equipment; and
4. Any soil cuttings generated during well installation can be scattered on the ground surface around the boring/monitoring well locations or otherwise disposed of on site.

PROJECT FEE AND AGREEMENT

Patrick proposes to perform the Scope of Work described above on a time-and-materials basis, under the terms and conditions of the existing agreement between Patrick and Midwest Generation, LLC (Terms and Conditions for Procurement of Services and Materials, dated April 15, 2004). The estimated budget for the above Scope of Work is shown below:

Task 1: Installation of Ten Groundwater Monitoring Wells		
A. Subcontract Drilling		$25,000
B. Patrick Oversight		$16,500
Task 2: Hydraulic Testing of Selected Wells		$ 9,000
Task 3: Topographic and Water Elevation Surveys		$11,000
Task 4: Groundwater Sampling (Patrick Labor only)		$12,000
Task 5: Assessment Reporting		$19,000
	Total:	**$ 92,500**

The actual costs for these services may vary based on the effort necessary to complete the scope of services as described above. The budget will not be exceeded without prior MWG approval.

The fees for Task 1 include the cost for Patrick to sub-contract a drilling firm to install the monitoring wells. Patrick sent out bid packages to four (4) drilling contractors with whom we have prior experience. The cost incorporated into the fee for Task 1 reflects the lowest of these bids. MWG will subcontract directly with TestAmerica, Inc. for analytical testing costs.

SCHEDULE

Patrick is available to begin work immediately on the scope of services outlined herein. Patrick can begin mobilizing to the Site within two weeks of Illinois EPA approval of the Hydrogeologic Assessment Plan discussed in an earlier proposal. A draft assessment report is expected to be submitted to MWG for the Powerton Site by mid October 2010.

Patrick appreciates this opportunity to provide professional services to Midwest Generation, LLC. Should you have any questions, please feel free to call either of us at 630-795-7200.

Sincerely,

PATRICK ENGINEERING INC.

For Richard Frendt

Richard M. Frendt, P.E.
Senior Project Manager

Gary F. Goodheart, P.E.
Senior Program Director

sek/RMF;smc
Enclosures: Table 1: Proposed Analytes
2010 Patrick Fee Schedule

\\fs2\archive\proposals\proposals m-n\midwest generation\2b053.568 - powerton station - hydrogeologic assessment\hydrogeologic assessment proposal\final proposal\powerton ash pond investigation proposal-final 081710.doc

PATRICK ENGINEERING INC.

TABLE 1
PROPOSED SAMPLING AND ANALYSIS PLAN
Ash Pond Assessment Program - Midwest Generation
(Hutsonville-Consistent)

PARAMETER/CONSTITUENT	FREQUENCY	NOTES
pH	Quarterly	Field Parameter
Specific Conductance	Quarterly	Field Parameter
Groundwater Depth	Quarterly	Field Parameter
Well Depth	Quarterly	Field Parameter
Boron	Quarterly	Coal Combustion Waste Indicator
Sulfate	Quarterly	Coal Combustion Waste Indicator
Iron	Quarterly	Coal Combustion Waste Indicator
Manganese	Quarterly	Coal Combustion Waste Indicator
Total Dissolved Solids	Quarterly	Coal Combustion Waste Indicator
Antimony	Annually	Frequency of these compounds will be increased to quarterly if annual results are higher than Class I Groundwater standards.
Arsenic	Annually	
Barium	Annually	
Beryllium	Annually	
Cadmium	Annually	
Chloride	Annually	
Chromium	Annually	
Cobalt	Annually	
Copper	Annually	
Cyanide	Annually	
Fluoride	Annually	
Lead	Annually	
Mercury	Annually	
Nickel	Annually	
Nitrate as N	Annually	
Selenium	Annually	
Silver	Annually	
Thallium	Annually	
Zinc	Annually	

REQUEST FOR PROPOSAL

Date

Name
Company
Address
Address

VIA U.S. MAIL

Re: Groundwater Monitoring and Reporting – Various Midwest Generation Stations

Dear _____:

Midwest Generation EME, LLC (Midwest Generation) is interested in obtaining a proposal and cost estimate from your firm to assist in implementing a groundwater monitoring program at various Midwest Generation facilities in the vicinity of coal combustion ash or other specific impoundments. Enclosed are the following:

- Attachment 1 – Project Objective and Scope of Work
- Attachment 2 – Costing Sheet
- Attachment 3 – Summary table and location figures

Your proposal is to include, at a minimum, the following:

- Understanding of project objectives and scope of work
- Completed costing sheets
- Assumptions used for developing the cost estimate
- Project team and experience

Complete proposals must be submitted to me no later than close of business _____, 2010. If you have any questions, please contact me at 630-771-7862.

Sincerely,
MIDWEST GENERATION EME, LLC

Maria L. Race
Environmental Program Director

Attachments

ATTACHMENT 1

Scope of Work

INTRODUCTION

Midwest Generation is in the process of establishing a routine detection groundwater monitoring program in the vicinity of coal combustion ash impoundments at five (5) of the generating stations in anticipation of upcoming regulatory changes. In addition, at the Powerton Station, groundwater monitoring programs are being established as part of permit requirements for the Bypass Basin and the Metal Cleaning Basin. The objective of each sampling program is to provide detection monitoring for specific impoundments to determine whether or not a potential release may have occurred from the monitored unit. The number of wells to be sampled, frequency of sampling, sampling procedures, analytical requirements and reporting requirements are specified below. Monitoring wells have already been installed at each of the locations.

NUMBER OF WELLS AND SAMPLING FREQUENCY

The number of monitoring wells per site and associated sampling frequencies are summarized below. Table 1 provides a summary of well numbers, well depths, casing elevations, screened intervals and depths to groundwater at each location. Approximate well location maps are provided on Figures 1 through 5.

Station	Impoundment Type	No. of Wells	Sampling Frequency
Powerton	Coal Ash	15	Quarterly
	Bypass Basin	3	Bi-monthly first year, quarterly thereafter.
	Metal Cleaning Basin	3	Bi-monthly first year, quarterly thereafter.
Joliet #29	Coal Ash	11	Quarterly
Will County	Coal Ash	10	Quarterly
Waukegan	Coal Ash	5	Quarterly
Crawford	Coal Ash	2	Quarterly

SAMPLING PROCEDURES

All wells are to be sampled using standard low flow sampling methodology. The following general procedures are to be used:

MWG13-15_10766

- Measure and record depth to groundwater from top of casing to an accuracy of 0.01 feet. Measure and record depth of well. For samples collected at the Powerton Station surrounding the Bypass Basin and Metal Cleaning Basin also record depth of water relative to land surface (below land surface (bls)).

- Place the low flow pump intake within the center of the screened interval.

- Initiate pumping at the lowest rate possible (e.g., 0.1 liters/minute) to minimize drawdown in the well. Record start time.

- Record initial field parameter readings of temperature, specific conductance, pH, dissolved oxygen (DO), oxidation-reduction potential (ORP) and turbidity.

- Record drawdown and adjust pumping rate as appropriate.

- Continue monitoring field parameters until stable readings are obtained for all field parameters. Record stabilized readings. Record final water level. Record time.

- Collect samples directly into laboratory prepared containers.

All purge water is to be containerized and discharged back into the impoundment.

ANALYTICAL REQUIREMENTS

All samples will be analyzed by TestAmerica or PDC (in the case of Powerton)under the existing contract between TestAmerica or PDC and Midwest Generation. TestAmerica or PDC will bill Midwest Generation directly for the analyses. The contractor will need to coordinate with the laboratory for obtaining the appropriate number and type of sample containers (preservatives, etc.). The following parameters are to be analyzed for:

Station	Impoundment Type	Analytical Parameter List Reference
Powerton	Coal Ash	IAC 620.410 (a) and (d) except radium 226/228
	Bypass Basin	IAC 620.410 (a) and (d) including radium 226/228
	Metal Cleaning Basin	IAC 620.410 (a) and (d) including radium 226/228
Joliet #29	Coal Ash	IAC 620.410 (a) and (d) except radium 226/228
Will County	Coal Ash	IAC 620.410 (a) and (d) except radium 226/228
Waukegan	Coal Ash	IAC 620.410 (a) and (d) except radium 226/228
Crawford	Coal ash	IAC 620.410 (a) and (d) except radium 226/228

IAC – Illinois Administrative Code

MWG13-15_10767

REPORTING REQUIREMENTS

Upon completion of each sampling event, a summary letter report is to be prepared which is to include, but not be limited to:

- Documentation of field activities.
- Water elevation summary table inclusive of all previous measurements.
- Analytical data summary table inclusive of all previous data.
- Groundwater flow map.
- Attachments of field sampling sheets and analytical data packages.

Upon completion of the first year of monitoring, the annual report submittal should also include:

- Trend analysis (time versus concentration curves) for each parameter.
- Calculation of background statistics based on upgradient monitoring well location data for each unit monitored in accordance with guidance provided in IAC 811.320(e).
- Comparisons of downgradient monitoring well data to the calculated background statistical concentrations for each parameter.
- Evaluation of the adequacy of the groundwater monitoring system for release detection.

Two hard copies and an electronic copy of each submittal are to be provided to Midwest Generation within 30-days of receipt of all analytical data.

MWG13-15_10768

ATTACHMENT 2

Fixed Price Costing Sheet

Powerton Station

Item	$/Event	No. of Events	Total Cost
Coal Ash Well Sampling	$_____	4	$_____
Coal Ash Quarterly Reports	$_____	3	$_____
Coal Ash Annual Report	$_____	1	$_____
		TOTAL	$_____
Bypass Basin Well Sampling	$_____	6	$_____
Bi-annual Reports	$_____	5	$_____
Annual Report	$_____	1	$_____
		TOTAL	$_____
Metal Cleaning Basin Well Sampling	$_____	6	$_____
Bi-annual Reports	$_____	5	$_____
Annual Report	$_____	1	$_____
		TOTAL	$_____

Joliet #29 Station

Item	$/Event	No. of Events	Total Cost
Coal Ash Well Sampling	$_____	4	$_____
Coal Ash Quarterly Reports	$_____	3	$_____
Coal Ash Annual Report	$_____	1	$_____
		TOTAL	$_____

Will County Station

Item	$/Event	No. of Events	Total Cost
Coal Ash Well Sampling	$_____	4	$_____
Coal Ash Quarterly Reports	$_____	3	$_____
Coal Ash Annual Report	$_____	1	$_____
		TOTAL	$_____

MWG13-15_10769

Waukegan Station

Item	$/Event	No. of Events	Total Cost
Coal Ash Well Sampling	$_____	4	$_____
Coal Ash Quarterly Reports	$_____	3	$_____
Coal Ash Annual Report	$_____	1	$_____
		TOTAL	$_____

Crawford Station

Item	$/Event	No. of Events	Total Cost
Coal Ash Well Sampling	$_____	4	$_____
Coal Ash Quarterly Reports	$_____	3	$_____
Coal Ash Annual Report	$_____	1	$_____
		TOTAL	$_____

MWG13-15_10770

Richard R. Gnat, P.G.
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262-781-0475 (office)
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Web: http://www.patrickengineering.com

MWG13-15_10771

Exhibit D11

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

RECEIVED
JUN 14 2012
ENVIRONMENTAL SERVICES
MIDWEST GENERATION EME, LLC

RECEIVED
JUN 14
ENVIRONMENTAL SERVICES
MIDWEST GENERATION EME, LLC

217/785-0561

June 11, 2012

CERTIFIED MAIL # 7010 2780 0002 1163 7254
RETURN RECEIPT REQUESTED

Mr. Basil G. Constantelos: Managing Director, Environmental Services
Midwest Generation EME, LLC
2535 Remington Blvd
Suite A
Bolingbrook, IL 60440

Re: Violation Notice: Midwest Generation, LLC, Powerton Generating Station
Identification No.: 6282
Violation Notice No.: W-2012-00057

Dear Mr. Constantelos:

This constitutes a Violation Notice pursuant to Section 31(a)(1) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(1), and is based upon a review of available information and an investigation by representatives of the Illinois Environmental Protection Agency ("Illinois EPA").

The Illinois EPA hereby provides notice of alleged violations of environmental laws, regulations, or permits as set forth in Attachment A to this notice. Attachment A includes an explanation of the activities that the Illinois EPA believes may resolve the specified alleged violations. Due to the nature and seriousness of the alleged violations, please be advised that resolution of the violations may also require the involvement of a prosecutorial authority for purposes that may include, among others, the imposition of statutory penalties.

A written response, which may include a request for a meeting with representatives of the Illinois EPA, must be submitted via certified mail to the Illinois EPA within 45 days of receipt of this letter. If a meeting is requested, it shall be held within 60 days of receipt of this notice. The response must include information in rebuttal, explanation, or justification of each alleged violation and a statement indicating whether or not the facility wishes to enter into a Compliance Commitment Agreement ("CCA") pursuant to Section 31(a) of the Act. If the facility wishes to enter into a CCA, the written response must also include proposed terms for the CCA that includes dates for achieving each commitment and may include a statement that compliance has been achieved for some or all of the alleged violations. The proposed terms of the CCA should contain sufficient detail and must include steps to be taken to achieve compliance and the necessary dates by which compliance will be achieved.

The Illinois EPA will review the proposed terms for a CCA provided by the facility and, within 30 days of receipt, will respond with either a proposed CCA or a notice that no CCA will be issued by the Illinois EPA. If the Illinois EPA sends a proposed CCA, the facility must respond in writing by either agreeing to and signing the proposed CCA or by notifying the Illinois EPA that the facility rejects the terms of the proposed CCA.

If a timely written response to this Violation Notice is not provided, it shall be considered a waiver of the opportunity to respond and meet, and the Illinois EPA may proceed with referral to a prosecutorial authority.

Written communications should be directed to:

Illinois EPA – Division of Public Water Supplies
Attn: Andrea Rhodes, CAS #19
P.O. BOX 19276
Springfield, IL 62794-9276

All communications must include reference to this Violation Notice number, W-2012-00057.

Questions regarding this Violation Notice should be directed to Andrea Rhodes at 217/785-0561.

Sincerely,

Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

Attachments

cc: Maria Race

CASE ID: 2012-006

ATTACHMENT A

MIDWEST GENERATION, LLC, POWERTON GENERATING STATION, ID:6282
VIOLATION NOTICE NO. W-2012-00057:

A review of information available to the Illinois EPA indicates the following on-going violations of statutes, regulations, or permits. Included with each type of violation is an explanation of the activities that the Illinois EPA believes may resolve the violation.

Groundwater Quality

No person shall cause, threaten or allow the release of any contaminant to a resource groundwater such that: treatment or additional treatment is necessary to continue an existing use or to assure a potential use of such groundwater; or an existing or potential use of such groundwater is precluded. No person shall cause, threaten or allow the release of any contaminant to groundwater so as to cause a groundwater quality standard to be exceeded. Midwest Generation, LLC must take actions to mitigate existing contamination and prevent the continuing release of contaminants into the environment.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-1 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	6.39 su	6.5-9.0 su	12/12/2011
Boron	2.9 mg/l	2.0 mg/l	3/19/2012
Nitrate	11 mg/l	10.0 mg/l	9/20/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-2 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	6.41 su	6.5-9.0 su	12/12/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

ATTACHMENT A

MIDWEST GENERATION, LLC, POWERTON GENERATING STATION, ID:6282
VIOLATION NOTICE NO. W-2012-00057:

A review of information available to the Illinois EPA indicates the following on-going violations of statutes, regulations, or permits. Included with each type of violation is an explanation of the activities that the Illinois EPA believes may resolve the violation including an estimated time period for resolution.

Groundwater Quality

No person shall cause, threaten or allow the release of any contaminant to a resource groundwater such that: treatment or additional treatment is necessary to continue an existing use or to assure a potential use of such groundwater; or an existing or potential use of such groundwater is precluded. No person shall cause, threaten or allow the release of any contaminant to groundwater so as to cause a groundwater quality standard to be exceeded. Midwest Generation, LLC must take actions to mitigate existing contamination and prevent the continuing release of contaminants into the environment.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-1 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	6.39 su	6.5-9.0 su	12/12/2011
Boron	2.9 mg/l	2.0 mg/l	3/19/2012
Nitrate	11 mg/l	10.0 mg/l	9/20/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-2 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	6.41 su	6.5-9.0 su	12/12/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

ATTACHMENT A

MIDWEST GENERATION, LLC, POWERTON GENERATING STATION, ID:6282
VIOLATION NOTICE NO. W-2012-00057:

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-4 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	6.37 su	6.5-9.0 su	12/12/2011
Manganese	0.35 mg/l	0.15 mg/l	12/12/2011
Manganese	0.69 mg/l	0.15 mg/l	9/20/2011
Manganese	0.41 mg/l	0.15 mg/l	6/16/2011
Manganese	0.68 mg/l	0.15 mg/l	3/25/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-5 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	6.34 su	6.5-9.0 su	12/12/2011
Manganese	0.26 mg/l	0.15 mg/l	3/19/2012
Manganese	0.50 mg/l	0.15 mg/l	12/12/2011
Manganese	0.64 mg/l	0.15 mg/l	9/20/2011
Manganese	0.48 mg/l	0.15 mg/l	6/16/2011
Manganese	0.49 mg/l	0.15 mg/l	3/25/2011
Manganese	0.51 mg/l	0.15 mg/l	12/15/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-6 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Manganese	0.61 mg/l	0.15 mg/l	3/19/2012
Manganese	0.63 mg/l	0.15 mg/l	12/12/2011
Manganese	0.66 mg/l	0.15 mg/l	9/20/2011
Manganese	0.63 mg/l	0.15 mg/l	6/16/2011
Manganese	0.68 mg/l	0.15 mg/l	3/25/2011
Manganese	0.68 mg/l	0.15 mg/l	12/15/2010

ATTACHMENT A

MIDWEST GENERATION, LLC, POWERTON GENERATING STATION, ID:6282
VIOLATION NOTICE NO. W-2012-00057:

Violation Description
MW-6 continued

Parameter	Sample Value	GW Standard	Collection Date
Chloride	210 mg/l	200 mg/l	9/20/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description
Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-7 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	6.45 su	6.5-9.0 su	12/12/2011
Arsenic	0.23 mg/l	0.05 mg/l	3/19/2012
Arsenic	0.23 mg/l	0.05 mg/l	12/12/2011
Arsenic	0.18 mg/l	0.05 mg/l	9/20/2011
Arsenic	0.12 mg/l	0.05 mg/l	6/16/2011
Arsenic	0.085 mg/l	0.05 mg/l	3/25/2011
Iron	31 mg/l	5.0 mg/l	3/19/2012
Iron	26 mg/l	5.0 mg/l	12/12/2011
Iron	22 mg/l	5.0 mg/l	9/20/2011
Iron	10 mg/l	5.0 mg/l	6/16/2011
Iron	7.5 mg/l	5.0 mg/l	3/25/2011
Iron	8.0 mg/l	5.0 mg/l	12/15/2010
Lead	0.039 mg/l	0.0075 mg/l	12/15/2010
Manganese	11 mg/l	0.15 mg/l	3/19/2012
Manganese	12 mg/l	0.15 mg/l	12/12/2011
Manganese	12 mg/l	0.15 mg/l	9/20/2011
Manganese	6.4 mg/l	0.15 mg/l	6/16/2011
Manganese	5.9 mg/l	0.15 mg/l	3/25/2011
Manganese	3.5 mg/l	0.15 mg/l	12/15/2010
Selenium	0.054 mg/l	0.05 mg/l	12/12/2011
TDS	1,400 mg/l	1,200 mg/l	3/19/2012
TDS	1,300 mg/l	1,200 mg/l	12/12/2011
TDS	1,300 mg/l	1,200 mg/l	9/20/2011
TDS	1,300 mg/l	1,200 mg/l	6/16/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

ATTACHMENT A

MIDWEST GENERATION, LLC, POWERTON GENERATING STATION, ID:6282
VIOLATION NOTICE NO. W-2012-00057:

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-8 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Manganese	0.27 mg/l	0.15 mg/l	3/19/2012
Manganese	0.20 mg/l	0.15 mg/l	12/12/2011
Manganese	0.18 mg/l	0.15 mg/l	9/20/2011
Manganese	0.29 mg/l	0.15 mg/l	6/16/2011
Manganese	0.27 mg/l	0.15 mg/l	3/25/2011
Chloride	210 mg/l	200 mg/l	9/20/2011
Chloride	210 mg/l	200 mg/l	3/25/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-9 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	6.31 su	6.5-9.0 su	12/12/2011
Manganese	0.22 mg/l	0.15 mg/l	3/19/2012
Manganese	0.28 mg/l	0.15 mg/l	12/12/2011
Manganese	0.48 mg/l	0.15 mg/l	6/16/2011
Manganese	0.45 mg/l	0.15 mg/l	3/25/2011
Manganese	0.43 mg/l	0.15 mg/l	2/15/2011
Manganese	0.23 mg/l	0.15 mg/l	12/16/2010
Manganese	0.19 mg/l	0.15 mg/l	12/15/2010
Selenium	0.072 mg/l	0.05 mg/l	3/25/2011
Boron	2.6 mg/l	2.0 mg/l	3/19/2012
Boron	2.7 mg/l	2.0 mg/l	12/12/2011
Boron	2.5 mg/l	2.0 mg/l	9/20/2011
Boron	2.5 mg/l	2.0 mg/l	9/19/2011
Boron	2.1 mg/l	2.0 mg/l	12/16/2010
Boron	2.2 mg/l	2.0 mg/l	12/15/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

ATTACHMENT A

MIDWEST GENERATION, LLC, POWERTON GENERATING STATION, ID:6282
VIOLATION NOTICE NO. W-2012-00057:

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-10 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	6.03 su	6.5-9.0 su	12/12/2011
Manganese	2.3 mg/l	0.15 mg/l	3/19/2012
Manganese	2.3 mg/l	0.15 mg/l	12/12/2011
Manganese	2.3 mg/l	0.15 mg/l	9/20/2011
Manganese	3.8 mg/l	0.15 mg/l	6/16/2011
Manganese	2.8 mg/l	0.15 mg/l	3/25/2011
Manganese	2.1 mg/l	0.15 mg/l	12/15/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-11 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	6.48 su	6.5-9.0 su	12/12/2011
Manganese	2.9 mg/l	0.15 mg/l	3/19/2012
Manganese	2.5 mg/l	0.15 mg/l	12/12/2011
Manganese	2.9 mg/l	0.15 mg/l	9/19/2011
Manganese	2.2 mg/l	0.15 mg/l	6/16/2011
Manganese	3.6 mg/l	0.15 mg/l	2/15/2011
Manganese	3.2 mg/l	0.15 mg/l	12/16/2010
Boron	2.3 mg/l	2.0 mg/l	3/19/2012

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-12 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Iron	5.6 mg/l	5.0 mg/l	6/16/2011
Iron	6.3 mg/l	5.0 mg/l	2/15/2011
Iron	5.5 mg/l	5.0 mg/l	12/15/2010

ATTACHMENT A

MIDWEST GENERATION, LLC, POWERTON GENERATING STATION, ID:6282
VIOLATION NOTICE NO. W-2012-00057:

Violation Description

MW-12 Continued:

Parameter	Sample Value	GW Standard	Collection Date
Manganese	0.25 mg/l	0.15 mg/l	12/12/2011
Manganese	0.37 mg/l	0.15 mg/l	9/19/2011
Manganese	0.26 mg/l	0.15 mg/l	6/16/2011
Manganese	0.58 mg/l	0.15 mg/l	2/15/2011
Manganese	0.32 mg/l	0.15 mg/l	12/15/2010
Mercury	0.0096 mg/l	0.002 mg/l	12/15/2010
Chloride	210 mg/l	200 mg/l	12/12/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description

Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-13 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Manganese	3.5 mg/l	0.15 mg/l	4/10/2012
Manganese	3.5 mg/l	0.15 mg/l	12/12/2011
Manganese	3.6 mg/l	0.15 mg/l	10/13/2011
Manganese	2.6 mg/l	0.15 mg/l	8/9/2011
Manganese	2.9 mg/l	0.15 mg/l	6/16/2011
Manganese	2.7 mg/l	0.15 mg/l	4/25/2011
Manganese	3.8 mg/l	0.15 mg/l	2/15/2011
Manganese	5.0 mg/l	0.15 mg/l	12/15/2010
Selenium	0.056 mg/l	0.05 mg/l	8/9/2011
Boron	4.0 mg/l	2.0 mg/l	4/10/2012
Boron	4.1 mg/l	2.0 mg/l	12/12/2011
Boron	3.0 mg/l	2.0 mg/l	10/13/2011
Boron	2.7 mg/l	2.0 mg/l	8/9/2011
Boron	3.0 mg/l	2.0 mg/l	6/16/2011
Boron	2.6 mg/l	2.0 mg/l	4/25/2011
Boron	3.1 mg/l	2.0 mg/l	2/15/2011
Boron	3.9 mg/l	2.0 mg/l	12/15/2010
Sulfate	1,100 mg/l	400 mg/l	4/10/2012
Sulfate	1,100 mg/l	400 mg/l	12/12/2011
Sulfate	660 mg/l	400 mg/l	10/13/2011
Sulfate	440 mg/l	400 mg/l	8/9/2011
Sulfate	540 mg/l	400 mg/l	6/16/2011
Sulfate	580 mg/l	400 mg/l	4/25/2011
Sulfate	770 mg/l	400 mg/l	2/15/2011
Sulfate	1,400 mg/l	400 mg/l	12/15/2010

ATTACHMENT A

MIDWEST GENERATION, LLC, POWERTON GENERATING STATION, ID:6282
VIOLATION NOTICE NO. W-2012-00057:

Violation
Description
MW-13 continued:

Parameter	Sample Value	GW Standard	Collection Date
Sulfate	580 mg/l	400 mg/l	4/25/2011
Sulfate	770 mg/l	400 mg/l	2/15/2011
Sulfate	1,400 mg/l	400 mg/l	12/15/2010
TDS	2,300 mg/l	1,200 mg/l	4/10/2012
TDS	2,100 mg/l	1,200 mg/l	12/12/2011
TDS	1,500 mg/l	1,200 mg/l	10/13/2011
TDS	1,300 mg/l	1,200 mg/l	6/16/2011
TDS	1,400 mg/l	1,200 mg/l	4/25/2011
TDS	1,600 mg/l	1,200 mg/l	2/15/2011
TDS	2,600 mg/l	1,200 mg/l	12/15/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation
Description
Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-14 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
pH	6.05 su	6.5-9.0 su	12/12/2011
Manganese	0.63 mg/l	0.15 mg/l	4/10/2012
Manganese	0.84 mg/l	0.15 mg/l	10/13/2011
Manganese	0.57 mg/l	0.15 mg/l	8/9/2011
Manganese	0.36 mg/l	0.15 mg/l	6/16/2011
Manganese	0.29 mg/l	0.15 mg/l	4/25/2011
Manganese	0.81 mg/l	0.15 mg/l	2/15/2011
Manganese	0.68 mg/l	0.15 mg/l	12/15/2010
Selenium	0.065 mg/l	0.05 mg/l	4/25/2011
Thallium	0.0034 mg/l	0.002 mg/l	4/10/2012
Thallium	0.0027 mg/l	0.002 mg/l	8/9/2011
Thallium	0.0039 mg/l	0.002 mg/l	6/16/2011
Thallium	0.0035 mg/l	0.002 mg/l	4/25/2011
Sulfate	990 mg/l	400 mg/l	4/10/2012
Sulfate	880 mg/l	400 mg/l	12/12/2011
Sulfate	850 mg/l	400 mg/l	10/13/2011
Sulfate	940 mg/l	400 mg/l	8/9/2011
Sulfate	810 mg/l	400 mg/l	6/16/2011
Sulfate	770 mg/l	400 mg/l	4/25/2011
Sulfate	820 mg/l	400 mg/l	2/15/2011
Sulfate	960 mg/l	400 mg/l	12/15/2010

ATTACHMENT A

MIDWEST GENERATION, LLC, POWERTON GENERATING STATION, ID:6282
VIOLATION NOTICE NO. W-2012-00057:

Violation Description
MW-14 continued:

Parameter	Sample Value	GW Standard	Collection Date
Chloride	240 mg/l	200 mg/l	8/9/2011
TDS	2,200 mg/l	1,200 mg/l	4/10/2012
TDS	1,800 mg/l	1,200 mg/l	12/12/2011
TDS	1,800 mg/l	1,200 mg/l	10/13/2011
TDS	2,000 mg/l	1,200 mg/l	8/9/2011
TDS	1,900 mg/l	1,200 mg/l	6/16/2011
TDS	1,800 mg/l	1,200 mg/l	4/25/2011
TDS	1,700 mg/l	1,200 mg/l	2/15/2011
TDS	1,800 mg/l	1,200 mg/l	12/15/2010

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Violation Description
Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring well MW-15 for the following constituents:

Parameter	Sample Value	GW Standard	Collection Date
Manganese	0.25 mg/l	0.15 mg/l	4/10/2012
Manganese	0.39 mg/l	0.15 mg/l	12/12/2011
Manganese	0.48 mg/l	0.15 mg/l	10/13/2011
Manganese	0.37 mg/l	0.15 mg/l	8/9/2011
Manganese	0.60 mg/l	0.15 mg/l	6/16/2011
Manganese	0.36 mg/l	0.15 mg/l	4/25/2011
Manganese	0.42 mg/l	0.15 mg/l	2/15/2011
Manganese	0.56 mg/l	0.15 mg/l	12/15/2010
Sulfate	650 mg/l	400 mg/l	6/16/2011
Chloride	210 mg/l	200 mg/l	8/9/2011
TDS	1,600 mg/l	1,200 mg/l	6/16/2011

Rule/Reg. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

Exhibit D12

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

217-785-0561

October 24, 2012

CERTIFIED MAIL # 7011 1150 0001 0859 0119
RETURN RECEIPT REQUESTED

John Kennedy
Senior Vice President, Generation
235 Remington, Suite A
Bolingbrook, IL 60440

Re: Compliance Commitment Acceptance
Violation Notice: W-2012-00057
Midwest Generation, LLC, Powerton Generating Station; ID Number: 6282

Dear Mr. Kennedy:

The Illinois Environmental Protection Agency ("Illinois EPA") has approved the Compliance Commitment Agreement ("CCA") for Midwest Generation, LLC, Powerton Generating Station. Please find enclosed an executed copy of the CCA for your records.

Failure to fully comply with the CCA may, at the sole discretion of the Illinois EPA, result in referral of this matter to the Office of the Attorney General, the State's Attorney or the United States Environmental Protection Agency.

The CCA does not constitute a waiver or modification of the terms and conditions of any license or permit issued by the Illinois EPA or any other unit or department of local, state or federal government or of any local, state or federal statute or regulatory requirement.

Questions regarding this matter should be directed to Andrea Rhodes at 217/785-0561. Written communications should be directed to the Illinois Environmental Protection Agency, Bureau of Water, CAS #19, P.O. Box 19276, Springfield, IL 62794-9276, and all communications shall include reference to your Violation Notice Number W-2012-00057.

Sincerely,

Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

Attachments

cc: Basil G. Constantelos
Maria Race
Susan M. Franzetti

RECEIVED
OCT 29 2012

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF:

MIDWEST GENERATION, LLC,
POWERTON GENERATING STATION
PEKIN, TAZEWELL COUNTY, IL
ID NUMBER: 6282

RECEIVED
OCT 17 2012
IEPA/CAS

ILLINOIS EPA VN W-2012-00057
BUREAU OF WATER

COMPLIANCE COMMITMENT AGREEMENT

I. Jurisdiction

1. This Compliance Commitment Agreement ("CCA") is entered into voluntarily by the Illinois Environmental Protection Agency ("Illinois EPA") and Midwest Generation, LLC, Powerton Generating Station ("Respondent") (collectively, the "Parties") under the authority vested in the Illinois EPA pursuant to Section 31(a)(7)(i) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(7)(i).

II. Allegation of Violations

2. Respondent owns and operates Powerton Generating Station in Pekin, Tazewell County, Illinois ("Powerton").

3. Pursuant to Violation Notice ("VN") W-2012-00057 issued on June 11, 2012, the Illinois EPA contends that Respondent has violated the following provisions of the Act and Illinois Pollution Control Board ("Board") Regulations:

   a) Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring wells MW-1, MW-2, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, and MW-15. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

III. Compliance Activities

4. On September 4, 2012, the Illinois EPA received Respondent's response to VN W-2012-00057, which included proposed terms for a CCA. The Illinois EPA has reviewed Respondent's proposed CCA terms, as well as considered whether any additional terms and conditions are necessary to attain compliance with the alleged violations cited in the VN.

5. Respondent agrees to undertake and complete the following actions, which the Illinois EPA has determined are necessary to attain compliance with the allegations contained in VN W-2012-00057:

   a) The ash ponds at Powerton shall not be used as permanent disposal sites and shall continue to function as treatment ponds to precipitate ash. Ash shall continue to be removed from the ponds on a periodic basis.

   b) The ash treatment ponds shall be maintained and operated in a manner which protects the integrity of the existing liners. During the removal of ash from the ponds, appropriate procedures shall be followed to protect the integrity of the existing liners, including operating the ash removal equipment in a manner which minimizes the risk of any damage to the liner.

   c) During the ash removal process, visual inspections of the ponds shall be conducted to identify any signs of a breach in the integrity of the pond liners. In the event that a breach of the pond liners is detected, Midwest Generation shall promptly notify the Illinois EPA and shall implement a corrective action plan for repair or replacement as necessary, of the liner. Upon the Illinois EPA's approval, and the issuance of any necessary construction permit, Midwest Generation will implement the corrective action plan.

   d) Midwest Generation shall monitor the new well as described in 5(f) below and the existing fifteen groundwater monitoring wells quarterly for constituents in 35 Ill. Adm. Code 620.410(a) and (d), with the exception of radium 226 and 228, and report its findings to the Illinois EPA within 30 days of the end of each quarter. In addition, Midwest Generation shall record and report groundwater elevation and submit a potentiometric surface map with the above quarterly groundwater monitoring report.

   e) Within 90 days of the effective date of the CCA, Midwest Generation shall submit an application for a construction permit to re-line the Ash Surge Basin and the Secondary Ash Settling Basin at Powerton with a 60 mil thickness high density polyethylene ("HDPE") liner or an Illinois EPA approved equivalent material.

   f) Midwest Generation shall install an additional groundwater monitoring well south of monitor well 9, in a location approved by the Illinois EPA, to better define up gradient groundwater quality, within 60 days of the effective date of the CCA.

g) Midwest Generation shall submit an application to establish a GMZ pursuant to 35 Ill. Adm. Code Part 620.250 within 90 days of the effective date of the CCA.

h) Midwest Generation shall enter into an Environmental Land Use Control (ELUC) to cover the area of the Powerton Station property which is contained within the GMZ. Midwest Generation shall submit a proposed draft ELUC to the Illinois EPA for review and comment within 90 days of the effective date of the CCA.

i) Midwest Generation shall record the ELUC within 30 days of approval of the ELUC by the Illinois EPA.

j) Midwest Generation shall establish a GMZ pursuant to 35 Ill. Adm. Code Part 620.250 within one year of the effective date of the CCA.

k) Once the Ash Surge Basin and the Secondary Ash Settling Basin have been lined and a GMZ and ELUC have been established at Powerton, Midwest Generation shall submit a certification (or a statement) of compliance. Midwest Generation may submit either the attached "Illinois EPA Compliance Statement" or another similar writing to satisfy the statement of compliance within one year of the effective date of the CCA.

l) Midwest Generation shall not allow the East Yard Run-off Basin to be part of the ash sluicing flow system. Further, Midwest Generation shall submit monitoring results from water contained in the East Yard Run-off Basin proximate to outfall monitoring point 003 within 60 days of the effective date of the CCA. Quarterly monitoring of the East Yard Run-off Basin shall be for the constituents listed in 35 Ill. Adm. Code 620.410(a) and (d) with the exception of radium 226 and radium 228. At the end of four (4) quarters of monitoring, Midwest Generation may request cessation of water monitoring from the East Yard Run-off Basin.

m) Midwest Generation shall not use any unlined areas for permanent or temporary ash storage or ash handling.

IV. Terms and Conditions

6. Respondent shall comply with all provisions of this CCA, including, but not limited to, any appendices to this CCA and all documents incorporated by reference into this CCA. Pursuant to Section 31(a)(10) of the Act, 415 ILCS 5/31(a)(10), if Respondent complies with the terms of this CCA, the Illinois EPA shall not refer the alleged violations that are the subject of this CCA, as described in Section II above, to the Office of the Illinois Attorney General or the State's Attorney of the county in which the alleged violations occurred. Successful completion of this CCA or an amended CCA shall be a factor to be weighed, in favor of the Respondent, by the Office of the Illinois Attorney General in determining whether to file a complaint on its own motion for the violations cited in VN W-2012-00057.

7. This CCA is solely intended to address the violations alleged in Illinois EPA VN W-2012-00057. The Illinois EPA reserves and this CCA is without prejudice to, all rights of the Illinois EPA against Respondent with respect to noncompliance with any term of this CCA, as well as to all other matters. Nothing in this CCA is intended as a waiver, discharge, release, or covenant not to sue for any claim or cause of action, administrative or judicial, civil or criminal, past or future, in law or in equity, which the Illinois EPA may have against Respondent, or any other person as defined by Section 3.315 of the Act, 415 ILCS 5/3.315. This CCA in no way affects the responsibilities of Respondent to comply with any other federal, state or local laws or regulations, including but not limited to the Act, and the Board Regulations [and Permit, if applicable].

8. Pursuant to Section 42(k) of the Act, 415 ILCS 5/42(k), in addition to any other remedy or penalty that may apply, whether civil or criminal, Respondent shall be liable for an additional civil penalty of $2,000 for violation of any of the terms or conditions of this CCA.

9. This CCA shall apply to and be binding upon the Illinois EPA, and on Respondent and Respondent's officers, directors, employees, agents, successors, assigns, heirs, trustees, receivers, and upon all persons, including but not limited to contractors and consultants, acting on behalf of Respondent, as well as upon subsequent purchasers of Respondent's Powerton in Pekin, Tazewell County, Illinois.

10. In any action by the Illinois EPA to enforce the terms of this CCA, Respondent consents to and agrees not to contest the authority or jurisdiction of the Illinois EPA to enter into or enforce this CCA, and agrees not to contest the validity of this CCA or its terms and conditions.

11. This CCA shall only become effective:

    a) If, within 30 days of receipt, Respondent executes this CCA and submits it, via certified mail, to Illinois EPA, Bureau of Water, Andrea Rhodes, MC #19, 1021 North Grand Ave East, Springfield, IL 62702. If Respondent fails to execute and submit this CCA within 30 days of receipt, via certified mail, this CCA shall be deemed rejected by operation of law; and

    b) Upon execution by all Parties.

12. Pursuant to Section 31(a)(7.5) of the Act, 415 ILCS 5/31(a)(7.5), this CCA shall not be amended or modified prior to execution by the Parties. Any amendment or modification to this CCA by Respondent prior to execution by all Parties shall be considered a rejection of the CCA by operation of law. This CCA may only be amended subsequent to its effective date, in writing, and by mutual agreement between the Illinois EPA and Respondent's signatory to this CCA, Respondent's legal representative, or Respondent's agent.

AGREED:
FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY:

BY: _____ DATE: 10/24/12
Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

FOR RESPONDENT:

BY: _____ DATE: Oct 15, 2012
John Kennedy
Senior Vice President, Generation
Midwest Generation, LLC

Illinois EPA Compliance Statement

The owner of the facility must acknowledge that all compliance commitment agreement (CCA) measures have been successfully completed.

Please complete, sign, and return.

I _____ *(print name)*, hereby certify that all violations addressed in Violation Notice (VN) number _____ have been addressed and that all CCA measures were completed on _____ *(date)*.

_____
Signature

_____
Title

_____
Telephone Number

_____
Date

Be sure to retain copies of this document for your files. Should you need additional notification forms, please contact this office at (217)785-0561. Return this completed form to:

Illinois Environmental Protection Agency
Compliance Assurance Section #19
Bureau of Water
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

"Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Agency,.....related to or required by this Act, a regulation adopted under this Act, any federal law or regulation for which the Agency has responsibility, or any permit, term, or condition thereof, commits a Class 4 felony..." (415 ILCS 5/44(h) (8))

Exhibit D13

MIDWEST
GENERATION EME, LLC
An *EDISON INTERNATIONAL®* Company

Amy L. Hanrahan
Senior Environmental
Engineer
Environmental Services

January 18, 2013

Ms. Andrea Rhodes
Illinois Environmental Protection Agency – DPWS
MC #19
1021 North Grand Avenue East
Springfield, IL 62702

VIA FEDERAL EXPRESS

Re: Compliance Commitment Agreement – Groundwater Management Zone Application
Midwest Generation, LLC, Powerton Generating Station; ID No. 6282
Violation Notice W-2012-00057

Dear Ms. Rhodes:

The Compliance Commitment Agreement (CCA) for the above referenced site relative to Violation Notice W-2012-00057 was signed by Midwest Generation on October 15, 2012 and executed by Illinois Environmental Protection Agency (IEPA) signature on October 24, 2012 (effective date). Item 5 (g) of the CCA requires Midwest Generation to submit an application to establish a Groundwater Management Zone (GMZ) pursuant to 35 Ill. Adm. Code Part 620.250 within 90 days of the effective date of the CCA.

Based on previous discussions with IEPA, the proposed areal extent of the GMZ is shown on Figure 1 in Attachment 1. The GMZ Application Forms (Parts I through III) and supporting information/data are provided in Attachment 2. As discussed in the Application Forms support documentation, groundwater flow within the silt/clay unit in the vicinity of the subject ash basins is in a westerly direction with discharge to the adjoining intake channel and groundwater flow within the gravelly sand unit is to the north with discharge to the Illinois River. The western (downgradient) extent of the proposed GMZ corresponds with the hydraulic boundary formed by the intake channel. The northern extent corresponds with the hydraulic boundary formed by the Illinois River. The southern and eastern boundaries are defined by the property boundary. The vertical extent of the GMZ would be defined by the top of the Carbondale Formation which is estimated to be approximately 70 feet below ground surface based on other site boring logs from other portions of the property.

235 Remington Blvd.
Suite A
Bolingbrook, Il 60440
Tel: 630 771 7863
Fax: 949 225 0813
ahanrahan@mwgen.com

This submittal fulfills the requirements set forth under Item 5 (g) of the signed CCA. Once the application is approved by IEPA and the proposed extent of the GMZ is agreed upon, a formal surveying of the area will be performed and legal description generated. Please call me at 630-771-7863 if there are any questions.

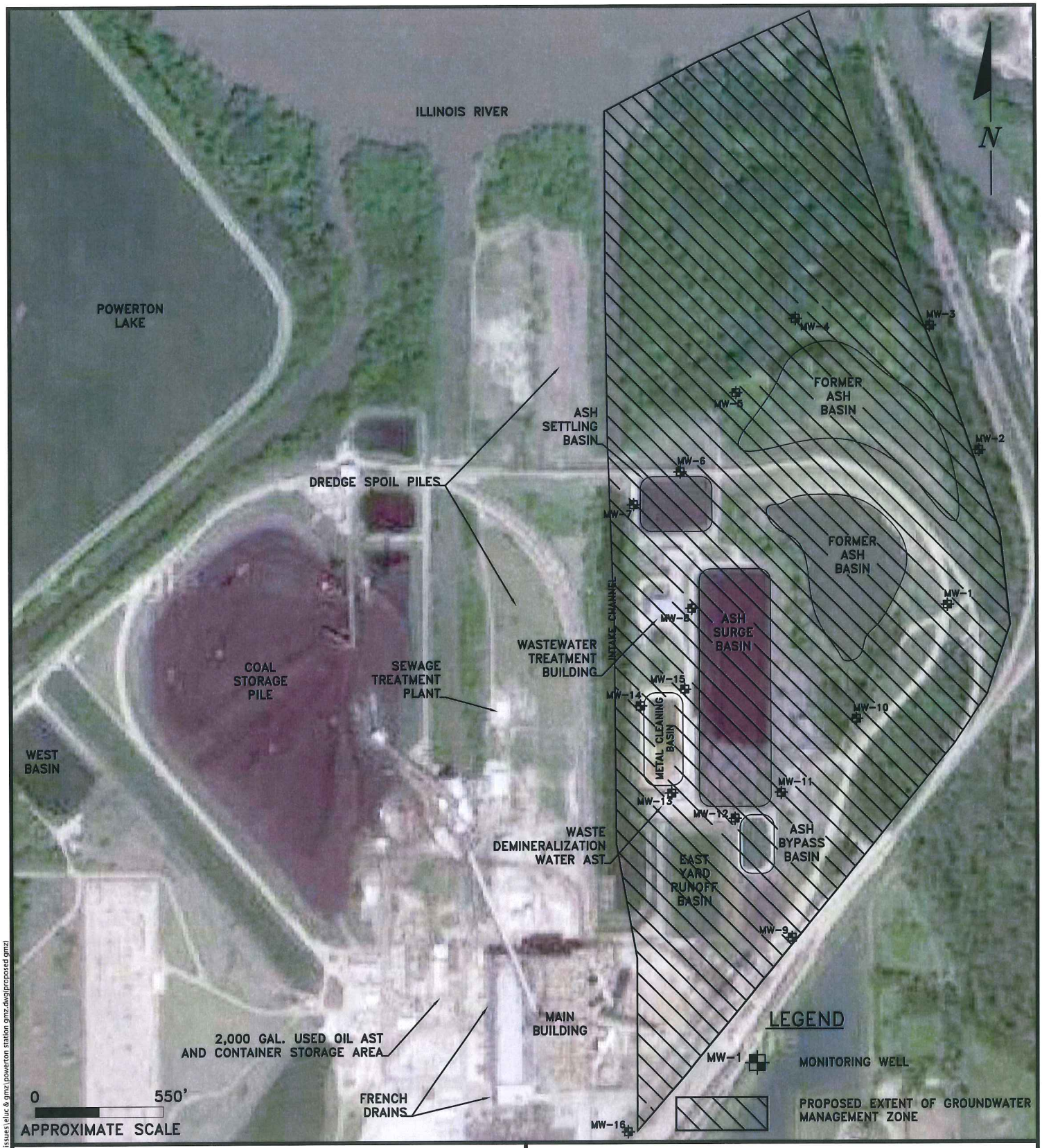
Sincerely,
Midwest Generation, LLC

Amy Hanrahan
Senior Environmental Engineer

Attachments: *1 – Proposed Areal Extent of GMZ*
2 – Completed GMZ Application Forms (Parts I through III)

cc: Ms. Maria Race, Midwest Generation EME, LLC
Mr. Basil Constantelos, Midwest Generation EME, LLC
Mr. Joseph Heredia, Midwest Generation, LLC
Mr. Christopher Foley, Midwest Generation EME, LLC
Ms. Susan Franzetti, Nijman Franzetti, LLP
Mr. Richard Gnat, KPRG and Associates, Inc.
Mr. Bill Buscher, IEPA

ATTACHMENT 1
Proposed Areal Extent of GMZ



W:\c-p&o\projects\midwest generation\ash pond issues\elec & gmz\powerton station gmz.dwg[proposed gmz]

ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 28 Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

PROPOSED GROUNDWATER MANAGEMENT ZONE

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: January 17, 2013

KPRG Project No. 18311.21 | FIGURE 1

MWG13-15_727

ATTACHMENT 2
Completed GMZ Application Forms (Parts I through III)

Section 620.APPENDIX D Confirmation of an Adequate Corrective Action Pursuant to 35 Ill. Adm. Code 620.250(a)(2)

Pursuant to 35 Ill. Adm. Code 620.250(a) if an owner or operator provides a written confirmation to the Agency that an adequate corrective action, equivalent to a corrective action process approved by the Agency, is being undertaken in a timely and appropriate manner, then a groundwater management zone may be established as a three-dimensional region containing groundwater being managed to mitigate impairment caused by the release of contaminants from a site. This document provides the form in which the written confirmation is to be submitted to the Agency.

Note 1. Parts I and II are to be submitted to IEPA at the time that the facility claims the alternative groundwater standards. Part III is to be submitted at the completion of the site investigation. At the completion of the corrective process, a final report is to be filed which includes the confirmation statement included in Part IV.

Note 2. The issuance of a permit by IEPA's Division of Air Pollution Control or Water Pollution Control for a treatment system does not imply that the Agency has approved the corrective action process.

Note 3. If the facility is conducting a cleanup of a unit which is subject to the requirements of the Resource Conservation and Recovery Act (RCRA) or the 35 Ill. Adm. Code 731 regulations for Underground Storage Tanks, this confirmation process is not applicable and cannot be used.

Note 4. If the answers to any of these questions require explanation or clarification, provide such in an attachment to this document.

Part I. Facility Information

Facility Name Powerton Generating Station

Facility Address 13082 E. Manito Rd.
Pekin, IL

County Tazewell County

Standard Industrial Code (SIC) 4911

1. Provide a general description of the type of industry, products

manufactured, raw materials used, location and size of the facility.

The Midwest Generation Powerton Station is a coal-fired electrical power generating station in operation since the 1920s. The facility is located at 13082 E. Manito Road in Pekin, Illinois. The generating station property covers an area of approximately 1,710 acres plus approximately 1,440 acres for Powerton Lake.

2. What specific units (operating or closed) are present at the facility which are or were used to manage waste, hazardous waste, hazardous substances or petroleum?

	YES	NO
Landfill		X
Surface Impoundment	X	
Land Treatment		X
Spray Irrigation		X
Waste Pile	X	
Incinerator		X
Storage Tank (above ground)	X	
Storage Tank (underground)		X
Container Storage Area	X	
Injection Well		X
Water Treatment Units	X	
Septic Tanks		X
French Drains	X	
Transfer Station		X
Other Units (please describe)		
_____		
_____		

3. Provide an extract from a USGS topographic or county map showing the location of the site and a more detailed scaled map of the facility with each waste management unit identified in Question 2 or known/suspected source clearly identified. Map scale must be specified and the location of the facility must be provided with respect to Township, Range and Section.

Please see Figures 1 and 2 in Attachment 2A.

4. Has the facility ever conducted operations which involved the generation, manufacture, processing, transportation, treatment, storage or handling of "hazardous substances" as defined by the Illinois Environmental Protection Act? Yes _X__ No ___ If the answer to this question is "yes" generally describe these operations.

Powerton Station generates typical hazardous and non-hazardous substance wastes associated with coal-fired electrical power generation. A full list of hazardous substances can be provided upon request.

5. Has the facility generated, stored or treated hazardous waste as defined by the Resource Conservation and Recovery Act? Yes___ No _X__ If the answer to this question is "yes" generally describe these operations.

6. Has the facility conducted operations which involved the processing, storage or handling of petroleum? Yes _X_ No ____ If the answer to this question is "yes" generally describe these operations.

The facility stores oil for operations in above ground storage tanks for start-up operations and for heavy equipment fueling and other diesel powered equipment.

7. Has the facility ever held any of the following permits?

   a. Permits for any waste storage, waste treatment or waste disposal operation. Yes __ No _X__ If the answer to this question is "yes", identify the IEPA permit numbers.

   Powerton Station did maintain a NPDES permit to filter asbestos from the Units 1 through 4 demolitions (ILR10H493).
   Sludge disposal. 2011-EE-1949
   NPDES permit (RBC Sewerage Treatment) IL0002232 (2005).

   b. Interim Status under the Resources Conservation and Recovery Act (filing of a RCRA Part A application). Yes ___ No _X__ If the answer to this question is "yes", attach a copy of the last approved Part A application.

   c. RCRA Part B Permits. Yes ___ No _X__ If the answer to this question is "yes", identify the permit log number.

8. Has the facility ever conducted the closure of a RCRA hazardous waste management unit? Yes ___ No _X__

9. Have any of the following State or federal government actions taken place for a release at the facility?

   a. Written notification regarding known, suspected or alleged contamination on or emanating from the property (e.g., a Notice pursuant to Section 4(q) of the Environment Protection Act)? Yes _X__ No ___ If the to this question is "yes", identify the caption

and date of issuance.

A Violation Notice was issued by IEPA on June 11, 2012 relative to the three ash basins alleging a potential release of coal ash constituents to groundwater (Violation Notice No. W-2012-00057). This was resolved through a Compliance Commitment Agreement (CCA) dated October 4, 2012 and formally executed on October 24, 2012. This submittal is part of the CCA compliance.

b. Consent Decree or Order under RCRA, CERCLA, EPAct Section 22.2 (State Superfund), or EPAct Section 21(f) (State RCRA). Yes ___ No _X__

c. If either of Items a or b were answered by checking "yes", is the notice, order or decree still in effect? Yes _X__ No ___

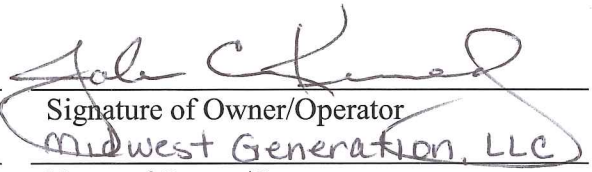
10. What groundwater classification will the facility be subject to at the completion of the remediation?

Class I __X__ Class II ___ Class III ____ Class IV ____
If more than one Class applies, please explain.

11. Describe the circumstances which the release to groundwater was identified.

As requested by Illinois Environmental Protection Agency (IEPA), a groundwater monitoring plan was developed and implemented for three ash basins known as the Ash Bypass Basin, Ash Surge Basin and Ash Settling Basin which are located on the east side of the facility. A total of fifteen monitoring wells were installed in the vicinity of the ash basins. Quarterly sampling was initiated in December 2010 and has been ongoing since. The data were provided to IEPA on a quarterly basis. Based on the monitoring data, on June 11, 2012, IEPA issued a Violation Notice (W-2012-00057) to Midwest Generation alleging that potential leakage from the basins has resulted in a violation of Class I groundwater standards for arsenic, boron, chloride, iron, lead, manganese, nitrate, pH, selenium, sulfate thallium and total dissolved solids.

Based on my inquiry of those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true and accurate.

Powerton Generating Station	
Facility Name	Signature of Owner/Operator
Pekin, IL	Midwest Generation, LLC
Location of Facility	Name of Owner/Operator
ID No. 6282	January 17, 2013
EPA Identification Number	Date

PART II: Release Information

1. Identify the chemical constituents release to the groundwater. Attach additional documents as necessary.

Chemical Description	Chemical Abstract No.
Arsenic	7440-38-2
Boron	7440-42-8
Chloride	16887-00-6
Iron	7439-89-6
Lead	7439-92-1
pH	Not Applicable
Manganese	7439-96-5
Nitrate	C-005
Selenium	7782-49-2
Sulfate	18785-72-3
Thallium	7440-28-0
Total Dissolved Solids	C-010

2. Describe how the site will be investigated to determine the source or sources of the release.

This work has already been performed. As requested by Illinois Environmental Protection Agency (IEPA), Midwest Generation, LLC (Midwest Generation) prepared and submitted on September 3, 2010 a Hydrogeologic Assessment Plan for three ash basins located at the Powerton Generating Station. The purpose of the hydrogeologic assessment was to: (i) evaluate the potential, if any, for migration of ash related constituents from the ash basins and conduct monitoring for groundwater constituents regulated by Illinois Part 620 groundwater standards; (ii) characterize the subsurface hydrogeology: and (iii) identify potable well use within 2,500 feet of the ash basins.

Upon IEPA approval of the Hydrogeologic Assessment Plan, a total of twelve monitoring wells (MW-1 through MW-12) were installed around the three ash basins identified as Ash Bypass Basin, Ash Surge Basin and Ash Settling Basin (see Figure 3 in Attachment 2A). In addition, three monitoring wells MW-12 through MW-15 were concurrently installed associated with monitoring of the adjacent Metals Cleaning Basin. These wells have now also been included by IEPA as part of the overall ash basin system monitoring program. The wells were drilled and constructed in October 2010 after which point quarterly monitoring was initiated in accordance with approved, low-flow sampling procedures. A Hydrogeologic Assessment Report for Powerton Generating Station was prepared by Patrick Engineering, Inc. and submitted by Midwest Generation to IEPA in February 2011. The results of the Hydrogeologic Assessment Report are incorporated into this

application submittal by reference. It is noted that since the submittal of the Hydrogeologic Assessment Report, a re-evaluation of the groundwater flow system was performed and discussion submitted to IEPA as part of Violation Notice Responses dated July 27, 2012. Specifically, it was noted that wells MW-6, MW-8, MW-12, MW-14 and MW-15 are screened within a localized silt/clay unit whereas the remaining monitoring wells are screened within a gravelly sand unit. Water levels within the wells screened in the silt/clay unit tend to be higher that those in the gravelly sand unit by approximately 8 to 10 feet, or more, in elevation. When the water levels from the five monitoring wells that are screened in the silt/clay unit are plotted separately from the wells screened within the gravelly sand unit, it is evident that there are two distinct, though hydraulically connected, groundwater units beneath this portion of the site. Groundwater flow maps for each unit using the most recent data from the December 2012 sampling event are provided as Figures 4 and 5 in Attachment 2A. Figure 4 indicates a westerly groundwater flow within the silt/clay unit towards the adjoining intake channel. Figure 5 indicates a northerly groundwater flow direction within the gravelly sand unit towards the Illinois River.

Since the submittal of the Hydrogeologic Assessment Report in February 2011, quarterly monitoring of the wells has been ongoing. As part of the CCA, another upgradient monitoring well (MW-16) was installed in November, 2012 and is now included in the monitoring program. The most recent round of sampling was performed in December 2012. Complete updated data summary tables are provided in Attachment 2B. As noted above, updated groundwater flow maps using the water level measurements from the most recent round of sampling are provided as Figure 4 (silt/clay unit wells) and Figure 5 (gravelly sand unit wells) in Attachment 2A.

3. Describe how groundwater will be monitored to determine the rate and extent of the release.

As part of the hydrogeologic assessment already performed (see discussion for item 2 above), in-situ hydraulic conductivity tests were performed on five of the monitoring wells (MW-2, MW-5, MW-8, MW-9 and MW-10) installed around the ash basins. Based on the results of the testing, hydraulic conductivity values in the vicinity of the well screens were found to range from 7.41×10^{-4} to 9.24×10^{-3} ft/sec with an average hydraulic conductivity of 4.7×10^{-3} ft/sec.

Relative to the extent of impacts, a box-plot map of detections of the constituents identified in Part II - Item 1 above is provided as Figure 6 in Attachment 2A.

4. Has the release been contained on-site at the facility?

Yes. Groundwater monitoring data indicates that the impacts are limited to within the property boundary. Natural groundwater flow is generally to the west towards

the adjoining intake channel (silt/clay unit) and north towards the Illinois River (gravelly sand unit).

5. Describe the groundwater monitoring network and groundwater and soil sampling protocols in place at the facility.

The existing IEPA approved groundwater monitoring network at the site consists of sixteen monitoring wells (MW-1 through MW-16) located around the three existing ash basin (see Figure 3 in Attachment 2A). Wells MW-1, MW-9, MW-10 and MW-16 are generally upgradient monitoring wells. The remaining wells are considered downgradient monitoring points. The well borings were advanced using hollow-stem augers to depths ranging from approximately 30 to 45 feet below ground surface (bgs). The depth of a specific boring was terminated approximately 10 feet below the encountered water table. The wells were subsequently constructed using standard, 2-inch diameter PVC casing with 10-feet of 0.010 slot PVC screens. The wells were completed approximately three feet above grade with locking protective steel casings and bumper posts. The boring logs and well construction summaries are included in the above referenced Hydrogeologic Assessment Report (see discussion for item 2 above). The monitoring wells are sampled on a quarterly basis using low-flow sampling with a peristaltic pump. Field measurements of pH, specific conductivity, temperature, dissolved oxygen (DO) and oxidation-reduction potential (ORP) are recorded. Once collected, the samples are placed on ice and transported under a completed chain-of-custody to PDC Laboratories, Inc. which is an Illinois accredited analytical laboratory. The samples are analyzed for the inorganic compounds listed in 35 IAC 620.410(a) and (d), excluding radium 226/228.

There is no soil sampling that is performed as part of the approved site monitoring program.

6. Provide the schedule for investigation and monitoring.

Groundwater sampling of all existing monitoring wells is performed on a quarterly basis. The general sampling schedule is as follows:

Event	Sampling Schedule
1st Quarter	March
2nd Quarter	June
3rd Quarter	September
4th Quarter	December

7. Describe the laboratory quality assurance program utilized for the investigation.

The quality management system for PDC Laboratories, Inc. is outlined in the *Quality Manual.* The *Quality Manual* defines the policies, procedures, and documentation that assure analytical services continually meet a defined standard of quality that is designed to provide clients with data of known and documented quality and, where applicable, demonstrate regulatory compliance.

The *Quality Manual* sets the standard under which all laboratory operations are performed, including the laboratory's organization, objectives, and operating philosophy. The *Quality Manual* has been prepared to assure compliance with the 2009 TNI Environmental Laboratory Sector Standard – Volume 1 – Management and Technical Requirements for Laboratories Performing Environmental Analysis (EL-V1-M1 through M7-ISO-2009). This Standard is consistent with ISO/IEC 17025:2005 requirements that are relevant to the scope of environmental testing services and thus, the laboratory operates a quality system in conformance with ISO/IEC 17025:2005(E). In addition, the policies and procedures outlined are compliant with the various accreditation and certification programs the laboratory maintains.

In addition, the *Quality Manual* has been prepared to be consistent with the requirements of the following documents:

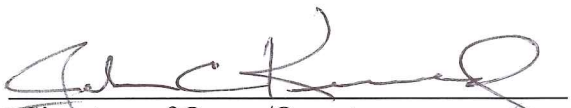
1. Manual for the Certification of Laboratories Analyzing Drinking Water, Fifth Edition,
2. Standard Methods for the Examination of Water and Wastewater, as updated by MUR II,
3. 40 CFR Part 136 including Appendices,
4. Test Methods for Evaluating Solid Waste: SW-846,
5. State–specific analytical methods (such as OA-1 and OA-2 for State of Iowa), and
6. Title 77 Illinois Administrative Code, Chapter I, Subchapter d, Part 465 – Certification and Operation of Environmental Laboratories (Microbiology)

A copy of the *Quality Manual* can be provided upon request.

8. Provide a summary of the results of available soil testing and groundwater monitoring associated with the release at the facility. The summary or results should provide the following information: dates of sampling; types of samples taken (soil or water); locations and depths of samples; sampling and analytical methods; analytical laboratories used; chemical constituents for which analyses were performed; analytical detection limits; and concentrations of chemical constituents in ppm (levels below detection should be identified as "ND").

The data summary for all groundwater sampling performed to date is provided in Tables 1 and 2 in Attachment 2B.

Based on my inquiry of those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of knowledge and belief, true and accurate and confirm that the actions identified herein will be undertaken in accordance with the schedule set forth herein.

Powerton Generating Station	
Facility Name	Signature of Owner/Operator
Pekin, IL	Midwest Generation LLC
Location of Facility	Name of Owner/Operator
ID No. 6282	January 17, 2013
EPA Identification Number	Date

Part III: Remedy Selection Information

1. Describe the selected remedy.

The Ash Bypass Basin is already lined with high density polyethylene (HDPE). The Ash Surge Basin is lined with Poz-o-Pac material and the Ash Settling Basin is presently unlined. The agreed upon remedy is specified in Item 5 (a) through (m) of the executed Compliance Commitment Agreement (CCA) which is provided in Attachment 2C. The remedy includes relining of the Ash Surge Basin and Ash Settling Basin with HDPE. This Groundwater Management Zone (GMZ) application fulfills requirements set forth under Item 5 (g) of the CCA.

2. Describe other remedies which were considered and why they were rejected.

The primary alternate remedy discussed during negotiations with IEPA was to ensure that the ash basins will not be used as permanent disposal sites, maintain the ash basins in a manner that will be protective of the integrity of the existing liners, include visual inspections of the liners during ash removal events, implement repairs or replacement of the liners as necessary, establish a GMZ and to continue with the existing quarterly groundwater monitoring program until the federal ash regulation revisions are established. Upon the finalization of the new federal ash storage regulations, retrofit the basins, as necessary, to meet the new technical requirements for ash storage impoundments or re-engineer plant processes to maintain compliance and take the basins out of service.

This remedy was rejected by IEPA due to the uncertainty of the timeframe within which the new federal regulations will be issued.

3. Will waste, contaminated soil or contaminated groundwater be removed from the site in the course of this remediation? Yes _X_ No ___ If the answer to this question is "yes", where will the contaminated material be taken?

The ash that will be removed from the Ash Surge Basin and the Ash Settling Basin prior to relining will be sent to the Buckheart Mine on County Highway 6 in Canton, Illinois.

4. Describe how the selected remedy will accomplish the maximum practical restoration of beneficial use of groundwater.

Once the Ash Surge Basin and the Ash Settling Basin are lined with a HDPE liner, all the ash basins in service for ash accumulation will have been constructed and operated to minimize potential release of ash basin fluids to groundwater. Any residual groundwater impacts potentially associated with prior ash basin leakage

will naturally attenuate through the groundwater system under monitored conditions within the established GMZ with eventual discharge to the adjoining intake channel or the Illinois River.

5. Describe how the selected remedy will minimize any threat to public health or the environment.

The existing conditions do not pose a threat to public health since the impacts are limited to within the property boundary, there are no downgradient groundwater use receptors and the basins are located within a fenced property with 24-hour security controlled access. Any potential impacts to the environment will be minimized and managed as discussed under item 4 above.

6. Describe how the selected remedy will result in compliance with the applicable groundwater standards.

Once all the ash basins are lined with HDPE, the ash collection system will have been constructed and operated to minimize potential release of ash basin fluids to groundwater (i.e, the ash basins as a potential source of groundwater impacts will be eliminated). Any residual groundwater impacts potentially associated with prior ash basin leakage will naturally attenuate through the groundwater system under monitored conditions within the established GMZ and/or discharge to the adjoining intake channel or the Illinois River, west and north of the ash basins, respectively.

7. Provide a schedule for design, construction and operation of the remedy, including dates for the start and completion.

Relative to the Ash Settling Basin, the construction window will be coordinated with the spring plant shutdown which will occur from March 15, 2013 through April 15, 2013. At this time liner installation is anticipated to occur the week of April 1, 2013.

Relative to the Ash Surge Basin, the construction window is April 9, 2013 through August 28, 2013. The dredging of ash will occur between April 9, 2013 and June 3, 2013. At this time liner installation will likely occur in July 2013.

A more detailed schedule is being provided under separate cover with the Application for Construction Permit to reline the two basins.

8. Describe how the remedy will be operated and maintained.

Upon completion of construction activities, Midwest Generation will develop and submit an Operation and Maintenance (O&M) Plan to the IEPA. The O&M Plan will be based on manufacturer and installer recommendations. It will include procedures for liner system inspections, inspection frequency, documentation

requirements and what corrective measure procedures are to be implemented, if necessary.

9. Have any of the following permits been issued for the remediation?

   a. Construction or Operating permit from the Division of Water Pollution Control. Yes _X_ No ___

   This permit submittal is currently under review by IEPA.

   b. Land treatment permit from the Division of Water Pollution Control. Yes ___ No _X__ If the answer to this question is "yes", identify the permit number.

   c. Construction or Operating permit from the Division of Air Pollution Control. Yes ___ No _X__ If the answer to this question is "yes", identify the permit number.

10. How will groundwater at the facility be monitored following completion of the remedy to ensure that the groundwater standards have been attained?

There are currently 16 monitoring wells surrounding the ash basins (see Figure 3 in Attachment 2A). As required under Item 5 (d) of the CCA, these wells will continue to be monitored on a quarterly basis for constituents listed in 35 IAC 620.410(a) and (d), with the exception of radium 226/228. The monitoring data will be reported to IEPA within 30 days of the end of each quarter. In addition, an updated groundwater potentiometric surface map will be provided with each quarterly submittal. IEPA, upon written request, may approve a reduction in the frequency and scope of the sampling program in the future. Upon the IEPA's approval, the approved changes in the frequency and scope of the monitoring program shall be implemented.

It is noted that in addition to the quarterly groundwater monitoring, the CCA requires at least one year of quarterly monitoring of water from the East Yard Run-off Basin to be analyzed for constituents listed in 35 IAC 620.410(a) and (d), with the exception of radium 226/228.

Based on my inquiry of those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true and accurate and confirm that the actions identified herein will be undertaken in accordance with the schedule set forth herein.

: Powerton Generating Station

Facility Name

Pekin, IL

Location of Facility

ID No. 6282

EPA Identification Number

Signature of Owner/Operator

Midwest Generation, LLC

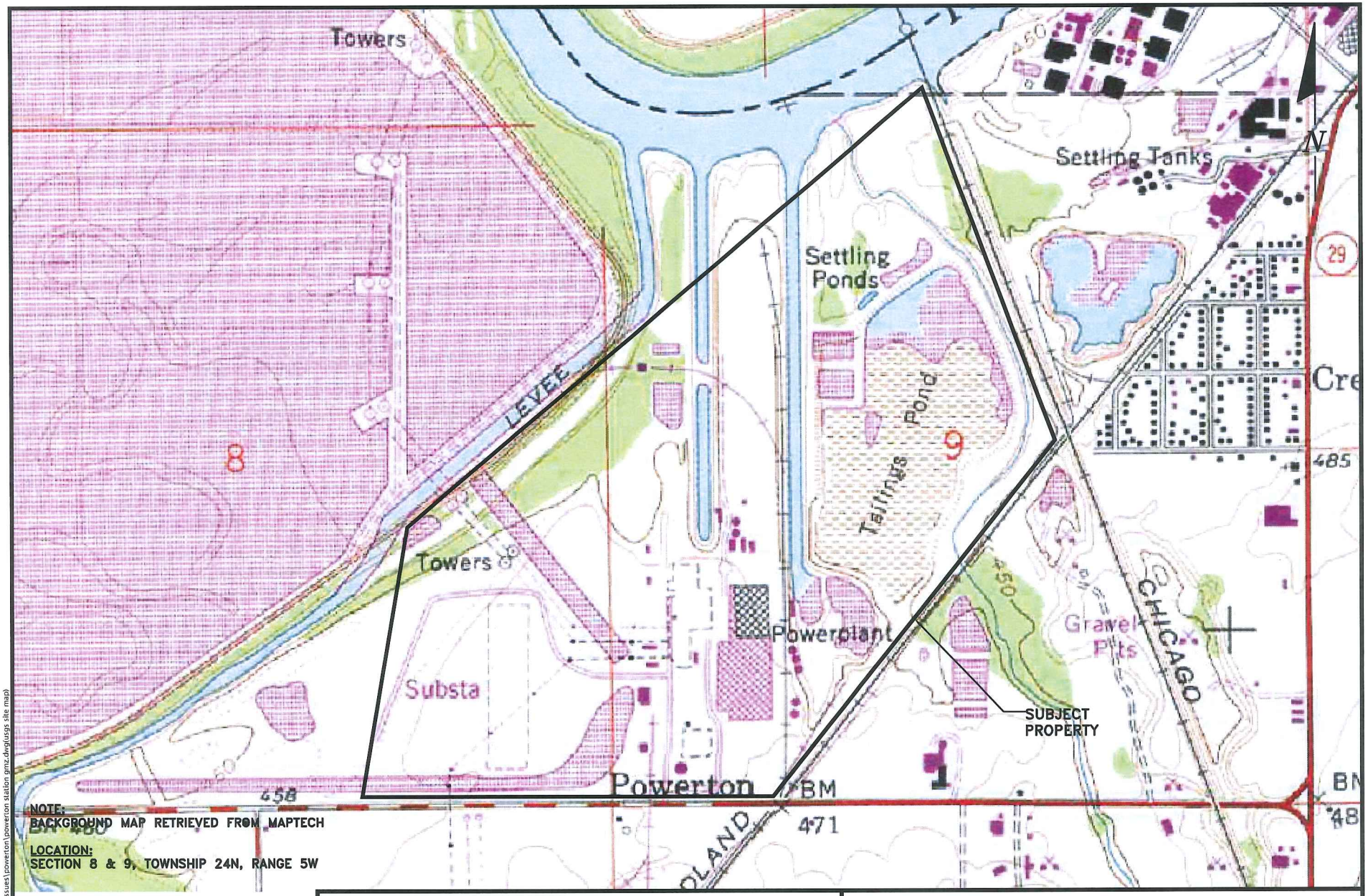
Name of Owner/Operator

January 17, 2013

Date

(Source: Amended at 36 Ill. Reg. 15206, effective October 5, 2012)

ATTACHMENT 2A
Figures



NOTE:
BACKGROUND MAP RETRIEVED FROM MAPTECH

LOCATION:
SECTION 8 & 9, TOWNSHIP 24N, RANGE 5W

0 1000'
APPROXIMATE SCALE

N

ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

USGS TOPOGRAPHIC SITE MAP

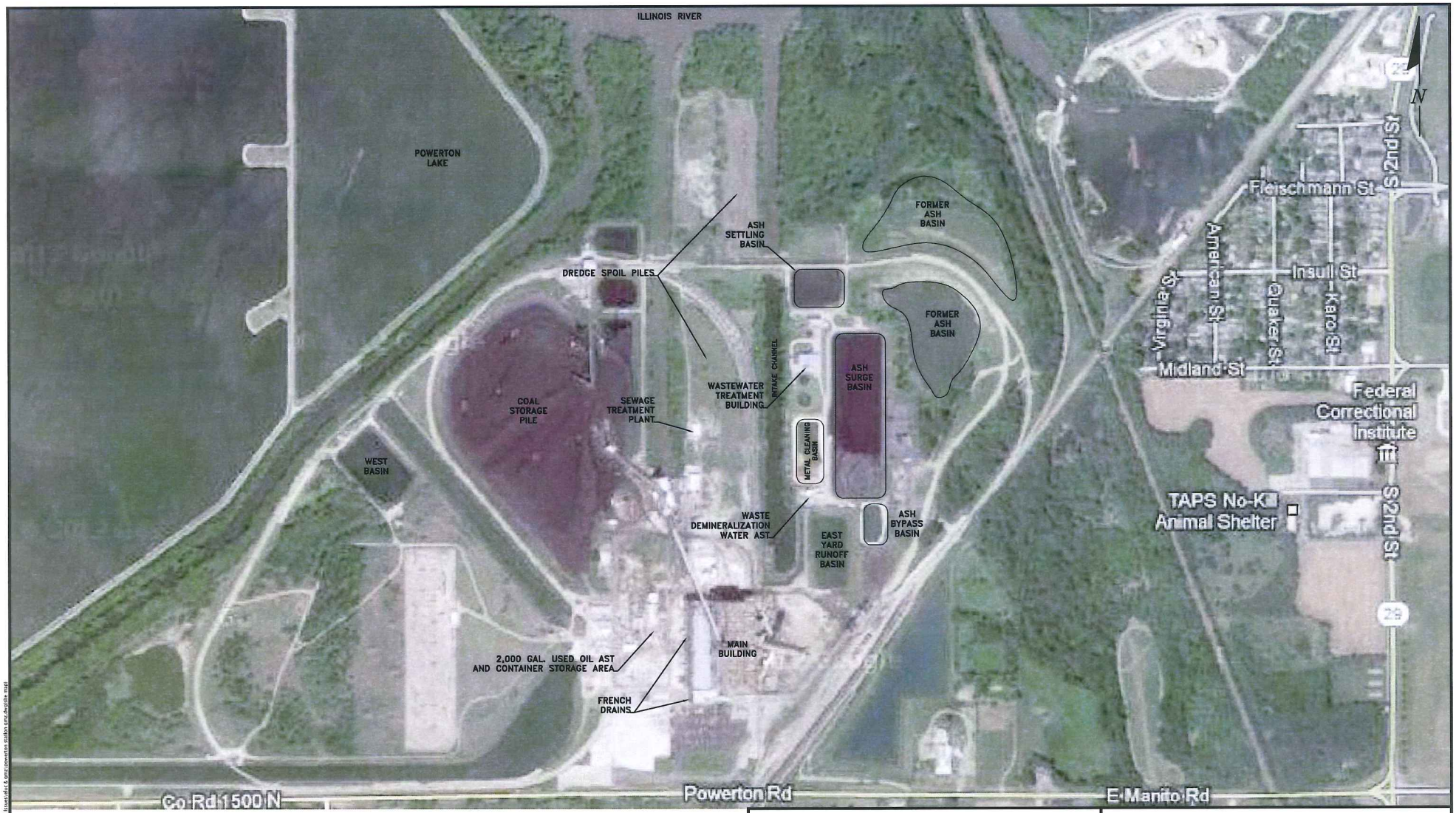
POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 1000' | Date: January 11, 2013

KPRG Project No. 18311.21 | FIGURE 1

W:\c-p&p\projects\midwest generation\ash pond issues\powerton\powerton station gmz.dwg(usgs site map)

MWG13-15_743



NOTE:
BACKGROUND MAP RETRIEVED FROM GOOGLE MAPS 2012

LOCATION:
SECTION 8 & 9, TOWNSHIP 24 N, RANGE 5 W

0 550'
APPROXIMATE SCALE

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, Inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 28 Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

GENERATING STATION SITE MAP

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550'	Date: January 17, 2013
KPRG Project No. 18311.21	FIGURE 2

MWG13-15_744



ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G

KPRG and Associates, inc.

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14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

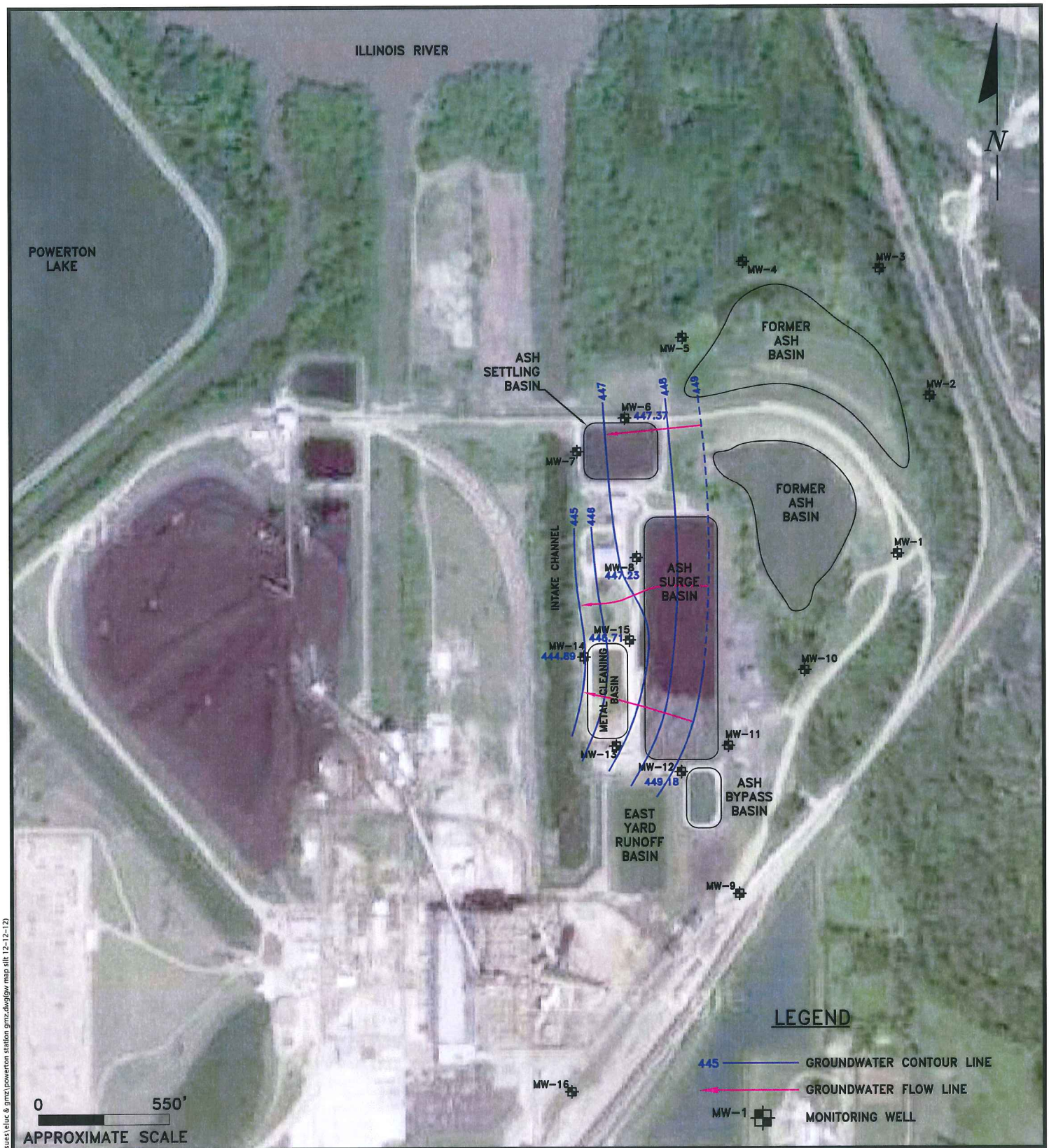
MONITORING WELLS LOCATION SITE MAP

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550'	Date: January 17, 2013
KPRG Project No. 18311.21	FIGURE 3

W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\powerton station gmz.dwg(mw well map)

MWG13-15_745



ENVIRONMENTAL CONSULTATION & REMEDIATION

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414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

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GROUNDWATER CONTOUR MAP FOR SILT/CLAY UNIT 12/12/2012

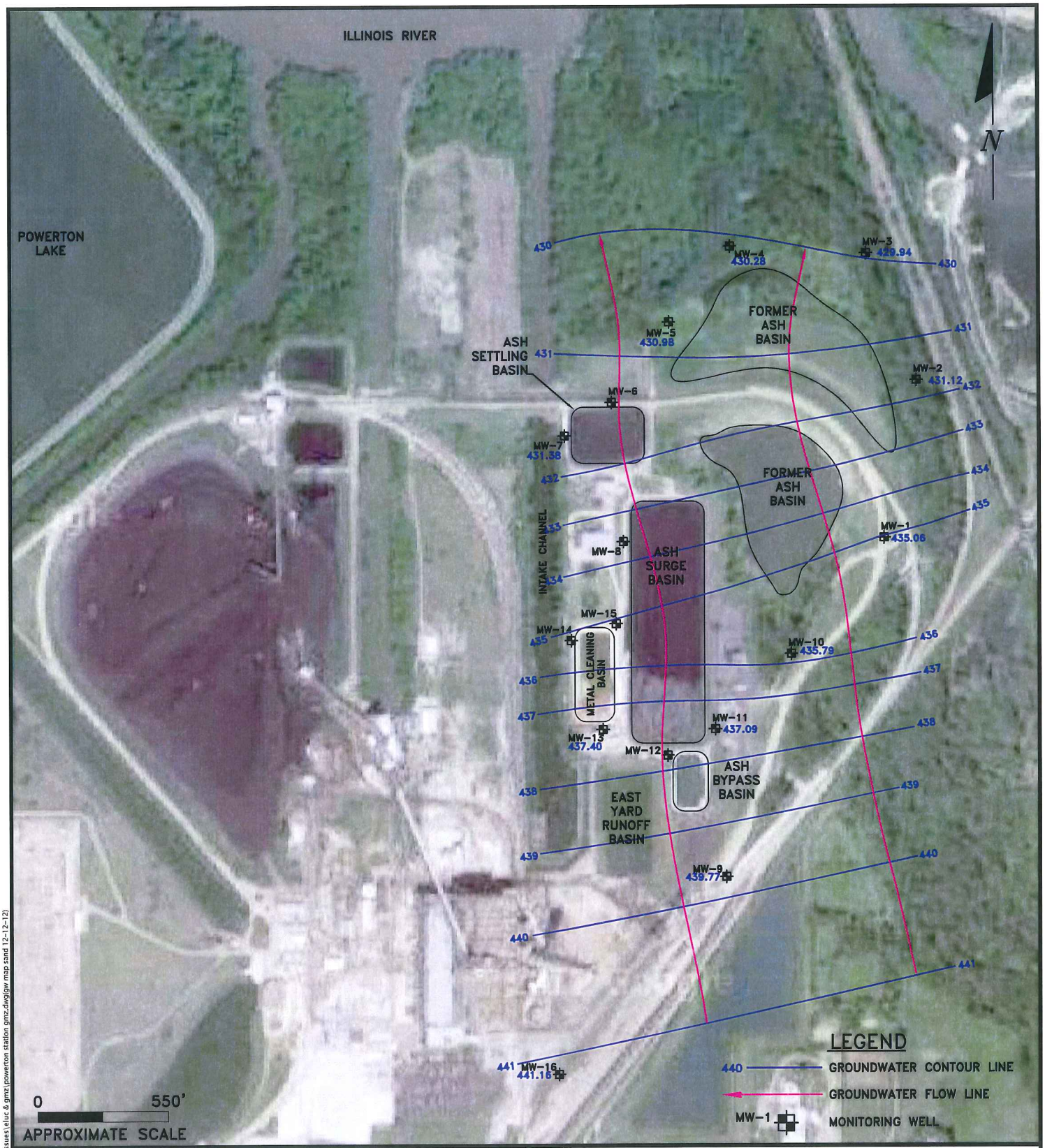
POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: January 17, 2013

KPRG Project No. 18311.21 | FIGURE 4

W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\powerton station gmz.dwg\gw map silt 12-12-12)

MWG13-15_746



ENVIRONMENTAL CONSULTATION & REMEDIATION

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414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 28 Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

GROUNDWATER CONTOUR MAP FOR GRAVELLY SAND UNIT 12/12/2012

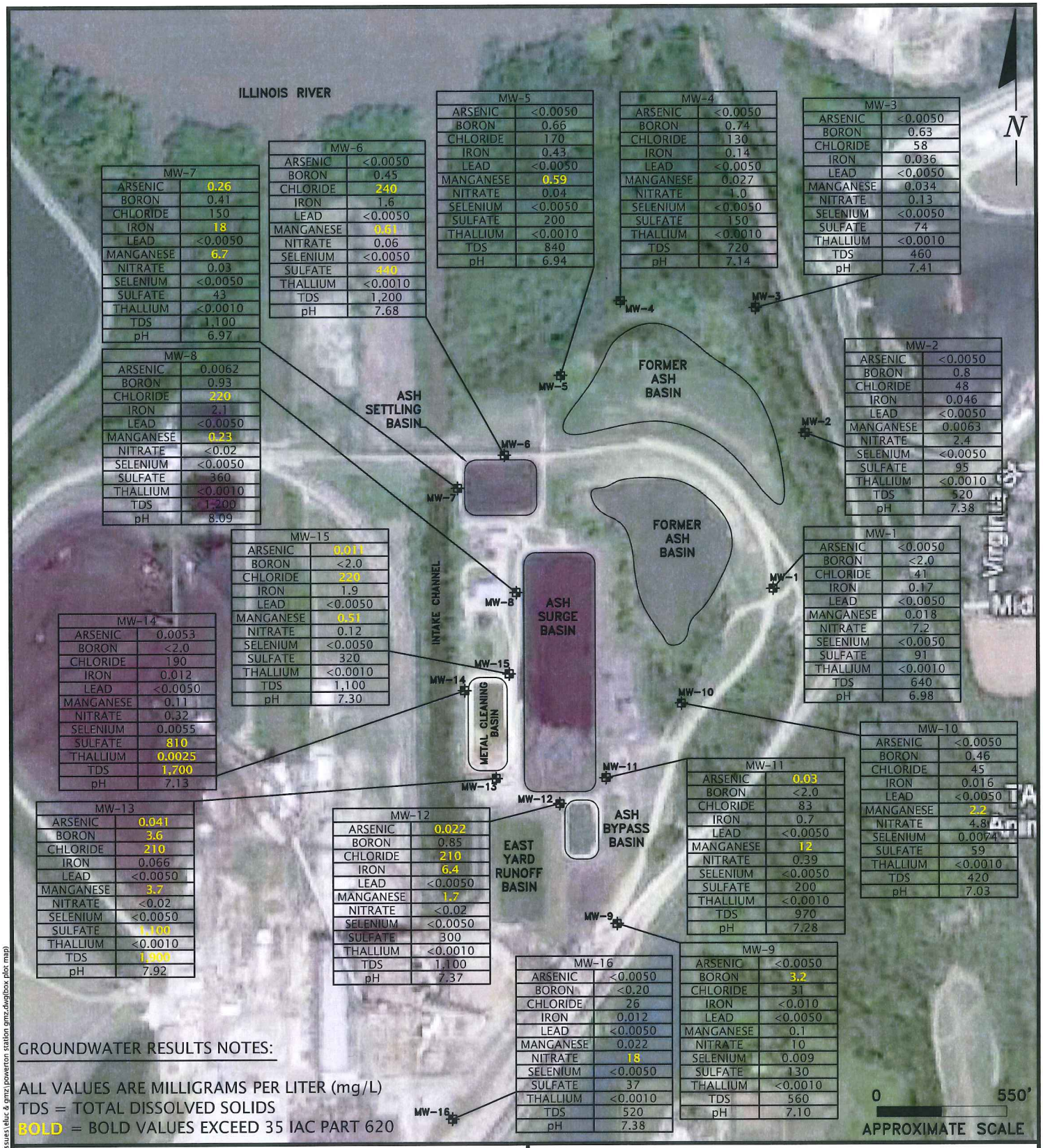
POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: January 17, 2013

KPRG Project No. 18311.21 | FIGURE 5

W:\cp&p\projects\midwest generation\ash pond issues\eluc & gmz\powerton station gmz.dwg(gw map sand 12-12-12)

MWG13-15_747



GROUNDWATER RESULTS NOTES:

ALL VALUES ARE MILLIGRAMS PER LITER (mg/L)
TDS = TOTAL DISSOLVED SOLIDS
BOLD = BOLD VALUES EXCEED 35 IAC PART 620

W:\c-p&p\projects\midwest generation\ash pond issues\elu c & gmz\powerton station gmz.dwg[box plot map]

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

AREAL DISTRIBUTION OF GROUNDWATER IMPACTS

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: January 17, 2013

KPRG Project No. 18311.21 | FIGURE 6

ATTACHMENT 2B
Summary Data Table

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-01	Date	12/15/2010		3/25/2011		6/16/2011		9/19/2011		12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND
Arsenic	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	0.001	0.001	ND	0.0050	ND
Barium	6020	NP	0.044	0.001	0.026	0.001	0.034	0.001	0.056	0.001	0.044	0.001	0.038	0.001	0.06	0.001	0.074	0.20	ND
Beryllium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Boron	6020	NP	0.45	0.01	0.26	0.01	0.33	0.01	1	0.01	0.48	0.01	0.29	0.01	0.46	0.01	1.8	2.0	ND
Cadmium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Chloride	9251	NP	46	10	37	10	40	10	41	10	26	10	53	10	42	10	43	10	41
Chromium	6020	NP	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.0030	0.014
Cobalt	6020	NP	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND
Copper	6020	NP	ND	0.003	ND	0.003	ND	0.003	0.0057	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.010	ND
Cyanide	9014	NP	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.0077	0.0050	ND	0.0050	ND	0.0050	ND
Fluoride	SM 4500 F C	NP	0.28	0.25	0.32	0.25	0.38	0.25	ND	0.25	ND	0.25	ND	0.25	ND	0.25	ND	0.25	ND
Iron	6020	NP	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.17
Lead	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND
Manganese	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	0.0027	0.0020	0.018
Mercury	7470A	NP	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	6020	NP	0.01	0.005	0.008	0.005	ND	0.005	0.0069	0.005	0.0095	0.005	ND	0.005	0.0066	0.005	0.01	0.010	ND
Nitrogen/Nitrate	Nitrogen Calc	NP	7.2	0.20	4.3	0.20	5.7	0.20	11	0.20	4.1	0.20	7.3	0.20	6.5	0.20	5.4	0.20	7.2
pH	Obtained in field	NA	7.46	NA	7.43	NA	7.58	NA	7.37	NA	6.39	NA	7.59	NA	7.45	NA	7.06	NA	6.98
Selenium	6020	NP	0.0016	0.001	0.0022	0.001	0.0016	0.001	0.0036	0.001	0.0027	0.001	0.0025	0.001	0.0042	0.001	0.005	0.0050	ND
Silver	6020	NP	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND
Sulfate	9038	NP	50	10	30	10	39	10	83	10	31	10	61	10	68	25	72	10	91
Thallium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Total Dissolved Solids	SM 2540C	NP	490	17	340	17	410	17	510	17	440	17	470	17	580	17	710	26	640
Zinc	6020	NP	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.020	ND

Notes: Groundwater sample analyzed at PDC Laboratories.
Well screen depth is from 20.5 to 30.5 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable
NP - Not Provided by lab

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-02	Date	12/15/2010		3/25/2011		6/16/2011		9/19/2011		12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND
Arsenic	6020	NP	0.0018	0.001	0.0015	0.001	0.0017	0.001	ND	0.001	ND	0.001	ND	0.001	0.0011	0.001	0.0012	0.0050	ND
Barium	6020	NP	0.042	0.001	0.025	0.001	0.053	0.001	0.059	0.001	0.066	0.001	0.049	0.001	0.064	0.001	0.06	0.040	0.075
Beryllium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Boron	6020	NP	0.38	0.01	0.23	0.01	0.35	0.01	0.83	0.01	0.69	0.01	0.27	0.01	0.74	0.01	0.65	0.40	0.8
Cadmium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Chloride	9251	NP	45	10	43	10	44	10	46	10	40	10	53	10	51	10	45	10	48
Chromium	6020	NP	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.0030	0.0096
Cobalt	6020	NP	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND
Copper	6020	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.010	ND
Cyanide	9014	NP	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Fluoride	SM 4500 F C	NP	ND	0.25	0.30	0.25	0.35	0.25	ND	0.25	ND	0.25	ND	0.25	ND	0.25	ND	0.25	0.28
Iron	6020	NP	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.046
Lead	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND
Manganese	6020	NP	ND	0.001	0.0012	0.001	0.0022	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	0.0019	0.0020	0.0063
Mercury	7470A	NP	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	6020	NP	0.0086	0.005	0.0096	0.005	0.0053	0.005	0.01	0.005	0.0073	0.005	ND	0.005	0.0065	0.005	0.0066	0.010	ND
Nitrogen/Nitrate	Nitrogen Calc	NP	7.5	0.20	4.5	0.20	4.7	0.20	4.3	0.20	6.9	0.20	5.1	0.20	4.4	0.20	2.9	0.20	2.4
pH	Obtained in field	NA	7.91	NA	7.78	NA	7.20	NA	7.52	NA	6.41	NA	7.92	NA	7.35	NA	7.32	NA	7.38
Selenium	6020	NP	0.0017	0.001	0.0032	0.001	0.0014	0.001	0.0032	0.001	0.0037	0.001	ND	0.001	0.0039	0.001	0.0016	0.0050	ND
Silver	6020	NP	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND
Sulfate	9038	NP	52	10	42	10	53	10	70	10	69	10	55	10	73	10	69	10	95
Thallium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Total Dissolved Solids	SM 2540C	NP	480	17	420	17	470	17	460	17	490	17	440	17	500	17	510	26	520
Zinc	6020	NP	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	0.013	0.006	ND	0.006	ND	0.020	ND

Notes: Groundwater sample analyzed at PDC Laboratories.
Well screen depth is from 23.5 to 33.5 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable
NP - Not Provided by lab

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-03	Date	12/15/2010		3/25/2011		6/16/2011		9/19/2011		12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND
Arsenic	6020	NP	0.0017	0.001	ND	0.001	0.0011	0.001	0.0012	0.001	0.0012	0.001	0.0012	0.001	ND	0.001	0.0015	0.0050	ND
Barium	6020	NP	0.038	0.001	0.03	0.001	0.063	0.001	0.081	0.001	0.076	0.001	0.052	0.001	0.059	0.001	0.1	0.040	0.11
Beryllium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Boron	6020	NP	0.75	0.01	0.18	0.01	0.24	0.01	0.64	0.01	0.7	0.01	0.56	0.01	0.63	0.01	0.64	0.40	0.63
Cadmium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Chloride	9251	NP	39	10	52	10	59	10	62	10	39	10	54	10	57	10	54	10	58
Chromium	6020	NP	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.0030	0.0086
Cobalt	6020	NP	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND
Copper	6020	NP	ND	0.003	ND	0.003	ND	0.003	0.012	0.003	0.0042	0.003	ND	0.003	ND	0.003	ND	0.010	ND
Cyanide	9014	NP	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Fluoride	SM 4500 F C	NP	0.3	0.25	0.35	0.25	0.41	0.25	0.35	0.25	ND	0.25	ND	0.25	ND	0.25	0.29	0.25	0.35
Iron	6020	NP	ND	0.010	ND	0.010	ND	0.010	0.042	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.036
Lead	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND
Manganese	6020	NP	0.0047	0.001	0.0023	0.001	ND	0.001	0.0037	0.001	0.0014	0.001	ND	0.001	0.0033	0.001	0.002	0.0020	0.034
Mercury	7470A	NP	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	6020	NP	0.011	0.005	0.0095	0.005	ND	0.005	0.008	0.005	0.0078	0.005	ND	0.005	0.005	0.005	0.0067	0.010	ND
Nitrogen/Nitrate	Nitrogen Calc	NP	9.4	0.20	5.2	0.20	5.4	0.02	0.20	0.02	0.20	0.20	2.1	0.02	0.37	0.02	0.08	0.02	0.13
pH	Obtained in field	NA	7.43	NA	7.55	NA	7.33	NA	7.30	NA	6.58	NA	7.38	NA	7.36	NA	7.46	NA	7.41
Selenium	6020	NP	ND	0.001	0.0036	0.001	0.0015	0.001	0.0036	0.001	0.0021	0.001	0.0067	0.001	0.0018	0.001	0.0033	0.0050	ND
Silver	6020	NP	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND
Sulfate	9038	NP	64	10	42	10	47	10	66	10	45	10	72	10	84	10	74	10	74
Thallium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Total Dissolved Solids	SM 2540C	NP	480	17	430	17	440	17	460	17	480	17	450	17	520	17	520	26	460
Zinc	6020	NP	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	0.012	0.006	ND	0.006	ND	0.020	ND

Notes: Groundwater sample analyzed at PDC Laboratories.
Well screen depth is from 24 to 34 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable
NP - Not Provided by lab

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-04	Date	12/15/2010		3/25/2011		6/16/2011		9/19/2011		12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND
Arsenic	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	0.0012	0.0050	ND
Barium	6020	NP	0.055	0.001	0.052	0.001	0.058	0.001	0.041	0.001	0.048	0.001	0.043	0.001	0.04	0.001	0.07	0.040	0.09
Beryllium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Boron	6020	NP	0.77	0.01	0.83	0.01	0.33	0.01	0.84	0.01	0.79	0.01	0.78	0.01	0.83	0.01	0.76	0.40	0.74
Cadmium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Chloride	9251	NP	150	10	77	10	43	25	86	1.0	8.1	10	58	10	75	25	110	25	130
Chromium	6020	NP	0.0045	0.004	ND	0.004	ND	0.004	0.0044	0.004	ND	0.004	ND	0.004	ND	0.004	0.0045	0.0030	0.01
Cobalt	6020	NP	ND	0.002	0.0026	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND
Copper	6020	NP	ND	0.003	ND	0.003	ND	0.003	0.0033	0.003	0.01	0.003	ND	0.003	ND	0.003	ND	0.010	ND
Cyanide	9014	NP	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Fluoride	SM 4500 F C	NP	0.3	0.25	0.39	0.25	0.43	0.25	0.31	0.25	ND	0.25	ND	0.25	ND	0.25	0.26	0.25	0.29
Iron	6020	NP	ND	0.010	0.017	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.14
Lead	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND
Manganese	6020	NP	0.77	0.001	0.68	0.001	0.41	0.001	0.69	0.001	0.35	0.001	0.089	0.001	0.26	0.001	0.5	0.0020	0.027
Mercury	7470A	NP	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	6020	NP	0.012	0.005	0.012	0.005	0.0067	0.005	0.011	0.005	0.01	0.005	0.0055	0.005	0.0074	0.005	0.0095	0.010	ND
Nitrogen/Nitrate	Nitrogen Calc	NP	0.34	0.02	0.73	0.20	2.7	0.02	0.06	0.02	0.07	0.02	0.65	0.02	1.1	0.02	0.46	0.02	1.0
pH	Obtained in field	NA	7.27	NA	7.48	NA	7.26	NA	7.22	NA	6.37	NA	7.24	NA	7.04	NA	7.13	NA	7.14
Selenium	6020	NP	0.0022	0.001	0.0037	0.001	0.0022	0.001	0.0039	0.001	0.002	0.001	0.0085	0.001	0.0035	0.001	0.0032	0.0050	ND
Silver	6020	NP	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND
Sulfate	9038	NP	110	25	140	10	48	25	61	1.0	6.7	50	160	10	94	25	170	25	150
Thallium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Total Dissolved Solids	SM 2540C	NP	680	17	620	17	470	17	580	17	520	17	660	17	600	17	800	26	720
Zinc	6020	NP	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.020	ND

Notes: Groundwater sample analyzed at PDC Laboratories.
Well screen depth is from 24 to 34 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable
NP - Not Provided by lab

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-05	Date	12/15/2010		3/25/2011		6/16/2011		9/19/2011		12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND
Arsenic	6020	NP	0.0011	0.001	ND	0.001	ND	0.001	ND	0.001	0.001	0.001	ND	0.001	ND	0.001	ND	0.0050	ND
Barium	6020	NP	0.053	0.001	0.048	0.001	0.046	0.001	0.071	0.001	0.065	0.001	0.054	0.001	0.058	0.001	0.066	0.040	0.077
Beryllium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Boron	6020	NP	0.95	0.01	0.93	0.01	0.79	0.01	0.79	0.01	0.77	0.01	0.82	0.01	0.74	0.01	0.65	0.40	0.66
Cadmium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Chloride	9251	NP	150	25	120	10	89	25	160	25	140	10	82	50	100	50	150	25	170
Chromium	6020	NP	0.0044	0.004	0.0042	0.004	ND	0.004	0.0066	0.004	ND	0.004	ND	0.004	ND	0.004	0.0058	0.0030	0.0049
Cobalt	6020	NP	0.0025	0.002	0.0023	0.002	ND	0.002	0.0027	0.002	0.0022	0.002	ND	0.002	ND	0.002	0.002	0.0030	ND
Copper	6020	NP	ND	0.003	ND	0.003	ND	0.003	0.0036	0.003	0.0061	0.003	ND	0.003	0.0031	0.003	ND	0.010	ND
Cyanide	9014	NP	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Fluoride	SM 4500 F C	NP	0.27	0.25	0.36	0.25	0.43	0.25	0.25	0.25	ND	0.25	ND	0.25	ND	0.25	0.32	0.25	0.32
Iron	6020	NP	0.13	0.010	0.050	0.010	0.046	0.010	0.082	0.010	0.036	0.010	ND	0.010	ND	0.010	ND	0.010	0.43
Lead	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND
Manganese	6020	NP	0.51	0.001	0.49	0.001	0.48	0.001	0.64	0.001	0.5	0.001	0.26	0.001	0.41	0.001	1	0.040	0.59
Mercury	7470A	NP	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND
Nickel	6020	NP	0.014	0.005	0.013	0.005	0.0077	0.005	0.014	0.005	0.014	0.005	0.008	0.005	0.0095	0.005	0.013	0.010	ND
Nitrogen/Nitrate	Nitrogen Calc	NP	ND	0.02	ND	0.02	0.08	0.02	ND	0.02	ND	0.02	1.6	0.02	0.04	0.02	0.04	0.02	0.04
pH	Obtained in field	NA	7.24	NA	7.36	NA	7.29	NA	7.05	NA	6.34	NA	7.14	NA	7.00	NA	6.94	NA	6.94
Selenium	6020	NP	0.0019	0.001	0.003	0.001	ND	0.001	0.0045	0.001	0.0023	0.001	0.0028	0.001	0.0033	0.001	0.0031	0.0050	ND
Silver	6020	NP	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND
Sulfate	9038	NP	160	25	170	25	110	25	250	25	170	25	120	50	130	50	200	25	200
Thallium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Total Dissolved Solids	SM 2540C	NP	740	17	680	17	640	17	890	17	820	17	590	17	700	17	890	26	840
Zinc	6020	NP	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.020	ND

Notes: Groundwater sample analyzed at PDC Laboratories.
Well screen depth is from 21 to 31 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable
NP - Not Provided by lab

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-06	Date	12/15/2010		3/25/2011		6/16/2011		9/19/2011		12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND
Arsenic	6020	NP	0.0042	0.001	0.0024	0.001	0.0029	0.001	0.0031	0.001	0.0036	0.001	0.002	0.001	0.0021	0.001	0.0022	0.0050	ND
Barium	6020	NP	0.11	0.001	0.092	0.001	0.1	0.001	0.1	0.001	0.12	0.001	0.097	0.001	0.12	0.001	0.11	0.040	0.12
Beryllium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Boron	6020	NP	0.5	0.01	0.35	0.01	0.43	0.01	0.61	0.01	0.63	0.01	0.39	0.01	0.46	0.01	0.57	0.40	0.45
Cadmium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Chloride	9251	NP	180	50	200	50	160	50	210	50	150	50	150	50	200	50	190	50	240
Chromium	6020	NP	0.006	0.004	0.0083	0.004	0.0045	0.004	0.0085	0.004	0.0056	0.004	ND	0.004	0.0054	0.004	0.0072	0.0030	0.0077
Cobalt	6020	NP	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND
Copper	6020	NP	ND	0.003	ND	0.003	0.0032	0.003	0.0042	0.003	ND	0.003	0.16	0.003	ND	0.003	ND	0.010	ND
Cyanide	9014	NP	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Fluoride	SM 4500 F C	NP	0.65	0.25	0.61	0.25	0.63	0.25	0.64	0.25	0.50	0.25	0.47	0.25	0.37	0.25	0.48	0.25	0.42
Iron	6020	NP	1.6	0.010	1.6	0.010	1.7	0.010	1.8	0.010	1.9	0.010	1.7	0.010	1.9	0.010	1.9	0.010	1.6
Lead	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND
Manganese	6020	NP	0.68	0.001	0.68	0.001	0.63	0.001	0.66	0.001	0.63	0.001	0.61	0.001	0.71	0.001	0.64	0.040	0.61
Mercury	7470A	NP	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND
Nickel	6020	NP	0.0091	0.005	0.014	0.005	0.0078	0.005	0.0099	0.005	0.0089	0.005	ND	0.005	0.0095	0.005	0.011	0.010	ND
Nitrogen/Nitrate	Nitrogen Calc	NP	0.037	0.02	ND	0.02	ND	0.02	0.04	0.02	0.06	0.02	ND	0.02	ND	0.02	0.04	0.02	0.06
pH	Obtained in field	NA	7.67	NA	7.97	NA	7.62	NA	7.61	NA	7.35	NA	7.68	NA	7.59	NA	7.73	NA	7.68
Selenium	6020	NP	0.0034	0.001	ND	0.001	ND	0.001	0.0025	0.001	0.0033	0.001	ND	0.001	0.0013	0.001	0.0023	0.0050	ND
Silver	6020	NP	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND
Sulfate	9038	NP	210	50	250	50	280	50	260	50	170	50	250	50	450	50	340	50	440
Thallium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Total Dissolved Solids	SM 2540C	NP	950	17	990	17	1100	17	970	17	1000	17	1100	17	1300	17	1200	26	1200
Zinc	6020	NP	0.0064	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	0.049	0.006	ND	0.006	ND	0.020	ND

Notes: Groundwater sample analyzed at PDC Laboratories.
Well screen depth is from 18 to 28 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable
NP - Not Provided by lab

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-07	Date	12/6/2010		3/25/2011		6/16/2011		9/19/2011		12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND
Arsenic	6020	NP	0.026	0.001	0.085	0.001	0.12	0.001	0.18	0.001	0.23	0.001	0.23	0.001	0.15	0.001	0.18	0.0050	0.26
Barium	6020	NP	0.55	0.001	0.52	0.001	0.57	0.001	0.57	0.001	0.59	0.001	0.57	0.001	0.44	0.001	0.46	0.040	0.47
Beryllium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Boron	6020	NP	0.61	0.01	0.44	0.012	0.43	0.01	0.38	0.01	0.34	0.01	0.35	0.01	0.41	0.01	0.36	0.40	0.41
Cadmium	6020	NP	0.0026	0.001	ND	0.001	0.0015	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Chloride	9251	NP	170	50	200	25	140	25	130	10	81	25	99	25	130	25	130	25	150
Chromium	6020	NP	0.0088	0.004	0.0075	0.004	0.0061	0.004	0.011	0.004	ND	0.004	ND	0.004	0.0043	0.004	0.0051	0.0030	0.028
Cobalt	6020	NP	0.017	0.002	0.0056	0.002	0.007	0.002	0.0055	0.002	0.006	0.002	0.0067	0.002	0.011	0.002	0.009	0.0030	0.0056
Copper	6020	NP	0.14	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.010	ND
Cyanide	9014	NP	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.0055	0.0050	ND	0.0050	ND
Fluoride	SM 4500 F C	NP	0.47	0.25	0.42	0.25	0.58	0.25	0.94	0.25	0.47	0.25	0.54	0.25	0.38	0.25	0.35	0.25	0.35
Iron	6020	NP	8	0.010	7.5	0.010	10	0.010	22	0.010	26	0.010	31	0.010	10	0.010	21	0.010	18
Lead	6020	NP	0.039	0.001	ND	0.001	0.0014	0.001	ND	0.001	ND	0.001	ND	0.001	0.0013	0.001	ND	0.0050	ND
Manganese	6020	NP	3.5	0.001	5.9	0.001	6.4	0.001	12	0.001	12	0.001	11	0.001	9.3	0.001	8	0.040	6.7
Mercury	7470A	NP	ND	0.0002	ND	0.0002	0.00025	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND
Nickel	6020	NP	0.045	0.005	0.021	0.005	0.022	0.005	0.026	0.005	0.022	0.005	0.018	0.005	0.026	0.005	0.028	0.010	ND
Nitrogen/Nitrate	Nitrogen Calc	NP	0.043	0.02	0.08	0.02	ND	0.20	0.31	0.02	0.03	0.02	ND	0.02	0.02	0.02	ND	0.02	0.03
pH	Obtained in field	NA	NM	NA	7.04	NA	6.78	NA	6.83	NA	6.45	NA	6.79	NA	6.91	NA	6.93	NA	6.97
Selenium	6020	NP	0.0043	0.001	0.0026	0.001	0.0025	0.001	0.0073	0.001	0.0054	0.001	0.0013	0.001	0.006	0.001	0.0047	0.0050	ND
Silver	6020	NP	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND
Sulfate	9038	NP	120	10	49	10	25	1.0	9.1	1.0	3.3	1.0	3.0	10	18	10	25	10	43
Thallium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Total Dissolved Solids	SM 2540C	NP	860	17	1100	17	1300	17	1300	17	1300	17	1400	17	1300	17	1300	26	1100
Zinc	6020	NP	0.076	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	0.011	0.006	ND	0.020	ND

Notes: Groundwater sample analyzed at PDC Laboratories.
Well screen depth is from 35 to 45 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable
NP - Not Provided by lab
NM - Not Measured

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-08	Date	12/15/2010		3/25/2011		6/16/2011		9/19/2011		12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND
Arsenic	6020	NP	0.0052	0.001	0.0039	0.001	0.0044	0.001	0.0036	0.001	0.0052	0.001	0.0038	0.001	0.004	0.001	0.0041	0.0050	0.0062
Barium	6020	NP	0.11	0.001	0.12	0.001	0.11	0.001	0.11	0.001	0.13	0.001	0.14	0.001	0.14	0.001	0.14	0.040	0.16
Beryllium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Boron	6020	NP	0.93	0.01	0.72	0.012	0.64	0.01	0.82	0.01	0.82	0.01	0.57	0.01	0.57	0.01	1	0.40	0.93
Cadmium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Chloride	9251	NP	180	50	210	50	140	50	210	50	190	50	170	50	200	50	210	50	220
Chromium	6020	NP	0.0059	0.004	0.0081	0.004	0.0059	0.004	0.0084	0.004	0.0053	0.004	ND	0.004	0.0056	0.004	0.0066	0.0030	0.012
Cobalt	6020	NP	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND
Copper	6020	NP	ND	0.003	ND	0.003	0.0036	0.003	0.0037	0.003	0.01	0.003	ND	0.003	ND	0.003	0.0032	0.010	ND
Cyanide	9014	NP	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Fluoride	SM 4500 F C	NP	0.77	0.25	0.76	0.25	0.81	0.25	0.84	0.25	0.75	0.25	0.70	0.25	0.63	0.25	0.53	0.25	0.63
Iron	6020	NP	0.56	0.010	2.1	0.010	1.7	0.010	0.97	0.010	0.94	0.010	2.3	0.010	1.2	0.010	1.3	0.010	2.1
Lead	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND
Manganese	6020	NP	0.15	0.001	0.27	0.001	0.29	0.001	0.18	0.001	0.2	0.001	0.27	0.001	0.2	0.001	0.2	0.0020	0.23
Mercury	7470A	NP	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND
Nickel	6020	NP	0.011	0.005	0.013	0.005	0.0076	0.005	0.007	0.005	0.009	0.005	0.0054	0.005	0.0075	0.005	0.009	0.010	ND
Nitrogen/Nitrate	Nitrogen Calc	NP	ND	0.02	ND	0.02	0.10	1.0	1.6	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND
pH	Obtained in field	NA	8.24	NA	8.17	NA	7.66	NA	8.24	NA	7.87	NA	7.97	NA	8.20	NA	8.23	NA	8.09
Selenium	6020	NP	0.0036	0.001	0.0013	0.001	ND	0.001	0.0031	0.001	0.0036	0.001	0.0018	0.001	0.0018	0.001	ND	0.0050	ND
Silver	6020	NP	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND
Sulfate	9038	NP	160	50	240	50	140	50	200	50	200	50	300	50	440	50	330	50	360
Thallium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Total Dissolved Solids	SM 2540C	NP	890	17	990	17	970	17	940	17	990	17	1200	17	1200	17	1200	26	1200
Zinc	6020	NP	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.020	ND

Notes: Groundwater sample analyzed at PDC Laboratories.
Well screen depth is from 20 to 30 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable
NP - Not Provided by lab

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-09	Date	12/16/2010		3/25/2011		6/16/2011		9/19/2011		12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND
Arsenic	6020	NP	ND	0.001	0.0018	0.001	0.0017	0.001	ND	0.001	0.0012	0.001	ND	0.001	0.0017	0.001	ND	0.0050	ND
Barium	6020	NP	0.038	0.001	0.042	0.001	0.038	0.001	0.03	0.001	0.038	0.001	0.035	0.001	0.038	0.001	0.038	0.040	0.062
Beryllium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Boron	6020	NP	2.1	0.01	1.9	0.012	1.9	0.01	2.5	0.01	2.7	0.01	2.6	0.01	2.6	0.01	2.9	1.0	3.2
Cadmium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Chloride	9251	NP	25	10	28	10	28	10	30	25	30	10	30	10	27	10	28	10	31
Chromium	6020	NP	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.0030	0.01
Cobalt	6020	NP	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND
Copper	6020	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.010	ND
Cyanide	9014	NP	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Fluoride	SM 4500 F C	NP	ND	0.25	0.31	0.25	0.34	0.25	0.25	0.25	ND	0.25	ND	0.25	ND	0.25	ND	0.25	0.3
Iron	6020	NP	ND	0.010	0.066	0.010	ND	0.010	ND	0.010	ND	0.010	0.014	0.010	ND	0.010	ND	0.010	ND
Lead	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND
Manganese	6020	NP	0.23	0.001	0.45	0.001	0.48	0.001	0.14	0.001	0.28	0.001	0.22	0.001	0.34	0.001	0.11	0.0020	0.1
Mercury	7470A	NP	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND
Nickel	6020	NP	0.01	0.005	0.0093	0.005	0.0063	0.005	0.0065	0.005	0.0088	0.005	ND	0.005	ND	0.005	0.0067	0.010	ND
Nitrogen/Nitrate	Nitrogen Calc	NP	2.9	0.20	5.6	0.20	5.6	0.20	3.7	0.50	2.6	0.20	5.0	0.20	2.8	0.20	6.3	0.20	10
pH	Obtained in field	NA	7.22	NA	7.34	NA	7.10	NA	7.32	NA	6.31	NA	7.28	NA	7.30	NA	7.18	NA	7.10
Selenium	6020	NP	0.0024	0.001	0.0072	0.001	0.0017	0.001	0.0043	0.001	0.0041	0.001	0.0072	0.001	0.0047	0.001	0.0044	0.0050	0.009
Silver	6020	NP	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND
Sulfate	9038	NP	110	25	110	25	110	25	130	25	110	25	120	50	130	25	120	25	130
Thallium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Total Dissolved Solids	SM 2540C	NP	500	17	510	17	540	17	500	17	520	17	530	17	520	17	580	26	560
Zinc	6020	NP	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.020	ND

Notes: Groundwater sample analyzed at PDC Laboratories.
Well screen depth is from 22 to 32 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable
NP - Not Provided by lab

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-10	Date	12/15/2010		3/25/2011		6/16/2011		9/19/2011		12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND
Arsenic	6020	NP	ND	0.001	ND	0.001	0.0015	0.001	ND	0.001	ND	0.001	ND	0.001	0.0015	0.001	0.0014	0.0050	ND
Barium	6020	NP	0.24	0.001	0.28	0.001	0.36	0.001	0.25	0.001	0.26	0.001	0.26	0.001	0.27	0.001	0.23	0.040	0.24
Beryllium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Boron	6020	NP	0.48	0.01	0.48	0.012	0.52	0.01	0.42	0.01	0.57	0.01	0.54	0.01	0.54	0.01	0.42	0.40	0.46
Cadmium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Chloride	9251	NP	40	10	43	10	43	10	49	10	42	10	45	10	46	10	45	10	45
Chromium	6020	NP	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.0030	0.0048
Cobalt	6020	NP	0.0026	0.002	0.0027	0.002	0.0039	0.002	0.0025	0.002	0.0026	0.002	0.0024	0.002	0.0029	0.002	0.0029	0.0030	ND
Copper	6020	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	0.0041	0.003	ND	0.003	ND	0.003	ND	0.010	ND
Cyanide	9014	NP	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Fluoride	SM 4500 F C	NP	ND	0.25	0.30	0.25	0.36	0.25	ND	0.25	ND	0.25	ND	0.25	ND	0.25	ND	0.25	0.28
Iron	6020	NP	ND	0.010	ND	0.010	0.044	0.010	ND	0.010	ND	0.010	ND	0.010	0.015	0.010	0.012	0.010	0.016
Lead	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND
Manganese	6020	NP	2.1	0.001	2.8	0.001	3.8	0.001	2.3	0.001	2.3	0.001	2.3	0.001	2.6	0.001	2.5	0.040	2.2
Mercury	7470A	NP	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND
Nickel	6020	NP	0.015	0.005	0.016	0.005	0.015	0.005	0.01	0.005	0.013	0.005	0.0091	0.005	0.0093	0.005	0.014	0.010	ND
Nitrogen/Nitrate	Nitrogen Calc	NP	3.0	0.20	4.0	0.20	2.1	0.20	4.5	0.20	4.9	0.20	6.0	0.20	2.9	0.20	5.2	0.20	4.8
pH	Obtained in field	NA	7.04	NA	7.01	NA	6.88	NA	7.04	NA	6.03	NA	7.03	NA	6.95	NA	6.96	NA	7.03
Selenium	6020	NP	0.0042	0.001	0.0064	0.001	0.0043	0.001	0.0057	0.001	0.0065	0.001	0.0056	0.001	0.0056	0.001	0.0058	0.0050	0.0074
Silver	6020	NP	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND
Sulfate	9038	NP	62	10	64	10	67	10	64	10	72	10	76	10	63	10	58	10	59
Thallium	6020	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Total Dissolved Solids	SM 2540C	NP	530	17	520	17	650	17	470	17	540	17	530	17	550	17	580	26	420
Zinc	6020	NP	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.020	ND

Notes: Groundwater sample analyzed at PDC Laboratories.
Well screen depth is from 19 to 29 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable
NP - Not Provided by lab

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-11	Date	12/16/2010		2/15/2011		6/16/2011		9/19/2011		12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	NP	ND	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND
Arsenic	6020	NP	0.0021	NP	0.0025	0.001	0.0019	0.001	0.0016	0.001	0.0019	0.001	0.0021	0.001	0.0032	0.001	0.0038	0.0050	0.03
Barium	6020	NP	0.17	NP	0.11	0.001	0.18	0.001	0.11	0.001	0.11	0.001	0.13	0.001	0.17	0.001	0.22	0.20	ND
Beryllium	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Boron	6020	NP	1.6	NP	1.8	0.012	1.6	0.01	1.5	0.01	1.8	0.01	2.3	0.01	1.9	0.01	2.6	2.0	ND
Cadmium	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Chloride	9251	NP	70	NP	66	50	120	25	53	50	87	10	54	25	150	10	52	50	83
Chromium	6020	NP	ND	NP	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	0.0051	0.004	ND	0.0030	0.015
Cobalt	6020	NP	0.0028	NP	0.0041	0.002	0.0024	0.002	ND	0.002	ND	0.002	0.0024	0.002	0.0039	0.002	0.0049	0.0030	0.0041
Copper	6020	NP	0.0032	NP	0.0032	0.003	0.0043	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	0.0049	0.010	ND
Cyanide	9014	NP	ND	NP	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Fluoride	SM 4500 F C	NP	0.53	NP	0.56	0.25	0.67	0.25	0.58	0.25	0.44	0.25	0.42	0.25	0.32	0.25	0.56	0.25	0.64
Iron	6020	NP	0.44	NP	0.01	0.010	0.029	0.010	0.018	0.010	ND	0.010	ND	0.010	0.056	0.010	2.0	0.010	0.7
Lead	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	0.0023	0.0050	ND
Manganese	6020	NP	3.2	NP	3.6	0.001	2.9	0.001	2.2	0.001	2.5	0.001	2.9	0.001	3.7	0.001	4.7	0.20	12
Mercury	7470A	NP	ND	NP	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND
Nickel	6020	NP	0.019	NP	0.016	0.005	0.013	0.005	0.011	0.005	0.013	0.005	0.011	0.005	0.013	0.005	0.017	0.010	ND
Nitrogen/Nitrate	Nitrogen Calc	NP	0.41	NP	0.17	0.02	0.04	0.02	0.74	0.02	1.5	0.02	0.39	0.02	ND	0.20	4.6	0.02	0.39
pH	Obtained in field	NA	7.88	NA	7.13	NA	7.02	NA	7.31	NA	6.48	NA	7.32	NA	7.15	NA	7.30	NA	7.28
Selenium	6020	NP	0.0026	NP	0.0015	0.001	0.0018	0.001	0.004	0.001	0.0031	0.001	0.0039	0.001	0.0039	0.001	0.004	0.0050	ND
Silver	6020	NP	ND	NP	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND
Sulfate	9038	NP	170	NP	160	50	210	25	140	50	160	50	130	100	320	25	170	50	200
Thallium	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Total Dissolved Solids	SM 2540C	NP	740	NP	710	17	930	17	620	17	730	17	740	17	1000	17	760	26	970
Zinc	6020	NP	0.012	NP	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	0.0073	0.020	ND

Notes: Groundwater sample analyzed at PDC Laboratories.
Well screen depth is from 30 to 40 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable
NP - Not Provided by lab

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-12	Date	12/15/2010		2/15/2011		6/16/2011		9/19/2011		12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	NP	ND	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND
Arsenic	6020	NP	0.0088	NP	0.013	0.001	0.0064	0.001	0.0087	0.001	0.0089	0.001	0.0042	0.001	0.014	0.001	0.011	0.0050	0.022
Barium	6020	NP	0.089	NP	0.11	0.001	0.091	0.001	0.085	0.001	0.09	0.001	0.071	0.001	0.12	0.001	0.11	0.040	0.1
Beryllium	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Boron	6020	NP	1.6	NP	1.4	0.012	1.3	0.01	1.2	0.01	1.3	0.01	0.92	0.01	1.2	0.01	1.1	0.40	0.85
Cadmium	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Chloride	9251	NP	170	NP	180	50	180	50	190	50	210	50	170	50	190	50	170	50	210
Chromium	6020	NP	ND	NP	0.0056	0.004	0.0044	0.004	0.0071	0.004	0.0047	0.004	ND	0.004	0.0043	0.004	0.0045	0.0030	0.0079
Cobalt	6020	NP	ND	NP	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND
Copper	6020	NP	ND	NP	ND	0.003	0.0032	0.003	0.0036	0.003	0.0031	0.003	ND	0.003	ND	0.003	ND	0.010	ND
Cyanide	9014	NP	ND	NP	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Fluoride	SM 4500 F C	NP	0.71	NP	0.61	0.25	0.64	0.25	0.74	0.25	0.61	0.25	0.46	0.25	0.36	0.25	0.42	0.25	0.43
Iron	6020	NP	5.5	NP	6.3	0.010	5.6	0.010	4.0	0.010	3.1	0.010	4.8	0.010	8.2	0.010	8.9	0.010	6.4
Lead	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND
Manganese	6020	NP	0.32	NP	0.58	0.001	0.26	0.001	0.37	0.001	0.25	0.001	0.13	0.001	0.71	0.001	0.64	0.040	1.7
Mercury	7470A	NP	ND	NP	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND
Nickel	6020	NP	0.0096	NP	0.01	0.005	0.0072	0.005	0.0075	0.005	0.0091	0.005	0.0075	0.005	0.0082	0.005	0.012	0.010	ND
Nitrogen/Nitrate	Nitrogen Calc	NP	ND	NP	ND	0.02	0.14	0.02	ND	0.02	ND	0.02	0.04	0.20	ND	0.02	0.03	0.02	ND
pH	Obtained in field	NA	7.65	NA	7.51	NA	6.98	NA	7.66	NA	7.38	NA	7.22	NA	7.40	NA	7.50	NA	7.37
Selenium	6020	NP	0.0026	NP	0.0027	0.001	ND	0.001	0.0023	0.001	0.0034	0.001	0.0043	0.001	0.0038	0.001	0.0016	0.0050	ND
Silver	6020	NP	ND	NP	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND
Sulfate	9038	NP	290	NP	270	50	350	50	360	50	300	50	310	50	430	50	370	50	300
Thallium	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Total Dissolved Solids	SM 2540C	NP	980	NP	1000	17	1100	17	970	17	970	17	1000	17	1200	17	1200	26	1100
Zinc	6020	NP	ND	NP	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.020	ND

Notes: Groundwater sample analyzed at PDC Laboratories.
Well screen depth is from 19 to 29 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable
NP - Not Provided by lab

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-13	Date	12/15/2010		2/15/2011		4/25/2011		6/16/2011		8/9/2011		10/13/2011		12/12/2011		4/10/2012		12/14/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	NP	ND	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND
Arsenic	6020	NP	0.011	NP	0.0069	0.001	0.0063	0.001	0.0057	0.001	0.0048	0.001	0.0066	0.001	0.023	0.001	0.027	0.0050	0.041
Barium	6020	NP	0.11	NP	0.052	0.001	0.073	0.001	0.059	0.001	0.046	0.001	0.083	0.001	0.21	0.001	0.14	0.0020	0.3
Beryllium	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Boron	6020	NP	3.9	NP	3.1	0.01	2.6	0.012	3	0.01	2.7	0.01	3	0.01	4.1	0.01	4	1.0	3.6
Cadmium	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Chloride	9251	NP	160	NP	120	25	100	25	86	25	110	25	110	100	180	50	170	50	210
Chromium	6020	NP	0.0062	NP	0.0042	0.004	0.0045	0.004	ND	0.004	ND	0.004	0.01	0.004	0.0055	0.004	0.0055	0.0030	0.011
Cobalt	6020	NP	0.0031	NP	0.0026	0.002	0.0023	0.002	0.0022	0.002	0.0031	0.002	ND	0.002	ND	0.002	ND	0.0030	ND
Copper	6020	NP	0.0068	NP	0.0037	0.003	0.0041	0.003	0.004	0.003	0.004	0.003	0.0055	0.003	0.0066	0.003	0.0068	0.010	ND
Cyanide	9014	NP	ND	NP	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Fluoride	SM 4500 F C	NP	0.28	NP	0.29	0.25	0.31	0.25	0.44	0.25	0.38	0.25	0.30	0.25	ND	0.25	0.32	0.25	ND
Iron	6020	NP	0.69	NP	0.052	0.010	0.077	0.010	ND	0.010	0.043	0.010	ND	0.010	0.11	0.010	0.20	0.010	0.066
Lead	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND
Manganese	6020	NP	5	NP	3.8	0.001	2.7	0.001	2.9	0.001	2.6	0.001	3.6	0.001	3.5	0.001	3.5	0.0020	3.7
Mercury	7470A	NP	ND	NP	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND
Nickel	6020	NP	0.03	NP	0.023	0.005	0.021	0.005	0.018	0.005	0.016	0.005	0.015	0.005	0.022	0.005	0.02	0.010	ND
Nitrogen/Nitrate	Nitrogen Calc	NP	0.14	NP	1.3	0.02	1.8	0.20	2.2	0.50	3.6	0.02	1.6	0.02	0.07	0.02	0.06	0.02	ND
pH	Obtained in field	NA	7.68	NA	7.53	NA	7.26	NA	6.75	NA	7.13	NA	7.31	NA	7.19	NA	8.49	NA	7.92
Selenium	6020	NP	0.0046	NP	0.0046	0.001	0.0045	0.001	0.0029	0.001	0.0056	0.001	0.004	0.001	0.0036	0.001	0.0037	0.0050	ND
Silver	6020	NP	ND	NP	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND
Sulfate	9038	NP	1400	NP	770	250	580	100	540	100	440	250	660	250	1100	500	1100	500	1100
Thallium	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Total Dissolved Solids	SM 2540C	NP	2600	NP	1600	17	1400	17	1300	17	1100	17	1500	17	2100	17	2300	26	1900
Zinc	6020	NP	ND	NP	ND	0.006	ND	0.006	ND	0.006	ND	0.006	0.06	0.006	ND	0.006	ND	0.020	ND

Notes: Groundwater sample analyzed at PDC Laboratories.
Well screen depth is from 30 to 40 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable
NP - Not Provided by lab

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-14	Date	12/15/2010		2/15/2011		4/25/2011		6/16/2011		8/9/2011		10/13/2011		12/12/2011		4/10/2012		12/14/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	NP	ND	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND
Arsenic	6020	NP	0.024	NP	0.019	0.001	0.0084	0.001	0.005	0.001	0.0062	0.001	0.015	0.001	0.0033	0.001	0.0039	0.0050	0.0053
Barium	6020	NP	0.034	NP	0.034	0.001	0.036	0.001	0.04	0.001	0.041	0.001	0.04	0.001	0.045	0.001	0.045	0.0020	0.038
Beryllium	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Boron	6020	NP	2	NP	1.9	0.01	1.9	0.01	1.9	0.01	1.8	0.01	1.9	0.01	1.9	0.01	1.8	2.0	ND
Cadmium	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Chloride	9251	NP	160	NP	160	25	160	50	160	25	240	100	200	100	200	50	190	50	190
Chromium	6020	NP	ND	NP	0.0046	0.004	0.0078	0.004	0.0049	0.004	0.0076	0.004	0.0096	0.004	0.0065	0.004	0.0057	0.0030	0.018
Cobalt	6020	NP	ND	NP	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND
Copper	6020	NP	0.0037	NP	0.0035	0.003	0.0074	0.003	0.0071	0.003	0.0064	0.003	0.0055	0.003	0.025	0.003	0.0067	0.010	ND
Cyanide	9014	NP	ND	NP	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Fluoride	SM 4500 F C	NP	1.7	NP	1.6	0.25	1.1	0.25	1.3	0.25	1.4	0.25	0.88	0.25	1.1	0.25	1.0	0.25	1.2
Iron	6020	NP	2.2	NP	0.94	0.010	0.36	0.010	0.30	0.010	0.71	0.010	2.0	0.010	0.12	0.010	0.77	0.010	0.012
Lead	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	0.0035	0.0050	ND
Manganese	6020	NP	0.68	NP	0.81	0.001	0.29	0.001	0.36	0.001	0.57	0.001	0.84	0.001	0.067	0.001	0.63	0.0020	0.11
Mercury	7470A	NP	ND	NP	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND
Nickel	6020	NP	0.015	NP	0.015	0.005	0.02	0.005	0.016	0.005	0.016	0.005	0.011	0.005	0.015	0.005	0.018	0.010	ND
Nitrogen/Nitrate	Nitrogen Calc	NP	0.036	NP	ND	0.02	1.0	0.02	0.27	0.02	0.05	0.02	ND	0.02	0.33	0.02	0.31	0.02	0.32
pH	Obtained in field	NA	7.55	NA	7.75	NA	7.27	NA	7.15	NA	7.08	NA	7.40	NA	6.05	NA	8.35	NA	7.13
Selenium	6020	NP	0.0024	NP	0.0015	0.001	0.065	0.001	0.0035	0.001	0.003	0.001	0.0017	0.001	0.0037	0.001	0.022	0.0050	0.0055
Silver	6020	NP	ND	NP	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND
Sulfate	9038	NP	960	NP	820	250	770	250	810	250	940	100	850	100	880	250	990	500	810
Thallium	6020	NP	0.0019	NP	0.0018	0.001	0.0035	0.001	0.0039	0.001	0.0027	0.001	0.0016	0.001	0.0016	0.001	0.0034	0.0010	0.0025
Total Dissolved Solids	SM 2540C	NP	1800	NP	1700	17	1800	17	1900	17	2000	17	1800	17	1800	17	2200	26	1700
Zinc	6020	NP	ND	NP	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	0.0084	0.020	ND

Notes: Groundwater sample analyzed at PDC Laboratories.
Well screen depth is from 20 to 30 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable
NP - Not Provided by lab

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-15	Date	12/15/2010		2/15/2011		4/25/2011		6/16/2011		8/9/2011		10/13/2011		12/12/2011		4/10/2012		12/14/2012	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Antimony	6020	NP	ND	NP	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND
Arsenic	6020	NP	0.0099	NP	0.0092	0.001	0.0064	0.001	0.0052	0.001	0.0053	0.001	0.011	0.001	0.0097	0.001	0.0061	0.0050	0.011
Barium	6020	NP	0.058	NP	0.052	0.001	0.061	0.001	0.11	0.001	0.057	0.001	0.06	0.001	0.063	0.001	0.075	0.0020	0.11
Beryllium	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Boron	6020	NP	1.6	NP	1.4	0.01	1.5	0.01	1.6	0.01	1.3	0.02	1.2	0.01	1.2	0.01	1.4	2.0	ND
Cadmium	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Chloride	9251	NP	180	NP	190	25	190	50	170	25	210	100	180	100	200	50	200	50	220
Chromium	6020	NP	0.0042	NP	0.0061	0.004	0.0092	0.004	0.0054	0.004	0.0091	0.004	0.0062	0.004	0.0062	0.004	0.0071	0.0030	0.012
Cobalt	6020	NP	ND	NP	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND
Copper	6020	NP	ND	NP	ND	0.003	0.0039	0.003	0.005	0.003	0.0041	0.003	0.0037	0.003	0.0031	0.003	0.0039	0.010	ND
Cyanide	9014	NP	ND	NP	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Fluoride	SM 4500 F C	NP	0.69	NP	0.75	0.25	0.60	0.25	0.73	0.25	0.76	0.25	0.77	0.25	0.75	0.25	0.79	0.25	0.95
Iron	6020	NP	3.3	NP	2.4	0.010	2.1	0.010	0.70	0.010	2.1	0.010	2.6	0.010	2.1	0.010	1.1	0.010	1.9
Lead	6020	NP	ND	NP	ND	0.001	0.0012	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND
Manganese	6020	NP	0.56	NP	0.42	0.001	0.36	0.001	0.6	0.001	0.37	0.001	0.48	0.001	0.39	0.001	0.25	0.0020	0.51
Mercury	7470A	NP	ND	NP	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND
Nickel	6020	NP	0.013	NP	0.011	0.005	0.012	0.005	0.015	0.005	0.01	0.005	0.011	0.005	0.011	0.005	0.01	0.010	ND
Nitrogen/Nitrate	Nitrogen Calc	NP	0.03	NP	0.086	0.02	0.04	0.02	0.07	0.02	0.05	0.02	ND	0.02	0.07	0.02	0.12	0.02	0.12
pH	Obtained in field	NA	7.43	NA	7.23	NA	7.06	NA	6.79	NA	6.89	NA	7.37	NA	6.84	NA	8.23	NA	7.30
Selenium	6020	NP	0.0042	NP	0.0079	0.001	0.017	0.001	0.004	0.001	0.002	0.001	0.004	0.001	0.0047	0.001	0.025	0.0050	ND
Silver	6020	NP	ND	NP	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND
Sulfate	9038	NP	300	NP	220	100	270	100	650	50	250	100	180	100	140	50	200	50	320
Thallium	6020	NP	ND	NP	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND
Total Dissolved Solids	SM 2540C	NP	1000	NP	1000	17	1100	17	1600	17	1000	17	890	17	840	17	1000	26	1100
Zinc	6020	NP	ND	NP	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.020	ND

Notes: Groundwater sample analyzed at PDC Laboratories.
Well screen depth is from 20 to 30 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable
NP - Not Provided by lab

Table 1. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-16	Date	12/12/2012	
Parameter	Lab Method	D.L.	Result
Antimony	6020	0.0050	ND
Arsenic	6020	0.0050	ND
Barium	6020	0.020	0.039
Beryllium	6020	0.0010	ND
Boron	6020	0.20	ND
Cadmium	6020	0.0010	ND
Chloride	9251	10	26
Chromium	6020	0.0030	0.0047
Cobalt	6020	0.0030	ND
Copper	6020	0.010	ND
Cyanide	9014	0.0050	ND
Fluoride	SM 4500 F C	0.25	ND
Iron	6020	0.010	0.012
Lead	6020	0.0050	ND
Manganese	6020	0.0020	0.022
Mercury	7470A	0.00020	ND
Nickel	6020	0.010	ND
Nitrogen/Nitrate	Nitrogen Calc	0.50	18
pH	Obtained in field	NA	7.38
Selenium	6020	0.0050	ND
Silver	6020	0.010	ND
Sulfate	9038	10	37
Thallium	6020	0.0010	ND
Total Dissolved Solids	SM 2540C	26	520
Zinc	6020	0.020	ND

Notes: Groundwater sample analyzed at PDC Laboratories.
Well screen depth is from 20 to 30 feet below ground surface.
Sample collected using low-flow technique.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect
NA - Not Applicable
NP - Not Provided by lab

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

12/12-14/2012	Sample	MW-01		MW-02		MW-03		MW-04		MW-05		MW-06		MW-07		MW-08	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Benzene	EPA 624	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Ethylbenzene	EPA 624	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Toluene	EPA 624	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
m,p-Xylene	EPA 624	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
o-Xylene	EPA 624	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Xylenes- Total	EPA 624	0.015	ND	0.015	ND	0.015	ND	0.015	ND	0.015	ND	0.015	ND	0.015	ND	0.015	ND
Perchlorate	EPA 314.0	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND
Vanadium	6020	0.0080	ND	0.0080	ND	0.0080	ND	0.0080	ND	0.0080	ND	0.0080	ND	0.0080	0.012	0.0080	ND

12/12-14/2012	Sample	MW-09		MW-10		MW-11		MW-12		MW-13		MW-14		MW-15		MW-16	
Parameter	Lab Method	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result	D.L.	Result
Benzene	EPA 624	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Ethylbenzene	EPA 624	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Toluene	EPA 624	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
m,p-Xylene	EPA 624	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
o-Xylene	EPA 624	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.005	ND
Xylenes- Total	EPA 624	0.015	ND	0.015	ND	0.015	ND	0.015	ND	0.015	ND	0.015	ND	0.015	ND	0.015	ND
Perchlorate	EPA 314.0	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.004	ND
Vanadium	6020	0.0080	ND	0.0080	ND	0.0080	ND	0.0080	ND	0.0080	ND	0.0080	0.010	0.0080	ND	0.0080	ND

Notes: Groundwater sample analyzed at TestAmerica laboratory.
Sample collected using low-flow technique.
Please see Table 1 for sample depths.
All values are in mg/L (ppm).

DL - Detection limit
ND - Non-detect

ATTACHMENT 2C
Compliance Commitment Agreement

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397
PAT QUINN, GOVERNOR JOHN J. KIM, INTERIM DIRECTOR

217-785-0561

October 4, 2012

CERTIFIED MAIL # 7010 2780 0002 1163 4895
RETURN RECEIPT REQUESTED

John Kennedy
Senior Vice President, Generation
235 Remington, Suite A
Bolingbrook, IL 60440

Re: Proposed Compliance Commitment Agreement
Violation Notice: W-2012-00057
Midwest Generation, LLC, Powerton Generating Station; ID Number: 6282

Dear Mr. Kennedy:

The Illinois Environmental Protection Agency ("Illinois EPA") has reviewed the proposed Compliance Commitment Agreement ("CCA") terms submitted by Midwest Generation, LLC, Powerton Generating Station in a letter dated September 4, 2012, in response to the Violation Notice dated June 11, 2012. Pursuant to the authority vested in the Illinois EPA under Section 31(a)(7)(i) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(7)(i), attached to this letter is a proposed CCA, which contains terms and conditions that the Illinois EPA has determined are necessary in order for you to attain compliance with the Act and Illinois Pollution Control Board Regulations.

Pursuant to Section 31(a)(7.5) of the Act, 415, ILCS 5/31(a)(7.5), **within 30 days of your receipt of this proposed CCA**, Midwest Generation, LLC, Powerton Generating Station or its duly authorized representative must either (1) agree to and sign the proposed CCA, and submit the signed and dated CCA by certified mail to Illinois EPA Bureau of Water, Andrea Rhodes, MC #19, 1021 North Grand Ave East, Springfield, IL 62702; or (2) notify the Illinois EPA by certified mail that you reject the proposed CCA.

The proposed CCA shall only become effective upon your timely submittal of the signed CCA as discussed above, and upon final execution by the Illinois EPA. Failure by you to execute and submit the proposed CCA within 30 days of receipt shall be deemed a rejection of the CCA by operation of law. Upon timely receipt of the signed CCA, the Illinois EPA will send you a fully executed copy of the CCA for your records.

In addition, the proposed CCA is not subject to amendment or modification prior to execution by you and the Illinois EPA. Any amendment or modification to the proposed CCA by Respondent prior to execution by you and the Illinois EPA shall be deemed a rejection of the proposed CCA by operation of law. The proposed CCA may only be amended subsequent to its effective date, in writing, and by mutual agreement between the Illinois EPA and you.

RECEIVED
OCT 09 2012

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2125 S. First St., Champaign, IL 61820 (217)278-5800
2009 Mall St., Collinsville, IL 62234 (618)346-5120
9511 Harrison St., Des Plaines, IL 60016 (847)294-4000
5407 N. University St., Arbor 113, Peoria, IL 61614 (309)693-5462
2309 W. Main St., Suite 116, Marion, IL 62959 (618)993-7200
100 W. Randolph, Suite 10-300, Chicago, IL 60601 (312)814-6026

PLEASE PRINT ON RECYCLED PAPER

Questions regarding this matter should be directed to Illinois EPA, Bureau of Water, Andrea Rhodes at 217/785-0561. Written communications should be directed to Illinois EPA – DPWS, Attn: Andrea Rhodes, MC #19, 1021 North Grand Ave East, Springfield, IL 62702.

Sincerely,

Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

Attachments

cc: Basil G. Constantelos
Maria Race
Susan M. Franzetti

BOW ID: W1798010008 CASE ID: 2012-006

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

IN THE MATTER OF:	)	
	)	
MIDWEST GENERATION, LLC,	)	
POWERTON GENERATING STATION	)	
PEKIN, TAZEWELL COUNTY, IL	)	
ID NUMBER: 6282	)	
	)	
	)	ILLINOIS EPA VN W-2012-00057
	)	BUREAU OF WATER
	)	

COMPLIANCE COMMITMENT AGREEMENT

I. Jurisdiction

1. This Compliance Commitment Agreement ("CCA") is entered into voluntarily by the Illinois Environmental Protection Agency ("Illinois EPA") and Midwest Generation, LLC, Powerton Generating Station ("Respondent") (collectively, the "Parties") under the authority vested in the Illinois EPA pursuant to Section 31(a)(7)(i) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/31(a)(7)(i).

II. Allegation of Violations

2. Respondent owns and operates Powerton Generating Station in Pekin, Tazewell County, Illinois ("Powerton").

3. Pursuant to Violation Notice ("VN") W-2012-00057 issued on June 11, 2012, the Illinois EPA contends that Respondent has violated the following provisions of the Act and Illinois Pollution Control Board ("Board") Regulations:

   a) Operations at ash impoundments have resulted in violations of the Groundwater Quality Standards at monitoring wells MW-1, MW-2, MW-4, MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12, MW-13, MW-14, and MW-15. Section 12 of the Act, 415 ILCS 5/12, 35 Ill. Adm. Code 620.115, 620.301, 620.401, 620.405, and 620.410.

III. Compliance Activities

4. On September 4, 2012, the Illinois EPA received Respondent's response to VN W-2012-00057, which included proposed terms for a CCA. The Illinois EPA has reviewed Respondent's proposed CCA terms, as well as considered whether any additional terms and conditions are necessary to attain compliance with the alleged violations cited in the VN.

5. Respondent agrees to undertake and complete the following actions, which the Illinois EPA has determined are necessary to attain compliance with the allegations contained in VN W-2012-00057:

   a) The ash ponds at Powerton shall not be used as permanent disposal sites and shall continue to function as treatment ponds to precipitate ash. Ash shall continue to be removed from the ponds on a periodic basis.

   b) The ash treatment ponds shall be maintained and operated in a manner which protects the integrity of the existing liners. During the removal of ash from the ponds, appropriate procedures shall be followed to protect the integrity of the existing liners, including operating the ash removal equipment in a manner which minimizes the risk of any damage to the liner.

   c) During the ash removal process, visual inspections of the ponds shall be conducted to identify any signs of a breach in the integrity of the pond liners. In the event that a breach of the pond liners is detected, Midwest Generation shall promptly notify the Illinois EPA and shall implement a corrective action plan for repair or replacement as necessary, of the liner. Upon the Illinois EPA's approval, and the issuance of any necessary construction permit, Midwest Generation will implement the corrective action plan.

   d) Midwest Generation shall monitor the new well as described in 5(f) below and the existing fifteen groundwater monitoring wells quarterly for constituents in 35 Ill. Adm. Code 620.410(a) and (d), with the exception of radium 226 and 228, and report its findings to the Illinois EPA within 30 days of the end of each quarter. In addition, Midwest Generation shall record and report groundwater elevation and submit a potentiometric surface map with the above quarterly groundwater monitoring report.

   e) Within 90 days of the effective date of the CCA, Midwest Generation shall submit an application for a construction permit to re-line the Ash Surge Basin and the Secondary Ash Settling Basin at Powerton with a 60 mil thickness high density polyethylene ("HDPE") liner or an Illinois EPA approved equivalent material.

   f) Midwest Generation shall install an additional groundwater monitoring well south of monitor well 9, in a location approved by the Illinois EPA, to better define up gradient groundwater quality, within 60 days of the effective date of the CCA.

g) Midwest Generation shall submit an application to establish a GMZ pursuant to 35 Ill. Adm. Code Part 620.250 within 90 days of the effective date of the CCA.

h) Midwest Generation shall enter into an Environmental Land Use Control (ELUC) to cover the area of the Powerton Station property which is contained within the GMZ. Midwest Generation shall submit a proposed draft ELUC to the Illinois EPA for review and comment within 90 days of the effective date of the CCA.

i) Midwest Generation shall record the ELUC within 30 days of approval of the ELUC by the Illinois EPA.

j) Midwest Generation shall establish a GMZ pursuant to 35 Ill. Adm. Code Part 620.250 within one year of the effective date of the CCA.

k) Once the Ash Surge Basin and the Secondary Ash Settling Basin have been lined and a GMZ and ELUC have been established at Powerton, Midwest Generation shall submit a certification (or a statement) of compliance. Midwest Generation may submit either the attached "Illinois EPA Compliance Statement" or another similar writing to satisfy the statement of compliance within one year of the effective date of the CCA.

l) Midwest Generation shall not allow the East Yard Run-off Basin to be part of the ash sluicing flow system. Further, Midwest Generation shall submit monitoring results from water contained in the East Yard Run-off Basin proximate to outfall monitoring point 003 within 60 days of the effective date of the CCA. Quarterly monitoring of the East Yard Run-off Basin shall be for the constituents listed in 35 Ill. Adm. Code 620.410(a) and (d) with the exception of radium 226 and radium 228. At the end of four (4) quarters of monitoring, Midwest Generation may request cessation of water monitoring from the East Yard Run-off Basin.

m) Midwest Generation shall not use any unlined areas for permanent or temporary ash storage or ash handling.

IV. Terms and Conditions

6. Respondent shall comply with all provisions of this CCA, including, but not limited to, any appendices to this CCA and all documents incorporated by reference into this CCA. Pursuant to Section 31(a)(10) of the Act, 415 ILCS 5/31(a)(10), if Respondent complies with the terms of this CCA, the Illinois EPA shall not refer the alleged violations that are the subject of this CCA, as described in Section II above, to the Office of the Illinois Attorney General or the State's Attorney of the county in which the alleged violations occurred. Successful completion of this CCA or an amended CCA shall be a factor to be weighed, in favor of the Respondent, by the Office of the Illinois Attorney General in determining whether to file a complaint on its own motion for the violations cited in VN W-2012-00057.

7. This CCA is solely intended to address the violations alleged in Illinois EPA VN W-2012-00057. The Illinois EPA reserves and this CCA is without prejudice to, all rights of the Illinois EPA against Respondent with respect to noncompliance with any term of this CCA, as well as to all other matters. Nothing in this CCA is intended as a waiver, discharge, release, or covenant not to sue for any claim or cause of action, administrative or judicial, civil or criminal, past or future, in law or in equity, which the Illinois EPA may have against Respondent, or any other person as defined by Section 3.315 of the Act, 415 ILCS 5/3.315. This CCA in no way affects the responsibilities of Respondent to comply with any other federal, state or local laws or regulations, including but not limited to the Act, and the Board Regulations [and Permit, if applicable].

8. Pursuant to Section 42(k) of the Act, 415 ILCS 5/42(k), in addition to any other remedy or penalty that may apply, whether civil or criminal, Respondent shall be liable for an additional civil penalty of $2,000 for violation of any of the terms or conditions of this CCA.

9. This CCA shall apply to and be binding upon the Illinois EPA, and on Respondent and Respondent's officers, directors, employees, agents, successors, assigns, heirs, trustees, receivers, and upon all persons, including but not limited to contractors and consultants, acting on behalf of Respondent, as well as upon subsequent purchasers of Respondent's Powerton in Pekin, Tazewell County, Illinois.

10. In any action by the Illinois EPA to enforce the terms of this CCA, Respondent consents to and agrees not to contest the authority or jurisdiction of the Illinois EPA to enter into or enforce this CCA, and agrees not to contest the validity of this CCA or its terms and conditions.

11. This CCA shall only become effective:

    a) If, within 30 days of receipt, Respondent executes this CCA and submits it, via certified mail, to Illinois EPA, Bureau of Water, Andrea Rhodes, MC #19, 1021 North Grand Ave East, Springfield, IL 62702. If Respondent fails to execute and submit this CCA within 30 days of receipt, via certified mail, this CCA shall be deemed rejected by operation of law; and

    b) Upon execution by all Parties.

12. Pursuant to Section 31(a)(7.5) of the Act, 415 ILCS 5/31(a)(7.5), this CCA shall not be amended or modified prior to execution by the Parties. Any amendment or modification to this CCA by Respondent prior to execution by all Parties shall be considered a rejection of the CCA by operation of law. This CCA may only be amended subsequent to its effective date, in writing, and by mutual agreement between the Illinois EPA and Respondent's signatory to this CCA, Respondent's legal representative, or Respondent's agent.

AGREED:
FOR THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY:

BY: _____ DATE: _____

Michael Crumly
Manager, Compliance Assurance Section
Division of Public Water Supplies
Bureau of Water

FOR RESPONDENT:

BY: _____ DATE: Oct 15, 2012

John Kennedy
Senior Vice President, Generation
Midwest Generation, LLC

Illinois EPA Compliance Statement

The owner of the facility must acknowledge that all compliance commitment agreement (CCA) measures have been successfully completed.

Please complete, sign, and return.

I _____ *(print name)*, hereby certify that all violations addressed in Violation Notice (VN) number _____ have been addressed and that all CCA measures were completed on _____ *(date)*.

_____
Signature

_____
Title

_____
Telephone Number

_____
Date

Be sure to retain copies of this document for your files. Should you need additional notification forms, please contact this office at (217)785-0561. Return this completed form to:

Illinois Environmental Protection Agency
Compliance Assurance Section #19
Bureau of Water
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

"Any person who knowingly makes a false, fictitious, or fraudulent material statement, orally or in writing, to the Agency,.....related to or required by this Act, a regulation adopted under this Act, any federal law or regulation for which the Agency has responsibility, or any permit, term, or condition thereof, commits a Class 4 felony..." (415 ILCS 5/44(h) (8))

Exhibit D14

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217)782-2829
PAT QUINN, GOVERNOR LISA BONNETT, DIRECTOR

October 3, 2013

RECEIVED
OCT 08 2013
ENVIRONMENTAL SERVICES
MIDWEST GENERATION EME, LLC

John Kennedy
Senior Vice President, Generation
235 Remington, Suite A
Bolingbrook, IL 60440

Re: Groundwater Management Zone Application
Violation Notice: W-2012-00057
Midwest Generation, LLC, Powerton Generating Station; ID Number: 6282

Dear Mr. Kennedy:

The Illinois Environmental Protection Agency ("Illinois EPA") has reviewed the Groundwater Management Zone ("GMZ") application submitted January 18, 2013 as required by the approved Compliance Commitment Agreement ("CCA"), in response to the Violation Notice dated June 11, 2012. The Illinois EPA has also reviewed the supplemental information dated September 11, 2013, requested in its letter dated August 26, 2013 to Midwest Generation LLC.

The Illinois EPA approves the GMZ as described in the January 18, 2013 submission and subsequently amended by the August 26, 2013 submission. Midwest Generation should proceed with the GMZ as proposed in the above referenced documents.

Questions regarding this matter should be directed to Illinois EPA, Bureau of Water, Lynn Dunaway at 217/785-4787. Written communications should be directed to Illinois EPA – DPWS, Attn: Andrea Rhodes, MC #19, 1021 North Grand Ave East, Springfield, IL 62702.

Sincerely,

William E. Buscher, PG
Manager, Hydrogeology and Compliance Unit
Groundwater Section
Division of Public Water Supplies
Bureau of Water

cc: Andrea Rhodes
Mike Crumly
Lynn Dunaway
Basil G. Constantelos
Maria Race
Amy Hanrahan
Susan M. Franzetti

MWG13-15_23977

Exhibit D15

MIDWEST
GENERATION EME, LLC
An *EDISON INTERNATIONAL*® Company

Amy L. Hanrahan
Senior Environmental
Engineer
Environmental Services

January 18, 2013

Ms. Andrea Rhodes
Illinois Environmental Protection Agency – DPWS
MC #19
1021 North Grand Avenue East
Springfield, IL 62702

VIA FEDERAL EXPRESS

Re: Compliance Commitment Agreement – ELUC
Midwest Generation, LLC, Powerton Station; ID No. 6282
Violation Notice W-2012-00057

Dear Ms. Rhodes:

The Compliance Commitment Agreement (CCA) for the above referenced site relative to Violation Notice W-2012-00057 was signed by Midwest Generation on October 15, 2012 and executed by Illinois Environmental Protection Agency (IEPA) signature on October 24, 2012 (effective date). Item 5 (h) of the CCA requires that Midwest Generation submit a proposed Environmental Land Use Control (ELUC) to cover the area of the proposed Groundwater Management Zone (GMZ; application provided under separate cover). The proposed ELUC is to be submitted to IEPA within 90 days of the effective date of the CCA.

Attached is a proposed ELUC for the Powerton Station. Please note that the formal legal description that would be included as part of Exhibit A will be completed upon IEPA approval of the proposed ELUC.

The areal extent of the proposed ELUC is provided with the attached documentation (Exhibit B Figure B-5). Groundwater flow within the silt/clay unit in the vicinity of the subject ash basins is in a westerly direction with discharge to the adjoining intake channel and groundwater flow within the gravelly sand unit is to the north with discharge to the Illinois River. The western (downgradient) extent of the proposed GMZ corresponds with the hydraulic boundary formed by the intake channel. The northern extent corresponds with the hydraulic boundary formed by the Illinois River. The southern and eastern boundaries are defined by the property boundary. The vertical extent of the GMZ would be defined by the top of the Carbondale Formation which is estimated to be approximately 70 feet below ground surface based on other site boring logs from other portions of the property.

235 Remington Blvd.
Suite A
Bolingbrook, Il 60440
Tel: 630 771 7863
Fax: 949 225 0813
ahanrahan@mwgen.com

This submittal fulfills the requirements set forth under Item 5 (h) of the signed CCA. Please call me at 630-771-7863 if there are any questions.

Sincerely,
Midwest Generation, LLC

Amy Hanrahan
Senior Environmental Engineer

cc: Ms. Maria Race, Midwest Generation EME, LLC
Mr. Basil Constantelos, Midwest Generation EME, LLC
Mr. Joseph Heredia, Midwest Generation, LLC
Mr. Christopher Foley, Midwest Generation EME, LLC
Ms. Susan Franzetti, Nijman Franzetti, LLP
Mr. Richard Gnat, KPRG and Associates, Inc.
Mr. Bill Buscher, IEPA

PREPARED BY:

Name: Christopher M. Foley

Address: Midwest Generation, LLC
500 West Madison Street
Suite 2640
Chicago, Illinois 60661

RETURN TO:

Name: Christopher M. Foley

Address: Midwest Generation, LLC
500 West Madison Street
Suite 2640
Chicago, Illinois 60661

THE ABOVE SPACE FOR RECORDER'S OFFICE

Environmental Land Use Control

THIS ENVIRONMENTAL LAND USE CONTROL ("ELUC"), is made this _____ day of _____, 2013, by Midwest Generation, LLC, ("Property Owner") of that portion (as identified in Exhibit A) of the real property located at the common address of Powerton Station, 13082 E. Manito Road, Pekin, Illinois 61554 ("Property").

WHEREAS, 415 ILCS 5/58.17 and 35 Ill. Adm. Code 742 provide for the use of an ELUC as an institutional control in order to impose land use limitations or requirements related to environmental contamination so that persons conducting remediation can obtain a No Further Remediation determination from the Illinois Environmental Protection Agency ("IEPA"). The reason for an ELUC is to ensure protection of human health and the environment. The limitations and requirements contained herein are necessary in order to protect against exposure to contaminated groundwater that may be present on the property as a result of past industrial activities on or in the vicinity of the property. Under 35 Ill. Adm. Code 742, the use of risk-based, site-specific remediation objectives may require the use of an ELUC on real property, and the ELUC may apply to certain physical features (e.g., engineered barriers, monitoring wells, caps, etc.).

NOW, THEREFORE, the recitals set forth above are incorporated by reference as if fully set forth herein and the Property Owner agrees as follows:

Section One. Property Owner does hereby establish an ELUC on the real estate, situated in the County of Tazewell, State of Illinois and further described in Exhibit A attached hereto and incorporated herein by reference (the "Property").

Attached as Exhibit B are site maps that show the legal boundary of the Property, any physical features to which the ELUC applies, the horizontal and vertical extent of the contaminants of concern above the applicable remediation objectives for groundwater and the nature, location of the source, and direction of movement of the contaminants of concern, as required under 35 Ill. Adm. Code 742.

Section Two. Property Owner represents and warrants it is the current owner of the Property and has the authority to record this ELUC on the chain of title for the Property with the Office of the Recorder or Registrar of Titles in Tazewell County, Illinois.

Section Three. The Property Owner hereby agrees, for itself, and its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein, that the groundwater under the Property shall not be used as a potable supply of water.

Section Four. This ELUC is binding on the Property Owner, its heirs, grantees, successors, assigns, transferees and any other owner, occupant, lessee, possessor or user of the Property or the holder of any portion thereof or interest therein. This ELUC shall apply in perpetuity against the Property and shall not be released until the IEPA determines there is no longer a need for this ELUC as an institutional control or until the IEPA, upon written request, issues a new no further remediation determination approving modification or removal of the limitation(s) or requirement(s); and until a release or modification of the land use limitation or requirement is filed on the chain of title for the Property.

Section Five. **Future Improvement of Property**: This ELUC does not limit Property Owner's or its successors' or assigns' ability to construct on or otherwise improve the Property or to allow others to use the Property. Property Owner reserves the right to remove contaminated groundwater from the Property and to dispose of it as is appropriate under applicable laws.

Section Six. The effective date of this ELUC shall be the date that it is officially recorded in the chain of title for the Property to which the ELUC applies.

WITNESS the following signatures:
Property Owner(s)

By: _____
Its: _____
Date: _____

STATE OF ILLINOIS)
) SS:
COUNTY OF _____)

I, _____the undersigned, a Notary Public for said County and State, DO HEREBY CERTIFY, that _____, personally known to me to be the _____ of Midwest Generation, LLC, the Property Owner and personally known to me to be the same person whose name is subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that in said capacity signed and delivered the said instrument as their free and voluntary act for the uses and purposes therein set forth.

Given under my hand and official seal, this _____ day of _____, 2013.

_____
Notary Public

PIN NO. 10-10-09-100-004 (Partial)

Exhibit A

The subject property is located in the City of Pekin, Tazewell County, State of Illinois, commonly known as Powerton Station, Pekin, Illinois and more particularly described as:

COMMON ADDRESS:

Powerton Station (portion)
13082 E. Manito Road
Pekin, Illinois 61554

LEGAL DESCRIPTION:

(The legal description of the proposed area will be formalized upon IEPA approval of this proposed ELUC)

REAL ESTATE TAX INDEX OR PARCEL #

10-10-09-100-004 (Partial)

EXHIBIT B
Maps



NOTE:
BACKGROUND MAP RETRIEVED FROM GOOGLE MAPS 2012

LOCATION:
SECTION 8 & 9, TOWNSHIP 24 N, RANGE 5 W

0 1,200'
APPROXIMATE SCALE

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 28 Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

PROPERTY MAP WITH BOUNDARY LINE

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 1,200'	Date: January 17, 2013
KPRG Project No. 18311.21	EXHIBIT B-1

W:\c-p&p\projects\midwest generation\ash pond issues\powerton\powerton station eluc.dwg(property map)

MWG13-15_719



W:\c-p&b\projects\midwest generation\ash pond issues\elue & gmz\powerton station gmz.dwg\gw map slit 12-12-12)

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

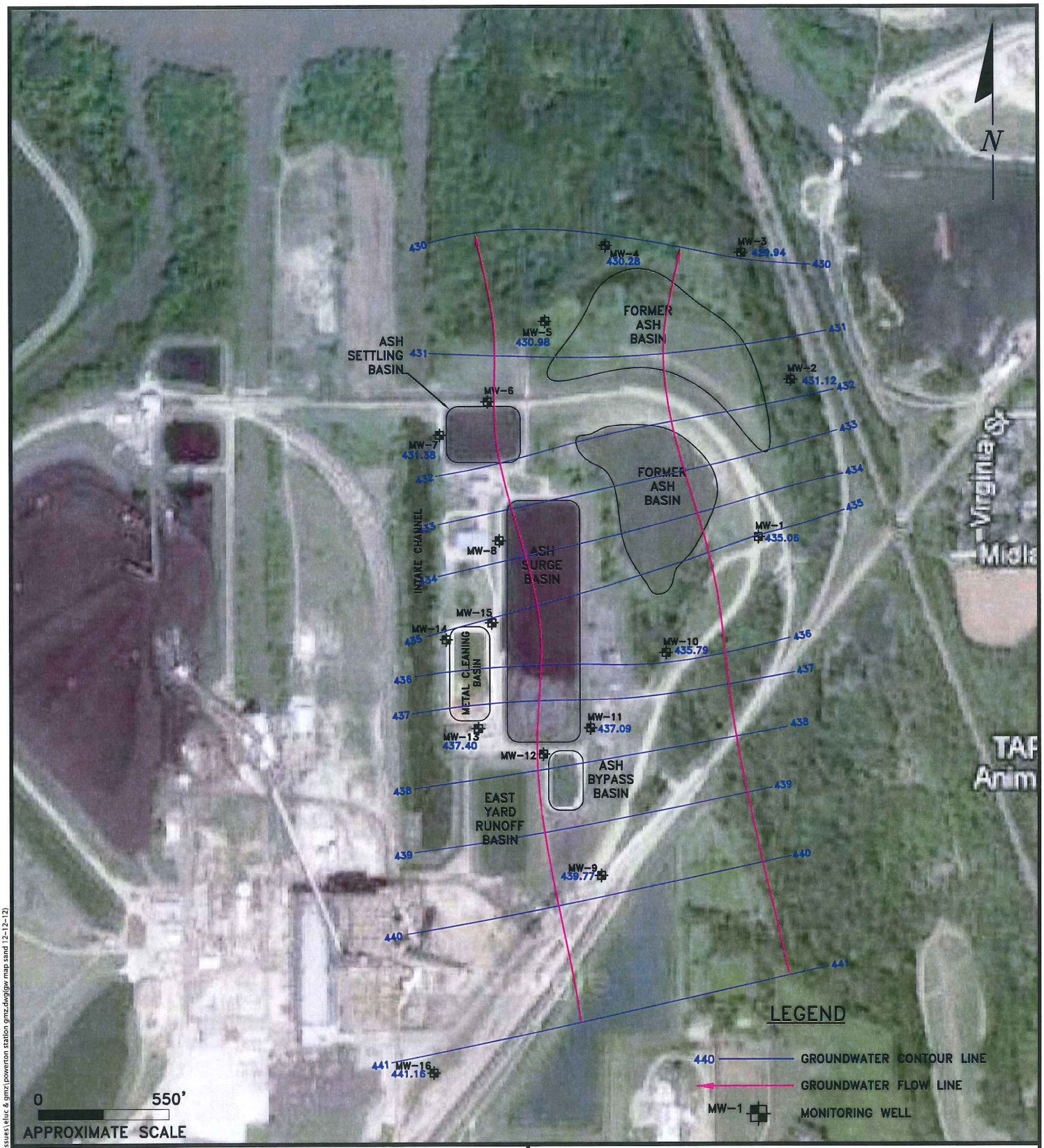
GROUNDWATER CONTOUR MAP FOR SILT/CLAY UNIT 12/12/2012

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: January 17, 2013

KPRG Project No. 18311.21 | EXHIBIT B-2

MWG13-15_720



W:\c-p&o\projects\midwest generation\ash pond issues\elur & gmz\powerton station gmz.dwg[gw map sand 12-12-12]

ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G

KPRG and Associates, Inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 28 Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

GROUNDWATER CONTOUR MAP FOR GRAVELLY SAND UNIT 12/12/2012

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550'	Date: January 17, 2013
KPRG Project No. 18311.21	EXHIBIT B-3



GROUNDWATER RESULTS NOTES:

ALL VALUES ARE MILLIGRAMS PER LITER (mg/L)
TDS = TOTAL DISSOLVED SOLIDS
BOLD = BOLD VALUES EXCEED 35 IAC PART 620

W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\powerton station eluc.dwg(box plot map)

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

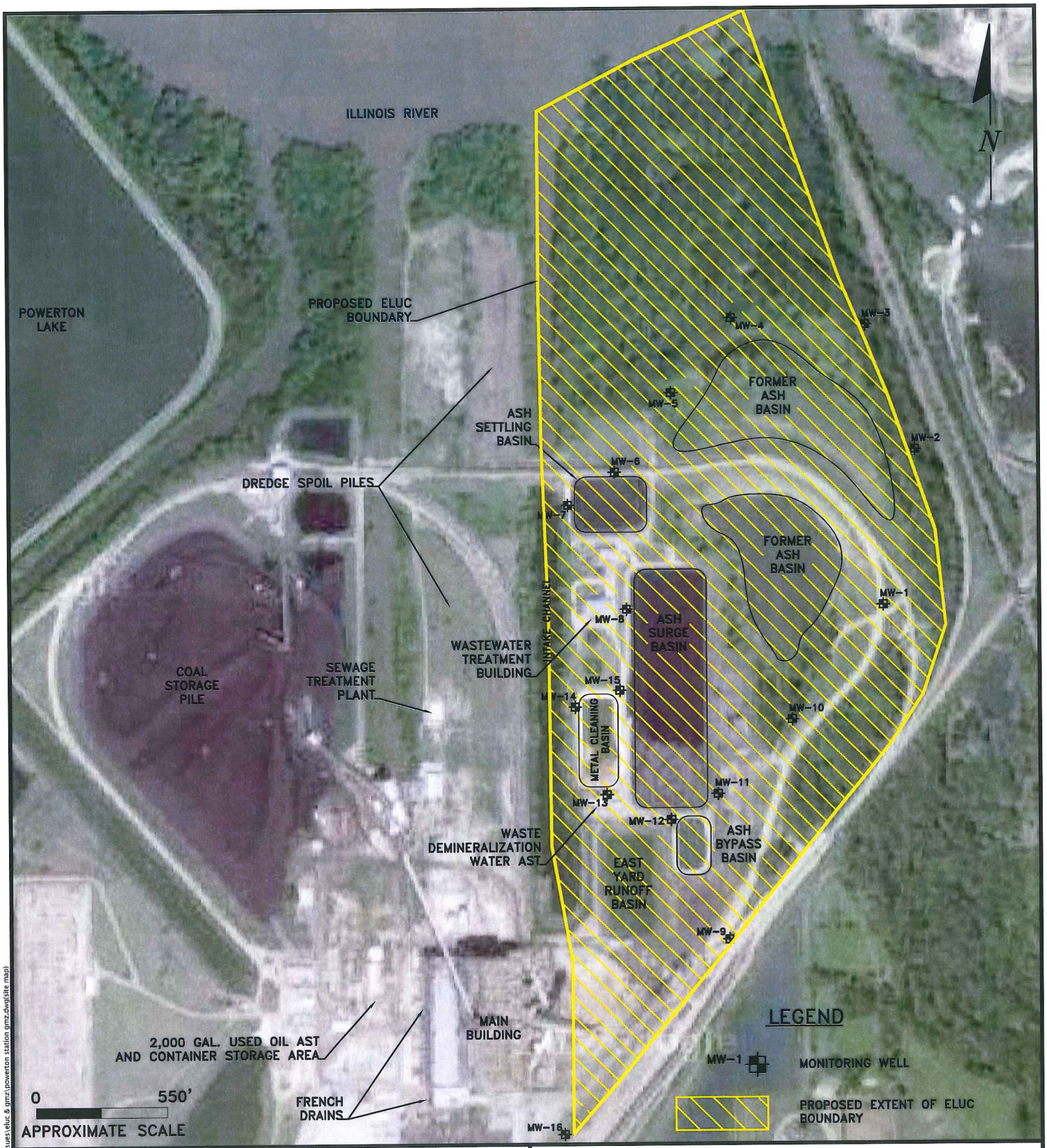
14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

AREAL DISTRIBUTION OF GROUNDWATER IMPACTS

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: January 17, 2013

KPRG Project No. 18311.21 | EXHIBIT B-4



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

PROPOSED ELUC BOUNDARY

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: January 17, 2013

KPRG Project No. 18311.21 | EXHIBIT B-5

W:\c-p&p\projects\midwest generation\ash pond issues\eluc & gmz\powerton station gmz.dwg(site map)

Exhibit D16

March 5, 2012

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Subject: Quarterly Groundwater Monitoring Results – Annual Report 2011
Powerton Generating Station- Ash Impoundment

Reference: Patrick Project No. 21153.018

To Whom It May Concern:

Patrick Engineering Inc. (Patrick) has prepared this letter report, on behalf of Midwest Generation, LLC, to provide the 2011 Annual Report for groundwater monitoring results associated with the on-site ash ponds at the Powerton Generating Station (The Site) located at 13082 East Manito Rd. in Pekin, Illinois (Figure 1). The Site is located along the Illinois River, south and west of the city of Pekin. The surrounding land use consists of the Illinois River to the north, industrial and residential properties to the east, agricultural land to the south, and Lake Powerton to the west. The site contains three active ash ponds. This groundwater monitoring is being performed as part of the long-term monitoring plan described in the Hydrogeologic Assessment Report submitted to the Illinois Environmental Protection Agency (Illinois EPA) in February 2011.

Ten monitoring wells have been installed (MW-1 through MW-10) surrounding the ash impoundments (both former and current) at the Powerton facility. The well locations were selected so that both upgradient and downgradient wells were represented, based upon available data regarding the expected groundwater flow direction (north, toward the Illinois River). Monitoring wells MW-1, MW-9 and MW-10 are installed upgradient of the ash ponds. The well locations are shown on Figure 2.

GROUNDWATER ELEVATIONS

Quarterly groundwater elevations were measured beginning in March 2011 in each of the ten wells prior to sampling. The groundwater levels were compared to levels collected by the USGS stream flow data at Station Number 05568500 located on the Illinois River at Kingston Mines, Illinois. Fluctuations in the groundwater elevations correlated to fluctuations in the River, indicating the groundwater at the site has a direct hydraulic connection to the surface water. The

water elevations in all of the ash ponds, excluding the large, former ash pond to the east, are significantly higher than the surrounding groundwater elevations. A chart depicting the groundwater elevations as compared to the Illinois River elevations is included as Attachment A in this report.

If wells MW-6 and MW-8 are excluded from the analysis, the direction of groundwater flow is clearly found to be from south to north, towards the River, as expected. The groundwater elevations in MW-6 and MW-8 are approximately 12 feet higher than in surrounding wells; the ground surface elevation in this area is also significantly higher than in the surrounding area. Boring logs from these wells also indicate the geology of this area consists of almost entirely fill material. It is Patrick's opinion that both the topography and geology of this area create a localized groundwater high.

The correlation between groundwater elevations and the Illinois River elevations was weaker in the vicinity of wells MW-1, MW-9 and MW-10, which are the three wells furthest from the River and therefore the three wells that would be expected to be the least affected by changes in River elevation. Groundwater elevation data is summarized in Table 1 and shown on Figure 3.

SAMPLING METHODOLOGY

In accordance with the long-term monitoring plan referenced above, water samples are collected quarterly from ten monitoring wells (MW-1 through MW-10) surrounding the ash impoundments at the Powerton facility. These wells were most recently sampled on December 12, 2011.

Groundwater samples were collected from each well with a peristaltic pump, using established low-flow sampling techniques. Temperature, turbidity, conductivity, dissolved oxygen (DO), oxygen reduction potential (ORP), and pH measurements were taken at each of the wells using a portable meter with a flow through cell. All groundwater samples were filtered in the field using a disposable, 0.45µm, in-line filter to allow for the analytical testing of dissolved compounds. Field parameter data is provided in Table 2.

After collection, all samples were immediately placed on ice in a cooler and kept at a temperature no higher than 4° F. The samples were transported to TestAmerica Laboratories, an Illinois-EPA accredited analytical laboratory, in accordance with chain-of-custody procedures to maintain sample integrity. Analytes tested included the inorganic compounds listed in 35 Illinois Administrative Code (IAC) 620.410(a), excluding both radium and the poly-aromatic hydrocarbons (PAHs) listed in 35 IAC 620.410(b). Analytical laboratory results are presented in Table 3 (both current and historical). The laboratory analytical reports provided by PDC Laboratories are provided as Attachment C.

ANALYTICAL RESULTS

Groundwater samples collected from both upgradient and downgradient wells on site have Class I Groundwater Quality Standard exceedances. These exceedances include; arsenic, iron, manganese, boron, chloride, nitrogen-nitrate, and total dissolved solids.

Quarterly Groundwater Monitoring Results – Annual Report 2011
Powerton Generating Station- Ash Impoundment
March 5, 2012

Concentrations of constituents exceeding Class I Groundwater Standards in downgradient wells (MW-2 through MW-8) were compared with upgradient well (MW-1, MW-9 and MW-10) concentrations. Average downgradient concentrations of manganese, chloride, total dissolved solids, arsenic and iron were higher than in the upgradient wells. Upgradient concentrations of boron and nitrogen-nitrate were higher than in the downgradient wells. Note that, excluding manganese, chloride, and nitrate, all of the exceedances of Class I standards were detected in only one well (MW-7). Manganese and chloride were the only compounds that exceeded Class I standards in MW-6 and MW-8.

Patrick performed trend analyses on the following parameters (arsenic, barium, chromium, cobalt, iron, manganese, nickel, selenium, boron, sulfate, chloride, nitrogen-nitrate, total dissolved solids, and fluoride). Analytical parameters without any detections were not included in the analysis.

The increasing trend in arsenic concentrations in MW-7 was the only statistically significant increase of any constituent in any well. There were no statistically significant (at the 95% confidence level) increasing or decreasing trends for any of the remaining analyzed compounds. Trend Analysis charts are provided in Attachment B. In accordance with the long-term monitoring plan, groundwater samples from the ash pond wells at the Powerton facility will continue to be collected, analyzed, and reported to Illinois EPA on a quarterly basis until sufficient statistically-significant data is available to properly assess the groundwater data.

If you have any questions, please contact me at 630-795-7464.

Sincerely,

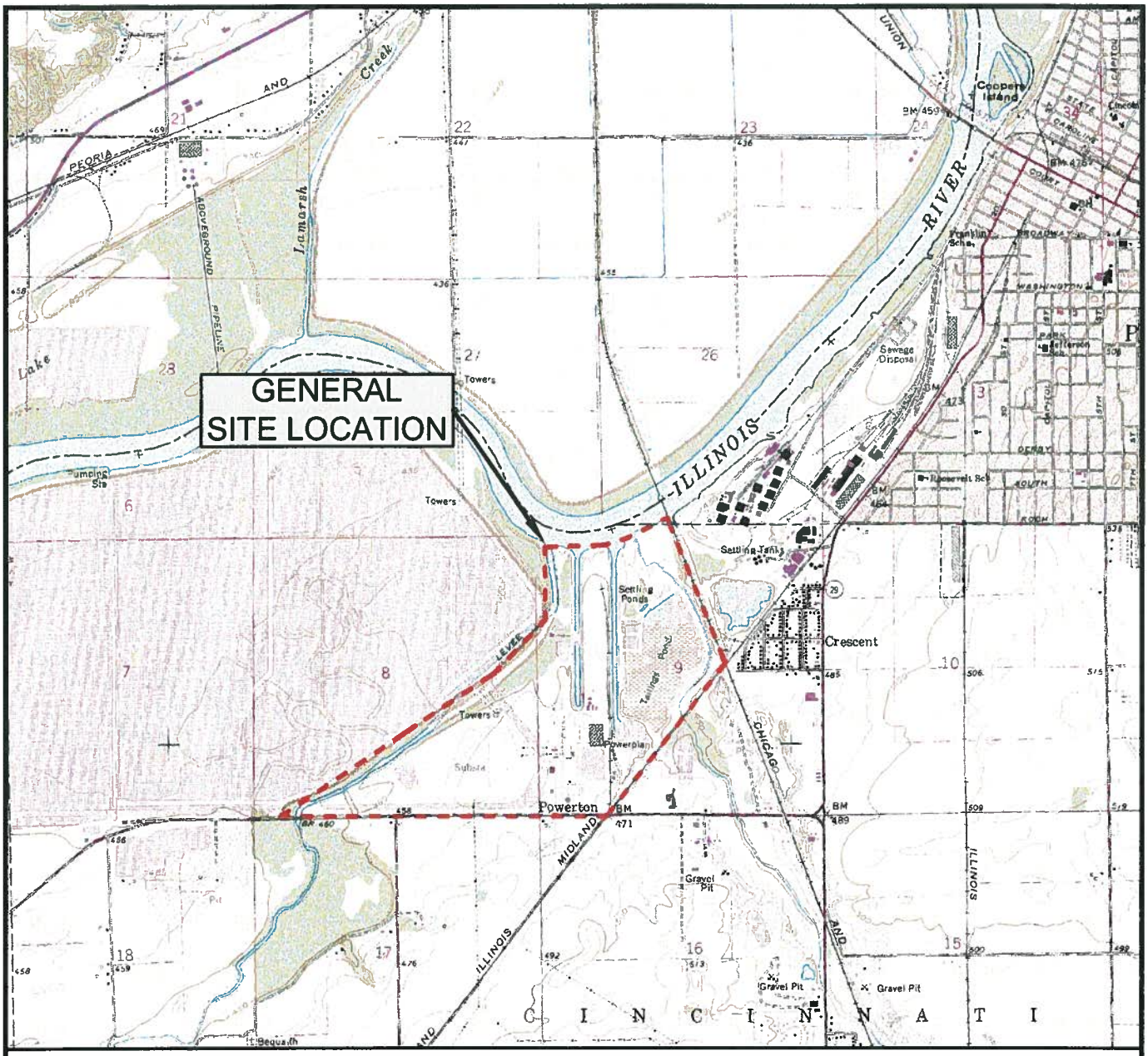
PATRICK ENGINEERING INC.

Richard M. Frendt, P.E
Senior Project Manager

RMF/dcm
Enclosures: Figure 1: Site Location Map
Figure 2: Monitoring Well Location Map
Figure 3: Groundwater Elevation Map
Table 1: Groundwater Elevation Survey Data
Table 2: Field Parameter Data
Table 3: Groundwater Analytical Results
Attachment A: Groundwater and Illinois River Elevations Chart
Attachment B: Trend Analysis Charts
Attachment C: Laboratory Report

FIGURE 1

SITE LOCATION MAP



LEGEND

SITE BOUNDARY

N

0 2,000'

GRAPHIC SCALE

NOTE:
THIS DRAWING WAS PREPARED USING ILLINOIS' PEKIN (1979)
7.5 MINUTE-SERIES TOPOGRAPHIC QUADRANGLE MAP.

Date: DEC. 2011	FIGURE 1 SITE LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21153.018	**POWERTON STATION PEKIN, ILLINOIS**	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_39712

FIGURE 2

MONITORING WELL LOCATION MAP

MWG13-15_39713



LEGEND

MW-01 Monitoring Well Location

N

AERIAL IMAGE SOURCE:
2005 ORTHOPHOTO TAKEN FROM THE ILLINOIS NATURAL RESOURCES CLEARINGHOUSE

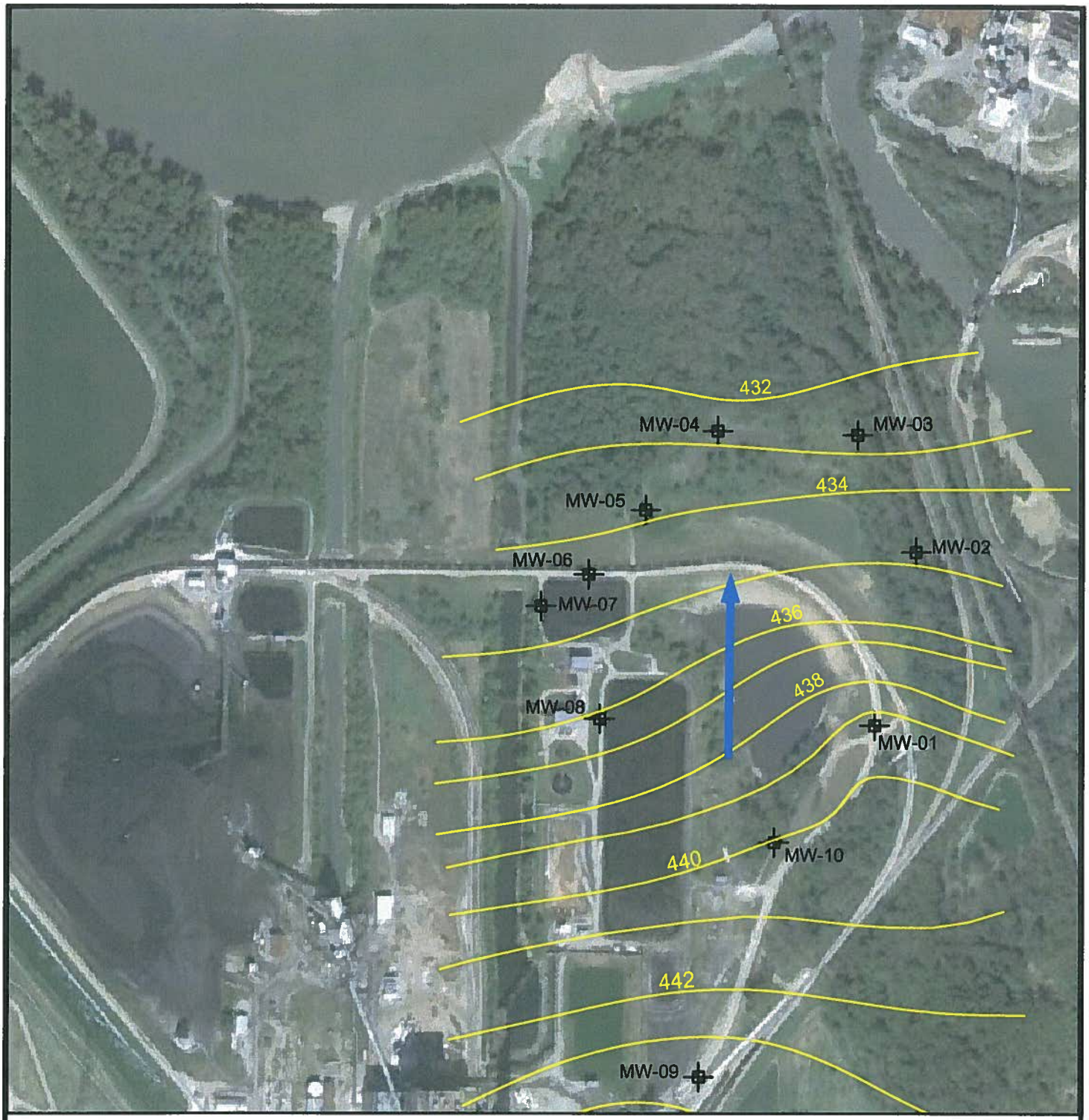
1" = 600'

Date: DEC. 2011	FIGURE 2 MONITORING WELL LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21153.018	POWERTON STATION PEKIN, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681
App. By: RMF		PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409

MWG13-15_39714

FIGURE 3

GROUNDWATER ELEVATION MAP



LEGEND

MW-01 505.46' MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION (FT. / MSL)

GROUNDWATER FLOW DIRECTION

GROUNDWATER ELEVATION CONTOUR (FT. / MSL)

AERIAL IMAGE SOURCE:
2005 ORTHOPHOTO TAKEN FROM THE ILLINOIS NATURAL RESOURCES CLEARINGHOUSE

N

1" = 600'

Date: DEC. 2011	FIGURE 3 GROUNDWATER ELEVATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21153.018	POWERTON STATION PEKIN, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_39716

TABLE 1

GROUNDWATER ELEVATION DATA

Table 1
Groundwater Elevation Survey Data
Powerton Station, Pekin, Illinois
Midwest Generation
21153.018

PATRICK ENGINEERING	Date	Water Elevation	Depth to Water Pre-Purge	Depth to Water Pre-Sampling	Water Elevation Pre-Sampling	Depth to Bottom of Well	Bottom of Well Elevation	Ground Elevation	Top of Riser Elevation
MONITORING WELLS									
MW-1	3/25/2011	445.129	19.93	19.93	445.129	34.09	430.969	461.667	465.059
	6/16/2011	447.519	17.54	12.54	452.519	34.09	430.969	461.667	465.059
	9/15/2011	439.949	25.11	25.13	439.929	34.09	430.969	461.667	465.059
	12/12/2011	439.779	25.28	25.28	439.779	34.09	430.969	461.667	465.059
MW-2	3/25/2011	443.402	19.02	19.06	443.362	37.11	425.312	459.246	462.422
	6/16/2011	447.182	15.24	15.24	447.182	37.11	425.312	459.246	462.422
	9/15/2011	433.272	29.15	29.15	433.272	37.11	425.312	459.246	462.422
	12/12/2011	434.782	27.64	27.64	434.782	37.11	425.312	459.246	462.422
MW-3	3/25/2011	444.084	18.26	18.26	444.084	37.29	425.054	459.098	462.344
	6/16/2011	447.254	15.09	15.09	447.254	37.29	425.054	459.098	462.344
	9/15/2011	432.734	29.61	29.62	432.724	37.29	425.054	459.098	462.344
	12/12/2011	433.884	28.46	28.46	433.884	37.29	425.054	459.098	462.344
MW-4	3/25/2011	443.219	17.26	17.26	443.219	37.09	423.389	457.290	460.479
	6/16/2011	446.129	14.35	14.34	446.139	37.09	423.389	457.290	460.479
	9/15/2011	431.629	28.85	28.85	431.629	37.09	423.389	457.290	460.479
	12/12/2011	433.279	27.20	27.20	433.279	37.09	423.389	457.290	460.479
MW-5	3/25/2011	443.421	15.16	15.15	443.431	34.79	423.791	455.799	458.581
	6/16/2011	446.961	11.62	11.62	446.961	34.79	423.791	455.799	458.581
	9/15/2011	432.771	25.81	25.81	432.771	34.79	423.791	455.799	458.581
	12/12/2011	434.131	24.45	24.45	434.131	34.79	423.791	455.799	458.581
MW-6	3/25/2011	446.706	17.76	17.75	446.716	32.60	431.866	461.224	464.466
	6/16/2011	449.326	15.14	15.16	449.306	32.60	431.866	461.224	464.466
	9/15/2011	445.706	18.76	18.81	445.656	32.60	431.866	461.224	464.466
	12/12/2011	446.296	18.17	18.17	446.296	32.60	431.866	461.224	464.466
MW-7	3/25/2011	443.347	19.88	23.37	439.857	40.11	423.117	459.647	463.227
	6/16/2011	446.837	16.39	18.26	444.967	40.11	423.117	459.647	463.227
	9/15/2011	433.397	29.83	29.83	433.397	40.11	423.117	459.647	463.227
	12/12/2011	434.637	28.59	29.50	433.727	40.11	423.117	459.647	463.227
MW-8	3/25/2011	447.733	24.00	24.00	447.733	33.55	438.183	468.698	471.733
	6/16/2011	449.263	22.47	22.47	449.263	33.55	438.183	468.698	471.733
	9/15/2011	446.763	24.97	24.96	446.773	33.55	438.183	468.698	471.733
	12/12/2011	446.853	24.88	24.88	446.853	33.55	438.183	468.698	471.733
MW-9	3/25/2011	447.136	22.05	22.06	447.126	35.13	434.056	466.214	469.186
	6/16/2011	449.306	19.88	19.89	449.296	35.13	434.056	466.214	469.186
	9/15/2011	443.636	25.55	25.55	443.636	35.13	434.056	466.214	469.186
	12/12/2011	443.076	26.11	26.11	443.076	35.13	434.056	466.214	469.186
MW-10	3/25/2011	445.426	11.96	11.96	445.426	32.50	424.886	454.093	457.386
	6/16/2011	447.776	9.61	9.62	447.766	32.50	424.886	454.093	457.386
	9/15/2011	439.986	17.40	17.41	439.976	32.50	424.886	454.093	457.386
	12/12/2011	440.006	17.38	17.38	440.006	32.50	424.886	454.093	457.386

Notes: - Elevations are leveled from site control points per Drawing "Control Network, IL State Plane (West Zone)
- Powerton Station" revised 10/22/2010
- Elevations are shown in feet

TABLE 2

GROUNDWATER FIELD PARAMETER DATA

Table 1
Field Parameter Data
Powerton Station, Pekin, Illinois
Midwest Generation
21153.018

Field Parameter Data - Powerton Station								
Monitoring Well	**Date**	**Time**	**Temperature (°C)**	**Conductivity (ms/cm^c)**	**Turbidity (NTU)**	**pH**	**DO (mg/L)**	**ORP (mV)**
MW-1	3/25/2011	8:48	3.97	0.65	105.6	7.67	8.49	131.6
		8:50	3.92	0.64	47.8	7.54	8.30	133.6
		8:52	3.90	0.64	1.9	7.59	7.96	135.9
		8:54	3.88	0.64	47.9	7.46	7.89	137.9
		8:56	3.83	0.64	11.2	7.56	7.96	138.8
		8:58	3.77	0.64	5.0	7.43	7.76	140.1
MW-1	6/16/2011	11:50	11.36	0.70	1.38	7.91	5.48	183.70
		11:52	10.30	0.67	1.42	7.68	4.75	205.10
		11:54	9.85	0.69	1.39	7.61	4.73	209.80
		11:56	9.80	0.69	1.57	7.60	4.82	208.90
		11:58	9.73	0.69	1.64	7.59	4.74	209.80
		12:00	9.71	0.69	1.71	7.58	4.61	209.80
MW-1	9/20/2011	13:54	18.42	0.74	2.38	7.43	4.76	-101
		13:56	18.40	0.74	2.75	7.40	4.65	-96
		13:.58	18.41	0.74	1.78	7.40	4.67	-96
		14:00	18.42	0.74	1.05	7.39	4.66	-97
		14:02	18.41	0.74	1.11	7.39	4.70	-97
		14:04	18.42	0.74	1.69	7.37	4.57	-98
MW-1	12/12/2011	13:44	11.39	0.25	24.34	6.15	5.69	-28
		13:46	11.17	0.57	47.80	6.34	5.16	-6
		13:48	10.98	0.57	10.10	6.37	5.17	3
		13:50	10.86	0.56	7.06	6.38	5.18	7
		13:52	10.84	0.56	5.85	6.38	5.21	10
		13:54	10.85	0.56	13.01	6.39	5.21	13
MW-2	3/25/2011	11:45	3.26	0.74	814.3	7.78	7.78	124.5
MW-2	6/16/2006	6:56	13.23	0.76	0.34	7.74	0.77	202.7
		6:58	13.22	0.75	1.26	7.2	0.63	224.6
		7:00	13.18	0.75	1.53	7.1	0.60	228.8
		7:02	13.17	0.75	2.93	7.08	0.58	230
		7:04	13.19	0.75	1.06	7.15	0.57	727.8
		7:06	13.14	0.75	1.37	7.2	0.58	226.3
MW-2	9/20/2011	9:20	15.27	0.68	27.69	7.58	0.46	-170
		9:22	15.22	0.68	16.67	7.53	0.36	-186
		9:24	15.02	0.65	8.41	7.52	0.34	-188
		9:26	14.87	0.64	3.21	7.51	0.32	-188
		9:28	14.82	0.64	1.73	7.51	0.28	-192
		9:30	14.75	0.64	0.73	7.52	0.28	-196
MW-2	12/12/2011	9:34	9.00	0.62	29.25	6.8	4.57	16
		9:36	9.29	0.59	57.30	6.56	3.54	40
		9:38	9.48	0.59	47.01	6.48	3.42	50
		9:40	9.59	0.59	25.45	6.44	3.41	57
		9:42	9.57	0.59	31.12	6.41	3.46	61
		9:44	9.58	0.59	10.87	6.41	3.34	63
MW-3	3/25/2011	11:12	5.24	0.74	347.5	7.55	7.20	135.1
MW-3	6/16/2011	7:41	15.85	0.74	1.10	7.65	2.00	218.0
		7:43	15.72	0.73	1.72	7.40	0..53	211.0
		7:45	15.71	0.73	2.24	7.36	0.48	213.4
		7:47	15.72	0.73	2.43	7.33	0.44	216.9
		7:49	15.72	0.73	2.21	7.33	0.41	219.5
		7:51	15.72	0.73	2.09	7.33	0.40	220.5
MW-3	9/20/2011	9:58	21.41	0.76	12.68	7.36	0.56	-152
		10:00	21.38	0.76	6.06	7.35	0.37	-196
		10:02	21.50	0.76	2.30	7.34	0.35	-208
		10:04	21.61	0.76	34.58	7.32	0.34	-214
		10:06	21.60	0.76	14.04	7.31	0.33	-216
		10:08	21.59	0.76	5.31	7.30	0.32	-218
MW-3	12/12/2011	10:10	17.20	0.69	17.40	6.96	1.86	45
		10:12	17.65	0.70	28.96	6.65	1.25	35
		10:14	18.02	0.71	6.13	6.60	1.07	31
		10:16	18.35	0.71	6.89	6.59	1.00	29
		10:18	18.56	0.72	27.59	6.59	0.98	28
		10:20	18.58	0.72	3.72	6.58	0.99	29

Table 1
Field Parameter Data
Powerton Station, Pekin, Illinois
Midwest Generation
21153.018

Field Parameter Data - Powerton Station								
Monitoring Well	**Date**	**Time**	**Temperature (°C)**	**Conductivity (ms/cm^c)**	**Turbidity (NTU)**	**pH**	**DO (mg/L)**	**ORP (mV)**
MW-4	3/25/2011	10:43	13.33	1,299.60	7.5	7.48	3.93	116.5
MW-4	6/16/2011	8:32	17.80	0.76	0.56	7.55	1.92	213.8
		8:34	17.64	0.76	0.71	7.35	0.48	204.8
		8:36	17.56	0.75	0.63	7.29	0.34	204
		8:38	17.59	0.76	0.48	7.27	0.30	203.8
		8:40	17.58	0.76	0.52	7.27	0.29	203.1
		8:42	17.54	0.75	0.57	7.26	0.26	202.6
MW-4	9/20/2011	10:40	19.19	0.92	7.28	7.22	0.53	-115
		10:42	19.18	0.92	57.99	7.2	0.24	-180
		10:44	19.13	0.92	20.55	7.21	0.21	-207
		10:46	19.06	0.91	8.37	7.23	0.19	-219
		10:48	19.05	0.91	3.67	7.22	0.19	-225
		10:50	19.07	0.91	0.88	7.22	0.18	-228
MW-4	12/12/2011	10:48	15.97	0.75	24.95	6.48	1.08	54
		10:50	16.24	0.76	8.23	6.41	0.40	53
		10:52	16.29	0.76	9.76	6.39	0.29	53
		10:54	16.40	0.76	24.25	6.39	0.25	52
		10:56	16.44	0.76	20.07	6.39	0.22	51
		10:58	16.35	0.76	10.27	6.37	0.20	51
MW-5	3/25/2011	10:13	14.35	1.16	119.0	7.36	3.95	110.1
MW-5	6/16/2011	9:26	16.30	1.03	1.33	7.67	1.41	155.30
		9:28	16.04	1.00	1.68	7.43	0.17	133.00
		9:30	15.97	1.00	1.47	7.36	0.10	116.00
		9:32	15.93	1.00	1.33	7.33	0.08	97.50
		9:34	15.91	1.00	2.03	7.30	0.07	80.80
		9:36	15.83	1.00	1.94	7.29	0.07	70.50
MW-5	9/20/2011	11:20	16.19	1.23	15.59	7.08	0.74	-106
		11:22	16.08	1.22	3.47	7.03	0.11	-193
		11:24	15.91	1.22	2.46	7.03	0.08	-236
		11:26	15.83	1.21	2.53	7.03	0.07	-257
		11:28	15.82	1.21	1.76	7.04	0.06	-267
		11:30	15.80	1.21	5.33	7.05	0.06	-274
MW-5	12/12/2011	11:28	15.17	1.08	73.35	6.34	1.72	31
		11:30	15.35	1.09	74.44	6.44	0.31	-58
		11:32	15.53	1.09	39.60	6.38	0.15	-35
		11:34	15.64	1.10	23.05	6.33	0.09	-17
		11:36	15.68	1.10	13.25	6.30	0.07	-8
		11:38	15.64	1.10	185.40	6.34	0.06	-26
MW-6	3/25/2011	9:36	15.59	1.60	12.6	7.97	1.19	-114.9
		9:38	15.80	1.62	16.6	7.95	0.60	-127.9
		9:40	16.28	1.62	10.5	7.94	0.43	-132.9
		9:42	16.36	1.63	15.9	7.94	0.29	-133.7
		9:44	16.39	1.63	9.7	7.96	0.35	-136.5
		9:46	16.38	1.63	10.0	7.97	0.24	-137.5
MW-6	6/16/2011	10:12	19.52	1.69	19.32	7.74	0.77	-159.5
		10:14	19.21	1.69	18.71	7.65	0..13	-167.9
		10:16	19.15	1.68	15.36	7.62	0.08	-161.6
		10:18	19.08	1.68	14.42	7.60	0.09	-162
		10:20	18.87	1.68	14.59	7.66	0.09	-161.6
		10:22	18.99	1.68	14.38	7.62	0.08	-161.9
MW-6	9/20/2011	13:10	22.20	1.56	10.07	7.64	8.48	-191
		13:12	22.31	1.56	3.59	7.65	0.15	-214
		13:14	22.41	1.56	4.84	7.64	0.15	-223
		13:16	22.45	1.56	2.78	7.63	0.12	-227
		13:18	22.45	1.56	3.78	7.62	0.10	-232
		13:20	22.40	1.56	2.32	7.61	0.10	-236
MW-6	12/12/2011	13:04	21.60	1.57	15.14	7.46	1.99	-178
		13:06	22.41	1.60	223.10	7.38	0.28	-190
		13:08	22.64	1.61	31.94	7.36	0.15	-192
		13:10	22.84	1.62	10.80	7.36	0.11	-194
		13:12	22.84	1.62	8.64	7.36	0.09	-195
		13:14	22.76	1.62	51.51	7.35	0.08	-196

Table 1
Field Parameter Data
Powerton Station, Pekin, Illinois
Midwest Generation
21153.018

Field Parameter Data - Powerton Station								
Monitoring Well	Date	Time	Temperature (°C)	Conductivity (ms/cm^c)	Turbidity (NTU)	pH	DO (mg/L)	ORP (mV)
MW-7	3/25/2011	12:30	15.76	1.88	167.1	7.19	2.32	-70.7
		12:32	15.97	1.96	111.4	7.12	0.73	-79.6
		12:34	16.00	1.99	96.6	7.07	0.93	-79.6
		12:36	16.19	1.99	168.2	7.05	0.65	-80.5
		12:38	16.27	1.98	286.7	7.05	0.37	-81
		12:40	16.47	1.98	200.3	7.04	0.61	-81.6
MW-7	6/16/2011	11:10	18.90	2.06	32.13	6.93	0.88	-92
		11:12	18.66	2.04	29.84	6.81	0.14	-94.7
		11:14	18.52	2.04	27.33	6.76	0.12	-95
		11:16	18.55	2.03	28.10	6.76	0.09	-97.3
		11:18	18.51	2.02	26.54	6.78	0.11	-93.6
		11:20	18.51	2.02	25.91	6.78	0.12	-95.7
MW-7	9/20/2011	12:16	19.53	2.02	36.45	6.84	0.56	-165
		12:18	19.61	2.02	34.56	6.84	0.42	-169
		12:20	19.67	2.02	32.17	6.83	0.39	-167
		12:22	19.61	2.02	31.10	6.83	0.35	-169
		12:24	19.48	2.02	30.40	6.83	0.34	-170
		12:26	19.33	2.02	30.06	6.83	0.34	-171
MW-7	12/12/2011	12:20	16.83	1.93	132.10	6.49	0.59	-157
		12:22	16.59	1.92	82.48	6.48	0.35	-155
		12:24	16.73	1.93	54.39	6.48	0.26	-153
		12:26	16.41	1.91	35.49	6.45	0.21	-149
		12:28	16.22	1.89	30.74	6.44	0.17	-148
		12:30	16.43	1.90	31.22	6.45	0.17	-148
MW-8	3/25/2011	13:26	17.70	1.67	21.1	8.21	1.08	-182.4
		13:28	17.92	1.68	50.3	8.15	1.38	-180
		13:30	17.84	1.68	152.0	8.16	0.32	-185.1
		13:32	18.00	1.67	96.0	8.17	0.27	-187.3
		13:34	17.95	1.67	43.4	8.17	0.35	-188.8
		13:36	18.15	1.67	1,340.5	8.17	0.25	-190.8
MW-8	6/16/2011	16:57	19.53	1.65	9.16	8.04	2.17	-175.6
		16:59	18.99	1.63	9.92	7.91	0.18	-190.1
		17:01	18.92	1.62	9.74	7.68	0.09	-179.2
		17:03	18.85	1.61	9.32	7.62	0.08	-163.2
		17:05	18.83	1.61	7.12	7.63	0.08	-176.3
		17:07	18.82	1.61	8.89	7.66	0.08	-181.5
MW-8	9/20/2011	17:42	18.30	1.41	10.17	8.22	0.60	-223
		17:44	18.19	1.40	6.15	8.22	0.11	-252
		17:46	18.05	1.40	18.64	8.23	0.07	-257
		17:48	18.00	1.40	15.24	8.23	0.06	-263
		17:50	17.96	1.40	6.82	8.24	0.05	269
		17:52	17.95	1.40	38.31	8.24	0.05	-271
MW-8	12/12/2011	17:04	18.71	1.45	17.61	7.98	1.11	-215
		17:06	19.03	1.47	15.17	7.89	0.23	-228
		17:08	19.21	1.48	9.93	7.86	0.11	-233
		17:10	18.72	1.46	68.11	7.84	0.06	-235
		17:12	19.04	1.48	20.60	7.87	0.05	-237
		17:14	19.20	1.47	114.20	7.87	0.03	-238
MW-9	3/25/2011	7:17	12.71	0.83	16.4	7.45	1.92	67.2
		7:19	12.82	0.84	61.5	7.36	0.85	53.7
		7:21	13.01	0.84	13.8	7.33	0.76	46.7
		7:23	13.07	0.85	60.0	7.33	0.42	33
		7:25	13.06	0.84	105.9	7.32	0.33	32
		7:27	13.16	0.85	22.9	7.34	0.39	-5
		7:29	13.19	0.85	112.7	7.34	0.27	21.2
MW-9	6/16/2011	13:30	16.28	0.85	3.96	7.63	5.10	144.4
		13:32	14.96	0.85	3.78	7.34	0.81	131.7
		13:34	14.78	0.84	3.51	7.24	0.50	143.2
		13:36	14.73	0.84	3.49	7.16	0.51	148.5
		13:38	14.61	0.84	3.11	7.11	0.49	149.2
		13:40	14.51	0.84	2.97	7.10	0.49	148.2
MW-9	9/20/2011	13:30	14.46	0.66	9.06	7.41	0.63	-124
		13:32	14.38	0.66	4.02	7.35	0.25	-200
		13:34	14.23	0.66	1.61	7.34	0.21	-237
		13:36	14.23	0.66	2.51	7.33	0.18	-255
		13:38	14.11	0.66	2.53	7.32	0.18	-263
		13:40	14.08	0.66	4.55	7.32	0.16	-268
MW-9	12/12/2011	13:14	14.11	0.66	7.26	6.53	1.21	11
		13:16	14.35	0.66	6.12	6.39	0.32	16
		13:18	14.46	0.66	26.63	6.33	0.18	19
		13:20	14.52	0.66	10.90	6.32	0.13	19
		13:22	14.52	0.66	17.83	6.3	0.09	20
		13:24	14.56	0.66	13.35	6.31	0.08	20

Table 1
Field Parameter Data
Powerton Station, Pekin, Illinois
Midwest Generation
21153.018

Field Parameter Data - Powerton Station								
Monitoring Well	**Date**	**Time**	**Temperature (°C)**	**Conductivity (ms/cm^c)**	**Turbidity (NTU)**	**pH**	**DO (mg/L)**	**ORP (mV)**
MW-10	3/25/2011	8:04	11.86	0.91	16.5	7.08	1.27	113.3
		8:06	11.94	0.91	14.0	7.03	0.75	109.9
		8:08	12.00	0.92	13.0	7.02	0.52	108.6
		8:10	12.04	0.91	11.3	7.01	0.32	107.7
		8:12	12.04	0.92	8.7	7.01	0.51	107
		8:14	11.98	0.92	9.5	7.01	0.29	106.4
MW-10	6/16/2011	12:44	14.82	1.09	2.43	7.16	1.46	117.7
		12:46	14.46	1.06	2.29	6.96	0.18	126.8
		12:48	14.38	1.05	2.26	6.91	0.11	131.9
		12:50	14.36	1.05	1.73	6.89	0.10	134.8
		12:52	14.24	1.04	1.14	6.88	0.08	133.4
		12:54	14.25	1.04	1.09	6.88	0.08	132.3
MW-10	9/20/2011	14:48	12.36	0.63	21.30	7.24	1.75	-127
		14:50	12.09	0.63	11.05	7.03	0.08	-180
		14:52	11.86	0.62	8.74	7.01	0.04	-224
		14:54	11.78	0.62	6.77	7.03	0.03	-260
		14:56	11.74	0.62	5.75	7.04	0.02	-283
		14:58	11.76	0.62	4.52	7.04	0.02	-297
MW-10	12/12/2011	14:32	11.30	0.64	28.42	6.05	3.00	10
		14:34	11.16	0.65	26.76	6.03	0.49	20
		14:36	11.11	0.65	24.55	6.03	0.20	22
		14:38	11.09	0.65	20.33	6.03	0.11	23
		14:40	11.06	0.65	21.34	6.03	0.07	23
		14:42	11.05	0.65	27.05	6.03	0.04	23

Notes:

°C	degrees Celcius
ms/cm^c	Microsiemens/Centimeters
NTU	Nephelometric Turbidity Units
mg/L	milligrams/Liter
mV	milliVolts

TABLE 3

GROUNDWATER ANALYTICAL DATA

Table 3
Groundwater Analytical Results
Powerton Station, Illinois
Midwest Generation
21153.018

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-1 (mg/L)	MW-1 (mg/L)	MW-1 (mg/L)	MW-1 (mg/L)	MW-1 (mg/L)	MW-2 (mg/L)	MW-2 (mg/L)	MW-2 (mg/L)	MW-2 (mg/L)	MW-2 (mg/L)
Chemical Name		**Class I***	**12/15/10**	**3/25/11**	**6/16/11**	**9/20/11**	**12/12/11**	**12/15/10**	**3/25/11**	**6/16/11**	**9/20/11**	**12/12/11**
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	ND	ND	ND	ND	ND	0.0018	0.0015	0.0017	ND	ND
Barium	Metals 6020	2.0	0.044	0.026	0.034	0.056	0.044	0.042	0.025	0.053	0.059	0.066
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	0.0057	ND	ND	ND	ND	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	ND	ND	ND	ND	ND	ND	0.0012	0.0022	ND	ND
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.01	0.008	ND	0.0069	0.0095	0.0086	0.0096	0.0053	0.01	0.0073
Selenium	Metals 6020	0.05	0.0016	0.0022	0.0016	0.0036	0.0027	0.017	0.0032	0.0014	0.0032	0.0037
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	0.45	0.26	0.33	1.0	0.5	0.38	0.23	0.35	0.83	0.69
Sulfate	Dissolved 9038	400	50	30	39	83	31	52	42	53	70	69
Chloride	Dissolved 9251	200	46	37	40	41	26	45	43	44	46	40
Nitrogen/Nitrate	Nitrogen By calc	10	7.2	4.3	5.7	**11**	4.1	7.5	4.5	4.7	4.3	6.9
Total Dissolved Solids	Dissolved 2540C	1,200	190	340	410	510	440	480	420	470	460	490
Fluoride	Dissolved 4500 FC	4	0.28	0.32	0.38	ND	ND	ND	0.3	0.35	ND	ND

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND- non detect
mg/L- milligrams per liter

Table 3
Groundwater Analytical Results
Powerton Station, Illinois
Midwest Generation
21153.018

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-3 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)	MW-4 (mg/L)
		Class I*	12/15/10	3/25/11	6/16/11	9/20/11	12/12/11	12/15/10	3/25/11	6/16/11	9/20/11	12/12/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.0017	ND	0.0011	0.0012	0.0012	ND	ND	ND	ND	ND
Barium	Metals 6020	2.0	0.038	0.03	0.063	0.081	0.076	0.055	0.052	0.058	0.041	0.048
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	0.0044	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND	ND	0.0026	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	0.012	0.0042	ND	ND	ND	0.0033	0.01
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	ND	ND	0.042	ND	ND	0.017	ND	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	0.0047	0.0023	ND	0.0037	0.0014	ND	**0.68**	**0.41**	**0.69**	**0.35**
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.011	0.0095	ND	0.008	0.0078	0.012	0.012	0.0067	0.011	0.01
Selenium	Metals 6020	0.05	ND	0.0036	0.0015	0.0036	0.0021	0.0022	0.0037	0.0022	0.0039	0.002
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	0.75	0.18	0.24	0.64	0.7	0.77	0.83	0.33	0.84	0.79
Sulfate	Dissolved 9038	400	64	42	47	66	45	110	140	48	61	6.7
Chloride	Dissolved 9251	200	39	52	59	62	39	150	77	43	86	8.1
Nitrogen/Nitrate	Nitrogen By calc	10	9.4	5.2	5.4	0.2	0.2	0.34	0.73	2.7	0.06	0.07
Total Dissolved Solids	Dissolved 2540C	1,200	480	430	440	460	480	680	620	470	580	520
Fluoride	Dissolved 4500 FC	4	0.3	0.35	0.41	0.35	ND	0.3	0.39	0.43	0.31	ND

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND- non detect
mg/L- milligrams per liter

Table 3

Groundwater Analytical Results

Powerton Station, Illinois

Midwest Generation

21153.018

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L) Class I*	MW-5 (mg/L) 12/15/10	MW-5 (mg/L) 3/25/11	MW-5 (mg/L) 6/16/11	MW-5 (mg/L) 9/20/11	MW-5 (mg/L) 12/12/11	MW-6 (mg/L) 12/15/10	MW-6 (mg/L) 3/25/11	MW-6 (mg/L) 6/16/11	MW-6 (mg/L) 9/20/11	MW-6 (mg/L) 12/12/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.0011	ND	ND	ND	0.001	0.0042	0.0024	0.0029	0.0031	0.0036
Barium	Metals 6020	2.0	0.053	0.048	0.046	0.071	0.065	0.11	0.092	0.1	0.1	0.12
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	0.0044	0.0042	ND	0.0066	ND	0.006	0.0083	0.0045	0.0085	0.0056
Cobalt	Metals 6020	1.0	0.0025	0.0023	ND	0.0027	0.0022	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	ND	0.0036	0.0061	ND	ND	0.0032	0.0042	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	0.13	0.05	0.046	0.082	0.036	1.6	1.6	1.7	1.8	1.9
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**0.51**	**0.49**	**0.48**	**0.64**	**0.5**	**0.68**	**0.68**	**0.63**	**0.66**	**0.63**
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.014	0.013	0.0077	0.014	0.014	0.0091	0.014	0.0078	0.0099	0.0089
Selenium	Metals 6020	0.05	0.0019	0.003	ND	0.0045	0.0023	0.0034	ND	ND	0.0025	0.0033
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	0.0064	ND	ND	ND	ND
Boron	Metals 6020	2	0.95	0.93	0.79	0.79	0.77	0.005	0.35	0.43	0.61	0.63
Sulfate	Dissolved 9038	400	160	170	110	250	170	210	250	280	260	170
Chloride	Dissolved 9251	200	150	120	89	160	140	180	**200**	160	210	150
Nitrogen/Nitrate	Nitrogen By calc	10	ND	ND	0.08	ND	ND	0.037	ND	ND	0.04	0.06
Total Dissolved Solids	Dissolved 2540C	1,200	740	680	640	890	820	950	990	1,100	970	1,000
Fluoride	Dissolved 4500 FC	4	0.27	ND	0.43	0.25	ND	0.65	0.61	0.63	0.64	0.5

Notes:

*Class I Groundwater Standards from 35 IAC Part 620

Bold values show exceedences of 35 IAC Part 620

ND- non detect

mg/L- milligrams per liter

Table 3
Groundwater Analytical Results
Powerton Station, Illinois
Midwest Generation
21153.018

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-7 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)	MW-8 (mg/L)
Chemical Name		**Class I***	**12/06/10**	**3/25/11**	**6/16/11**	**9/20/11**	**12/12/11**	**12/15/10**	**3/25/11**	**6/16/11**	**9/20/11**	**12/12/11**
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.026	**0.085**	**0.12**	**0.18**	**0.23**	0.0052	0.0039	0.0044	0.0036	0.0052
Barium	Metals 6020	2.0	0.55	0.52	0.57	0.57	0.59	0.11	0.12	0.11	0.11	0.13
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	0.0026	ND	0.0015	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	0.0088	0.0075	0.0061	0.011	ND	ND	0.0081	0.0059	0.0084	0.0053
Cobalt	Metals 6020	1.0	0.017	0.0056	0.007	0.0055	0.006	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	0.14	ND	ND	ND	ND	ND	ND	0.0036	0.0037	0.01
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	**8**	**7.5**	**10**	**22**	**26**	0.56	2.1	1.7	0.97	0.94
Lead	Metals 6020	0.0075	0.039	ND	0.0014	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**3.5**	**5.9**	**6.4**	**12**	**12**	**0.15**	**0.27**	**0.29**	**0.18**	**0.2**
Mercury	Mercury 7470A	0.002	ND	ND	0.00025	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.0045	0.021	0.022	0.026	0.022	0.011	0.013	0.0076	0.007	0.009
Selenium	Metals 6020	0.05	0.0043	0.0026	0.0025	0.0073	0.054	0.0036	0.0013	ND	0.0031	0.0036
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	0.076	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	0.6	0.44	0.43	0.38	0.34	0.93	0.72	0.64	0.82	0.82
Sulfate	Dissolved 9038	400	120	49	25	9.1	3.3	160	240	140	200	200
Chloride	Dissolved 9251	200	170	**200**	140	130	81	180	**210**	140	**210**	190
Nitrogen/Nitrate	Nitrogen By calc	10	0.043	0.08	ND	0.31	0.03	ND	ND	0.1	1.6	ND
Total Dissolved Solids	Dissolved 2540C	1,200	860	1,100	**1,300**	**1,300**	**1,300**	890	990	970	940	990
Fluoride	Dissolved 4500 FC	4	0.47	0.42	0.58	0.94	0.47	0.77	0.76	0.81	0.84	0.75

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND- non detect
mg/L- milligrams per liter

Table 3
Groundwater Analytical Results
Powerton Station, Illinois
Midwest Generation
21153.018

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L) Class I*	MW-9 (mg/L) 12/16/10	MW-9 (mg/L) 3/25/11	MW-9 (mg/L) 6/16/11	MW-9 (mg/L) 9/20/11	MW-9 (mg/L) 12/12/11	MW-10 (mg/L) 12/15/10	MW-10 (mg/L) 3/25/11	MW-10 (mg/L) 6/16/11	MW-10 (mg/L) 9/20/11	MW-10 (mg/L) 12/12/11
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	ND	0.0018	0.0017	ND	0.0012	ND	ND	0.0015	ND	ND
Barium	Metals 6020	2.0	0.038	0.042	0.038	0.03	0.038	0.24	0.28	0.36	0.25	0.26
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND	0.0026	0.0027	0.0039	0.0025	0.0026
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0041
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	0.066	ND	ND	ND	ND	ND	0.044	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**0.23**	**0.45**	**0.48**	0.14	**0.28**	**2.1**	**2.8**	**3.8**	**2.3**	**2.3**
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.01	0.0093	0.0063	0.0065	0.0088	0.015	0.016	0.015	0.01	0.013
Selenium	Metals 6020	0.05	0.0024	**0.072**	0.0017	0.0043	0.0041	0.0042	0.0064	0.043	0.0057	0.0065
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	**2.1**	1.9	1.9	**2.5**	**2.7**	0.48	0.48	0.52	0.42	0.57
Sulfate	Dissolved 9038	400	110	110	110	130	110	62	64	67	64	72
Chloride	Dissolved 9251	200	25	28	28	30	30	40	43	43	49	42
Nitrogen/Nitrate	Nitrogen By calc	10	2.9	5.6	5.6	3.7	2.6	3	4	2.1	4.5	4.9
Total Dissolved Solids	Dissolved 2540C	1,200	500	510	540	500	520	530	520	650	470	540
Fluoride	Dissolved 4500 FC	4	ND	0.31	0.34	0.25	ND	ND	0.3	0.36	ND	ND

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND- non detect
mg/L- milligrams per liter

ATTACHMENT A

GROUNDWATER AND ILLINOIS RIVER ELEVATION CHART

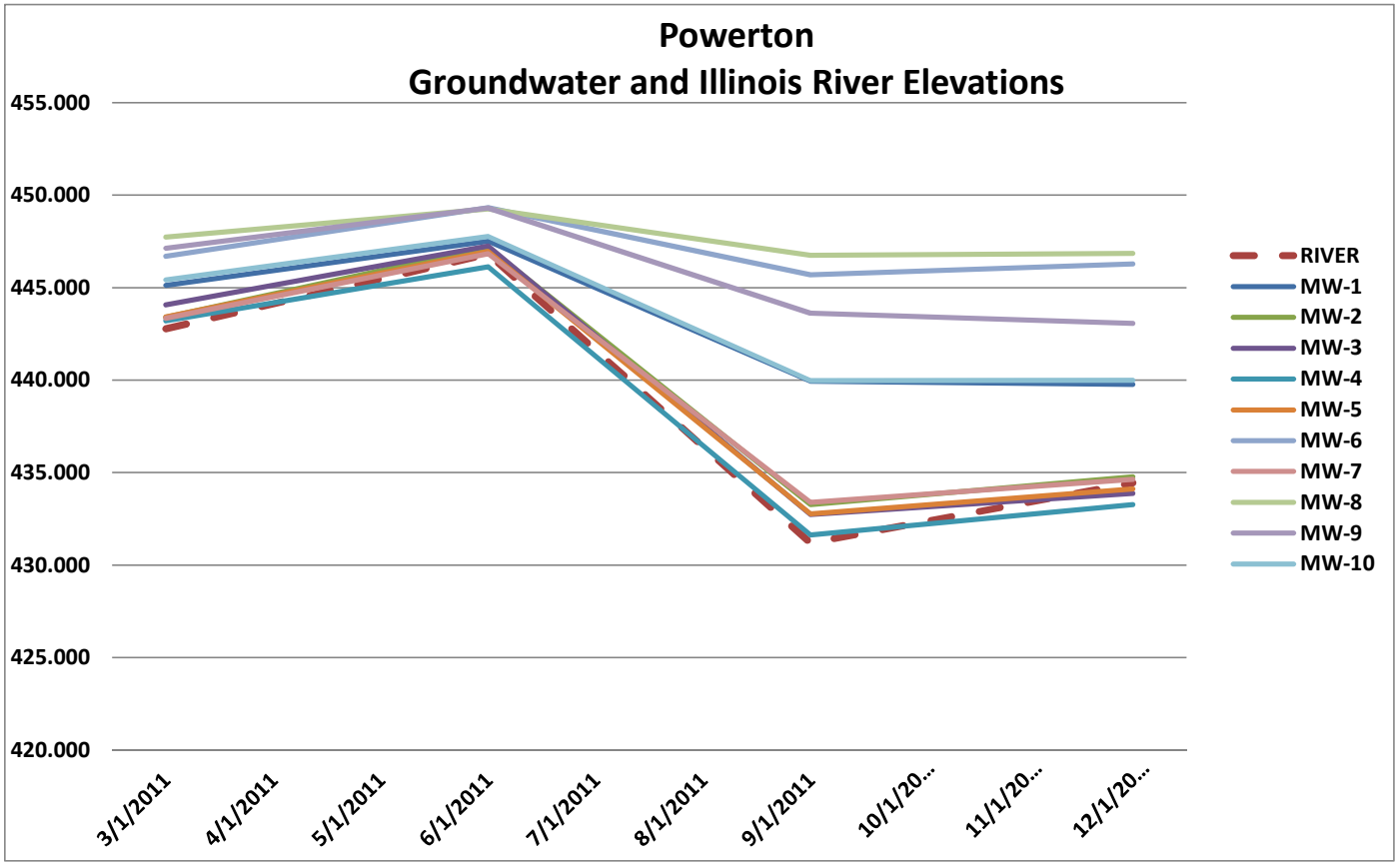
Powerton

GROUNDWATER AND ILLINOIS RIVER ELEVATIONS

Powerton Station, Pekin, Illinois

Midwest Generation

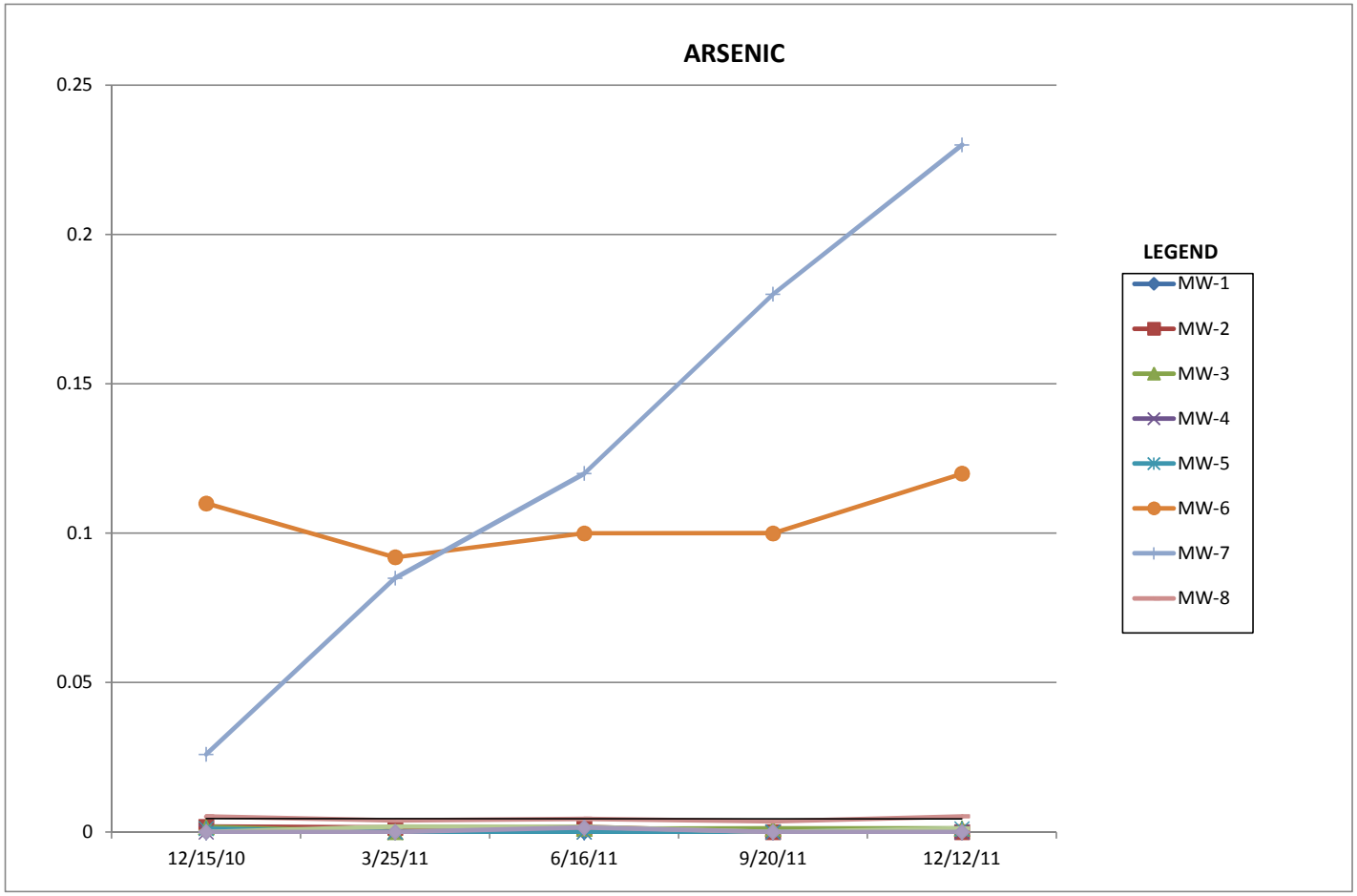
21153.018



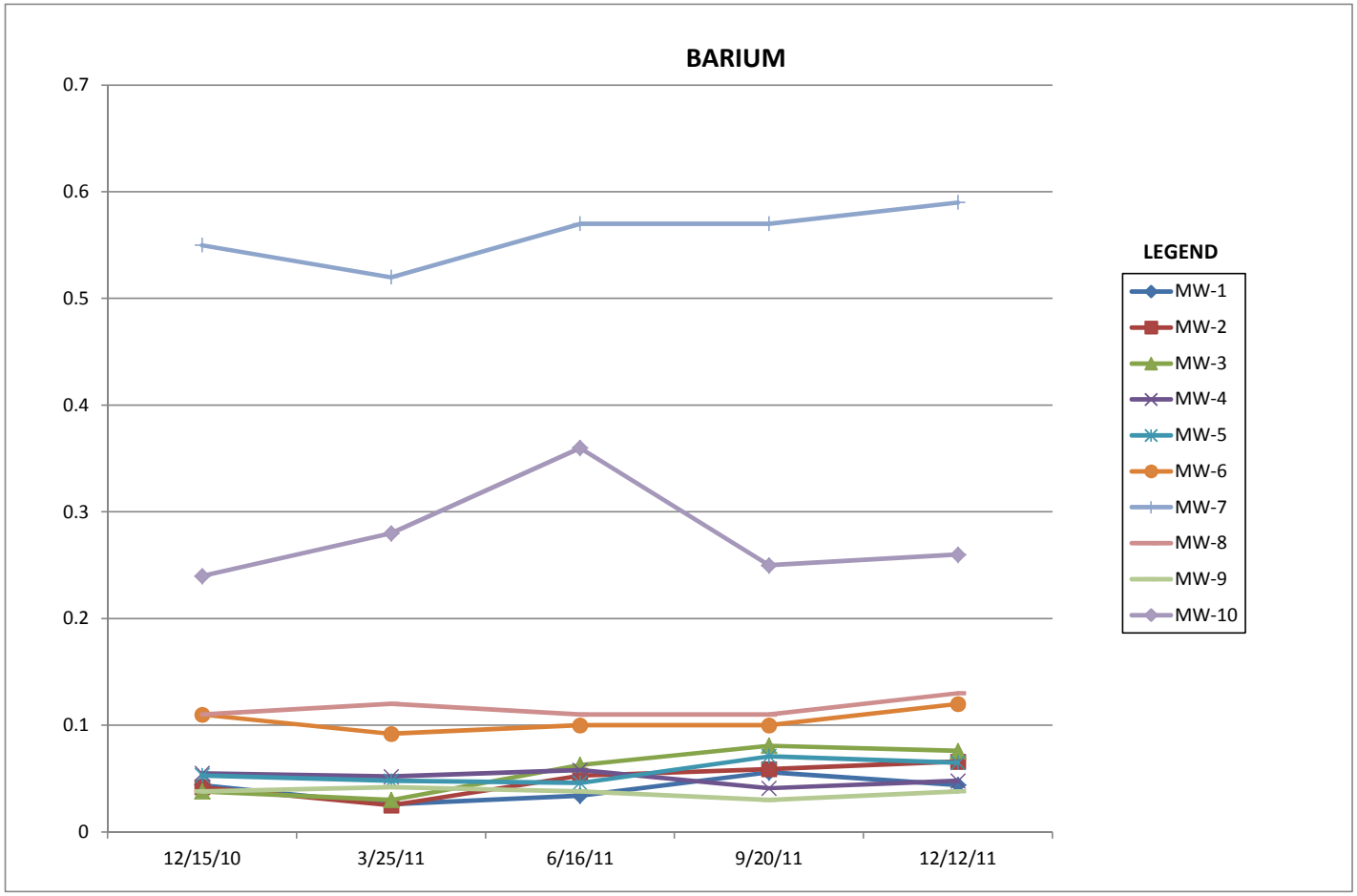
ATTACHMENT B

TREND ANALYSIS CHARTS

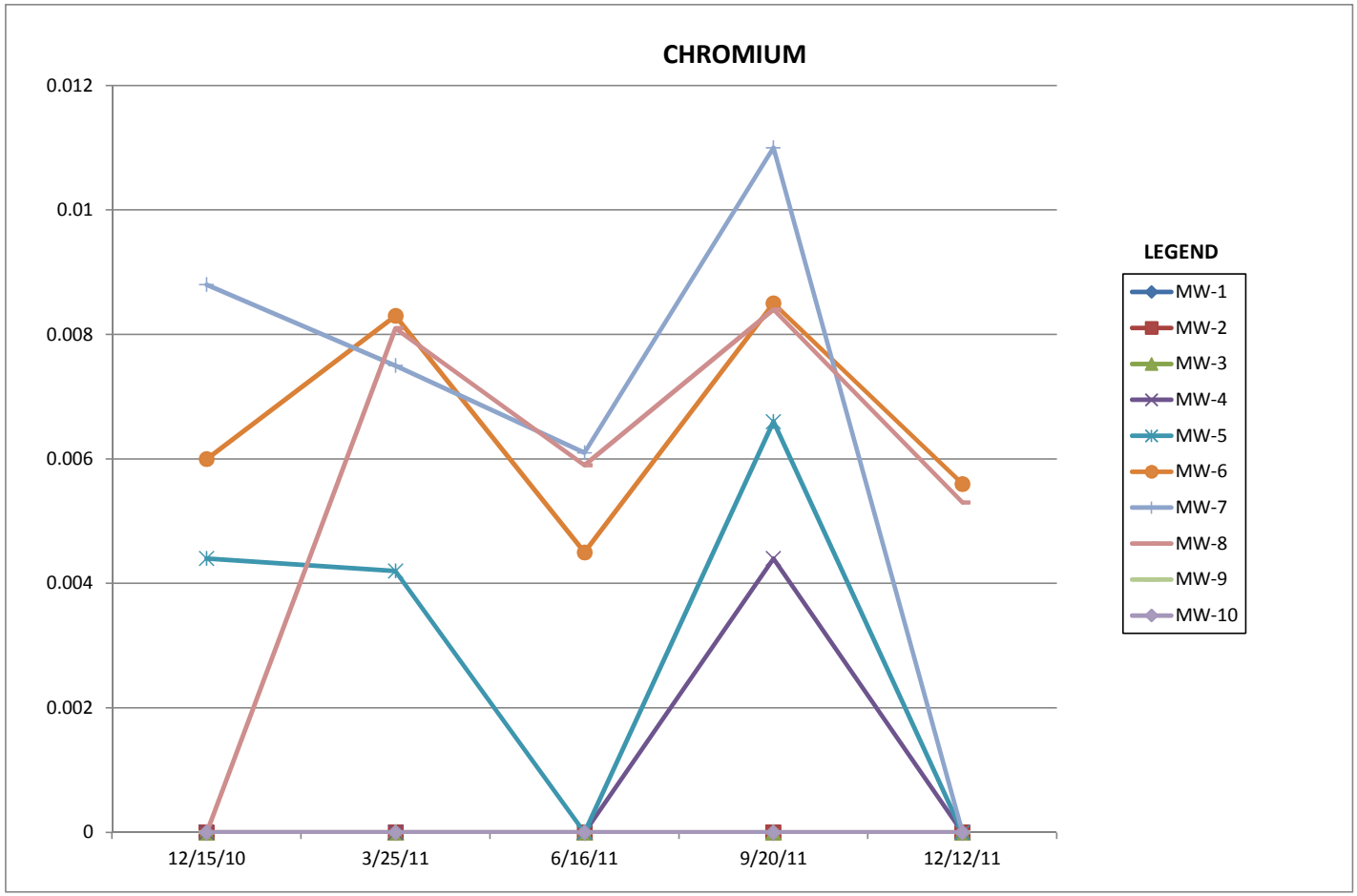
ARSENIC
TREND ANALYSIS CHART
Powerton, Illinois
Midwest Generation
21153.018



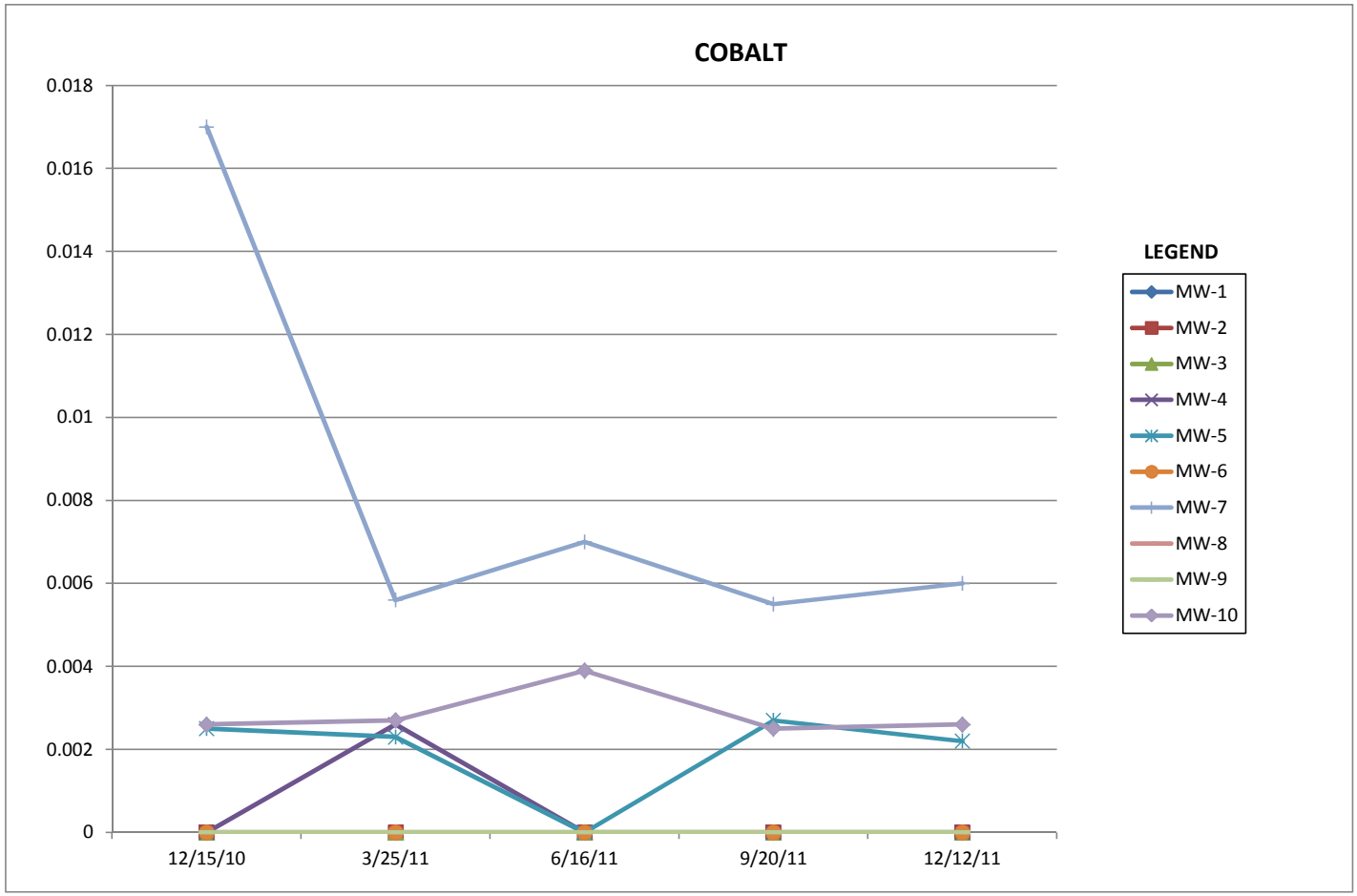
BARIUM
TREND ANALYSIS CHART
Powerton, Illinois
Midwest Generation
21153.018



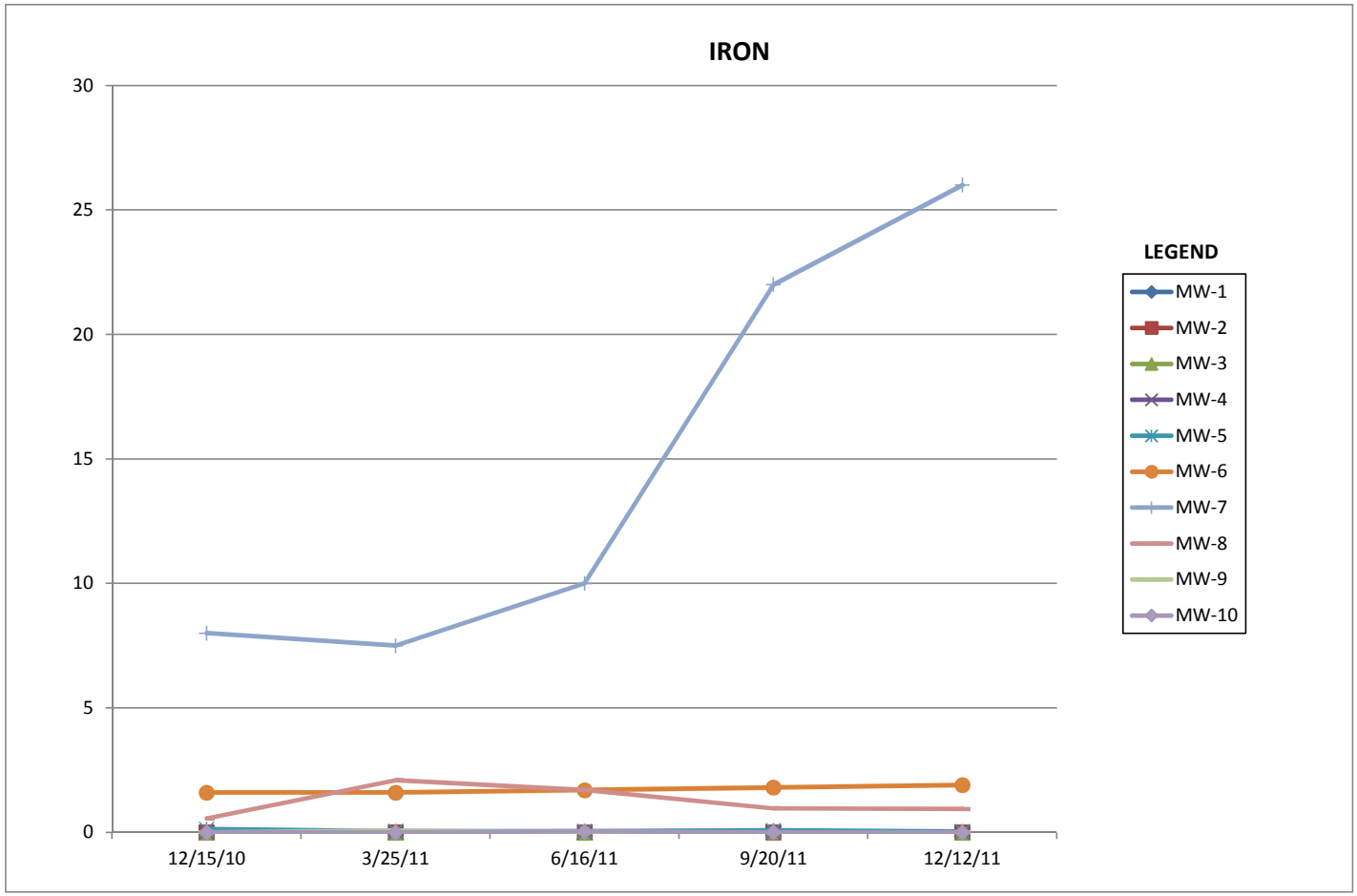
CHROMIUM
TREND ANALYSIS CHART
Powerton, Illinois
Midwest Generation
21153.018



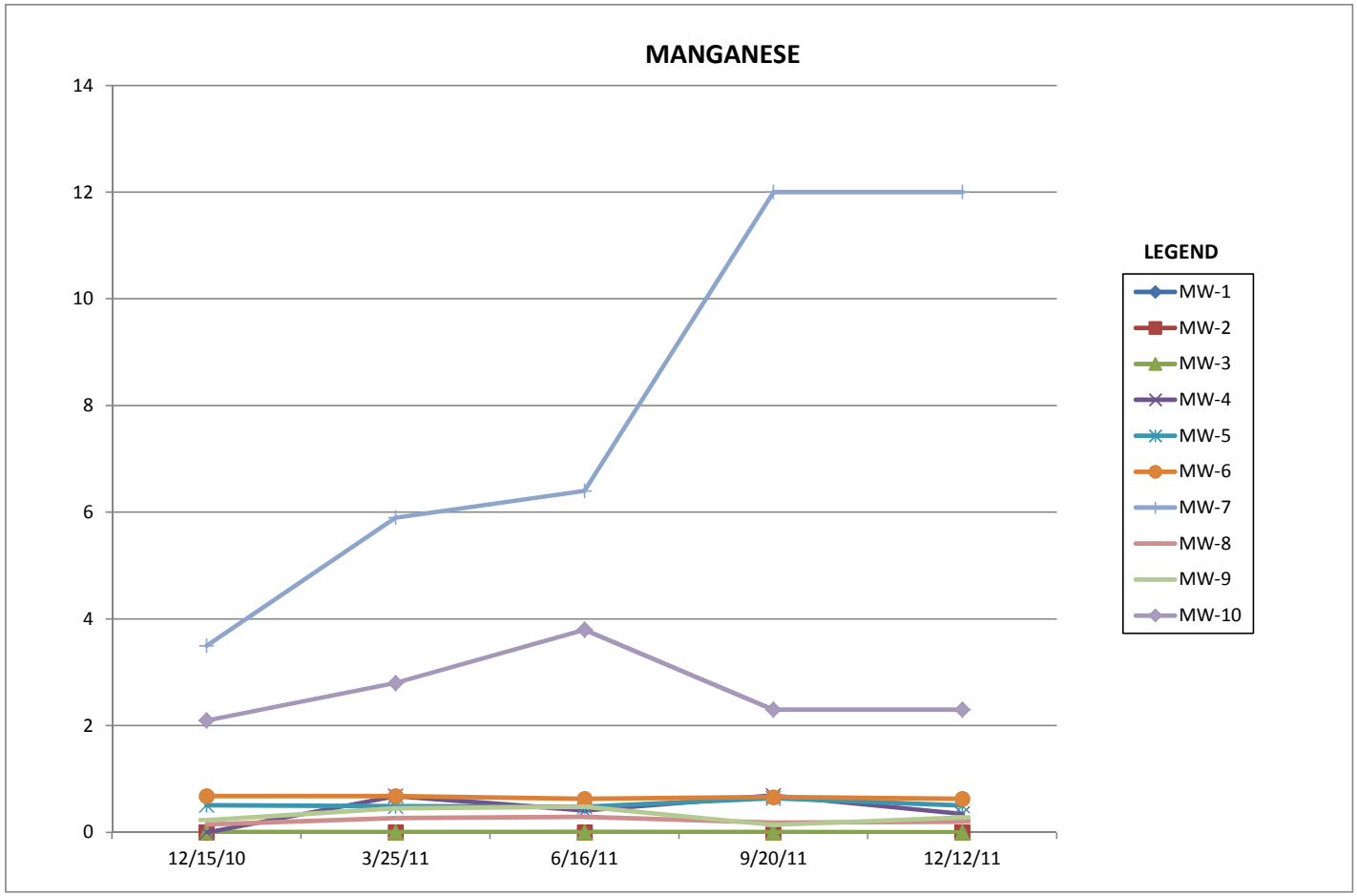
COBALT
TREND ANALYSIS CHART
Powerton, Illinois
Midwest Generation
21153.018



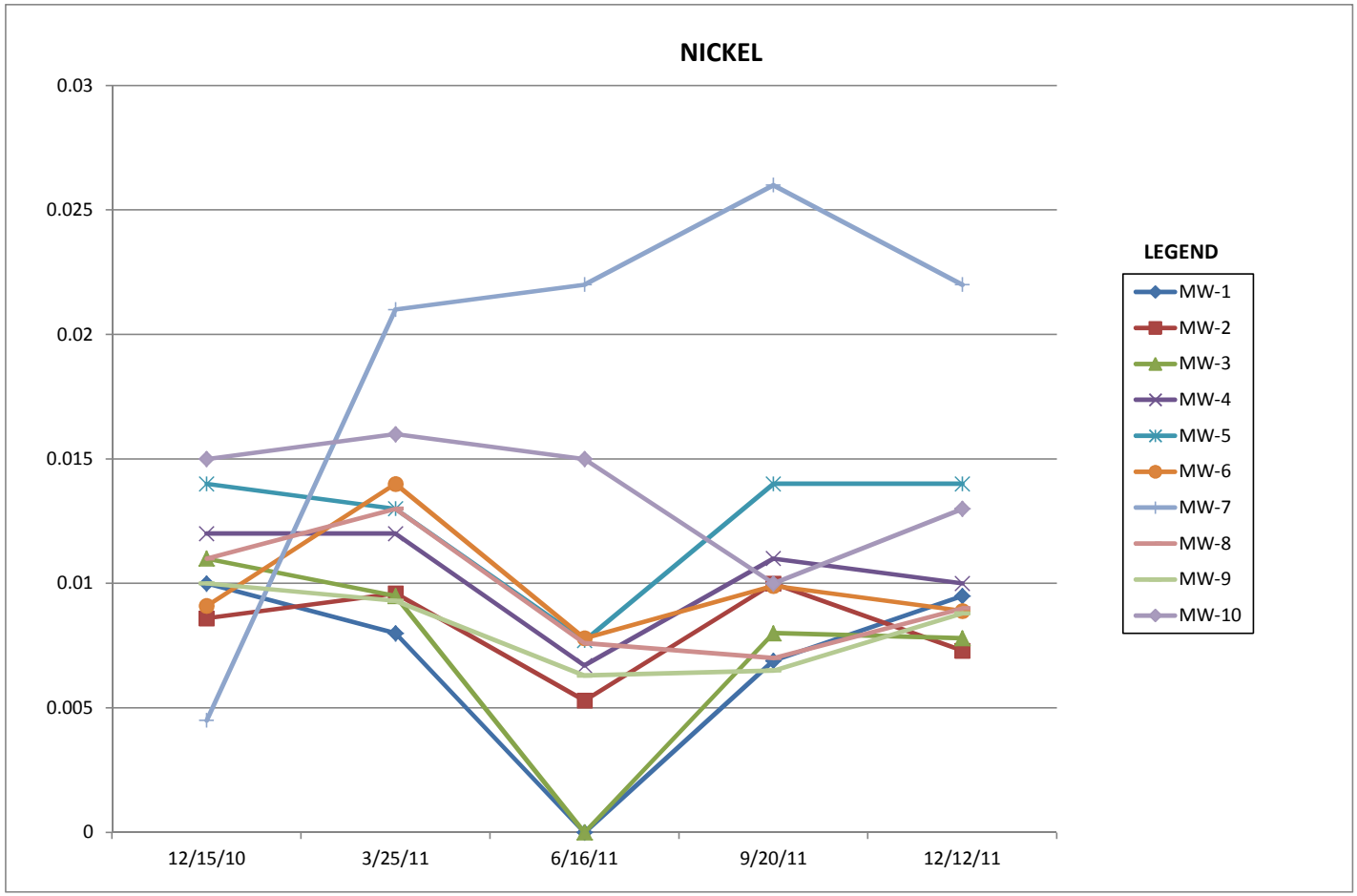
IRON
TREND ANALYSIS CHART
Powerton, Illinois
Midwest Generation
21153.018



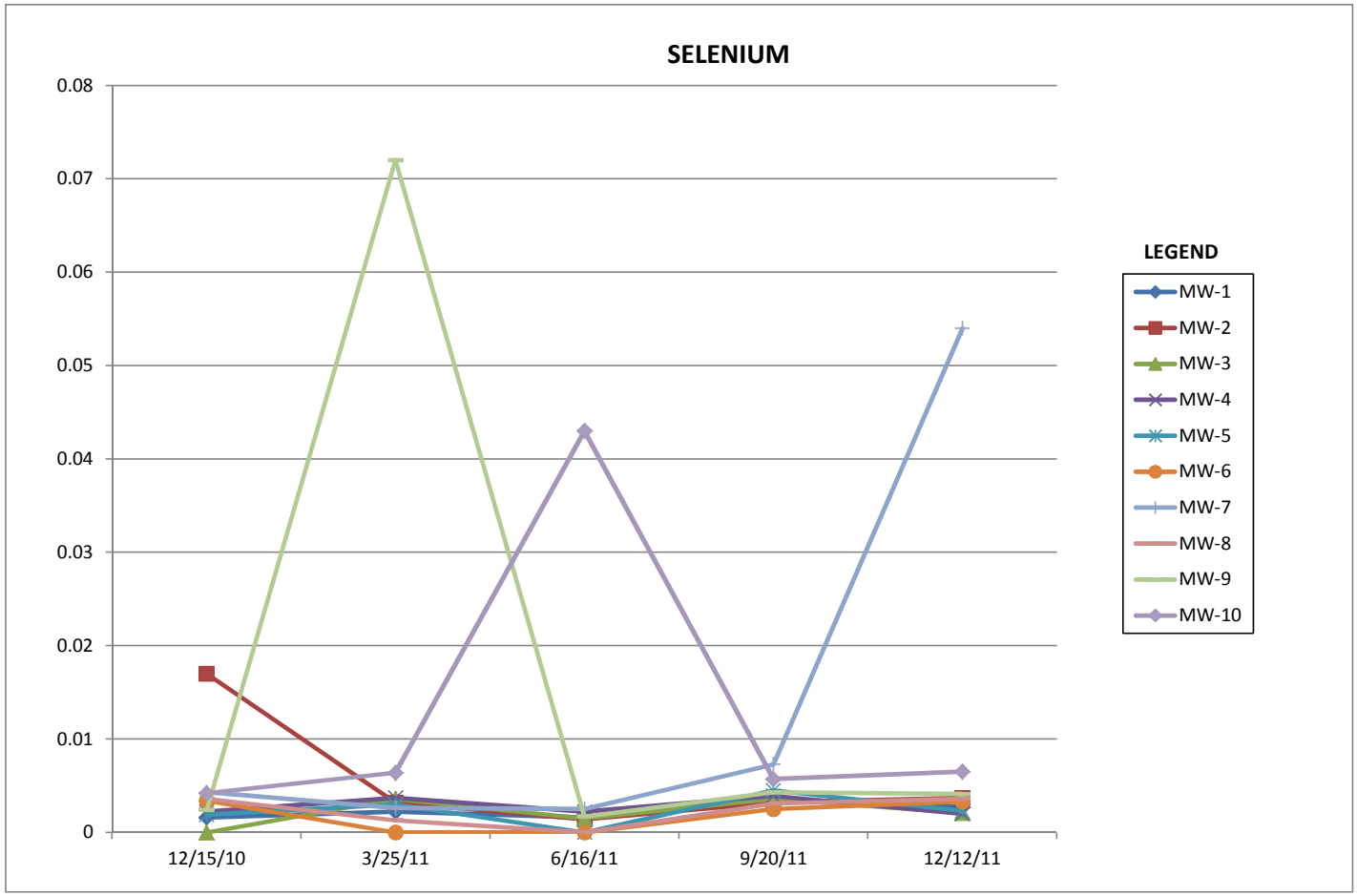
MANGANESE
TREND ANALYSIS CHART
Powerton, Illinois
Midwest Generation
21153.018



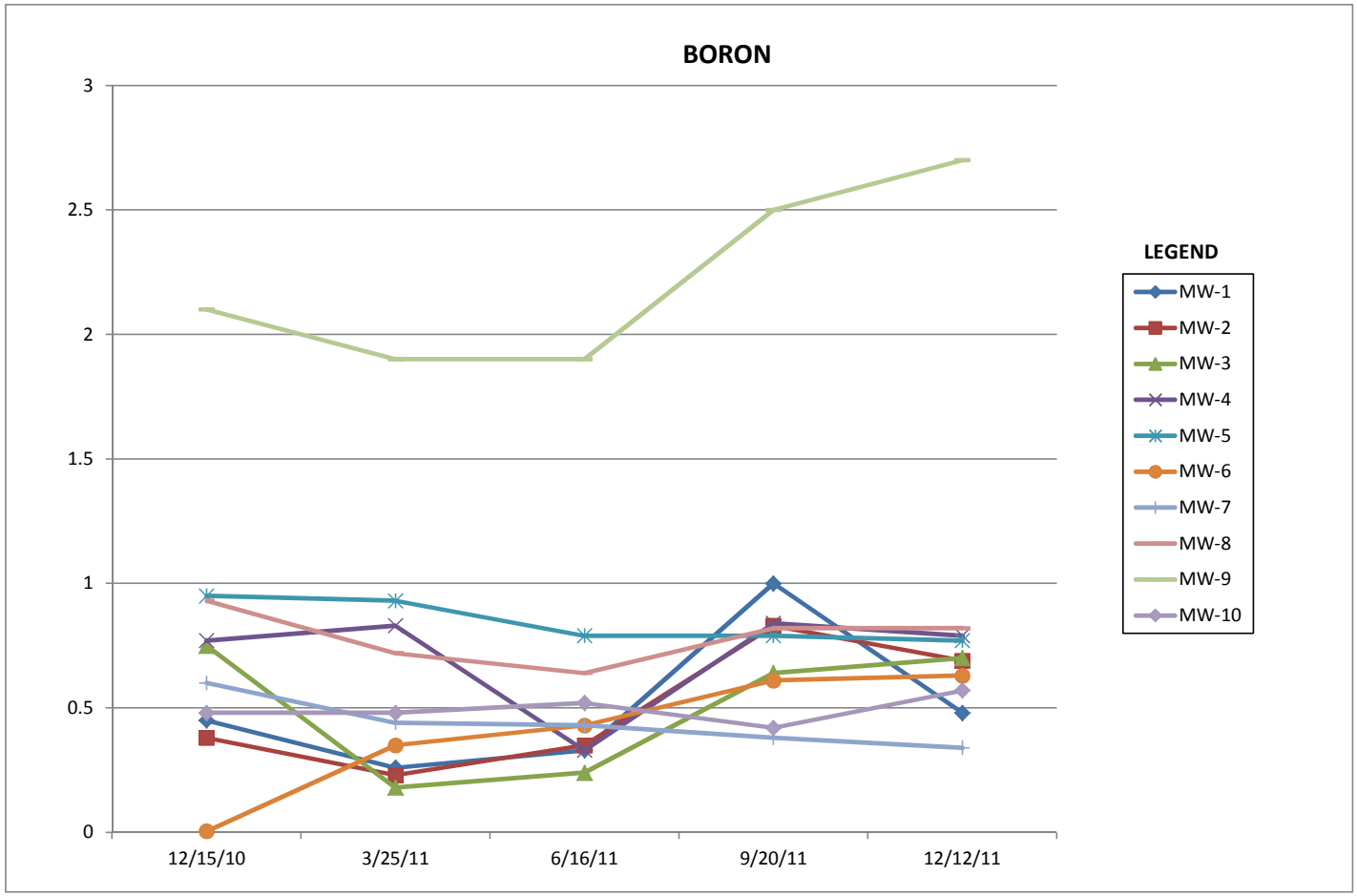
NICKEL
TREND ANALYSIS CHART
Powerton, Illinois
Midwest Generation
21153.018



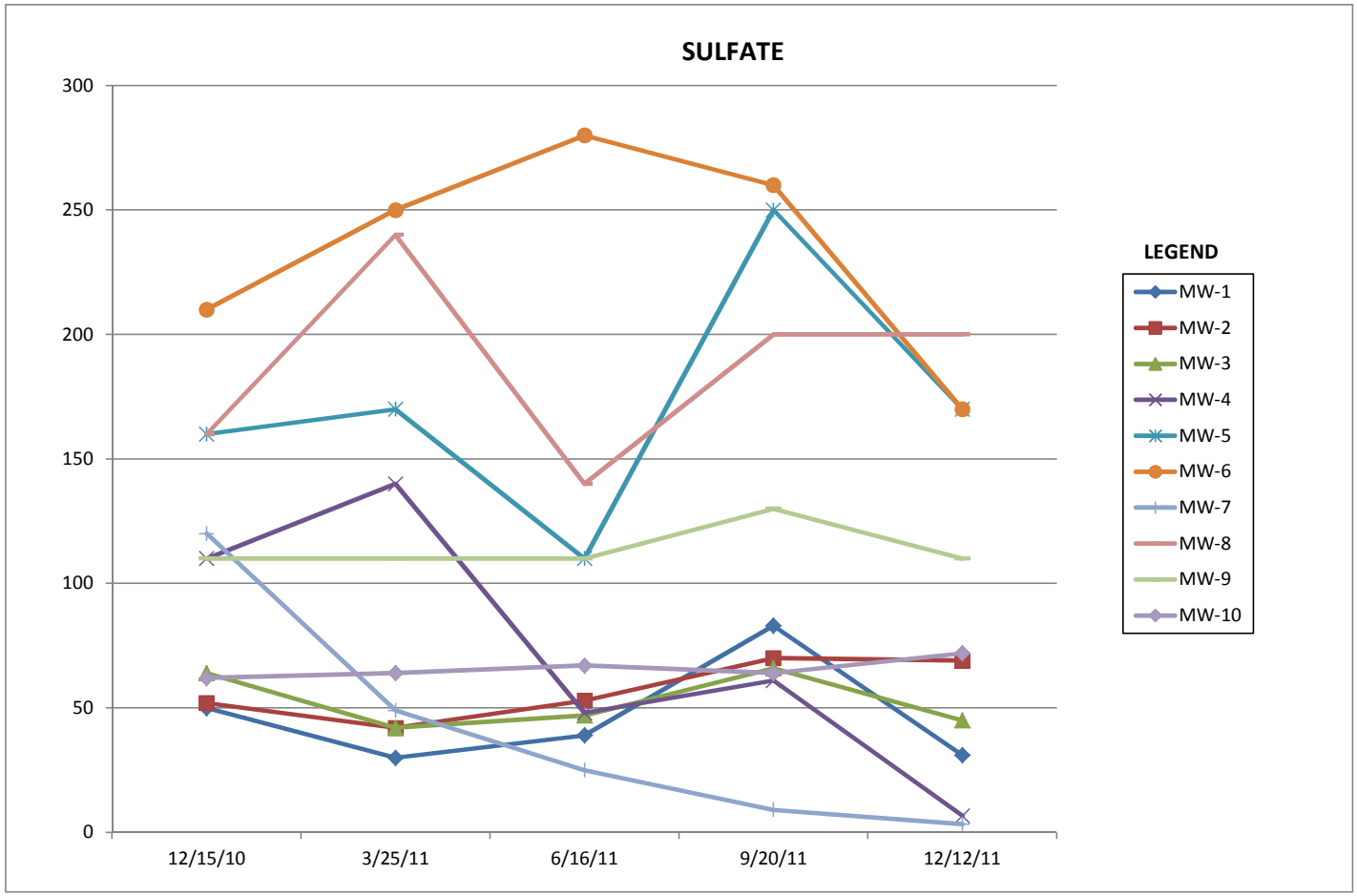
SELENIUM
TREND ANALYSIS CHART
Powerton, Illinois
Midwest Generation
21153.018



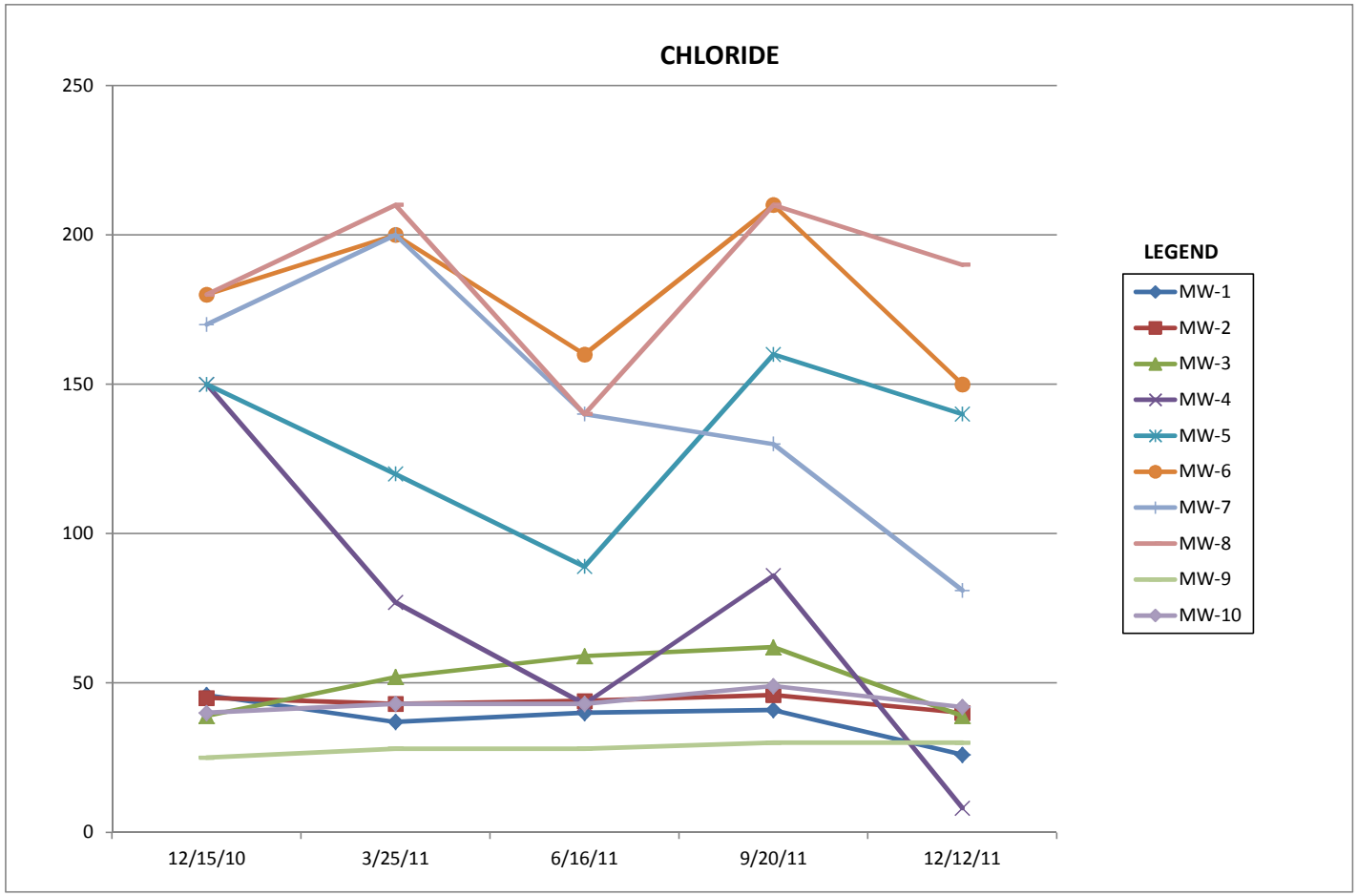
BORON
TREND ANALYSIS CHART
Powerton, Illinois
Midwest Generation
21153.018



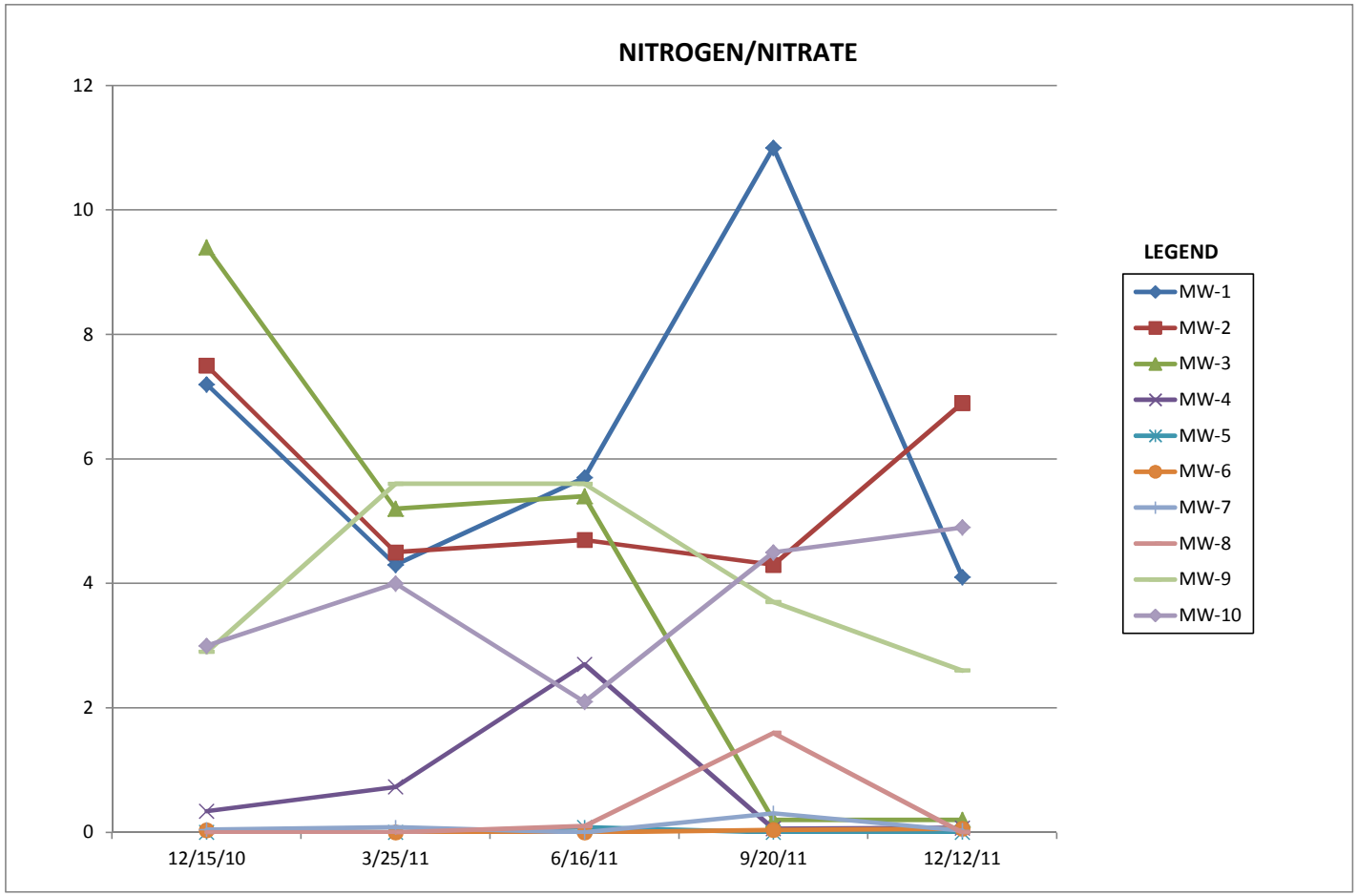
SULFATE
TREND ANALYSIS CHART
Powerton, Illinois
Midwest Generation
21153.018



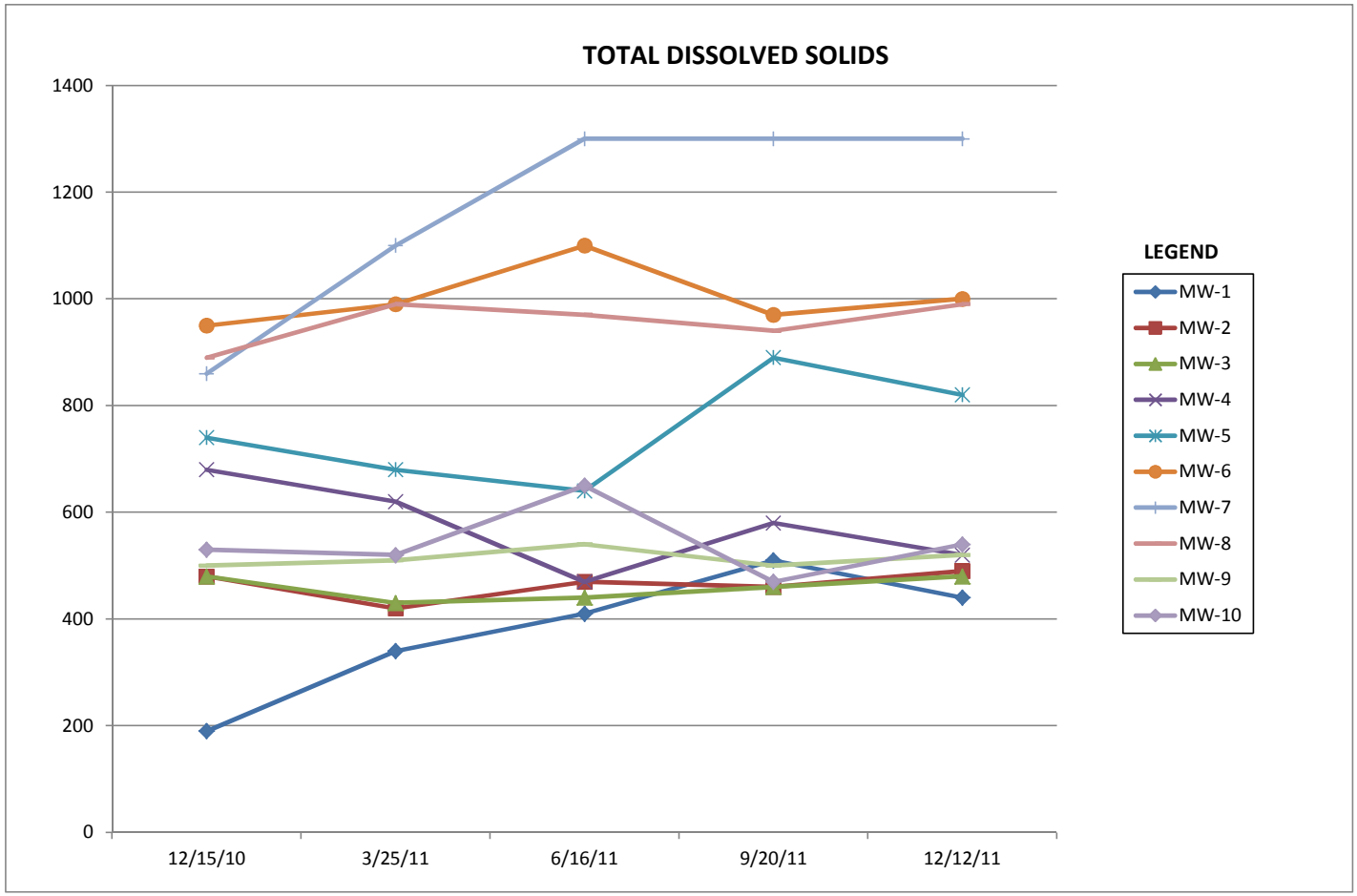
CHLORIDE
TREND ANALYSIS CHART
Powerton, Illinois
Midwest Generation
21153.018



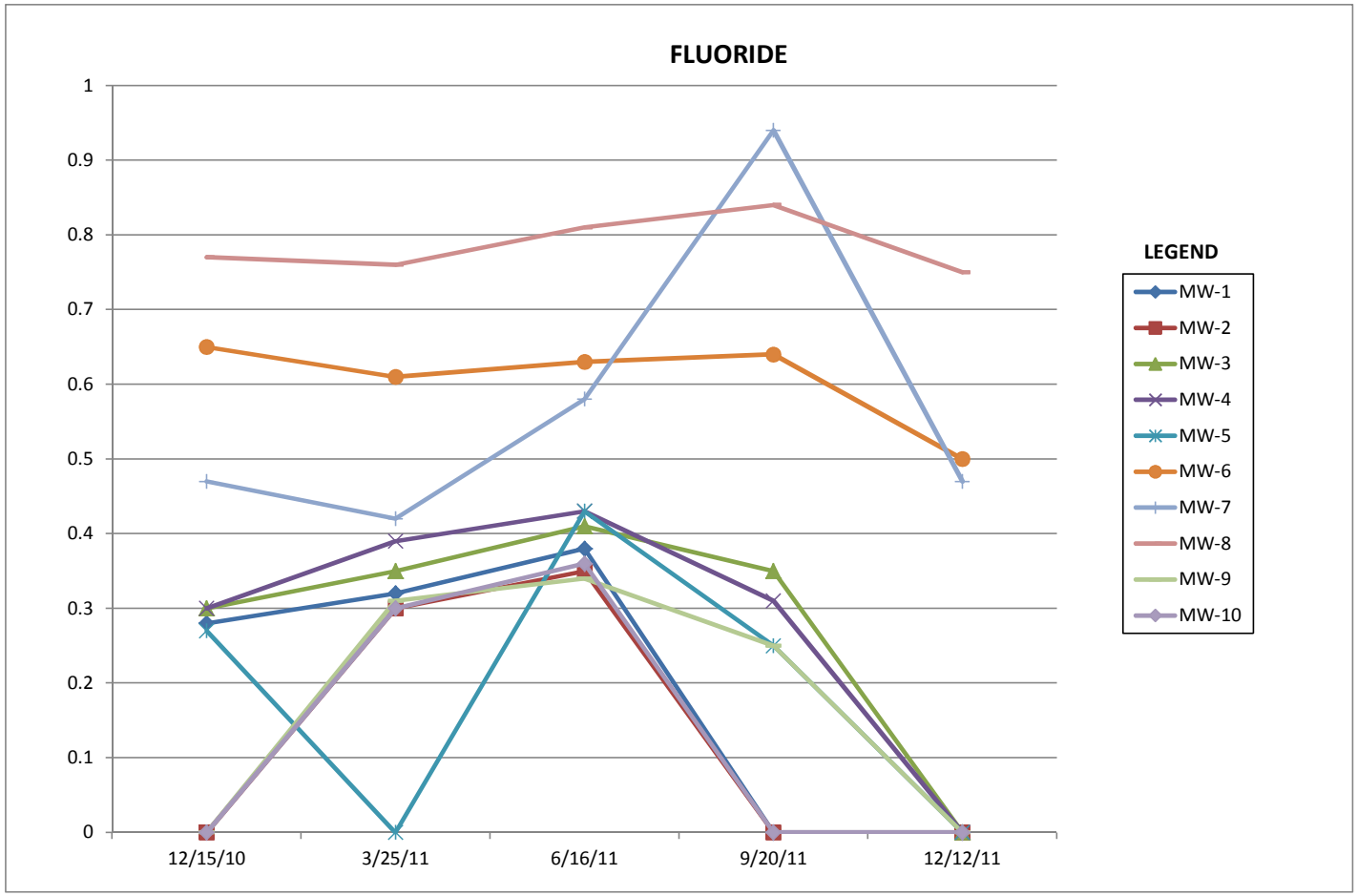
NITROGEN/NITRATE
TREND ANALYSIS CHART
Powerton, Illinois
Midwest Generation
21153.018



TOTAL DISSOLVED SOLIDS
TREND ANALYSIS CHART
Powerton, Illinois
Midwest Generation
21153.018



FLUORIDE
TREND ANALYSIS CHART
Powerton, Illinois
Midwest Generation
21153.018



ATTACHMENT C

LABORATORY ANALYTICAL REPORT

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Sample No: **1121476-01**
Sample Description: **MW-1**

Collect Date: **12/12/11 13:55**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		12/15/11 13:27	lgtth	335.4
Solids - total dissolved solids (TDS)	440 mg/L		12/16/11 11:47	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	26 mg/L		12/13/11 11:25	JFA	EPA 300.0 R2.1
Fluoride	< 0.25 mg/L		12/13/11 10:42	JFA	EPA 300.0 R2.1
Nitrate-N	4.1 mg/L		12/13/11 11:25	JFA	EPA 300.0 R2.1
Sulfate	31 mg/L		12/13/11 11:25	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		01/04/12 17:51	JMW	SW 6020
Arsenic	< 1.0 ug/L		01/04/12 17:51	JMW	SW 6020
Barium	44 ug/L		01/05/12 10:18	JMW	SW 6020
Beryllium	< 1.0 ug/L		01/05/12 12:49	JMW	SW 6020
Boron	480 ug/L		01/06/12 10:38	JMW	SW 6020
Cadmium	< 1.0 ug/L		01/04/12 17:51	JMW	SW 6020
Chromium	< 4.0 ug/L		01/04/12 17:51	JMW	SW 6020
Cobalt	< 2.0 ug/L		01/04/12 17:51	JMW	SW 6020
Copper	< 3.0 ug/L		01/04/12 17:51	JMW	SW 6020
Iron	< 0.010 mg/L		12/19/11 11:35	KJP	SW 6010B
Lead	< 1.0 ug/L		01/04/12 17:51	JMW	SW 6020
Manganese	< 1.0 ug/L		01/05/12 12:49	JMW	SW 6020
Mercury	< 0.20 ug/L		01/04/12 17:51	JMW	SW 6020
Nickel	9.5 ug/L		01/04/12 17:51	JMW	SW 6020
Selenium	2.7 ug/L		01/05/12 12:49	JMW	SW 6020
Silver	< 5.0 ug/L		01/05/12 12:49	JMW	SW 6020
Thallium	< 1.0 ug/L		01/04/12 17:51	JMW	SW 6020
Zinc	< 6.0 ug/L		01/04/12 17:51	JMW	SW 6020

Sample No: **1121476-02**
Sample Description: **MW-2**

Collect Date: **12/12/11 09:45**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		12/15/11 13:32	lgtth	335.4
Solids - total dissolved solids (TDS)	490 mg/L		12/16/11 11:47	BNS	SM 2540C 18Ed

1121476

PDC Laboratories, Inc.
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ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Sample No: **1121476-02**
Sample Description: **MW-2**

Collect Date: **12/12/11 09:45**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Anions - PIA					
Chloride	40 mg/L		12/13/11 11:53	JFA	EPA 300.0 R2.1
Fluoride	< 0.25 mg/L		12/13/11 11:39	JFA	EPA 300.0 R2.1
Nitrate-N	6.9 mg/L		12/13/11 11:53	JFA	EPA 300.0 R2.1
Sulfate	69 mg/L		12/13/11 11:53	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		01/04/12 17:57	JMW	SW 6020
Arsenic	< 1.0 ug/L		01/04/12 17:57	JMW	SW 6020
Barium	66 ug/L		01/05/12 10:21	JMW	SW 6020
Beryllium	< 1.0 ug/L		01/05/12 12:54	JMW	SW 6020
Boron	690 ug/L		01/06/12 10:40	JMW	SW 6020
Cadmium	< 1.0 ug/L		01/04/12 17:57	JMW	SW 6020
Chromium	< 4.0 ug/L		01/04/12 17:57	JMW	SW 6020
Cobalt	< 2.0 ug/L		01/04/12 17:57	JMW	SW 6020
Copper	< 3.0 ug/L		01/04/12 17:57	JMW	SW 6020
Iron	< 0.010 mg/L		12/19/11 11:38	KJP	SW 6010B
Lead	< 1.0 ug/L		01/04/12 17:57	JMW	SW 6020
Manganese	< 1.0 ug/L		01/05/12 12:54	JMW	SW 6020
Mercury	< 0.20 ug/L		01/04/12 17:57	JMW	SW 6020
Nickel	7.3 ug/L		01/04/12 17:57	JMW	SW 6020
Selenium	3.7 ug/L		01/05/12 12:54	JMW	SW 6020
Silver	< 5.0 ug/L		01/05/12 12:54	JMW	SW 6020
Thallium	< 1.0 ug/L		01/04/12 17:57	JMW	SW 6020
Zinc	< 6.0 ug/L		01/04/12 17:57	JMW	SW 6020

Sample No: **1121476-03**
Sample Description: **MW-3**

Collect Date: **12/12/11 10:20**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		12/15/11 13:33	lgtth	335.4
Solids - total dissolved solids (TDS)	480 mg/L		12/16/11 11:47	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	39 mg/L		12/13/11 12:21	JFA	EPA 300.0 R2.1
Fluoride	< 0.25 mg/L		12/13/11 12:07	JFA	EPA 300.0 R2.1

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ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Sample No: **1121476-03**
Sample Description: **MW-3**

Collect Date: **12/12/11 10:20**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Anions - PIA					
Nitrate-N	0.20 mg/L		12/13/11 12:07	JFA	EPA 300.0 R2.1
Sulfate	45 mg/L		12/13/11 12:21	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		01/04/12 18:03	JMW	SW 6020
Arsenic	1.2 ug/L		01/04/12 18:03	JMW	SW 6020
Barium	76 ug/L		01/05/12 10:24	JMW	SW 6020
Beryllium	< 1.0 ug/L		01/05/12 12:59	JMW	SW 6020
Boron	700 ug/L		01/06/12 10:43	JMW	SW 6020
Cadmium	< 1.0 ug/L		01/04/12 18:03	JMW	SW 6020
Chromium	< 4.0 ug/L		01/04/12 18:03	JMW	SW 6020
Cobalt	< 2.0 ug/L		01/04/12 18:03	JMW	SW 6020
Copper	4.2 ug/L		01/04/12 18:03	JMW	SW 6020
Iron	< 0.010 mg/L		12/19/11 11:41	KJP	SW 6010B
Lead	< 1.0 ug/L		01/04/12 18:03	JMW	SW 6020
Manganese	1.4 ug/L		01/05/12 12:59	JMW	SW 6020
Mercury	< 0.20 ug/L		01/04/12 18:03	JMW	SW 6020
Nickel	7.8 ug/L		01/04/12 18:03	JMW	SW 6020
Selenium	2.1 ug/L		01/05/12 12:59	JMW	SW 6020
Silver	< 5.0 ug/L		01/05/12 12:59	JMW	SW 6020
Thallium	< 1.0 ug/L		01/04/12 18:03	JMW	SW 6020
Zinc	< 6.0 ug/L		01/04/12 18:03	JMW	SW 6020

Sample No: **1121476-04**
Sample Description: **MW-4**

Collect Date: **12/12/11 11:00**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		12/20/11 06:51	lgtth	335.4
Solids - total dissolved solids (TDS)	520 mg/L		12/16/11 11:47	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	8.1 mg/L		12/13/11 12:35	JFA	EPA 300.0 R2.1
Fluoride	< 0.25 mg/L		12/13/11 12:35	JFA	EPA 300.0 R2.1
Nitrate-N	0.07 mg/L		12/13/11 12:35	JFA	EPA 300.0 R2.1
Sulfate	6.7 mg/L		12/13/11 12:35	JFA	EPA 300.0 R2.1

1121476

PDC Laboratories, Inc.
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(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Sample No: **1121476-04**
Sample Description: **MW-4**

Collect Date: **12/12/11 11:00**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		01/04/12 18:09	JMW	SW 6020
Arsenic	< 1.0 ug/L		01/04/12 18:09	JMW	SW 6020
Barium	48 ug/L		01/05/12 10:27	JMW	SW 6020
Beryllium	< 1.0 ug/L		01/05/12 13:04	JMW	SW 6020
Boron	790 ug/L		01/06/12 10:46	JMW	SW 6020
Cadmium	< 1.0 ug/L		01/04/12 18:09	JMW	SW 6020
Chromium	< 4.0 ug/L		01/04/12 18:09	JMW	SW 6020
Cobalt	< 2.0 ug/L		01/04/12 18:09	JMW	SW 6020
Copper	10 ug/L		01/04/12 18:09	JMW	SW 6020
Iron	< 0.010 mg/L		12/19/11 11:54	KJP	SW 6010B
Lead	< 1.0 ug/L		01/04/12 18:09	JMW	SW 6020
Manganese	350 ug/L		01/05/12 13:04	JMW	SW 6020
Mercury	< 0.20 ug/L		01/04/12 18:09	JMW	SW 6020
Nickel	10 ug/L		01/04/12 18:09	JMW	SW 6020
Selenium	2.0 ug/L		01/05/12 13:04	JMW	SW 6020
Silver	< 5.0 ug/L		01/05/12 13:04	JMW	SW 6020
Thallium	< 1.0 ug/L		01/04/12 18:09	JMW	SW 6020
Zinc	< 6.0 ug/L		01/04/12 18:09	JMW	SW 6020

Sample No: **1121476-05**
Sample Description: **MW-5**

Collect Date: **12/12/11 11:40**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		12/15/11 13:34	lgtth	335.4
Solids - total dissolved solids (TDS)	820 mg/L		12/16/11 11:47	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	140 mg/L		12/15/11 11:34	SJW	EPA 300.0 R2.1
Fluoride	< 0.25 mg/L		12/13/11 13:31	JFA	EPA 300.0 R2.1
Nitrate-N	< 0.02 mg/L		12/13/11 13:31	JFA	EPA 300.0 R2.1
Sulfate	170 mg/L		12/15/11 11:34	SJW	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		01/04/12 18:15	JMW	SW 6020
Arsenic	1.0 ug/L		01/04/12 18:15	JMW	SW 6020

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Sample No: **1121476-05**
Sample Description: **MW-5**

Collect Date: **12/12/11 11:40**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Barium	65 ug/L		01/05/12 10:30	JMW	SW 6020
Beryllium	< 1.0 ug/L		01/05/12 13:09	JMW	SW 6020
Boron	770 ug/L		01/06/12 10:48	JMW	SW 6020
Cadmium	< 1.0 ug/L		01/04/12 18:15	JMW	SW 6020
Chromium	< 4.0 ug/L		01/04/12 18:15	JMW	SW 6020
Cobalt	2.2 ug/L		01/04/12 18:15	JMW	SW 6020
Copper	6.1 ug/L		01/04/12 18:15	JMW	SW 6020
Iron	0.036 mg/L		12/19/11 11:57	KJP	SW 6010B
Lead	< 1.0 ug/L		01/04/12 18:15	JMW	SW 6020
Manganese	500 ug/L		01/05/12 13:09	JMW	SW 6020
Mercury	< 0.20 ug/L		01/04/12 18:15	JMW	SW 6020
Nickel	14 ug/L		01/04/12 18:15	JMW	SW 6020
Selenium	2.3 ug/L		01/05/12 13:09	JMW	SW 6020
Silver	< 5.0 ug/L		01/05/12 13:09	JMW	SW 6020
Thallium	< 1.0 ug/L		01/04/12 18:15	JMW	SW 6020
Zinc	< 6.0 ug/L		01/04/12 18:15	JMW	SW 6020

Sample No: **1121476-06**
Sample Description: **MW-6**

Collect Date: **12/12/11 13:15**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		12/15/11 13:35	lgtth	335.4
Solids - total dissolved solids (TDS)	1000 mg/L		12/16/11 11:47	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	150 mg/L		12/13/11 14:14	JFA	EPA 300.0 R2.1
Fluoride	0.50 mg/L		12/13/11 13:59	JFA	EPA 300.0 R2.1
Nitrate-N	0.06 mg/L		12/13/11 13:59	JFA	EPA 300.0 R2.1
Sulfate	170 mg/L		12/13/11 14:14	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		01/04/12 18:21	JMW	SW 6020
Arsenic	3.6 ug/L		01/04/12 18:21	JMW	SW 6020
Barium	120 ug/L		01/05/12 10:33	JMW	SW 6020
Beryllium	< 1.0 ug/L		01/05/12 13:13	JMW	SW 6020

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(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Sample No: **1121476-06**
Sample Description: **MW-6**

Collect Date: **12/12/11 13:15**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Boron	630 ug/L		01/06/12 10:51	JMW	SW 6020
Cadmium	< 1.0 ug/L		01/04/12 18:21	JMW	SW 6020
Chromium	5.6 ug/L		01/04/12 18:21	JMW	SW 6020
Cobalt	< 2.0 ug/L		01/04/12 18:21	JMW	SW 6020
Copper	< 3.0 ug/L		01/04/12 18:21	JMW	SW 6020
Iron	1.9 mg/L		12/19/11 11:59	KJP	SW 6010B
Lead	< 1.0 ug/L		01/04/12 18:21	JMW	SW 6020
Manganese	630 ug/L		01/05/12 13:13	JMW	SW 6020
Mercury	< 0.20 ug/L		01/04/12 18:21	JMW	SW 6020
Nickel	8.9 ug/L		01/04/12 18:21	JMW	SW 6020
Selenium	3.3 ug/L		01/05/12 13:13	JMW	SW 6020
Silver	< 5.0 ug/L		01/05/12 13:13	JMW	SW 6020
Thallium	< 1.0 ug/L		01/04/12 18:21	JMW	SW 6020
Zinc	< 6.0 ug/L		01/04/12 18:21	JMW	SW 6020

Sample No: **1121476-07**
Sample Description: **MW-7**

Collect Date: **12/12/11 12:30**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		12/15/11 13:36	lgtth	335.4
Solids - total dissolved solids (TDS)	1300 mg/L		12/16/11 11:47	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	81 mg/L		12/13/11 14:42	JFA	EPA 300.0 R2.1
Fluoride	0.47 mg/L		12/13/11 14:28	JFA	EPA 300.0 R2.1
Nitrate-N	0.03 mg/L		12/13/11 14:28	JFA	EPA 300.0 R2.1
Sulfate	3.3 mg/L		12/13/11 14:28	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		01/04/12 19:11	JMW	SW 6020
Arsenic	230 ug/L		01/04/12 19:11	JMW	SW 6020
Barium	590 ug/L		01/05/12 10:58	JMW	SW 6020
Beryllium	< 1.0 ug/L		01/06/12 11:12	JMW	SW 6020
Boron	340 ug/L		01/06/12 11:12	JMW	SW 6020
Cadmium	< 1.0 ug/L		01/05/12 13:59	JMW	SW 6020

1121476

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Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Sample No: **1121476-07**
Sample Description: **MW-7**

Collect Date: **12/12/11 12:30**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Chromium	< 4.0 ug/L		01/04/12 19:11	JMW	SW 6020
Cobalt	6.0 ug/L		01/04/12 19:11	JMW	SW 6020
Copper	< 3.0 ug/L		01/04/12 19:11	JMW	SW 6020
Iron	26 mg/L		12/19/11 12:01	KJP	SW 6010B
Lead	< 1.0 ug/L		01/04/12 19:11	JMW	SW 6020
Manganese	12000 ug/L		01/05/12 13:59	JMW	SW 6020
Mercury	< 0.20 ug/L		01/04/12 19:11	JMW	SW 6020
Nickel	22 ug/L		01/04/12 19:11	JMW	SW 6020
Selenium	5.4 ug/L		01/05/12 13:59	JMW	SW 6020
Silver	< 5.0 ug/L		01/05/12 13:59	JMW	SW 6020
Thallium	< 1.0 ug/L		01/04/12 19:11	JMW	SW 6020
Zinc	< 6.0 ug/L		01/04/12 19:11	JMW	SW 6020

Sample No: **1121476-08**
Sample Description: **MW-8**

Collect Date: **12/12/11 17:15**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		12/15/11 13:39	lgtth	335.4
Solids - total dissolved solids (TDS)	990 mg/L		12/16/11 11:47	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	190 mg/L		12/13/11 15:24	JFA	EPA 300.0 R2.1
Fluoride	0.75 mg/L		12/13/11 15:10	JFA	EPA 300.0 R2.1
Nitrate-N	< 0.02 mg/L		12/13/11 15:10	JFA	EPA 300.0 R2.1
Sulfate	200 mg/L		12/13/11 15:24	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		01/04/12 19:17	JMW	SW 6020
Arsenic	5.2 ug/L		01/04/12 19:17	JMW	SW 6020
Barium	130 ug/L		01/05/12 11:01	JMW	SW 6020
Beryllium	< 1.0 ug/L		01/06/12 11:15	JMW	SW 6020
Boron	820 ug/L		01/06/12 11:15	JMW	SW 6020
Cadmium	< 1.0 ug/L		01/05/12 14:04	JMW	SW 6020
Chromium	5.3 ug/L		01/04/12 19:17	JMW	SW 6020
Cobalt	< 2.0 ug/L		01/04/12 19:17	JMW	SW 6020

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Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Sample No: **1121476-08**
Sample Description: **MW-8**

Collect Date: **12/12/11 17:15**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Copper	10 ug/L		01/04/12 19:17	JMW	SW 6020
Iron	0.94 mg/L		12/19/11 12:04	KJP	SW 6010B
Lead	< 1.0 ug/L		01/04/12 19:17	JMW	SW 6020
Manganese	200 ug/L		01/05/12 14:04	JMW	SW 6020
Mercury	< 0.20 ug/L		01/04/12 19:17	JMW	SW 6020
Nickel	9.0 ug/L		01/04/12 19:17	JMW	SW 6020
Selenium	3.6 ug/L		01/05/12 14:04	JMW	SW 6020
Silver	< 5.0 ug/L		01/05/12 14:04	JMW	SW 6020
Thallium	< 1.0 ug/L		01/04/12 19:17	JMW	SW 6020
Zinc	< 6.0 ug/L		01/04/12 19:17	JMW	SW 6020

Sample No: **1121476-09**
Sample Description: **MW-9**

Collect Date: **12/12/11 15:25**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		12/15/11 13:45	lgtth	335.4
Solids - total dissolved solids (TDS)	520 mg/L		12/16/11 11:47	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	30 mg/L		12/13/11 16:20	JFA	EPA 300.0 R2.1
Fluoride	< 0.25 mg/L		12/13/11 15:38	JFA	EPA 300.0 R2.1
Nitrate-N	2.6 mg/L		12/13/11 16:20	JFA	EPA 300.0 R2.1
Sulfate	110 mg/L		12/13/11 16:20	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		01/04/12 19:23	JMW	SW 6020
Arsenic	1.2 ug/L		01/04/12 19:23	JMW	SW 6020
Barium	38 ug/L		01/05/12 11:04	JMW	SW 6020
Beryllium	< 1.0 ug/L		01/06/12 11:18	JMW	SW 6020
Boron	2700 ug/L		01/06/12 11:18	JMW	SW 6020
Cadmium	< 1.0 ug/L		01/05/12 14:09	JMW	SW 6020
Chromium	< 4.0 ug/L		01/04/12 19:23	JMW	SW 6020
Cobalt	< 2.0 ug/L		01/04/12 19:23	JMW	SW 6020
Copper	< 3.0 ug/L		01/04/12 19:23	JMW	SW 6020
Iron	< 0.010 mg/L		12/19/11 12:07	KJP	SW 6010B

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Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Sample No: **1121476-09**
Sample Description: **MW-9**

Collect Date: **12/12/11 15:25**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Lead	< 1.0 ug/L		01/04/12 19:23	JMW	SW 6020
Manganese	280 ug/L		01/05/12 14:09	JMW	SW 6020
Mercury	< 0.20 ug/L		01/04/12 19:23	JMW	SW 6020
Nickel	8.8 ug/L		01/04/12 19:23	JMW	SW 6020
Selenium	4.1 ug/L		01/05/12 14:09	JMW	SW 6020
Silver	< 5.0 ug/L		01/05/12 14:09	JMW	SW 6020
Thallium	< 1.0 ug/L		01/04/12 19:23	JMW	SW 6020
Zinc	< 6.0 ug/L		01/04/12 19:23	JMW	SW 6020

Sample No: **1121476-10**
Sample Description: **MW-10**

Collect Date: **12/12/11 14:45**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		12/15/11 13:46	lgtth	335.4
Solids - total dissolved solids (TDS)	540 mg/L		12/16/11 11:47	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	42 mg/L		12/13/11 16:49	JFA	EPA 300.0 R2.1
Fluoride	< 0.25 mg/L		12/13/11 16:35	JFA	EPA 300.0 R2.1
Nitrate-N	4.9 mg/L		12/13/11 16:49	JFA	EPA 300.0 R2.1
Sulfate	72 mg/L		12/13/11 16:49	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		01/04/12 19:29	JMW	SW 6020
Arsenic	< 1.0 ug/L		01/04/12 19:29	JMW	SW 6020
Barium	260 ug/L		01/05/12 11:07	JMW	SW 6020
Beryllium	< 1.0 ug/L		01/06/12 11:21	JMW	SW 6020
Boron	570 ug/L		01/06/12 11:21	JMW	SW 6020
Cadmium	< 1.0 ug/L		01/05/12 14:14	JMW	SW 6020
Chromium	< 4.0 ug/L		01/04/12 19:29	JMW	SW 6020
Cobalt	2.6 ug/L		01/04/12 19:29	JMW	SW 6020
Copper	4.1 ug/L		01/04/12 19:29	JMW	SW 6020
Iron	< 0.010 mg/L		12/19/11 12:10	KJP	SW 6010B
Lead	< 1.0 ug/L		01/04/12 19:29	JMW	SW 6020
Manganese	2300 ug/L		01/05/12 14:14	JMW	SW 6020

1121476

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Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Sample No: **1121476-10**
Sample Description: **MW-10**

Collect Date: **12/12/11 14:45**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
Soluble Metals - PIA					
Mercury	< 0.20 ug/L		01/04/12 19:29	JMW	SW 6020
Nickel	13 ug/L		01/04/12 19:29	JMW	SW 6020
Selenium	6.5 ug/L		01/05/12 14:14	JMW	SW 6020
Silver	< 5.0 ug/L		01/05/12 14:14	JMW	SW 6020
Thallium	< 1.0 ug/L		01/04/12 19:29	JMW	SW 6020
Zinc	< 6.0 ug/L		01/04/12 19:29	JMW	SW 6020

Sample No: **1121476-11**
Sample Description: **MW-11**

Collect Date: **12/12/11 15:50**
Matrix: **Ground Water Grab**

Parameters	Result	Qual	Analysis Date	Analyst	Method
General Chemistry - PIA					
Cyanide	< 0.0050 mg/L		12/15/11 13:47	lgtth	335.4
Solids - total dissolved solids (TDS)	730 mg/L		12/16/11 11:47	BNS	SM 2540C 18Ed
Soluble Anions - PIA					
Chloride	87 mg/L		12/13/11 17:45	JFA	EPA 300.0 R2.1
Fluoride	0.44 mg/L		12/13/11 17:03	JFA	EPA 300.0 R2.1
Nitrate-N	1.5 mg/L		12/13/11 17:03	JFA	EPA 300.0 R2.1
Sulfate	160 mg/L		12/13/11 17:45	JFA	EPA 300.0 R2.1
Soluble Metals - PIA					
Antimony	< 3.0 ug/L		01/04/12 19:35	JMW	SW 6020
Arsenic	1.9 ug/L		01/04/12 19:35	JMW	SW 6020
Barium	110 ug/L		01/05/12 11:10	JMW	SW 6020
Beryllium	< 1.0 ug/L		01/06/12 11:23	JMW	SW 6020
Boron	1800 ug/L		01/06/12 11:23	JMW	SW 6020
Cadmium	< 1.0 ug/L		01/05/12 14:19	JMW	SW 6020
Chromium	< 4.0 ug/L		01/04/12 19:35	JMW	SW 6020
Cobalt	< 2.0 ug/L		01/04/12 19:35	JMW	SW 6020
Copper	< 3.0 ug/L		01/04/12 19:35	JMW	SW 6020
Iron	< 0.010 mg/L		12/19/11 12:12	KJP	SW 6010B
Lead	< 1.0 ug/L		01/04/12 19:35	JMW	SW 6020
Manganese	2500 ug/L		01/05/12 14:19	JMW	SW 6020
Mercury	< 0.20 ug/L		01/04/12 19:35	JMW	SW 6020
Nickel	13 ug/L		01/04/12 19:35	JMW	SW 6020

1121476

CHAIN OF CUSTODY RECORD

PDC LABORATORIES, INC.
2231 WEST ALTORFER DRIVE
PEORIA, IL 61615

PHONE # 800-752-6651
FAX # 309-692-9689

State where samples collected IL

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT) - (SAMPLE ACCEPTANCE POLICY ON REVERSE)

1 CLIENT: Patrick Engineering
ADDRESS: 4295 Varsity Dr
CITY STATE ZIP: Lisle, IL 60532
CONTACT PERSON: Dana McCoy

PROJECT NUMBER | P.O. NUMBER | MEANS SHIPPED
PHONE NUMBER | FAX NUMBER | DATE SHIPPED
SAMPLER (PLEASE PRINT): Justin Peterson
SAMPLERS SIGNATURE:

MATRIX TYPES:
WW-WASTEWATER
DW-DRINKING WATER
GW-GROUND WATER
WWSL-SLUDGE
NAS-SOLID
LCHT-LEACHATE
OTHER:

3 ANALYSIS REQUESTED

4 (FOR LAB USE ONLY)
LOGIN # 1121476-15
LOGGED BY: BSL
LAB PROJ. #
TEMPLATE:
PROJ. MGR.:

2 SAMPLE DESCRIPTION AS YOU WANT ON REPORT	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE GRAB	SAMPLE TYPE COMP	MATRIX TYPE	BOTTLE COUNT	Dissolved Metals	Cyanide	Alk, F, NO3, SO4, Diss.	Total Diss. Solids	Radium 226/228	REMARKS
MW-1	12/12/11	1355			GW	4	X	X	X	X		
MW-2		0945										
MW-3		1020										
MW-4		1100										
MW-5		1140										
MW-6		1315										
MW-7		1235										
MW-8		1715				↓						
MW-9		1525				5					X	
MW-10		1445				4						
MW-11		1550				5					X	
MW-12		1630			↓	5	↓	↓	↓	↓	X	

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
DATE RESULTS NEEDED
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE E-MAIL
FAX # PHONE # EMAIL ADDRESS

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.*

7 RELINQUISHED BY: (SIGNATURE) — DATE 12/13/11 TIME 0830
RECEIVED BY: (SIGNATURE) — DATE 12/13/11 TIME 0830
RELINQUISHED BY: (SIGNATURE) — DATE TIME
RECEIVED BY: (SIGNATURE) — DATE TIME
RELINQUISHED BY: (SIGNATURE) — DATE TIME
RECEIVED AT LAB BY: (SIGNATURE) — DATE 12-13-11 TIME 0800

8 COMMENTS: (FOR LAB USE ONLY)
4 °C
SAMPLE TEMPERATURE UPON RECEIPT
CHILL PROCESS STARTED PRIOR TO RECEIPT (Y) OR N
SAMPLE(S) RECEIVED ON ICE (Y) OR N
PROPER BOTTLES RECEIVED IN GOOD CONDITION (Y) OR N
BOTTLES FILLED WITH ADEQUATE VOLUME (Y) OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) (Y) OR N
(EXCLUDES TYPICAL FIELD PARAMETERS)
DATE AND TIME TAKEN FROM SAMPLE BOTTLE

Copies: white should accompany samples to PDC Labs. **Yellow copy to be retained by the client.**

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Midwest Generation - Powerton Facility
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Attn: Mark Kelly

Date Received: 12/13/11 8:00
Report Date: 01/17/12
Customer #: 233203
PO#: 4500073039

Laboratory Results

Notes

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PDC Laboratories participates in the following accreditation/certification and proficiency programs at the following locations. Endorsement by Federal or State Governments or their agencies is not implied.

PIA PDC Laboratories - Peoria, IL
NELAC Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications: Kansas (E-10338); Missouri (870); Wisconsin (998284430); Indiana (C-IL-040); Iowa (240)
Wastewater Certifications: Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
Hazardous/Solid Waste Certifications; Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
UST Certification; Iowa (240)
SPM PDC Laboratories - Springfield, MO
EPA DMR-QA Program
STL PDC Laboratories - St. Louis, MO
NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS EPA Lab No. E-10389

Subcontract report attached for Rad 226/228

Janet L. Clutters

Certified by: Janet L. Clutters, Project Manager

Exhibit D17

FOURTH QUARTER and ANNUAL GROUNDWATER MONITORING REPORT POWERTON GENERATING STATION

January 21, 2014

Ms. Andrea Rhodes
Illinois Environmental Protection Agency
Division of Public Water Supplies
MC#19
1021 North Grand Avenue East
Springfield, IL 62794-9276

VIA FEDERAL EXPRESS

KPRG Project No. 12313.1

Re: Quarterly Groundwater Monitoring Results – Fourth Quarter 2013 and Annual
Powerton Generating Station – Ash Impoundments
Compliance Commitment Agreement VN W-2012-00057; ID# 6282

Dear Ms. Rhodes:

The fourth quarterly groundwater sampling for 2013 has been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Powerton Generating Station in accordance with the signed Compliance Commitment Agreement (CCA) with Illinois Environmental Protection Agency (IEPA) dated October 24, 2012. This quarterly monitoring report is being submitted by KPRG and Associates, Inc. (KPRG), on behalf of Midwest Generation, summarizing the results of the monitoring event. This report is also intended to serve as the Annul Report and includes historical data analysis/summaries.

Well Inspection and Sampling Procedures

The groundwater monitoring network around the ash ponds at this facility consists of sixteen wells (MW-1 through MW-16) as shown on Figure 1. As part of sampling procedures, the integrity of all monitoring wells was inspected and water levels obtained using an electronic water level meter (see summary of water level discussion below). All wells were found in good condition with locked protector casings and the concrete surface seals were intact.

MWG13-15_19809

Groundwater samples at well locations MW-1 through MW-16 were collected using the low-flow sampling technique. In addition, a surface water grab sample was collected from the discharge of the East Yard Run-off Basin.

One duplicate sample was collected for quality assurance purposes. In addition, a deionized water trip blank was placed with the sample bottle shipment by the laboratory and accompanied the groundwater samples bottles from and back to the laboratory. The groundwater monitoring samples, the East Yard Run-off Basin sample and the duplicate sample were analyzed for the inorganic compounds listed in Illinois Administrative Code (IAC) 620.410(a), 620.410(d) and 620.410(e), excluding radium 226/228. The trip blank was analyzed for the volatile organic compounds (VOCs) listed in IAC 620.410(d).

Groundwater Flow Evaluation

Water level data from the most recent round of sampling along with historical water levels obtained from each well are summarized in Table 1. As noted in previous submittals, monitoring wells MW-6, MW-8, MW-12, MW-14 and MW-15 are screened within a shallower, localized, saturated clay/silt unit which is underlain by a more extensive sand unit. The remaining eleven monitoring wells are screened deeper, within the more extensive sand unit. The water levels from wells screened in the clay/silt unit and the water levels from monitoring wells screened within the sand unit were evaluated separately and used to generate a groundwater flow map for each unit. These maps are provided on Figures 2 and 3. The water elevation data within the clay/silt unit indicates localized groundwater flow in a westerly direction (Figure 2). Groundwater flow within the more extensive sand unit is generally in a north-northwesterly direction (Figure 3). The flow conditions observed during this sampling are generally consistent with historical conditions reported for the site.

Relative to an annual evaluation of groundwater levels, a historical hydrograph is presented in Attachment 1. The hydrograph indicates some seasonal variability over time with the highest water levels occurring in the 2nd quarter (Spring) and the lowest water levels generally occurring in the 3rd quarter (late Summer/early Fall). The noted high spike in groundwater elevations during the second quarter of 2013 is directly associated with the heavy rains and flooding that occurred at that time.

Summary of Analytical Data

A copy of the analytical data package is provided in Attachment 2. The field parameter and groundwater analytical data from the most recent sampling, along with the previous eight quarters of data, are summarized in Table 2. The duplicate sample was collected from well MW-3. The data are generally consistent with previous data generated for the site with the exception of boron and sulfate at well location MW-2 where slight increases in both parameters were noted and the boron concentration during this sampling exceeded the Class I groundwater standard. All wells for which the sampling data reports a value above one or more groundwater standards are located within the area of the approved

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Groundwater Management Zone (GMZ) and the Environmental Land Use Control (ELUC) restrictions placed on the property with the exception of new upgradient well MW-16 which has noted nitrate impacts above the Class I groundwater standard (see discussion below on nitrate trends over time).

At this time a statistical evaluation of background water quality for comparing against downgradient wells has not been completed. The initial anticipated background well installation (MW-09) indicates impacts that are not associated with the ash ponds at the site and therefore, IEPA does not recognize the water quality data from this well as representative of background. A new background monitoring well (MW-16) has since been installed and is included within the quarterly sampling. An initial review of the data suggests that this location will provide a representative background water quality with which to perform a statistical evaluation. In general, a minimum of eight quarters of data are required to provide a meaningful statistical analysis of background water quality. The next Annual Report will include this analysis.

Relative to an annual evaluation of the water chemistry data, time versus concentration curves are provided for each parameter analyzed in Attachment 3. The curves include the Class I drinking water standard for reference. For 2013, overall, detected concentrations of the monitored parameters are generally stable/consistent relative to historical data. The following noteworthy observations are made for 2013:

- An overall evaluation indicates that some individual spikes of analytes for specific wells that were not reproducible (e.g., 2nd quarter antimony for MW-01, MW-02 and MW-04) and therefore, not believed to be representative of actual groundwater quality at those locations.

- Arsenic concentrations in well MW-07 appear to have stabilized over the last two years.

- Boron concentrations at wells appear to be generally stable and/or decreasing with the exception of well MW-02 located at the east-northeast side of the property and the newly installed background well (MW-16) as part of the CCA. The concentration of boron at well MW-02 has increased from 0.8 mg/l in December 2012 to 2.7 mg/l in October 2013. The concentration of boron at well MW-16 has increased from not detected in December 2012 to 0.350 mg/l in October 2013.

- Overall chloride concentrations in several wells (e.g., MW-04, MW-07, MW-08) appear to be increasing. Otherwise concentrations appear to be stable.

- Dissolved iron is consistently higher at well MW-07 than for the rest of the site.

- Wells MW-07, MW-10, MW-11 and MW-13 tend to have higher dissolved manganese concentrations than seen at other locations, however, there is

MWG13-15_19811

indication over the last several quarters of some decreasing trends at these locations.

- Nitrate concentrations in the new background well MW-16 are consistently higher than in the other wells and the only well consistently above the Class I groundwater standard for this parameter. This suggests an off-site source of these impacts. Upgradient land use is agricultural.

- Dissolved sulfate concentrations at wells MW-13 and MW-14 are consistently higher than at other monitoring locations.

As noted previously, all wells, except upgradient well MW-16, for which the sampling data reports a value above one or more applicable groundwater standards are located within the area of the approved GMZ and the ELUC restrictions placed on the property.

The data from the East Yard Run-off Basin sampling along with the previous sampling results are summarized in Table 3. It is consistent with the data from the previous sampling. This completes more than the four quarterly rounds of sampling for the East Yard Run-off Basin and, in accordance with the CCA, it is requested that the Agency approve the termination of the quarterly sampling requirement for this impoundment. Midwest Generation/KPRG will follow-up with IEPA regarding this request.

If there are any questions, please contact either Maria Race of Midwest Generation at 630-771-7862 or Richard Gnat of KPRG at 262-781-0475.

Sincerely,
KPRG and Associates, Inc.

Richard R Gnat

Richard R. Gnat, P.G.
Principal

Attachments

cc: William Buscher, IEPA
Maria Race, Midwest Generation
Susan Franzetti, Nijman Franzetti, LLP

MWG13-15_19812

FIGURES



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SITE MAP

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: July 17, 2013

KPRG Project No. 12313.1 | FIGURE 1

MWG13-15_19814



ENVIRONMENTAL CONSULTATION & REMEDIATION

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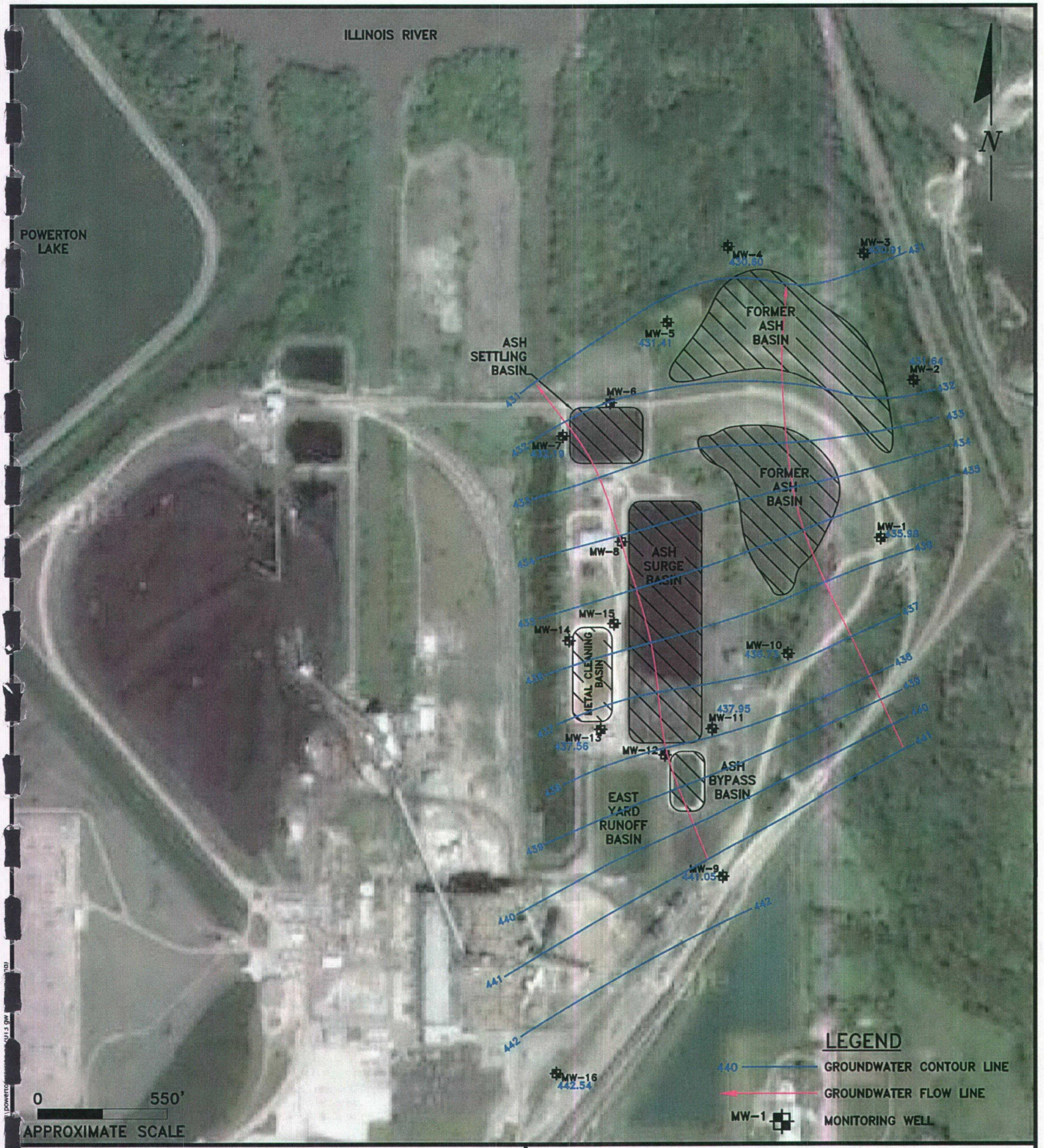
GROUNDWATER CONTOUR MAP FOR SILT/CLAY UNIT 10/2013

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: December 19, 2013

KPRG Project No. 12313.1 | FIGURE 2

MWG13-15_19815



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GROUNDWATER CONTOUR MAP FOR GRAVELLY SAND UNIT 10/2013

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: October 7, 2013

KPRG Project No. 12313.1 | FIGURE 3

MWG13-15_19816

TABLES

Table 1. Groundwater Elevations - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-01	9/19/2011	465.06	461.67	439.95	439.93	430.97	25.11	25.13	34.09
	12/12/2011	465.06	461.67	439.78	439.78	430.97	25.28	25.28	34.09
	3/19/2012	465.06	461.67	442.40	442.40	430.97	22.66	22.66	34.09
	4/4/2012	465.06	461.67	441.39	NM	430.97	23.67	NM	34.09
	6/25/2012	465.06	461.67	437.84	437.84	430.97	27.22	27.22	34.09
	9/18/2012	465.06	461.67	435.37	435.34	430.97	29.69	29.72	34.09
	12/12/2012	465.06	461.67	435.06	435.06	430.97	30.00	30.00	34.09
	2/27/2013	465.06	461.67	439.56	438.62	430.97	25.50	26.44	34.09
	5/29/2013	465.06	461.67	446.35	446.50	430.96	18.71	18.56	34.10
	7/29/2013	465.06	461.67	441.71	441.71	430.96	23.35	23.35	34.10
	10/21/2013	465.06	461.67	435.98	435.99	430.96	29.08	29.07	34.10
MW-02	9/19/2011	462.42	459.25	433.27	433.27	425.31	29.15	29.15	37.11
	12/12/2011	462.42	459.25	434.78	434.78	425.31	27.64	27.64	37.11
	3/19/2012	462.42	459.25	437.48	437.48	425.31	24.94	24.94	37.11
	4/4/2012	462.42	459.25	436.92	NM	425.31	25.50	NM	37.11
	6/25/2012	462.42	459.25	433.69	433.68	425.31	28.73	28.74	37.11
	9/18/2012	462.42	459.25	431.30	431.31	425.31	31.12	31.11	37.11
	12/12/2012	462.42	459.25	431.12	431.12	425.31	31.30	31.30	37.11
	2/27/2013	462.42	459.25	436.02	434.63	425.31	26.40	27.79	37.11
	5/29/2013	462.42	459.25	444.38	444.81	425.31	18.04	17.61	37.11
	7/29/2013	462.42	459.25	434.84	434.84	425.31	27.58	27.58	37.11
	10/21/2013	462.42	459.25	431.64	431.65	425.31	30.78	30.77	37.11
MW-03	9/19/2011	462.34	459.10	432.73	432.72	425.05	29.61	29.62	37.29
	12/12/2011	462.34	459.10	433.88	433.88	425.05	28.46	28.46	37.29
	3/19/2012	462.34	459.10	436.94	436.94	425.05	25.40	25.40	37.29
	4/4/2012	462.34	459.10	435.67	NM	425.05	26.67	NM	37.29
	6/25/2012	462.34	459.10	432.86	432.86	425.05	29.48	29.48	37.29
	9/18/2012	462.34	459.10	430.71	430.71	425.05	31.63	31.63	37.29
	12/12/2012	462.34	459.10	429.94	429.94	425.05	32.40	32.40	37.29
	2/27/2013	462.34	459.10	436.39	435.87	425.05	25.95	26.47	37.29
	5/29/2013	462.34	459.10	444.87	445.14	425.04	17.47	17.20	37.30
	7/31/2013	462.34	459.10	434.87	434.87	425.04	27.47	27.47	37.30
	10/21/2013	462.34	459.10	430.91	430.91	425.04	31.43	31.43	37.30
MW-04	9/19/2011	460.48	457.29	431.63	431.63	423.39	28.85	28.85	37.09
	12/12/2011	460.48	457.29	433.28	433.28	423.39	27.20	27.20	37.09
	3/19/2012	460.48	457.29	434.93	434.93	423.39	25.55	25.55	37.09
	4/4/2012	460.48	457.29	434.15	NM	423.39	26.33	NM	37.09
	6/25/2012	460.48	457.29	432.38	432.38	423.39	28.10	28.10	37.09
	9/18/2012	460.48	457.29	430.34	430.34	423.39	30.14	30.14	37.09
	12/12/2012	460.48	457.29	430.28	430.28	423.39	30.20	30.20	37.09
	2/27/2013	460.48	457.29	434.36	433.21	423.39	26.12	27.27	37.09
	5/29/2013	460.48	457.29	443.93	444.59	423.33	16.55	15.89	37.15
	7/31/2013	460.48	457.29	432.86	432.86	423.33	27.62	27.62	37.15
	10/21/2013	460.48	457.29	430.60	430.62	423.33	29.88	29.86	37.15
MW-05	9/19/2011	458.58	455.80	432.77	432.77	423.79	25.81	25.81	34.79
	12/12/2011	458.58	455.80	434.13	434.13	423.79	24.45	24.45	34.79
	3/19/2012	458.58	455.80	435.71	435.72	423.79	22.87	22.86	34.79
	4/4/2012	458.58	455.80	434.93	NM	423.79	23.65	NM	34.79
	6/25/2012	458.58	455.80	433.23	433.21	423.79	25.35	25.37	34.79
	9/18/2012	458.58	455.80	430.99	430.98	423.79	27.59	27.60	34.79
	12/12/2012	458.58	455.80	430.98	430.98	423.79	27.60	27.60	34.79
	2/27/2013	458.58	455.80	434.93	434.01	423.79	23.65	24.57	34.79
	5/29/2013	458.58	455.80	444.11	444.85	423.79	14.47	13.73	34.79
	7/31/2013	458.58	455.80	433.63	433.63	423.79	24.95	24.95	34.79
	10/21/2013	458.58	455.80	431.41	431.43	423.79	27.17	27.15	34.79
MW-06	9/19/2011	464.47	461.22	445.71	445.66	431.87	18.76	18.81	32.60
	12/12/2011	464.47	461.22	446.30	446.30	431.87	18.17	18.17	32.60
	3/19/2012	464.47	461.22	446.17	446.17	431.87	18.30	18.30	32.60
	4/4/2012	464.47	461.22	445.81	NM	431.87	18.66	NM	32.60
	6/25/2012	464.47	461.22	445.99	445.94	431.87	18.48	18.53	32.60
	9/18/2012	464.47	461.22	445.63	445.63	431.87	18.84	18.84	32.60
	12/12/2012	464.47	461.22	447.37	447.37	431.87	17.10	17.10	32.60
	2/27/2013	464.47	461.22	448.45	448.48	431.87	16.02	15.99	32.60
	5/31/2013	464.47	461.22	443.12	443.12	431.87	21.35	21.35	32.60
	07/31/13	464.47	461.22	449.46	449.44	431.87	15.01	15.03	32.60
	10/23/13	464.47	461.22	448.12	448.12	431.87	16.35	16.35	32.60

MWG13-15_19818

Table 1. Groundwater Elevations - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-07	9/19/2011	463.23	459.65	433.40	433.40	423.12	29.83	29.83	40.11
	12/12/2011	463.23	459.65	434.64	433.73	423.12	28.59	29.50	40.11
	3/19/2012	463.23	459.65	436.04	435.18	423.12	27.19	28.05	40.11
	4/4/2012	463.23	459.65	435.10	NM	423.12	28.13	NM	40.11
	6/25/2012	463.23	459.65	433.77	433.66	423.12	29.46	29.57	40.11
	9/18/2012	463.23	459.65	431.39	425.61	423.12	31.84	37.62	40.11
	12/12/2012	463.23	459.65	431.38	431.38	423.12	31.85	31.85	40.11
	2/27/2013	463.23	459.65	435.30	433.79	423.12	27.93	29.44	40.11
	5/31/2013	463.23	459.65	443.93	445.24	414.93	19.30	17.99	48.30
	7/31/2013	463.23	459.65	433.88	433.88	414.93	29.35	29.35	48.30
	10/23/2013	463.23	459.65	432.19	431.93	414.93	31.04	31.30	48.30
MW-08	9/19/2011	471.73	468.70	446.76	446.77	438.18	24.97	24.96	33.55
	12/12/2011	471.73	468.70	446.85	446.85	438.18	24.88	24.88	33.55
	3/19/2012	471.73	468.70	447.66	447.66	438.18	24.07	24.07	33.55
	4/4/2012	471.73	468.70	447.27	NM	438.18	24.46	NM	33.55
	6/25/2012	471.73	468.70	447.06	447.06	438.18	24.67	24.67	33.55
	9/18/2012	471.73	468.70	446.70	446.70	438.18	25.03	25.03	33.55
	12/12/2012	471.73	468.70	447.23	447.23	438.18	24.50	24.50	33.55
	2/27/2013	471.73	468.70	448.53	449.98	438.18	23.20	21.75	33.55
	5/30/2013	471.73	468.70	447.82	447.80	438.21	23.91	23.93	33.52
	7/31/2013	471.73	468.70	448.53	448.53	438.21	23.20	23.20	33.52
	10/23/2013	471.73	468.70	447.12	447.12	438.21	24.61	24.61	33.52
MW-09	9/19/2011	469.19	466.21	443.64	443.64	434.06	25.55	25.55	35.13
	12/12/2011	469.19	466.21	443.08	443.08	434.06	26.11	26.11	35.13
	3/19/2012	469.19	466.21	443.78	443.78	434.06	25.41	25.41	35.13
	4/4/2012	469.19	466.21	443.49	NM	434.06	25.70	NM	35.13
	6/25/2012	469.19	466.21	442.55	442.52	434.06	26.64	26.67	35.13
	9/18/2012	469.19	466.21	440.29	440.29	434.06	28.90	28.90	35.13
	12/12/2012	469.19	466.21	439.77	439.77	434.06	29.42	29.42	35.13
	2/27/2013	469.19	466.21	441.69	442.40	434.06	27.50	26.79	35.13
	5/30/2013	469.19	466.21	449.35	449.50	434.05	19.84	19.69	35.14
	7/30/2013	469.19	466.21	444.99	444.99	434.05	24.20	24.20	35.14
	10/22/2013	469.19	466.21	441.05	441.04	434.05	28.14	28.15	35.14
MW-10	9/19/2011	457.39	454.09	439.99	439.98	424.89	17.40	17.41	32.50
	12/12/2011	457.39	454.09	440.01	440.01	424.89	17.38	17.38	32.50
	3/19/2012	457.39	454.09	442.03	442.03	424.89	15.36	15.36	32.50
	4/4/2012	457.39	454.09	441.06	NM	424.89	16.33	NM	32.50
	6/25/2012	457.39	454.09	438.39	438.39	424.89	19.00	19.00	32.50
	9/18/2012	457.39	454.09	436.06	436.06	424.89	21.33	21.33	32.50
	12/12/2012	457.39	454.09	435.79	435.79	424.89	21.60	21.60	32.50
	2/27/2013	457.39	454.09	439.50	439.85	424.89	17.89	17.54	32.50
	5/29/2013	457.39	454.09	446.90	447.06	424.89	10.49	10.33	32.50
	7/31/2013	457.39	454.09	441.21	441.21	424.89	16.18	16.18	32.50
	10/23/2013	457.39	454.09	436.73	436.74	424.89	20.66	20.65	32.50
MW-11	9/19/2011	471.59	468.07	440.49	440.49	427.94	31.10	31.10	43.65
	12/12/2011	471.59	468.07	440.51	440.50	427.94	31.08	31.09	43.65
	3/19/2012	471.59	468.07	441.63	441.60	427.94	29.96	29.99	43.65
	4/4/2012	471.59	468.07	441.03	NM	427.94	30.56	NM	43.65
	6/25/2012	471.59	468.07	439.54	439.52	427.94	32.05	32.07	43.65
	9/18/2012	471.59	468.07	437.31	437.31	427.94	34.28	34.28	43.65
	12/12/2012	471.59	468.07	437.09	437.09	427.94	34.50	34.50	43.65
	2/27/2013	471.59	468.07	439.79	440.57	427.94	31.80	31.02	43.65
	5/30/2013	471.59	468.07	447.35	447.79	427.89	24.24	23.80	43.70
	7/30/2013	471.59	468.07	441.49	441.49	427.89	30.10	30.10	43.70
	10/22/2013	471.59	468.07	437.95	437.94	427.89	33.64	33.65	43.70
MW-12	9/19/2011	473.38	470.00	449.88	449.88	440.81	23.50	23.50	32.57
	12/12/2011	473.38	470.00	450.03	450.03	440.81	23.35	23.35	32.57
	3/19/2012	473.38	470.00	451.18	451.18	440.81	22.20	22.20	32.57
	4/4/2012	473.38	470.00	450.83	NM	440.81	22.55	NM	32.57
	6/25/2012	473.38	470.00	450.38	450.35	440.81	23.00	23.03	32.57
	9/18/2012	473.38	470.00	449.95	449.93	440.81	23.43	23.45	32.57
	12/12/2012	473.38	470.00	449.18	449.18	440.81	24.20	24.20	32.57
	2/27/2013	473.38	470.00	451.07	451.43	440.81	22.31	21.95	32.57
	5/30/2013	473.38	470.00	451.84	451.84	440.79	21.54	21.54	32.59
	7/29/2013	473.38	470.00	449.45	449.43	440.79	23.93	23.95	32.59
	10/22/2013	473.38	470.00	447.83	447.22	440.79	25.55	26.16	32.59

MWG13-15_19819

Table 1. Groundwater Elevations - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-13	4/25/2011	470.94	467.65	446.06	446.12	427.82	24.88	24.82	43.12
	6/16/2011	470.94	467.65	447.39	447.39	427.82	23.55	23.55	43.12
	8/9/2011	470.94	467.65	437.72	438.55	427.82	33.22	32.39	43.12
	10/13/2011	470.94	467.65	436.84	436.84	427.82	34.10	34.10	43.12
	12/12/2011	470.94	467.65	437.79	437.64	427.82	33.15	33.30	43.12
	4/10/2012	470.94	467.65	437.73	437.29	427.82	33.21	33.65	43.12
	12/14/2012	470.94	467.65	437.40	437.40	427.82	33.54	33.54	43.12
	2/27/2013	470.94	467.65	437.99	438.04	427.82	32.95	32.90	43.12
	5/30/2013	470.94	467.65	445.45	446.45	427.85	25.49	24.49	43.09
	7/30/13	470.94	467.65	437.59	437.59	427.85	33.35	33.35	43.09
	10/22/13	470.94	467.65	437.56	437.40	427.85	33.38	33.54	43.09
MW-14	4/25/2011	470.79	467.67	448.13	447.95	437.21	22.66	22.84	33.58
	6/16/2011	470.79	467.67	448.28	448.27	437.21	22.51	22.52	33.58
	8/9/2011	470.79	467.67	448.11	446.76	437.21	22.68	24.03	33.58
	10/13/2011	470.79	467.67	445.28	441.14	437.21	25.51	29.65	33.58
	12/12/2011	470.79	467.67	443.71	440.10	437.21	27.08	30.69	33.58
	4/10/2012	470.79	467.67	446.80	446.74	437.21	23.99	24.05	33.58
	12/14/2012	470.79	467.67	444.89	444.89	437.21	25.90	25.90	33.58
	2/27/2013	470.79	467.67	447.29	447.89	437.21	23.50	22.90	33.58
	5/30/2013	470.79	467.67	448.37	448.33	437.21	22.42	22.46	33.58
	7/30/2013	470.79	467.67	447.59	447.54	437.21	23.20	23.25	33.58
	10/23/2013	470.79	467.67	444.92	444.54	437.21	25.87	26.25	33.58
MW-15	4/25/2011	471.38	468.26	448.29	448.29	439.04	23.09	23.09	32.34
	6/16/2011	471.38	468.26	449.16	448.56	439.04	22.22	22.82	32.34
	8/9/2011	471.38	468.26	447.82	447.82	439.04	23.56	23.56	32.34
	10/13/2011	471.38	468.26	446.73	446.73	439.04	24.65	24.65	32.34
	12/12/2011	471.38	468.26	446.78	446.76	439.04	24.60	24.62	32.34
	4/10/2012	471.38	468.26	447.49	447.56	439.04	23.89	23.82	32.34
	12/14/2012	471.38	468.26	446.71	446.71	439.04	24.67	24.67	32.34
	2/27/2013	471.38	468.26	448.48	449.05	439.04	22.90	22.33	32.34
	5/30/2013	471.38	468.26	449.36	449.29	439.91	22.02	22.09	31.47
	7/30/2013	471.38	468.26	448.70	448.68	439.91	22.68	22.70	31.47
	10/23/2013	471.38	468.26	447.70	447.70	439.91	23.68	23.68	31.47
MW-16	12/12/2012	471.56	468.26	441.16	441.16	434.36	30.40	30.40	37.20
	2/27/2013	471.56	468.26	442.56	441.13	434.36	29.00	30.43	37.20
	5/29/2013	471.56	468.26	449.74	449.74	434.27	21.82	21.82	37.29
	7/29/13	471.56	468.26	446.17	446.160	434.27	25.39	25.40	37.29
	10/22/13	471.56	468.26	442.54	442.540	434.27	29.02	29.02	37.29

MWG13-15_19820

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-01	Date	12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012		2/27/2013		5/29/2013		7/29/2013		10/21/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND	0.003	ND	0.0030	0.0048	0.0030	ND	0.0030	ND
Arsenic	0.010	0.001	ND	0.001	ND	0.001	0.001	0.001	ND	0.0050	ND	0.001	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.001	0.044	0.001	0.038	0.001	0.06	0.001	0.074	0.20	ND	0.001	0.08	0.0025	0.078	0.0025	0.081	0.0025	0.070
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0010	ND ^	0.0010	ND	0.0010	ND
Boron	2.0	0.01	0.48	0.01	0.29	0.01	0.46	0.01	1.8	2.0	ND	0.01	1.7	0.050	0.47	0.050	0.48	0.050	0.62
Cadmium	0.005	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	26	10	53	10	42	10	43	10	41	10	38	10	160	10	140	2.0	46
Chromium	0.1	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.0030	0.014	0.004	0.0076	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND	0.002	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.010	ND	0.003	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.0050	ND	0.0050	0.0077	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.010	ND	0.010	0.011	0.010	ND
Fluoride	4.0	0.25	ND	0.25	ND	0.25	ND	0.25	ND	0.25	ND	0.25	ND	0.10	0.12	0.10	0.16	0.10	0.11
Iron	5.0	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.17	0.01	ND	0.10	0.43	0.10	ND	0.10	ND
Lead	0.0075	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND	0.001	ND	0.00050	0.00080	0.00050	ND	0.00050	ND
Manganese	0.15	0.001	ND	0.001	ND	0.001	ND	0.001	0.0027	0.0020	0.018	0.001	ND	0.0025	0.027	0.0025	ND	0.0025	ND
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.005	0.0095	0.005	ND	0.005	0.0066	0.005	0.01	0.010	ND	0.005	0.0062	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.20	4.1	0.20	7.3	0.20	6.5	0.20	5.4	0.20	7.2	0.2	7.4	0.10	0.23	0.10	0.42	0.10	4.5
Nitrogen/Nitrate, Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.10	0.23	0.10	0.42	0.50	4.5
Nitrogen/Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	6.39	NA	7.59	NA	7.45	NA	7.06	NA	6.98	NA	9.53	NA	7.00	NA	6.75	NA	7.12
Selenium	0.05	0.001	0.0027	0.001	0.0025	0.001	0.0042	0.001	0.005	0.0050	ND	0.001	0.0045	0.0025	ND	0.0025	ND	0.0025	0.0042
Silver	0.05	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	10	31	10	61	10	68	25	72	10	91	10	77	100	330	50	270	20	85
Thallium	0.002	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	17	440	17	470	17	580	17	710	26	640	26	640	10	840	10	870	10	660
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.005	ND	0.005	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.020	ND	0.006	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.03	ND	0.03	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	10.85	NA	7.33	NA	17.97	NA	15.74	NA	13.58	NA	11.00	NA	10.71	NA	15.64	NA	15.06
Conductivity	NA	NA	0.56	NA	0.53	NA	0.79	NA	0.92	NA	0.85	NA	0.88	NA	0.94	NA	1.06	NA	0.88
Dissolved Oxygen	NA	NA	5.21	NA	8.46	NA	0.66	NA	3.34	NA	3.04	NA	3.03	NA	3.10	NA	2.03	NA	1.33
ORP	NA	NA	13	NA	242	NA	43	NA	165	NA	130	NA	94	NA	30.4	NA	58.8	NA	-127

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2: Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-02	Date	12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012		2/27/2013		5/29/2013		7/29/2013		10/21/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND	0.003	ND	0.0030	0.015	0.0030	ND	0.0030	ND
Arsenic	0.010	0.001	ND	0.001	ND	0.001	0.0011	0.001	0.0012	0.0050	ND	0.001	0.0011	0.0010	0.0010	0.0010	ND	0.0010	ND
Barium	2.0	0.001	0.066	0.001	0.049	0.001	0.064	0.001	0.06	0.040	0.075	0.001	0.035	0.0025	0.053	0.0025	0.078	0.0025	0.088
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0010	ND ^	0.0010	ND	0.0010	ND
Boron	2.0	0.01	0.69	0.01	0.27	0.01	0.74	0.01	0.65	0.40	0.8	0.01	0.29	0.050	0.21	0.050	1.4	0.050	2.7
Cadmium	0.005	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	40	10	53	10	51	10	45	10	48	10	52	2.0	53	2.0	48	10	90
Chromium	0.1	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.0030	0.0096	0.004	0.0042	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND	0.002	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.010	ND	0.003	ND	0.0020	0.0021	0.0020	ND	0.0020	ND
Cyanide	0.2	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.25	ND	0.25	ND	0.25	ND	0.25	ND	0.25	0.28	0.25	ND	0.10	0.32	0.10	0.19	0.10	0.17
Iron	5.0	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.046	0.01	0.026	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.001	ND	0.001	ND	0.001	ND	0.001	0.0019	0.0020	0.0063	0.001	ND	0.0025	ND	0.0025	0.0060	0.0025	0.0060
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.005	0.0073	0.005	ND	0.005	0.0065	0.005	0.0066	0.010	ND	0.005	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.20	6.9	0.20	5.1	0.20	4.4	0.20	2.9	0.20	2.4	0.2	5.7	0.10	0.44	0.10	0.59	0.10	1.1
Nitrogen/Nitrate, Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.10	0.48	0.10	0.59	0.10	1.1
Nitrogen/Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.020	0.041	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	6.41	NA	7.92	NA	7.35	NA	7.32	NA	7.38	NA	7.53	NA	7.39	NA	7.03	NA	7.20
Selenium	0.05	0.001	0.0037	0.001	ND	0.001	0.0039	0.001	0.0016	0.0050	ND	0.001	0.0032	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	10	69	10	55	10	73	10	69	10	95	10	53	20	96	25	140	50	190
Thallium	0.002	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	17	490	17	440	17	500	17	510	26	520	26	440	10	340	10	560	10	770
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0080	ND	0.005	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.006	ND	0.006	0.013	0.006	ND	0.006	ND	0.020	ND	0.006	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.03	ND	0.03	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	9.58	NA	9.56	NA	14.90	NA	17.12	NA	12.33	NA	13.30	NA	20.87	NA	17.02	NA	12.34
Conductivity	NA	NA	0.59	NA	0.56	NA	0.66	NA	0.68	NA	0.68	NA	0.54	NA	0.56	NA	0.74	NA	0.80
Dissolved Oxygen	NA	NA	3.34	NA	3.91	NA	0.78	NA	0.53	NA	2.03	NA	10.89	NA	0.65	NA	0.47	NA	0.32
ORP	NA	NA	63	NA	272	NA	168	NA	157	NA	200	NA	185.2	NA	-34.5	NA	33.9	NA	-180.3

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
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Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-03	Date	12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012		2/27/2013		5/29/2013		7/31/2013		10/21/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND	0.003	ND	0.0030	0.0057	0.0030	ND	0.0030	ND
Arsenic	0.010	0.001	0.0012	0.001	0.0012	0.001	ND	0.001	0.0015	0.0050	ND	0.001	0.0013	0.0010	0.0012	0.0010	0.0013	0.0010	0.0011
Barium	2.0	0.001	0.076	0.001	0.052	0.001	0.059	0.001	0.1	0.040	0.11	0.001	0.056	0.0025	0.061	0.0025	0.064	0.0025	0.099
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0010	ND ^	0.0010	ND	0.0010	ND
Boron	2.0	0.01	0.7	0.01	0.56	0.01	0.63	0.01	0.64	0.40	0.63	0.01	0.65	0.050	0.21	0.050	0.47	0.050	0.46
Cadmium	0.005	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	39	10	54	10	57	10	54	10	58	10	53	2.0	55	2.0	60	2.0	57
Chromium	0.1	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.0030	0.0086	0.004	0.005	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND	0.002	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.003	0.0042	0.003	ND	0.003	ND	0.003	ND	0.010	ND	0.003	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.25	ND	0.25	ND	0.25	ND	0.25	0.29	0.25	0.35	0.25	ND	0.10	0.31	0.10	0.28	0.10	0.26
Iron	5.0	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.036	0.01	0.019	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.001	0.0014	0.001	ND	0.001	0.0033	0.001	0.002	0.0020	0.034	0.001	0.011	0.0025	ND	0.0025	ND	0.0025	0.0039
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.005	0.0078	0.005	ND	0.005	0.005	0.005	0.0067	0.010	ND	0.005	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.02	0.20	0.20	2.1	0.02	0.37	0.02	0.08	0.02	0.13	0.2	2.00	0.10	0.15	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.10	0.15	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	6.58	NA	7.38	NA	7.36	NA	7.46	NA	7.41	NA	7.46	NA	7.31	NA	7.22	NA	7.25
Selenium	0.05	0.001	0.0021	0.001	0.0067	0.001	0.0018	0.001	0.0033	0.0050	ND	0.001	0.0048	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	10	45	10	72	10	84	10	74	10	74	10	64	20	82	20	99	20	96
Thallium	0.002	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	17	480	17	450	17	520	17	520	26	460	26	500	10	310	10	460	10	430
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0080	ND	0.005	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.006	ND	0.006	0.012	0.006	ND	0.006	ND	0.020	ND	0.006	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.03	ND	0.03	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	18.58	NA	15.50	NA	15.26	NA	15.10	NA	14.28	NA	13.60	NA	21.93	NA	24.89	NA	20.22
Conductivity	NA	NA	0.72	NA	0.65	NA	0.67	NA	0.68	NA	0.66	NA	0.73	NA	0.56	NA	0.76	NA	0.70
Dissolved Oxygen	NA	NA	0.99	NA	4.95	NA	3.02	NA	5.22	NA	2.50	NA	6.10	NA	0.40	NA	0.24	NA	0.35
ORP	NA	NA	29	NA	157	NA	125	NA	180	NA	90	NA	140.31	NA	-101.8	NA	-44.7	NA	-160.1

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_19823

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-04	Date	12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012		2/27/2013		5/29/2013		7/31/2013		10/21/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND	0.003	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.001	ND	0.001	ND	0.001	ND	0.001	0.0012	0.0050	ND	0.001	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.001	0.048	0.001	0.043	0.001	0.04	0.001	0.07	0.040	0.09	0.001	0.054	0.0025	0.030	0.0025	0.048	0.0025	0.062
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0010	ND ^	0.0010	ND	0.0010	ND
Boron	2.0	0.01	0.79	0.01	0.78	0.01	0.83	0.01	0.76	0.40	0.74	0.01	0.97	0.050	0.23	0.050	0.67	0.050	0.81
Cadmium	0.005	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	1.0	8.1	10	58	10	75	25	110	25	130	10	90	2.0	54	2.0	70	10	150
Chromium	0.1	0.004	ND	0.004	ND	0.004	ND	0.004	0.0045	0.0030	0.01	0.004	0.0052	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND	0.002	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.003	0.01	0.003	ND	0.003	ND	0.003	ND	0.010	ND	0.003	ND	0.0020	ND	0.0020	0.0024	0.0020	0.0025
Cyanide	0.2	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.25	ND	0.25	ND	0.25	ND	0.25	0.26	0.25	0.29	0.25	ND	0.10	0.39	0.10	0.31	0.10	0.21
Iron	5.0	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	0.14	0.01	0.059	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.001	0.35	0.001	0.089	0.001	0.26	0.001	0.5	0.0020	0.027	0.001	0.007	0.0025	ND	0.0025	0.13	0.0025	0.27
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.005	0.01	0.005	0.0055	0.005	0.0074	0.005	0.0095	0.010	ND	0.005	ND	0.0020	ND	0.0020	0.0023	0.0020	0.0039
Nitrogen/Nitrate	10.0	0.02	0.07	0.02	0.65	0.02	1.1	0.02	0.46	0.02	1.0	0.02	1.8	0.10	ND	0.10	ND	0.10	0.50
Nitrogen/Nitrate, Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.10	ND	0.10	ND	0.10	0.50
Nitrogen/Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	6.37	NA	7.24	NA	7.04	NA	7.13	NA	7.14	NA	7.37	NA	7.30	NA	7.02	NA	7.00
Selenium	0.05	0.001	0.002	0.001	0.0085	0.001	0.0035	0.001	0.0032	0.0050	ND	0.001	0.013	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	1.0	6.7	50	160	10	94	25	170	25	150	50	130	20	92	50	190	100	260
Thallium	0.002	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	17	520	17	660	17	600	17	800	26	720	26	640	10	350	10	670	10	980
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0080	ND	0.005	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.020	ND	0.006	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.03	ND	0.03	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	16.35	NA	12.99	NA	18.12	NA	16.51	NA	14.11	NA	13.20	NA	21.84	NA	26.31	NA	16.83
Conductivity	NA	NA	0.76	NA	0.76	NA	0.83	NA	1.05	NA	0.98	NA	0.92	NA	0.58	NA	1.08	NA	1.15
Dissolved Oxygen	NA	NA	0.20	NA	1.43	NA	0.33	NA	0.46	NA	4.01	NA	5.93	NA	0.47	NA	0.24	NA	0.53
ORP	NA	NA	51	NA	212	NA	124	NA	119	NA	130	NA	170.3	NA	-90.1	NA	4.1	NA	-169.7

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-05	Date	12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012		2/27/2013		5/29/2013		7/31/2013		10/21/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND	0.003	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.001	0.001	0.001	ND	0.001	ND	0.001	ND	0.0050	ND	0.001	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.001	0.065	0.001	0.054	0.001	0.058	0.001	0.066	0.040	0.077	0.001	0.061	0.0025	0.089	0.0025	0.092	0.0025	0.088
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0010	ND ^	0.0010	ND	0.0010	ND
Boron	2.0	0.01	0.77	0.01	0.82	0.01	0.74	0.01	0.65	0.40	0.66	0.01	0.66	0.050	0.70	0.050	0.64	0.050	0.83
Cadmium	0.005	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	25	140	10	82	50	100	50	150	25	170	50	110	10	92	10	150	10	170
Chromium	0.1	0.004	ND	0.004	ND	0.004	ND	0.004	0.0058	0.0030	0.0049	0.004	0.0053	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.002	0.0022	0.002	ND	0.002	ND	0.002	0.002	0.0030	ND	0.002	ND	0.0010	0.0022	0.0010	0.0015	0.0010	0.0015
Copper	0.65	0.003	0.0061	0.003	ND	0.003	0.0031	0.003	ND	0.010	ND	0.003	ND	0.0020	ND	0.0020	ND	0.0020	0.0027
Cyanide	0.2	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.25	ND	0.25	ND	0.25	ND	0.25	0.32	0.25	0.32	0.25	ND	0.10	0.23	0.10	0.24	0.10	0.24
Iron	5.0	0.010	0.036	0.010	ND	0.010	ND	0.010	ND	0.010	0.43	0.01	0.052	0.10	0.20	0.10	ND	0.10	ND
Lead	0.0075	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.001	0.5	0.001	0.26	0.001	0.41	0.001	1	0.040	0.59	0.001	0.21	0.0025	0.67	0.0025	0.29	0.0025	0.62
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.005	0.014	0.005	0.008	0.005	0.0095	0.005	0.013	0.010	ND	0.005	0.009	0.0020	0.0055	0.0020	0.0059	0.0020	0.0068
Nitrogen/Nitrate	10.0	0.02	ND	0.02	1.6	0.02	0.04	0.02	0.04	0.02	0.04	0.02	0.19	0.10	ND	0.10	ND	0.10	0.34
Nitrogen/Nitrate, Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.10	ND	0.10	ND	0.10	0.34
Nitrogen/Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	6.34	NA	7.14	NA	7.00	NA	6.94	NA	6.94	NA	8.01	NA	6.87	NA	6.82	NA	6.89
Selenium	0.05	0.001	0.0023	0.001	0.0028	0.001	0.0033	0.001	0.0031	0.0050	ND	0.001	0.0029	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	25	170	25	120	50	130	50	200	25	200	50	180	100	310	100	290	100	260
Thallium	0.002	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	17	820	17	590	17	700	17	890	26	840	26	790	10	990	10	1000	10	1100
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0080	ND	0.005	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.020	ND	0.006	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.03	ND	0.03	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	15.64	NA	17.03	NA	16.99	NA	16.03	NA	14.38	NA	14.50	NA	16.36	NA	17.75	NA	14.79
Conductivity	NA	NA	1.10	NA	0.85	NA	0.94	NA	1.19	NA	1.17	NA	1.17	NA	1.14	NA	1.25	NA	1.33
Dissolved Oxygen	NA	NA	0.06	NA	0.05	NA	0.07	NA	0.01	NA	0.46	NA	0.40	NA	0.28	NA	0.36	NA	0.32
ORP	NA	NA	-26	NA	237	NA	128	NA	152	NA	30	NA	99.2	NA	-50.9	NA	55.5	NA	-197

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
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NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-06	Date	12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012		2/27/2013		5/29/2013		7/31/2013		10/23/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND	0.003	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.001	0.0036	0.001	0.002	0.001	0.0021	0.001	0.0022	0.0050	ND	0.001	0.0017	0.0010	0.0027	0.0010	0.0037	0.0010	0.0039
Barium	2.0	0.001	0.12	0.001	0.097	0.001	0.12	0.001	0.11	0.040	0.12	0.001	0.088	0.0025	0.12	0.0025	0.12	0.0025	0.11
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0010	ND ^	0.0010	ND	0.0010	ND
Boron	2.0	0.01	0.63	0.01	0.39	0.01	0.46	0.01	0.57	0.40	0.45	0.01	0.39	0.050	1.0	0.050	0.62	0.050	0.51
Cadmium	0.005	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	50	150	50	150	50	200	50	190	50	240	50	200	10	99	10	200	10	210
Chromium	0.1	0.004	0.0056	0.004	ND	0.004	0.0054	0.004	0.0072	0.0030	0.0077	0.004	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND	0.002	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.003	ND	0.003	0.16	0.003	ND	0.003	ND	0.010	ND	0.003	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.25	0.50	0.25	0.47	0.25	0.37	0.25	0.48	0.25	0.42	0.25	ND	0.10	0.36	0.10	0.56	0.10	0.64
Iron	5.0	0.010	1.9	0.010	1.7	0.010	1.9	0.010	1.9	0.010	1.6	0.01	1.1	0.10	1.8	0.10	2.2	0.10	1.8
Lead	0.0075	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.001	0.63	0.001	0.61	0.001	0.71	0.001	0.64	0.040	0.61	0.001	0.5	0.0025	1.3	0.0025	0.70	0.0025	0.58
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.005	0.0089	0.005	ND	0.005	0.0095	0.005	0.011	0.010	ND	0.005	0.0062	0.0020	ND	0.0020	ND	0.0020	0.0020
Nitrogen/Nitrate	10.0	0.02	0.06	0.02	ND	0.02	ND	0.02	0.04	0.02	0.06	0.02	0.02	0.10	ND	0.10	ND	0.10	0.16
Nitrogen/Nitrate, Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.10	ND	0.10	ND	0.10	0.16
Nitrogen/Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.35	NA	7.68	NA	7.59	NA	7.73	NA	7.68	NA	9.30	NA	7.23	NA	7.37	NA	7.55
Selenium	0.05	0.001	0.0033	0.001	ND	0.001	0.0013	0.001	0.0023	0.0050	ND	0.001	0.001	0.0025	0.0030	0.0025	ND	0.0025	0.0065
Silver	0.05	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	170	50	250	50	450	50	340	50	440	50	320	130	560	100	440	100	310
Thallium	0.002	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	17	1000	17	1100	17	1300	17	1200	26	1200	26	1100	10	1400	10	1200	10	1100
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0080	ND	0.005	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.006	ND	0.006	0.049	0.006	ND	0.006	ND	0.020	ND	0.006	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.03	ND	0.03	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	22.76	NA	20.99	NA	19.83	NA	20.30	NA	20.07	NA	14.40	NA	16.14	NA	24.20	NA	23.30
Conductivity	NA	NA	1.61	NA	1.54	NA	1.65	NA	1.69	NA	1.75	NA	1.49	NA	1.47	NA	1.71	NA	1.74
Dissolved Oxygen	NA	NA	0.08	NA	0.03	NA	0.23	NA	0.02	NA	0.41	NA	0.18	NA	0.45	NA	0.14	NA	0.26
ORP	NA	NA	-196	NA	-176	NA	-169	NA	-183	NA	-160	NA	-85.8	NA	-97.1	NA	-180.4	NA	-233.2

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-07	Date	12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012		2/27/2013		5/31/2013		7/31/2013		10/23/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND	0.003	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.001	0.23	0.001	0.23	0.001	0.15	0.001	0.18	0.0050	0.26	0.001	0.17	0.0010	0.12	0.0010	0.22	0.0010	0.20
Barium	2.0	0.001	0.59	0.001	0.57	0.001	0.44	0.001	0.46	0.040	0.47	0.001	0.44	0.0025	0.42	0.0025	0.46	0.0025	0.49
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0010	ND ^	0.0010	ND	0.0010	ND
Boron	2.0	0.01	0.34	0.01	0.35	0.01	0.41	0.01	0.36	0.40	0.41	0.01	0.47	0.050	0.52	0.050	0.41	0.050	0.46
Cadmium	0.005	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	81	25	99	25	130	25	130	25	150	50	160	10	180	10	150	10	160
Chromium	0.1	0.004	ND	0.004	ND	0.004	0.0043	0.004	0.0051	0.0030	0.028	0.004	0.017	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.002	0.006	0.002	0.0067	0.002	0.011	0.002	0.009	0.0030	0.0056	0.002	0.0075	0.0010	0.0059	0.0010	0.0045	0.0010	0.0071
Copper	0.65	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.010	ND	0.003	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.0050	ND	0.0050	ND	0.0050	0.0055	0.0050	ND	0.0050	ND	0.005	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.25	0.47	0.25	0.54	0.25	0.38	0.25	0.35	0.25	0.35	0.25	ND	0.10	0.47	0.10	0.46	0.10	0.43
Iron	5.0	0.010	26	0.010	31	0.010	10	0.010	21	0.010	18	0.01	27	0.10	15	0.10	30	0.10	20
Lead	0.0075	0.001	ND	0.001	ND	0.001	0.0013	0.001	ND	0.0050	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.001	12	0.001	11	0.001	9.3	0.001	8	0.040	6.7	0.001	9.5	0.025	5.7	0.0025	11	0.0025	5.9
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.005	0.022	0.005	0.018	0.005	0.026	0.005	0.028	0.010	ND	0.005	0.014	0.0020	0.0063	0.0020	0.0055	0.0020	0.0081
Nitrogen/Nitrate	10.0	0.02	0.03	0.02	ND	0.02	0.02	0.02	ND	0.02	0.03	0.02	0.06	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	6.45	NA	6.79	NA	6.91	NA	6.93	NA	6.97	NA	6.87	NA	6.69	NA	6.68	NA	6.82
Selenium	0.05	0.001	0.0054	0.001	0.0013	0.001	0.006	0.001	0.0047	0.0050	ND	0.001	0.0031	0.0025	0.0028	0.0025	ND	0.0025	0.0056
Silver	0.05	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	1.0	3.3	1.0	3.0	10	18	10	25	10	43	10	36	25	120	10	42	20	80
Thallium	0.002	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	17	1300	17	1400	17	1300	17	1300	26	1100	26	1200	10	1000	10	1300	10	1200
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0080	0.012	0.005	0.0051	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.006	ND	0.006	ND	0.006	0.011	0.006	ND	0.020	ND	0.006	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.03	ND	0.03	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	16.43	NA	21.06	NA	19.19	NA	17.25	NA	16.64	NA	16.30	NA	17.12	NA	17.95	NA	16.36
Conductivity	NA	NA	1.90	NA	2.04	NA	1.84	NA	1.78	NA	1.63	NA	1.87	NA	1.42	NA	1.77	NA	1.66
Dissolved Oxygen	NA	NA	0.17	NA	0.13	NA	-0.02	NA	5.53	NA	2.86	NA	2.31	NA	0.50	NA	0.29	NA	0.44
ORP	NA	NA	-148	NA	-141	NA	-119	NA	-100	NA	-100	NA	-116.9	NA	-145.5	NA	-140.7	NA	-134.7

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-08	Date	12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012		2/27/2013		5/30/2013		7/31/2013		10/23/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND	0.003	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.001	0.0052	0.001	0.0038	0.001	0.004	0.001	0.0041	0.0050	0.0062	0.001	0.005	0.0010	0.0036	0.0010	0.0041	0.0010	0.0037
Barium	2.0	0.001	0.13	0.001	0.14	0.001	0.14	0.001	0.14	0.040	0.16	0.001	0.14	0.0025	0.14	0.0025	0.13	0.0025	0.13
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0010	ND ^	0.0010	ND	0.0010	ND
Boron	2.0	0.01	0.82	0.01	0.57	0.01	0.57	0.01	1	0.40	0.93	0.01	1.1	0.050	0.91	0.050	1.2	0.050	0.93
Cadmium	0.005	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	50	190	50	170	50	200	50	210	50	220	50	200	10	230	10	220	10	260
Chromium	0.1	0.004	0.0053	0.004	ND	0.004	0.0056	0.004	0.0066	0.0030	0.012	0.004	0.0046	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND	0.002	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.003	0.01	0.003	ND	0.003	ND	0.003	0.0032	0.010	ND	0.003	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.25	0.75	0.25	0.70	0.25	0.63	0.25	0.53	0.25	0.63	0.25	0.28	0.10	0.74	0.10	0.68	0.10	0.74
Iron	5.0	0.010	0.94	0.010	2.3	0.010	1.2	0.010	1.3	0.010	2.1	0.01	6.5	0.10	2.3	0.10	6.6	0.10	1.3
Lead	0.0075	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.001	0.2	0.001	0.27	0.001	0.2	0.001	0.2	0.0020	0.23	0.001	0.43	0.0025	0.25	0.0025	0.48	0.0025	0.16
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.005	0.009	0.005	0.0054	0.005	0.0075	0.005	0.009	0.010	ND	0.005	0.0057	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.02	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.87	NA	7.97	NA	8.20	NA	8.23	NA	8.09	NA	7.72	NA	7.81	NA	7.39	NA	8.16
Selenium	0.05	0.001	0.0036	0.001	0.0018	0.001	0.0018	0.001	ND	0.0050	ND	0.001	0.002	0.0025	0.0029	0.0025	ND	0.0025	0.0048
Silver	0.05	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	200	50	300	50	440	50	330	50	360	50	330	100	460	100	380	100	350
Thallium	0.002	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	17	990	17	1200	17	1200	17	1200	26	1200	26	1100	10	1300	10	1300	10	1300
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0080	ND	0.005	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.020	ND	0.006	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.03	ND	0.03	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	19.20	NA	19.73	NA	18.28	NA	19.15	NA	18.34	NA	17.10	NA	18.11	NA	17.58	NA	15.62
Conductivity	NA	NA	1.47	NA	1.57	NA	1.65	NA	1.79	NA	1.82	NA	1.78	NA	1.55	NA	1.60	NA	1.62
Dissolved Oxygen	NA	NA	0.03	NA	0.03	NA	0.06	NA	0.09	NA	0.64	NA	0.33	NA	0.32	NA	0.16	NA	0.25
ORP	NA	NA	-238	NA	-222	NA	-228	NA	-231	NA	-210	NA	-183.8	NA	-225.9	NA	-182	NA	-225

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured
NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-09	Date	12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012		2/27/2013		5/30/2013		7/30/2013		10/22/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND	0.003	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.001	0.0012	0.001	ND	0.001	0.0017	0.001	ND	0.0050	ND	0.001	0.0013	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.001	0.038	0.001	0.035	0.001	0.038	0.001	0.038	0.040	0.062	0.001	0.049	0.0025	0.042	0.0025	0.050	0.0025	0.048
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0010	ND ^	0.0010	ND	0.0010	ND
Boron	2.0	0.01	2.7	0.01	2.6	0.01	2.6	0.01	2.9	1.0	3.2	0.01	4.3	0.050	3.2	0.050	2.5	0.050	1.6
Cadmium	0.005	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	25	30	10	30	10	27	10	28	10	31	10	27	2.0	29	2.0	33	2.0	42
Chromium	0.1	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.0030	0.01	0.004	0.0046	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND	0.002	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.010	ND	0.003	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.25	ND	0.25	ND	0.25	ND	0.25	ND	0.25	0.3	0.25	ND	0.10	0.21	0.10	0.18	0.10	0.17
Iron	5.0	0.010	ND	0.010	0.014	0.010	ND	0.010	ND	0.010	ND	0.01	0.024	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.001	0.28	0.001	0.22	0.001	0.34	0.001	0.11	0.0020	0.1	0.001	0.19	0.0025	0.053	0.0025	0.038	0.0025	0.019
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.005	0.0088	0.005	ND	0.005	ND	0.005	0.0067	0.010	ND	0.005	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.50	2.6	0.20	5.0	0.20	2.8	0.20	6.3	0.20	10	0.2	12	0.10	11	0.10	7.9	0.10	4.6
Nitrogen/Nitrate, Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	1.0	11	0.50	7.9	0.50	4.6
Nitrogen/Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	6.31	NA	7.28	NA	7.30	NA	7.18	NA	7.10	NA	8.00	NA	7.21	NA	6.63	NA	7.19
Selenium	0.05	0.001	0.0041	0.001	0.0072	0.001	0.0047	0.001	0.0044	0.0050	0.009	0.001	0.015	0.0025	0.016	0.0025	0.014	0.0025	0.0047
Silver	0.05	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	25	110	25	120	50	130	25	120	25	130	50	140	50	140	25	130	25	90
Thallium	0.002	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	17	520	17	530	17	520	17	580	26	560	26	520	10	600	10	610	10	430
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0080	ND	0.005	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.020	ND	0.006	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.03	ND	0.03	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	14.56	NA	18.11	NA	15.72	NA	16.55	NA	13.91	NA	16.40	NA	17.38	NA	14.49	NA	14.68
Conductivity	NA	NA	0.66	NA	0.73	NA	0.67	NA	0.72	NA	0.77	NA	0.82	NA	0.72	NA	0.76	NA	0.66
Dissolved Oxygen	NA	NA	0.08	NA	0.07	NA	0.11	NA	0.56	NA	1.10	NA	0.87	NA	0.64	NA	0.29	NA	1.01
ORP	NA	NA	20	NA	68	NA	47	NA	168	NA	210	NA	77.2	NA	-68.3	NA	117.2	NA	-159.8

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-10	Date	12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012		2/27/2013		5/29/2013		7/31/2013		10/23/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND	0.003	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.001	ND	0.001	ND	0.001	0.0015	0.001	0.0014	0.0050	ND	0.001	0.001	0.0010	0.0012	0.0010	ND	0.0010	ND
Barium	2.0	0.001	0.26	0.001	0.26	0.001	0.27	0.001	0.23	0.040	0.24	0.001	0.22	0.0025	0.30	0.0025	0.18	0.0025	0.23
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0010	ND ^	0.0010	ND	0.0010	ND
Boron	2.0	0.01	0.57	0.01	0.54	0.01	0.54	0.01	0.42	0.40	0.46	0.01	0.64	0.050	0.98	0.050	1.9	0.050	0.61
Cadmium	0.005	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	42	10	45	10	46	10	45	10	45	10	37	2.0	41	2.0	40	2.0	54
Chromium	0.1	0.004	ND	0.004	ND	0.004	ND	0.004	ND	0.0030	0.0048	0.004	0.0064	0.0050	0.0061	0.0050	ND	0.0050	ND
Cobalt	1.0	0.002	0.0026	0.002	0.0024	0.002	0.0029	0.002	0.0029	0.0030	ND	0.002	0.0021	0.0010	0.012	0.0010	0.0019	0.0010	0.0025
Copper	0.65	0.003	0.0041	0.003	ND	0.003	ND	0.003	ND	0.010	ND	0.003	ND	0.0020	0.028	0.0020	ND	0.0020	ND
Cyanide	0.2	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.25	ND	0.25	ND	0.25	ND	0.25	ND	0.25	0.28	0.25	ND	0.10	0.18	0.10	0.18	0.10	0.17
Iron	5.0	0.010	ND	0.010	ND	0.010	0.015	0.010	0.012	0.010	0.016	0.01	ND	0.10	2.7	0.10	ND	0.10	0.18
Lead	0.0075	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND	0.001	ND	0.00050	0.012	0.00050	ND	0.00050	ND
Manganese	0.15	0.001	2.3	0.001	2.3	0.001	2.6	0.001	2.5	0.040	2.2	0.001	1.9	0.0025	3.2	0.0025	1.5	0.0025	2.0
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.005	0.013	0.005	0.0091	0.005	0.0093	0.005	0.014	0.010	ND	0.005	0.0079	0.0020	0.023	0.0020	0.0037	0.0020	0.0051
Nitrogen/Nitrate	10.0	0.20	4.9	0.20	6.0	0.20	2.9	0.20	5.2	0.20	4.8	0.2	3.3	0.10	1.9	0.10	1.5	0.10	1.2
Nitrogen/Nitrate, Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.20	1.9	0.10	1.6	0.10	1.2
Nitrogen/Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.020	ND	0.020	0.056	0.020	0.034
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	6.03	NA	7.03	NA	6.95	NA	6.96	NA	7.03	NA	8.39	NA	6.87	NA	6.85	NA	7.02
Selenium	0.05	0.001	0.0065	0.001	0.0056	0.001	0.0056	0.001	0.0058	0.0050	0.0074	0.001	0.0083	0.0025	0.0043	0.0025	0.0087	0.0025	0.0080
Silver	0.05	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	10	72	10	76	10	63	10	58	10	59	10	69	25	92	25	150	25	90
Thallium	0.002	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	17	540	17	530	17	550	17	580	26	420	26	440	10	580	10	550	10	620
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0080	ND	0.005	ND	0.0050	0.012	0.0050	ND	0.0050	ND
Zinc	5.0	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.020	ND	0.006	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.03	ND	0.03	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	11.05	NA	14.51	NA	13.49	NA	12.84	NA	11.87	NA	11.60	NA	14.99	NA	13.28	NA	11.61
Conductivity	NA	NA	0.65	NA	0.71	NA	0.67	NA	0.67	NA	0.60	NA	0.70	NA	0.69	NA	0.71	NA	0.70
Dissolved Oxygen	NA	NA	0.04	NA	0.02	NA	0.04	NA	0.10	NA	2.07	NA	0.49	NA	0.39	NA	0.19	NA	0.50
ORP	NA	NA	23	NA	118	NA	67	NA	107	NA	60	NA	33.2	NA	63.9	NA	20.8	NA	-138.7

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured
NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-11	Date	12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012		2/27/2013		5/30/2013		7/30/2013		10/22/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND	0.003	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.001	0.0019	0.001	0.0021	0.001	0.0032	0.001	0.0038	0.0050	0.03	0.001	0.045	0.0010	0.028	0.0010	0.038	0.0010	0.038
Barium	2.0	0.001	0.11	0.001	0.13	0.001	0.17	0.001	0.22	0.20	ND	0.001	0.2	0.0025	0.15	0.0025	0.19	0.0025	0.18
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0010	ND ^	0.0010	ND	0.0010	ND
Boron	2.0	0.01	1.8	0.01	2.3	0.01	1.9	0.01	2.6	2.0	ND	0.01	1.4	0.050	1.3	0.050	1.5	0.050	1.2
Cadmium	0.005	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	50	87	10	54	25	150	10	52	50	83	10	84	10	79	10	110	10	79
Chromium	0.1	0.004	ND	0.004	ND	0.004	0.0051	0.004	ND	0.0030	0.015	0.004	0.0099	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.002	ND	0.002	0.0024	0.002	0.0039	0.002	0.0049	0.0030	0.0041	0.002	0.0028	0.0010	0.0020	0.0010	0.0023	0.0010	0.0025
Copper	0.65	0.003	ND	0.003	ND	0.003	ND	0.003	0.0049	0.010	ND	0.003	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.25	0.44	0.25	0.42	0.25	0.32	0.25	0.56	0.25	0.64	0.25	0.43	0.10	0.79	0.10	0.80	0.10	0.75
Iron	5.0	0.010	ND	0.010	ND	0.010	0.056	0.010	2.0	0.010	0.7	0.01	2.4	0.10	3.1	0.10	3.9	0.10	3.3
Lead	0.0075	0.001	ND	0.001	ND	0.001	ND	0.001	0.0023	0.0050	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.001	2.5	0.001	2.9	0.001	3.7	0.001	4.7	0.20	12	0.001	11	0.025	7.5	0.0025	8.0	0.0025	7.3
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.005	0.013	0.005	0.011	0.005	0.013	0.005	0.017	0.010	ND	0.005	0.0088	0.0020	0.0026	0.0020	0.0033	0.0020	0.0036
Nitrogen/Nitrate	10.0	0.02	1.5	0.02	0.39	0.02	ND	0.20	4.6	0.02	0.39	0.02	0.33	0.10	1.1	0.10	ND	0.10	0.18
Nitrogen/Nitrate, Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.10	1.1	0.10	ND	0.10	0.18
Nitrogen/Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	6.48	NA	7.32	NA	7.15	NA	7.30	NA	7.28	NA	8.27	NA	6.99	NA	7.08	NA	7.23
Selenium	0.05	0.001	0.0031	0.001	0.0039	0.001	0.0039	0.001	0.004	0.0050	ND	0.001	0.0014	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	160	50	130	100	320	25	170	50	200	50	150	50	240	50	280	50	180
Thallium	0.002	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	17	730	17	740	17	1000	17	760	26	970	26	840	10	850	10	980	10	770
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0080	ND	0.005	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.006	ND	0.006	ND	0.006	ND	0.006	0.0073	0.020	ND	0.006	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.03	ND	0.03	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	13.85	NA	16.31	NA	15.74	NA	17.90	NA	13.95	NA	14.20	NA	17.00	NA	16.66	NA	13.33
Conductivity	NA	NA	0.89	NA	0.98	NA	1.26	NA	0.96	NA	1.22	NA	1.30	NA	1.19	NA	1.22	NA	1.10
Dissolved Oxygen	NA	NA	NM	NA	NM	NA	3.73	NA	5.16	NA	2.54	NA	3.55	NA	0.28	NA	0.20	NA	0.76
ORP	NA	NA	NM	NA	NM	NA	0.47	NA	43	NA	-60	NA	-113.2	NA	-147.5	NA	-144.2	NA	-141.3

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured
NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-12	Date	12/12/2011		3/19/2012		6/25/2012		9/18/2012		12/12/2012		2/27/2013		5/30/2013		7/29/2013		10/22/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND	0.003	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.001	0.0089	0.001	0.0042	0.001	0.014	0.001	0.011	0.0050	0.022	0.001	0.0066	0.0010	0.0031	0.0010	0.016	0.0010	0.018
Barium	2.0	0.001	0.09	0.001	0.071	0.001	0.12	0.001	0.11	0.040	0.1	0.001	0.1	0.0025	0.091	0.0025	0.092	0.0025	0.087
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0010	ND ^	0.0010	ND	0.0010	ND
Boron	2.0	0.01	1.3	0.01	0.92	0.01	1.2	0.01	1.1	0.40	0.85	0.01	1.1	0.050	3.7	0.050	1.1	0.050	1.1
Cadmium	0.005	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	50	210	50	170	50	190	50	170	50	210	50	190	10	200	10	190	10	180
Chromium	0.1	0.004	0.0047	0.004	ND	0.004	0.0043	0.004	0.0045	0.0030	0.0079	0.004	0.0052	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND	0.002	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.003	0.0031	0.003	ND	0.003	ND	0.003	ND	0.010	ND	0.003	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.25	0.61	0.25	0.46	0.25	0.36	0.25	0.42	0.25	0.43	0.25	ND	0.10	0.62	0.10	0.56	0.10	0.51
Iron	5.0	0.010	3.1	0.010	4.8	0.010	8.2	0.010	8.9	0.010	6.4	0.01	5.8	0.10	8.9	0.10	4.5	0.10	0.23
Lead	0.0075	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.001	0.25	0.001	0.13	0.001	0.71	0.001	0.64	0.040	1.7	0.001	0.38	0.0025	0.24	0.0025	1.3	0.0025	1.5
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.005	0.0091	0.005	0.0075	0.005	0.0082	0.005	0.012	0.010	ND	0.005	0.0065	0.0020	ND	0.0020	0.0029	0.0020	0.0028
Nitrogen/Nitrate	10.0	0.02	ND	0.02	0.04	0.20	ND	0.02	0.03	0.02	ND	0.02	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.38	NA	7.22	NA	7.40	NA	7.50	NA	7.37	NA	8.36	NA	7.17	NA	7.29	NA	7.73
Selenium	0.05	0.001	0.0034	0.001	0.0043	0.001	0.0038	0.001	0.0016	0.0050	ND	0.001	0.002	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	300	50	310	50	430	50	370	50	300	50	350	100	410	100	420	100	270
Thallium	0.002	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	17	970	17	1000	17	1200	17	1200	26	1100	26	1000	10	1200	10	1200	10	1000
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0080	ND	0.005	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.020	ND	0.006	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.03	ND	0.03	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	17.78	NA	19.62	NA	19.07	NA	18.88	NA	17.51	NA	16.30	NA	21.42	NA	17.93	NA	14.78
Conductivity	NA	NA	1.38	NA	1.54	NA	1.63	NA	1.61	NA	1.48	NA	1.60	NA	1.63	NA	1.47	NA	1.20
Dissolved Oxygen	NA	NA	NM	NA	NM	NA	0.06	NA	0.11	NA	1.70	NA	0.35	NA	1.04	NA	0.25	NA	0.20
ORP	NA	NA	NM	NA	NM	NA	-168	NA	-157	NA	-130	NA	-141.2	NA	-146.5	NA	-85.9	NA	-205.6

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured
NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-13	Date	8/9/2011		10/13/2011		12/12/2011		4/10/2012		12/14/2012		2/28/2013		5/30/2013		7/30/2013		10/22/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND	0.003	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.001	0.0048	0.001	0.0066	0.001	0.023	0.001	0.027	0.0050	0.041	0.001	0.029	0.0010	0.031	0.0010	0.029	0.0010	0.024
Barium	2.0	0.001	0.046	0.001	0.083	0.001	0.21	0.001	0.14	0.0020	0.3	0.001	0.19	0.0025	0.23	0.0025	0.23	0.0025	0.16
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0010	ND ^	0.0010	ND	0.0010	ND
Boron	2.0	0.01	2.7	0.01	3	0.01	4.1	0.01	4	1.0	3.6	0.01	4.2	0.050	1.6	0.050	3.8	0.050	3.5
Cadmium	0.005	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	25	110	25	110	100	180	50	170	50	210	50	170	10	190	10	190	10	180
Chromium	0.1	0.004	ND	0.004	0.01	0.004	0.0055	0.004	0.0055	0.0030	0.011	0.004	0.0057	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.002	0.0031	0.002	ND	0.002	ND	0.002	ND	0.0030	ND	0.002	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.003	0.004	0.003	0.0055	0.003	0.0066	0.003	0.0068	0.010	ND	0.003	0.0037	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.25	0.38	0.25	0.30	0.25	ND	0.25	0.32	0.25	ND	0.25	ND	0.10	0.39	0.10	0.39	0.10	0.39
Iron	5.0	0.010	0.043	0.010	ND	0.010	0.11	0.010	0.20	0.010	0.066	0.01	0.28	0.10	1.3	0.10	1.6	0.10	0.29
Lead	0.0075	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.001	2.6	0.001	3.6	0.001	3.5	0.001	3.5	0.0020	3.7	0.001	3.5	0.0025	3.8	0.0025	4.0	0.0025	2.8
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.005	0.016	0.005	0.015	0.005	0.022	0.005	0.02	0.010	ND	0.005	0.011	0.0020	ND	0.0020	0.0027	0.0020	0.0024
Nitrogen/Nitrate	10.0	0.50	3.6	0.02	1.6	0.02	0.07	0.02	0.06	0.02	ND	0.02	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.13	NA	7.31	NA	7.19	NA	8.49	NA	7.92	NA	8.26	NA	7.65	NA	7.61	NA	7.81
Selenium	0.05	0.001	0.0056	0.001	0.004	0.001	0.0036	0.001	0.0037	0.0050	ND	0.001	0.0025	0.0025	0.010	0.0025	0.0095	0.0025	ND
Silver	0.05	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	440	250	660	250	1100	500	1100	500	1100	250	730	250	880	250	1000	250	690
Thallium	0.002	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	17	1100	17	1500	17	2100	17	2300	26	1900	26	1600	10	2000	10	2000	10	1700
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0080	ND	0.005	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.006	ND	0.006	0.06	0.006	ND	0.006	ND	0.020	ND	0.006	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.03	ND	0.03	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	15.92	NA	14.87	NA	13.78	NA	14.90	NA	14.88	NA	14.00	NA	18.10	NA	16.26	NA	12.38
Conductivity	NA	NA	1.63	NA	1.59	NA	2.33	NA	2.89	NA	2.15	NA	2.05	NA	2.12	NA	2.13	NA	1.83
Dissolved Oxygen	NA	NA	NM	NA	NM	NA	NM	NA	NM	NA	3.54	NA	1.69	NA	1.16	NA	0.27	NA	0.94
ORP	NA	NA	NM	NA	NM	NA	NM	NA	NM	NA	-20	NA	134	NA	-177.9	NA	-171.2	NA	-189.1

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-14	Date	8/9/2011		10/13/2011		12/12/2011		4/10/2012		12/14/2012		2/27/2013		5/30/2013		7/30/2013		10/23/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND	0.003	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.001	0.0062	0.001	0.015	0.001	0.0033	0.001	0.0039	0.0050	0.0053	0.001	0.0066	0.0010	0.0023	0.0010	0.0016	0.0010	ND
Barium	2.0	0.001	0.041	0.001	0.04	0.001	0.045	0.001	0.045	0.0020	0.038	0.001	0.032	0.0025	0.053	0.0025	0.042	0.0025	0.050
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0010	ND ^	0.0010	ND	0.0010	ND
Boron	2.0	0.01	1.8	0.01	1.9	0.01	1.9	0.01	1.8	2.0	ND	0.01	1.9	0.050	1.7	0.050	1.7	0.050	2.0
Cadmium	0.005	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.00050	0.00060	0.00050	0.00086	0.00050	0.00062
Chloride	200.0	25	240	100	200	100	200	50	190	50	190	25	92	10	160	10	190	10	190
Chromium	0.1	0.004	0.0076	0.004	0.0096	0.004	0.0065	0.004	0.0057	0.0030	0.018	0.004	0.0095	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND	0.002	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.003	0.0064	0.003	0.0055	0.003	0.025	0.003	0.0067	0.010	ND	0.003	0.003	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.25	1.4	0.25	0.88	0.25	1.1	0.25	1.0	0.25	1.2	0.25	0.29	0.10	1.1	0.10	1.1	0.10	0.95
Iron	5.0	0.010	0.71	0.010	2.0	0.010	0.12	0.010	0.77	0.010	0.012	0.01	0.02	0.10	ND	0.10	ND	0.10	0.39
Lead	0.0075	0.001	ND	0.001	ND	0.001	ND	0.001	0.0035	0.0050	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.001	0.57	0.001	0.84	0.001	0.067	0.001	0.63	0.0020	0.11	0.001	0.12	0.0025	0.72	0.0025	0.32	0.0025	1.2
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.005	0.016	0.005	0.011	0.005	0.015	0.005	0.018	0.010	ND	0.005	0.0094	0.0020	0.0027	0.0020	0.0073	0.0020	0.0042
Nitrogen/Nitrate	10.0	0.02	0.05	0.02	ND	0.02	0.33	0.02	0.31	0.02	0.32	0.2	3.5	0.10	ND	0.10	ND	0.10	0.16
Nitrogen/Nitrate, Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.10	ND	0.10	ND	0.10	0.18
Nitrogen/Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.020	ND	0.020	ND	0.020	0.022
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.08	NA	7.40	NA	6.05	NA	8.35	NA	7.13	NA	8.21	NA	7.03	NA	6.93	NA	7.11
Selenium	0.05	0.001	0.003	0.001	0.0017	0.001	0.0037	0.001	0.022	0.0050	0.0055	0.001	0.15	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	250	940	100	850	100	880	250	990	500	810	100	390	250	800	250	900	250	840
Thallium	0.002	0.001	0.0027	0.001	0.0016	0.001	0.0016	0.001	0.0034	0.0010	0.0025	0.001	0.0043	0.0020	0.0025	0.0020	0.0043	0.0020	0.0022
Total Dissolved Solids	1,200	17	2000	17	1800	17	1800	17	2200	26	1700	26	1300	10	2000	10	2100	10	2100
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0080	0.010	0.005	0.007	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.006	ND	0.006	ND	0.006	ND	0.006	0.0084	0.020	ND	0.006	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.03	ND	0.03	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	18.65	NA	16.54	NA	14.74	NA	15.10	NA	15.06	NA	14.50	NA	17.22	NA	16.52	NA	13.59
Conductivity	NA	NA	2.74	NA	2.07	NA	2.00	NA	2.92	NA	2.06	NA	1.72	NA	1.98	NA	2.17	NA	2.10
Dissolved Oxygen	NA	NA	NM	NA	NM	NA	NM	NA	NM	NA	2.00	NA	3.88	NA	0.72	NA	0.31	NA	0.51
ORP	NA	NA	NM	NA	NM	NA	NM	NA	NM	NA	80	NA	127	NA	5.9	NA	2.8	NA	-146.8

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_19834

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-15	Date	8/9/2011		10/13/2011		12/12/2011		4/10/2012		12/14/2012		2/28/2013		5/30/2013		7/30/2013		10/23/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.003	ND	0.003	ND	0.003	ND	0.003	ND	0.0050	ND	0.003	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.001	0.0053	0.001	0.011	0.001	0.0097	0.001	0.0061	0.0050	0.011	0.001	0.0078	0.0010	0.0037	0.0010	0.0046	0.0010	0.0066
Barium	2.0	0.001	0.057	0.001	0.06	0.001	0.063	0.001	0.075	0.0020	0.11	0.001	0.096	0.0025	0.11	0.0025	0.080	0.0025	0.12
Beryllium	0.004	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0010	ND ^	0.0010	ND	0.0010	ND
Boron	2.0	0.01	1.3	0.02	1.2	0.01	1.2	0.01	1.4	2.0	ND	0.01	1.7	0.050	1.5	0.050	1.6	0.050	1.2
Cadmium	0.005	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	25	210	100	180	100	200	50	200	50	220	50	200	10	210	10	220	10	210
Chromium	0.1	0.004	0.0091	0.004	0.0062	0.004	0.0062	0.004	0.0071	0.0030	0.012	0.004	0.0062	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.002	ND	0.002	ND	0.002	ND	0.002	ND	0.0030	ND	0.002	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.003	0.0041	0.003	0.0037	0.003	0.0031	0.003	0.0039	0.010	ND	0.003	0.0036	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.005	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.25	0.76	0.25	0.77	0.25	0.75	0.25	0.79	0.25	0.95	0.25	0.29	0.10	0.65	0.10	0.78	0.10	0.71
Iron	5.0	0.010	2.1	0.010	2.6	0.010	2.1	0.010	1.1	0.010	1.9	0.01	1.5	0.10	0.83	0.10	1.3	0.10	1.1
Lead	0.0075	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0050	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.001	0.37	0.001	0.48	0.001	0.39	0.001	0.25	0.0020	0.51	0.001	0.35	0.0025	0.27	0.0025	0.30	0.0025	0.43
Mercury	0.002	0.0002	ND	0.0002	ND	0.0002	ND	0.0002	ND	0.00020	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.005	0.01	0.005	0.011	0.005	0.011	0.005	0.01	0.010	ND	0.005	0.0079	0.0020	0.0072	0.0020	0.0063	0.0020	0.0052
Nitrogen/Nitrate	10.0	0.02	0.05	0.02	ND	0.02	0.07	0.02	0.12	0.02	0.12	0.02	0.02	0.10	ND	0.10	ND	0.10	0.22
Nitrogen/Nitrate, Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.10	ND	0.10	ND	0.10	0.22
Nitrogen/Nitrite	NA	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	6.89	NA	7.37	NA	6.84	NA	8.23	NA	7.30	NA	8.09	NA	6.71	NA	6.93	NA	7.18
Selenium	0.05	0.001	0.002	0.001	0.004	0.001	0.0047	0.001	0.025	0.0050	ND	0.001	0.0024	0.0025	0.0065	0.0025	ND	0.0025	0.013
Silver	0.05	0.005	ND	0.005	ND	0.005	ND	0.005	ND	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	250	100	180	100	140	50	200	50	320	50	280	250	570	100	460	100	420
Thallium	0.002	0.001	ND	0.001	ND	0.001	ND	0.001	ND	0.0010	ND	0.001	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	17	1000	17	890	17	840	17	1000	26	1100	26	1100	10	1700	10	1400	10	1400
Vanadium	0.049	NR	NR	NR	NR	NR	NR	NR	NR	0.0080	ND	0.005	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.006	ND	0.006	ND	0.006	ND	0.006	ND	0.020	ND	0.006	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	NR	NR	NR	NR	NR	NR	NR	NR	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	NR	NR	NR	NR	NR	NR	NR	NR	0.03	ND	0.03	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	18.41	NA	13.38	NA	16.50	NA	15.20	NA	16.25	NA	13.30	NA	18.64	NA	16.91	NA	15.59
Conductivity	NA	NA	1.66	NA	1.25	NA	1.20	NA	1.51	NA	1.58	NA	1.00	NA	1.97	NA	1.62	NA	1.58
Dissolved Oxygen	NA	NA	NM	NA	NM	NA	NM	NA	NM	NA	0.09	NA	0.37	NA	0.40	NA	0.16	NA	0.28
ORP	NA	NA	NM	NA	NM	NA	NM	NA	NM	NA	-90	NA	-87	NA	-9.3	NA	-48.3	NA	-180.6

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured
NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

MWG13-15_19835

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-16	Date	12/12/2012		2/27/2013		5/29/2013		7/29/2013		10/22/2013	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0050	ND	0.003	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0050	ND	0.001	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.020	0.039	0.001	0.042	0.0025	0.038	0.0025	0.035	0.0025	0.037
Beryllium	0.004	0.0010	ND	0.001	ND	0.0010	ND ^	0.0010	ND	0.0010	ND
Boron	2.0	0.20	ND	0.01	0.13	0.050	0.20	0.050	0.26	0.050	0.35
Cadmium	0.005	0.0010	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	26	10	18	2.0	19	2.0	21	2.0	35
Chromium	0.1	0.0030	0.0047	0.004	0.0052	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0030	ND	0.002	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.010	ND	0.003	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.0050	ND	0.005	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.25	ND	0.25	ND	0.10	ND	0.10	0.11	0.10	0.11
Iron	5.0	0.010	0.012	0.01	0.019	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.0050	ND	0.001	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0020	0.022	0.001	0.0053	0.0025	ND	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.010	ND	0.005	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.50	18	0.5	23	0.10	20	0.10	13	0.10	19
Nitrogen/Nitrate, Nitrite	NA	NR	NR	NR	NR	2.5	20	2.5	13	1.0	19
Nitrogen/Nitrite	NA	NR	NR	NR	NR	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	NR	NR	NR	NR	0.0040	ND	0.0040	ND	0.0040	ND
pH	6.5 - 9.0	NA	7.38	NA	8.31	NA	7.10	NA	7.18	NA	7.27
Selenium	0.05	0.0050	ND	0.001	0.0015	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	10	37	10	31	20	50	20	55	20	55
Thallium	0.002	0.0010	ND	0.001	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	26	520	26	420	10	460	10	440	10	540
Vanadium	0.049	0.0080	ND	0.005	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.006	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.03	ND	0.03	ND	0.0025	ND	0.0025	ND	0.0025	ND
Temperature	NA	NA	12.84	NA	13.10	NA	15.29	NA	16.61	NA	12.74
Conductivity	NA	NA	0.61	NA	1.17	NA	0.60	NA	0.59	NA	0.63
Dissolved Oxygen	NA	NA	9.54	NA	8.53	NA	6.78	NA	4.91	NA	6.24
ORP	NA	NA	110	NA	-38	NA	70.2	NA	24.7	NA	-83.4

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits

Temperature	°C	degrees Celcius
Conductivity	ms/cm°	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 3. East Yard Run-off Basin Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Date	12/14/2012		2/28/2013		5/13/2013		7/29/2013		10/22/2013	
Parameter	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.0050	ND	0.003	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.0050	0.0062	0.001	0.0043	0.0010	0.0030	0.0010	0.0066	0.0010	0.0036
Barium	0.0020	0.19	0.001	0.15	0.0025	0.16	0.0025	0.33	0.0025	0.098
Beryllium	0.0010	ND	0.001	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	0.40	0.41	0.01	0.35	0.050	0.35 ^	0.050	0.43	0.050	0.38
Cadmium	0.0010	ND	0.001	ND	0.00050	ND	0.00050	0.0014	0.00050	ND
Chloride	50	220	50	200	10	130	10	150	10	170
Chromium	0.0030	0.0094	0.004	0.0041	0.0050	ND	0.0050	0.021	0.0050	ND
Cobalt	0.0030	ND	0.002	ND	0.0010	ND	0.0010	0.0023	0.0010	ND
Copper	0.010	ND	0.003	0.0032	0.0020	0.0057	0.0020	0.022	0.0020	0.0032
Cyanide	0.0050	ND	0.005	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	0.25	0.68	0.25	0.29	0.10	0.42	0.10	0.47	0.10	0.45
Iron	0.010	ND	0.01	0.025	0.10	0.62	0.10	6.6	0.10	2.6
Lead	0.0050	ND	0.001	ND	0.00050	0.0044	0.00050	0.024	0.00050	ND
Manganese	0.0020	0.0026	0.001	0.0037	0.0025	0.060	0.0025	0.14	0.0025	0.021
Mercury	0.00020	ND	0.0002	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.010	ND	0.005	0.0066	0.0020	0.0029	0.0020	0.010	0.0020	0.0027
Nitrogen/Nitrate	0.02	0.49	0.02	0.48	0.10	ND	0.10	0.14	0.10	ND
Nitrogen/Nitrate, Nitrite	NS	NS	NS	NS	0.10	ND ^	0.10	0.14	0.10	0.12
Nitrogen/Nitrite	0.15	ND	NS	NS	0.020	ND	0.020	ND	0.020	0.024
Perchlorate	NS	NS	NS	NS	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.0050	ND	0.001	0.0037	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.010	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	50	280	50	220	50	160	50	240	50	240
Thallium	0.0010	ND	0.001	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	26	940	26	820	10	590	10	630	10	750
Vanadium	0.0080	0.015	0.005	0.011	0.0050	0.0071	0.0050	0.043	0.0050	0.0066
Zinc	0.020	ND	0.006	ND	0.020	0.042	0.020	0.27	0.020	ND
Benzene	0.005	ND	0.005	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	0.03	ND	0.03	ND	0.00250	ND	0.00250	ND	0.00250	ND

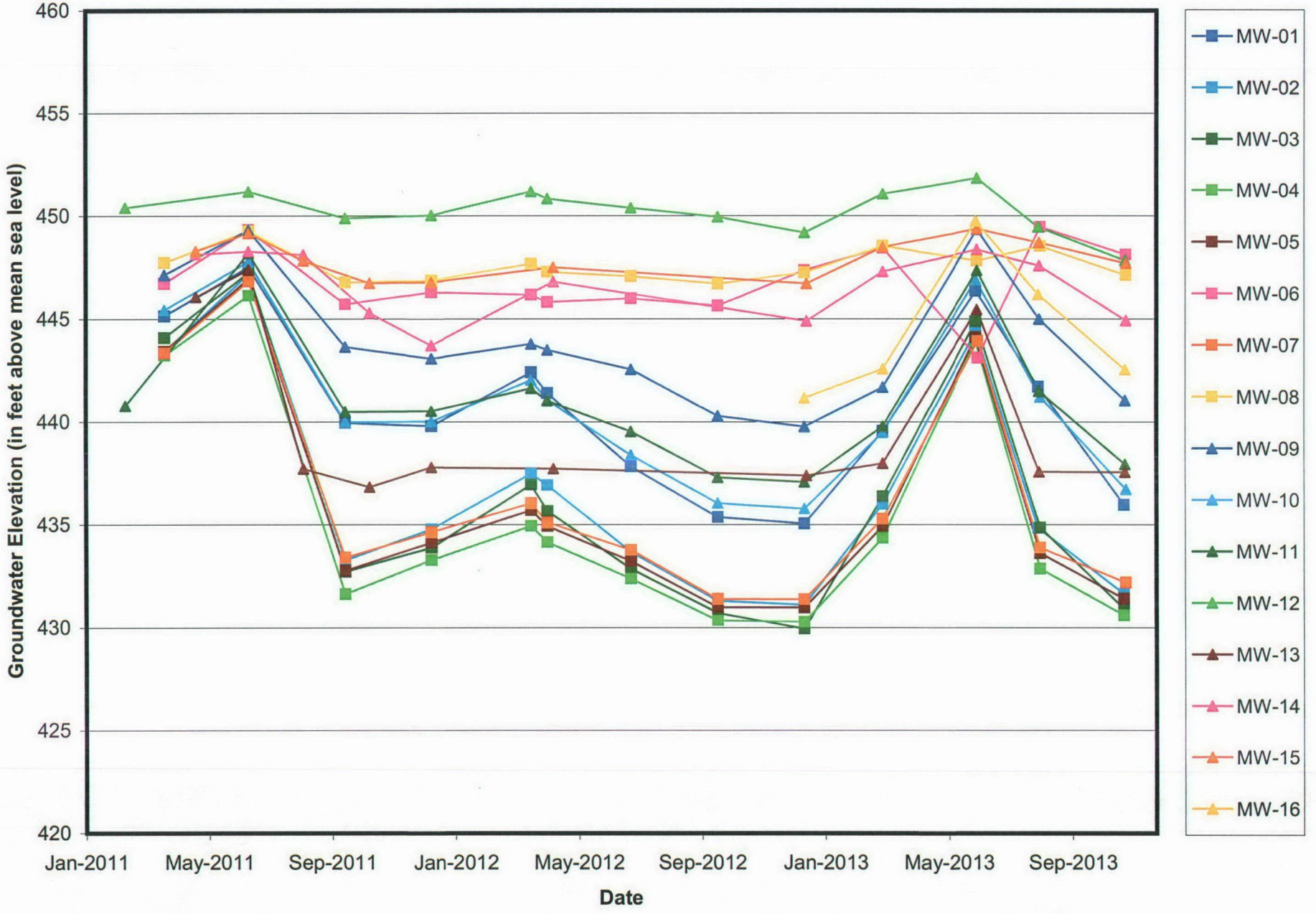
Notes: All values are in mg/L (ppm) unless otherwise noted.
^ - Denotes instrument related QC exceeds the control limits
DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured
NR - Not Required
NS - Not Sampled

MWG13-15_19837

ATTACHMENT 1
Hydrograph of Water Level Elevations

Midwest Generation Powerton Station, Pekin, IL

Groundwater Elevation vs Time



MWG13-15_19839

ATTACHMENT 2
Analytical Data Package(s)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-65332-1
Client Project/Site: Powerton Station Ash Ponds

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
11/8/2013 12:41:42 PM

Bonnie Stadelmann, Project Manager II
(708)534-5200
bonnie.stadelmann@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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MWG13-15_19842

Job ID: 500-65332-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-65332-1

Comments
No additional comments.

Receipt
The samples were received on 10/22/2013 10:05 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 6 coolers at receipt time were 1.0° C, 1.7° C, 3.2° C, 3.5° C, 3.7° C and 4.4° C.

GC/MS VOA
No analytical or quality issues were noted.

Metals
Method(s) 6020A: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 500-65332-1 were outside control limits for selenium. The duplicate, serial dilution and laboratory control sample (LCS) recovery met acceptance criteria. Data has been qualified and is being reported.

No other analytical or quality issues were noted.

Field Service / Mobile Lab
No analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

MWG13-15_19843

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-65332-1

Client Sample ID: MW1 — Lab Sample ID: 500-65332-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.070		0.0025		mg/L	1		6020A	Dissolved
Boron	0.62		0.050		mg/L	1		6020A	Dissolved
Selenium	0.0042		0.0025		mg/L	1		6020A	Dissolved
Sulfate	85		20		mg/L	4		9038	Dissolved
Chloride	46		2.0		mg/L	1		9251	Dissolved
Nitrogen, Nitrate	4.5		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	660		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.11		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrate Nitrite	4.5		0.50		mg/L	5		SM 4500 NO3 F	Dissolved

Client Sample ID: MW2 — Lab Sample ID: 500-65332-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.088		0.0025		mg/L	1		6020A	Dissolved
Boron	2.7		0.050		mg/L	1		6020A	Dissolved
Manganese	0.0060		0.0025		mg/L	1		6020A	Dissolved
Sulfate	190		50		mg/L	10		9038	Dissolved
Chloride	90		10		mg/L	5		9251	Dissolved
Nitrogen, Nitrate	1.1		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	770		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.17		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrate Nitrite	1.1		0.10		mg/L	1		SM 4500 NO3 F	Dissolved

Client Sample ID: MW3 — Lab Sample ID: 500-65332-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0011		0.0010		mg/L	1		6020A	Dissolved
Barium	0.099		0.0025		mg/L	1		6020A	Dissolved
Boron	0.46		0.050		mg/L	1		6020A	Dissolved
Manganese	0.0039		0.0025		mg/L	1		6020A	Dissolved
Sulfate	96		20		mg/L	4		9038	Dissolved
Chloride	57		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	430		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.26		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW4 — Lab Sample ID: 500-65332-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.062		0.0025		mg/L	1		6020A	Dissolved
Boron	0.81		0.050		mg/L	1		6020A	Dissolved
Copper	0.0025		0.0020		mg/L	1		6020A	Dissolved
Manganese	0.27		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0039		0.0020		mg/L	1		6020A	Dissolved
Sulfate	260		100		mg/L	20		9038	Dissolved
Chloride	150		10		mg/L	5		9251	Dissolved
Nitrogen, Nitrate	0.50		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	980		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.21		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrate Nitrite	0.50		0.10		mg/L	1		SM 4500 NO3 F	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-65332-1

Client Sample ID: MW5 — Lab Sample ID: 500-65332-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.088		0.0025		mg/L	1		6020A	Dissolved
Boron	0.83		0.050		mg/L	1		6020A	Dissolved
Cobalt	0.0015		0.0010		mg/L	1		6020A	Dissolved
Copper	0.0027		0.0020		mg/L	1		6020A	Dissolved
Manganese	0.62		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0068		0.0020		mg/L	1		6020A	Dissolved
Sulfate	260		100		mg/L	20		9038	Dissolved
Chloride	170		10		mg/L	5		9251	Dissolved
Nitrogen, Nitrate	0.34		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	1100		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.24		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrate Nitrite	0.34		0.10		mg/L	1		SM 4500 NO3 F	Dissolved

Client Sample ID: DUP — Lab Sample ID: 500-65332-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0011		0.0010		mg/L	1		6020A	Dissolved
Barium	0.10		0.0025		mg/L	1		6020A	Dissolved
Boron	0.45		0.050		mg/L	1		6020A	Dissolved
Manganese	0.0039		0.0025		mg/L	1		6020A	Dissolved
Sulfate	100		20		mg/L	4		9038	Dissolved
Chloride	59		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	520		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.26		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW9 — Lab Sample ID: 500-65332-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.048		0.0025		mg/L	1		6020A	Dissolved
Boron	1.6		0.050		mg/L	1		6020A	Dissolved
Manganese	0.019		0.0025		mg/L	1		6020A	Dissolved
Selenium	0.0047		0.0025		mg/L	1		6020A	Dissolved
Sulfate	90		25		mg/L	5		9038	Dissolved
Chloride	42		2.0		mg/L	1		9251	Dissolved
Nitrogen, Nitrate	4.6		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	430		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.17		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrate Nitrite	4.6		0.50		mg/L	5		SM 4500 NO3 F	Dissolved

Client Sample ID: MW11 — Lab Sample ID: 500-65332-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.038		0.0010		mg/L	1		6020A	Dissolved
Barium	0.18		0.0025		mg/L	1		6020A	Dissolved
Boron	1.2		0.050		mg/L	1		6020A	Dissolved
Cobalt	0.0025		0.0010		mg/L	1		6020A	Dissolved
Iron	3.3		0.10		mg/L	1		6020A	Dissolved
Manganese	7.3		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0036		0.0020		mg/L	1		6020A	Dissolved
Sulfate	180		50		mg/L	10		9038	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW11 (Continued)

Lab Sample ID: 500-65332-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	79		10		mg/L	5		9251	Dissolved
Nitrogen, Nitrate	0.18		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	770		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.75		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrate Nitrite	0.18		0.10		mg/L	1		SM 4500 NO3 F	Dissolved

Client Sample ID: MW12

Lab Sample ID: 500-65332-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.018		0.0010		mg/L	1		6020A	Dissolved
Barium	0.087		0.0025		mg/L	1		6020A	Dissolved
Boron	1.1		0.050		mg/L	1		6020A	Dissolved
Iron	0.23		0.10		mg/L	1		6020A	Dissolved
Manganese	1.5		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0028		0.0020		mg/L	1		6020A	Dissolved
Sulfate	270		100		mg/L	20		9038	Dissolved
Chloride	180		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	1000		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.51		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW13

Lab Sample ID: 500-65332-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.024		0.0010		mg/L	1		6020A	Dissolved
Barium	0.16		0.0025		mg/L	1		6020A	Dissolved
Boron	3.5		0.050		mg/L	1		6020A	Dissolved
Iron	0.29		0.10		mg/L	1		6020A	Dissolved
Manganese	2.8		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0024		0.0020		mg/L	1		6020A	Dissolved
Sulfate	690		250		mg/L	50		9038	Dissolved
Chloride	180		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	1700		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.39		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW16

Lab Sample ID: 500-65332-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.037		0.0025		mg/L	1		6020A	Dissolved
Boron	0.35		0.050		mg/L	1		6020A	Dissolved
Sulfate	55		20		mg/L	4		9038	Dissolved
Chloride	35		2.0		mg/L	1		9251	Dissolved
Nitrogen, Nitrate	19		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	540		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.11		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrate Nitrite	19		1.0		mg/L	10		SM 4500 NO3 F	Dissolved

Client Sample ID: MW6

Lab Sample ID: 500-65332-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0039		0.0010		mg/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW6 (Continued)

Lab Sample ID: 500-65332-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.11		0.0025		mg/L	1		6020A	Dissolved
Boron	0.51		0.050		mg/L	1		6020A	Dissolved
Iron	1.8		0.10		mg/L	1		6020A	Dissolved
Manganese	0.58		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0020		0.0020		mg/L	1		6020A	Dissolved
Selenium	0.0065		0.0025		mg/L	1		6020A	Dissolved
Sulfate	310		100		mg/L	20		9038	Dissolved
Chloride	210		10		mg/L	5		9251	Dissolved
Nitrogen, Nitrate	0.16		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	1100		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.64		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrate Nitrite	0.16		0.10		mg/L	1		SM 4500 NO3 F	Dissolved

Client Sample ID: MW7

Lab Sample ID: 500-65332-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.20		0.0010		mg/L	1		6020A	Dissolved
Barium	0.49		0.0025		mg/L	1		6020A	Dissolved
Boron	0.46		0.050		mg/L	1		6020A	Dissolved
Cobalt	0.0071		0.0010		mg/L	1		6020A	Dissolved
Iron	20		0.10		mg/L	1		6020A	Dissolved
Manganese	5.9		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0081		0.0020		mg/L	1		6020A	Dissolved
Selenium	0.0056		0.0025		mg/L	1		6020A	Dissolved
Sulfate	80		20		mg/L	4		9038	Dissolved
Chloride	160		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	1200		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.43		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW8

Lab Sample ID: 500-65332-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0037		0.0010		mg/L	1		6020A	Dissolved
Barium	0.13		0.0025		mg/L	1		6020A	Dissolved
Boron	0.93		0.050		mg/L	1		6020A	Dissolved
Iron	1.3		0.10		mg/L	1		6020A	Dissolved
Manganese	0.16		0.0025		mg/L	1		6020A	Dissolved
Selenium	0.0048		0.0025		mg/L	1		6020A	Dissolved
Sulfate	350		100		mg/L	20		9038	Dissolved
Chloride	260		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	1300		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.74		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW10

Lab Sample ID: 500-65332-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.23		0.0025		mg/L	1		6020A	Dissolved
Boron	0.61		0.050		mg/L	1		6020A	Dissolved
Cobalt	0.0025		0.0010		mg/L	1		6020A	Dissolved
Iron	0.18		0.10		mg/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW10 (Continued)

Lab Sample ID: 500-65332-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	2.0		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0051		0.0020		mg/L	1		6020A	Dissolved
Selenium	0.0080		0.0025		mg/L	1		6020A	Dissolved
Sulfate	90		25		mg/L	5		9038	Dissolved
Chloride	54		2.0		mg/L	1		9251	Dissolved
Nitrogen, Nitrate	1.2		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	620		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.17		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrite	0.034		0.020		mg/L	1		SM 4500 NO2 B	Dissolved
Nitrogen, Nitrate Nitrite	1.2		0.10		mg/L	1		SM 4500 NO3 F	Dissolved

Client Sample ID: MW14

Lab Sample ID: 500-65332-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.050		0.0025		mg/L	1		6020A	Dissolved
Boron	2.0		0.050		mg/L	1		6020A	Dissolved
Cadmium	0.00062		0.00050		mg/L	1		6020A	Dissolved
Iron	0.39		0.10		mg/L	1		6020A	Dissolved
Manganese	1.2		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0042		0.0020		mg/L	1		6020A	Dissolved
Thallium	0.0022		0.0020		mg/L	1		6020A	Dissolved
Sulfate	840		250		mg/L	50		9038	Dissolved
Chloride	190		10		mg/L	5		9251	Dissolved
Nitrogen, Nitrate	0.16		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	2100		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.95		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrite	0.022		0.020		mg/L	1		SM 4500 NO2 B	Dissolved
Nitrogen, Nitrate Nitrite	0.18		0.10		mg/L	1		SM 4500 NO3 F	Dissolved

Client Sample ID: MW15

Lab Sample ID: 500-65332-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0066		0.0010		mg/L	1		6020A	Dissolved
Barium	0.12		0.0025		mg/L	1		6020A	Dissolved
Boron	1.2		0.050		mg/L	1		6020A	Dissolved
Iron	1.1		0.10		mg/L	1		6020A	Dissolved
Manganese	0.43		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0052		0.0020		mg/L	1		6020A	Dissolved
Selenium	0.013		0.0025		mg/L	1		6020A	Dissolved
Sulfate	420		100		mg/L	20		9038	Dissolved
Chloride	210		10		mg/L	5		9251	Dissolved
Nitrogen, Nitrate	0.22		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	1400		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.71		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrate Nitrite	0.22		0.10		mg/L	1		SM 4500 NO3 F	Dissolved

Client Sample ID: Trip Blank

Lab Sample ID: 500-65332-18

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-65332-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
314.0	Perchlorate (IC)	EPA	TAL SAC
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
9014	Cyanide	SW846	TAL CHI
9038	Sulfate, Turbidimetric	SW846	TAL CHI
9251	Chloride	SW846	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-65332-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-65332-1	MW1	Water	10/21/13 15:10	10/22/13 10:05
500-65332-2	MW2	Water	10/21/13 10:55	10/22/13 10:05
500-65332-3	MW3	Water	10/21/13 09:20	10/22/13 10:05
500-65332-4	MW4	Water	10/21/13 12:25	10/22/13 10:05
500-65332-5	MW5	Water	10/21/13 13:40	10/22/13 10:05
500-65332-6	DUP	Water	10/21/13 00:00	10/22/13 10:05
500-65332-7	MW9	Water	10/22/13 13:56	10/23/13 09:00
500-65332-8	MW11	Water	10/22/13 08:45	10/23/13 09:00
500-65332-9	MW12	Water	10/22/13 11:10	10/23/13 09:00
500-65332-10	MW13	Water	10/22/13 12:38	10/23/13 09:00
500-65332-11	MW16	Water	10/22/13 15:05	10/23/13 09:00
500-65332-12	MW6	Water	10/23/13 12:50	10/24/13 12:24
500-65332-13	MW7	Water	10/23/13 12:00	10/24/13 12:24
500-65332-14	MW8	Water	10/23/13 13:55	10/24/13 12:24
500-65332-15	MW10	Water	10/23/13 15:20	10/24/13 12:24
500-65332-16	MW14	Water	10/23/13 09:00	10/24/13 12:24
500-65332-17	MW15	Water	10/23/13 10:30	10/24/13 12:24
500-65332-18	Trip Blank	Water	10/21/13 00:00	10/24/13 12:24

MWG13-15_19850

Client Sample ID: MW1
Date Collected: 10/21/13 15:10
Date Received: 10/22/13 10:05

Lab Sample ID: 500-65332-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/28/13 15:59	1
Toluene	<0.00050		0.00050		mg/L			10/28/13 15:59	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/28/13 15:59	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/28/13 15:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 125*		*10/28/13 15:59*	*1*
Toluene-d8 (Surr)	*90*		*75 - 120*		*10/28/13 15:59*	*1*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*		*10/28/13 15:59*	*1*
Dibromofluoromethane	*97*		*75 - 120*		*10/28/13 15:59*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 16:03	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 17:25	1
Arsenic	<0.0010		0.0010		mg/L		10/24/13 16:55	11/01/13 11:00	1
Barium	**0.070**		0.0025		mg/L		10/24/13 16:55	10/24/13 17:25	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 17:25	1
Boron	**0.62**		0.050		mg/L		10/24/13 16:55	10/24/13 17:25	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 17:25	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:00	1
Cobalt	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 17:25	1
Copper	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 17:25	1
Iron	<0.10		0.10		mg/L		10/24/13 16:55	10/24/13 17:25	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 17:25	1
Manganese	<0.0025		0.0025		mg/L		10/24/13 16:55	10/24/13 17:25	1
Nickel	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 17:25	1
Selenium	**0.0042**		0.0025		mg/L		10/24/13 16:55	10/24/13 17:25	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 17:25	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 17:25	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:00	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 17:25	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 16:27	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 11:45	10/25/13 17:23	1
Sulfate	**85**		20		mg/L			10/27/13 04:43	4
Chloride	**46**		2.0		mg/L			10/28/13 19:46	1
Nitrogen, Nitrate	**4.5**		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**660**		10		mg/L			10/25/13 00:25	1
Fluoride	**0.11**		0.10		mg/L			10/31/13 13:37	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/22/13 18:12	1
Nitrogen, Nitrate Nitrite	**4.5**		0.50		mg/L			10/30/13 13:53	5

MWG13-15_19851

Client Sample ID: MW2
Date Collected: 10/21/13 10:55
Date Received: 10/22/13 10:05

Lab Sample ID: 500-65332-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/28/13 16:26	1
Toluene	<0.00050		0.00050		mg/L			10/28/13 16:26	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/28/13 16:26	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/28/13 16:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 125*		*10/28/13 16:26*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*10/28/13 16:26*	*1*
4-Bromofluorobenzene (Surr)	*90*		*75 - 120*		*10/28/13 16:26*	*1*
Dibromofluoromethane	*95*		*75 - 120*		*10/28/13 16:26*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 16:50	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 17:52	1
Arsenic	<0.0010		0.0010		mg/L		10/24/13 16:55	11/01/13 11:12	1
Barium	**0.088**		0.0025		mg/L		10/24/13 16:55	10/24/13 17:52	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 17:52	1
Boron	**2.7**		0.050		mg/L		10/24/13 16:55	10/24/13 17:52	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 17:52	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:12	1
Cobalt	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 17:52	1
Copper	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 17:52	1
Iron	<0.10		0.10		mg/L		10/24/13 16:55	10/24/13 17:52	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 17:52	1
Manganese	**0.0060**		0.0025		mg/L		10/24/13 16:55	10/24/13 17:52	1
Nickel	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 17:52	1
Selenium	<0.0025		0.0025		mg/L		10/24/13 16:55	10/24/13 17:52	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 17:52	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 17:52	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:12	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 17:52	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 16:29	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 11:45	10/25/13 17:23	1
Sulfate	**190**		50		mg/L			10/27/13 04:44	10
Chloride	**90**		10		mg/L			10/28/13 20:31	5
Nitrogen, Nitrate	**1.1**		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**770**		10		mg/L			10/25/13 00:32	1
Fluoride	**0.17**		0.10		mg/L			10/31/13 13:45	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/22/13 18:13	1
Nitrogen, Nitrate Nitrite	**1.1**		0.10		mg/L			10/30/13 13:13	1

Client Sample ID: MW3
Date Collected: 10/21/13 09:20
Date Received: 10/22/13 10:05

Lab Sample ID: 500-65332-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 02:54	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 02:54	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 02:54	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 02:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 125*		*10/29/13 02:54*	*1*
Toluene-d8 (Surr)	*90*		*75 - 120*		*10/29/13 02:54*	*1*
4-Bromofluorobenzene (Surr)	*90*		*75 - 120*		*10/29/13 02:54*	*1*
Dibromofluoromethane	*99*		*75 - 120*		*10/29/13 02:54*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 17:05	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 17:56	1
Arsenic	**0.0011**		0.0010		mg/L		10/24/13 16:55	11/01/13 11:13	1
Barium	**0.099**		0.0025		mg/L		10/24/13 16:55	10/24/13 17:56	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 17:56	1
Boron	**0.46**		0.050		mg/L		10/24/13 16:55	10/24/13 17:56	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 17:56	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:13	1
Cobalt	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 17:56	1
Copper	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 17:56	1
Iron	<0.10		0.10		mg/L		10/24/13 16:55	10/24/13 17:56	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 17:56	1
Manganese	**0.0039**		0.0025		mg/L		10/24/13 16:55	10/24/13 17:56	1
Nickel	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 17:56	1
Selenium	<0.0025		0.0025		mg/L		10/24/13 16:55	10/24/13 17:56	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 17:56	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 17:56	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:13	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 17:56	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 16:31	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 11:45	10/25/13 17:24	1
Sulfate	**96**		20		mg/L			11/05/13 05:12	4
Chloride	**57**		2.0		mg/L			10/28/13 19:48	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**430**		10		mg/L			10/25/13 00:35	1
Fluoride	**0.26**		0.10		mg/L			10/31/13 13:49	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/22/13 18:14	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			10/30/13 13:15	1

Client Sample ID: MW4
Date Collected: 10/21/13 12:25
Date Received: 10/22/13 10:05

Lab Sample ID: 500-65332-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 03:21	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 03:21	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 03:21	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 03:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 125*		*10/29/13 03:21*	*1*
Toluene-d8 (Surr)	*90*		*75 - 120*		*10/29/13 03:21*	*1*
4-Bromofluorobenzene (Surr)	*90*		*75 - 120*		*10/29/13 03:21*	*1*
Dibromofluoromethane	*97*		*75 - 120*		*10/29/13 03:21*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 17:20	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 18:00	1
Arsenic	<0.0010		0.0010		mg/L		10/24/13 16:55	11/01/13 11:15	1
Barium	**0.062**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:00	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:00	1
Boron	**0.81**		0.050		mg/L		10/24/13 16:55	10/24/13 18:00	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:00	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:15	1
Cobalt	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:00	1
Copper	**0.0025**		0.0020		mg/L		10/24/13 16:55	10/24/13 18:00	1
Iron	<0.10		0.10		mg/L		10/24/13 16:55	10/24/13 18:00	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:00	1
Manganese	**0.27**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:00	1
Nickel	**0.0039**		0.0020		mg/L		10/24/13 16:55	10/24/13 18:00	1
Selenium	<0.0025		0.0025		mg/L		10/24/13 16:55	10/24/13 18:00	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:00	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:00	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:15	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 18:00	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 16:33	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 11:45	10/25/13 17:24	1
Sulfate	**260**		100		mg/L			11/05/13 04:53	20
Chloride	**150**		10		mg/L			10/28/13 20:32	5
Nitrogen, Nitrate	**0.50**		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**980**		10		mg/L			10/25/13 00:37	1
Fluoride	**0.21**		0.10		mg/L			10/31/13 13:52	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/22/13 18:14	1
Nitrogen, Nitrate Nitrite	**0.50**		0.10		mg/L			10/30/13 13:17	1

MWG13-15_19854

Client Sample ID: MW5
Date Collected: 10/21/13 13:40
Date Received: 10/22/13 10:05

Lab Sample ID: 500-65332-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 03:48	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 03:48	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 03:48	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 03:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 125*		*10/29/13 03:48*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*10/29/13 03:48*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*10/29/13 03:48*	*1*
Dibromofluoromethane	*97*		*75 - 120*		*10/29/13 03:48*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 17:36	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 18:04	1
Arsenic	<0.0010		0.0010		mg/L		10/24/13 16:55	11/01/13 11:16	1
Barium	**0.088**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:04	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:04	1
Boron	**0.83**		0.050		mg/L		10/24/13 16:55	10/24/13 18:04	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:04	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:16	1
Cobalt	**0.0015**		0.0010		mg/L		10/24/13 16:55	10/24/13 18:04	1
Copper	**0.0027**		0.0020		mg/L		10/24/13 16:55	10/24/13 18:04	1
Iron	<0.10		0.10		mg/L		10/24/13 16:55	10/24/13 18:04	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:04	1
Manganese	**0.62**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:04	1
Nickel	**0.0068**		0.0020		mg/L		10/24/13 16:55	10/24/13 18:04	1
Selenium	<0.0025		0.0025		mg/L		10/24/13 16:55	10/24/13 18:04	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:04	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:04	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:16	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 18:04	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 16:35	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 11:45	10/25/13 17:25	1
Sulfate	**260**		100		mg/L			11/05/13 04:54	20
Chloride	**170**		10		mg/L			10/28/13 20:32	5
Nitrogen, Nitrate	**0.34**		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**1100**		10		mg/L			10/25/13 00:40	1
Fluoride	**0.24**		0.10		mg/L			10/31/13 13:55	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/22/13 18:15	1
Nitrogen, Nitrate Nitrite	**0.34**		0.10		mg/L			10/30/13 13:18	1

Client Sample ID: DUP
Date Collected: 10/21/13 00:00
Date Received: 10/22/13 10:05

Lab Sample ID: 500-65332-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 04:14	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 04:14	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 04:14	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 04:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 125*		*10/29/13 04:14*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*10/29/13 04:14*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*		*10/29/13 04:14*	*1*
Dibromofluoromethane	*94*		*75 - 120*		*10/29/13 04:14*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 19:39	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 18:08	1
Arsenic	**0.0011**		0.0010		mg/L		10/24/13 16:55	11/01/13 11:17	1
Barium	**0.10**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:08	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:08	1
Boron	**0.45**		0.050		mg/L		10/24/13 16:55	10/24/13 18:08	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:08	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:17	1
Cobalt	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:08	1
Copper	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:08	1
Iron	<0.10		0.10		mg/L		10/24/13 16:55	10/24/13 18:08	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:08	1
Manganese	**0.0039**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:08	1
Nickel	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:08	1
Selenium	<0.0025		0.0025		mg/L		10/24/13 16:55	10/24/13 18:08	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:08	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:08	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:17	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 18:08	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 16:37	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 11:45	10/25/13 17:26	1
Sulfate	**100**		20		mg/L			11/05/13 04:55	4
Chloride	**59**		2.0		mg/L			10/28/13 19:50	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**520**		10		mg/L			10/25/13 00:42	1
Fluoride	**0.26**		0.10		mg/L			10/31/13 13:58	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/22/13 18:16	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			10/30/13 13:21	1

Client Sample ID: MW9
Date Collected: 10/22/13 13:56
Date Received: 10/23/13 09:00

Lab Sample ID: 500-65332-7
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 04:41	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 04:41	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 04:41	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 04:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*		*10/29/13 04:41*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*10/29/13 04:41*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*10/29/13 04:41*	*1*
Dibromofluoromethane	*99*		*75 - 120*		*10/29/13 04:41*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 19:54	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 18:12	1
Arsenic	<0.0010		0.0010		mg/L		10/24/13 16:55	11/01/13 11:19	1
Barium	**0.048**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:12	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:12	1
Boron	**1.6**		0.050		mg/L		10/24/13 16:55	10/24/13 18:12	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:12	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:19	1
Cobalt	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:12	1
Copper	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:12	1
Iron	<0.10		0.10		mg/L		10/24/13 16:55	10/24/13 18:12	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:12	1
Manganese	**0.019**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:12	1
Nickel	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:12	1
Selenium	**0.0047**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:12	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:12	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:12	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:19	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 18:12	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 16:39	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 11:45	10/25/13 17:27	1
Sulfate	**90**		25		mg/L			11/05/13 04:56	5
Chloride	**42**		2.0		mg/L			10/28/13 19:54	1
Nitrogen, Nitrate	**4.6**		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**430**		10		mg/L			10/28/13 02:57	1
Fluoride	**0.17**		0.10		mg/L			10/31/13 14:13	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/23/13 15:49	1
Nitrogen, Nitrate Nitrite	**4.6**		0.50		mg/L			10/30/13 13:54	5

Client Sample ID: MW11
Date Collected: 10/22/13 08:45
Date Received: 10/23/13 09:00

Lab Sample ID: 500-65332-8
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 05:08	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 05:08	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 05:08	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 05:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 125*		*10/29/13 05:08*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*10/29/13 05:08*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*10/29/13 05:08*	*1*
Dibromofluoromethane	*93*		*75 - 120*		*10/29/13 05:08*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 20:10	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 18:16	1
Arsenic	**0.038**		0.0010		mg/L		10/24/13 16:55	11/01/13 11:20	1
Barium	**0.18**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:16	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:16	1
Boron	**1.2**		0.050		mg/L		10/24/13 16:55	10/24/13 18:16	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:16	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:20	1
Cobalt	**0.0025**		0.0010		mg/L		10/24/13 16:55	10/24/13 18:16	1
Copper	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:16	1
Iron	**3.3**		0.10		mg/L		10/24/13 16:55	10/24/13 18:16	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:16	1
Manganese	**7.3**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:16	1
Nickel	**0.0036**		0.0020		mg/L		10/24/13 16:55	10/24/13 18:16	1
Selenium	<0.0025		0.0025		mg/L		10/24/13 16:55	10/24/13 18:16	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:16	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:16	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:20	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 18:16	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 16:41	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 11:45	10/25/13 17:27	1
Sulfate	**180**		50		mg/L			11/05/13 04:57	10
Chloride	**79**		10		mg/L			10/28/13 20:33	5
Nitrogen, Nitrate	**0.18**		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**770**		10		mg/L			10/28/13 03:00	1
Fluoride	**0.75**		0.10		mg/L			10/31/13 14:16	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/23/13 15:49	1
Nitrogen, Nitrate Nitrite	**0.18**		0.10		mg/L			10/30/13 19:45	1

Client Sample ID: MW12
Date Collected: 10/22/13 11:10
Date Received: 10/23/13 09:00

Lab Sample ID: 500-65332-9
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 05:35	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 05:35	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 05:35	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 05:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 125*		*10/29/13 05:35*	*1*
Toluene-d8 (Surr)	*90*		*75 - 120*		*10/29/13 05:35*	*1*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*		*10/29/13 05:35*	*1*
Dibromofluoromethane	*97*		*75 - 120*		*10/29/13 05:35*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 20:25	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 18:19	1
Arsenic	**0.018**		0.0010		mg/L		10/24/13 16:55	11/01/13 11:26	1
Barium	**0.087**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:19	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:19	1
Boron	**1.1**		0.050		mg/L		10/24/13 16:55	10/24/13 18:19	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:19	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:26	1
Cobalt	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:19	1
Copper	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:19	1
Iron	**0.23**		0.10		mg/L		10/24/13 16:55	10/24/13 18:19	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:19	1
Manganese	**1.5**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:19	1
Nickel	**0.0028**		0.0020		mg/L		10/24/13 16:55	10/24/13 18:19	1
Selenium	<0.0025		0.0025		mg/L		10/24/13 16:55	10/24/13 18:19	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:19	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:19	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:26	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 18:19	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 12:32	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 11:45	10/25/13 17:27	1
Sulfate	**270**		100		mg/L			11/05/13 04:58	20
Chloride	**180**		10		mg/L			10/28/13 20:33	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**1000**		10		mg/L			10/28/13 03:02	1
Fluoride	**0.51**		0.10		mg/L			10/31/13 14:19	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/23/13 15:50	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			10/30/13 19:48	1

Client Sample ID: MW13
Date Collected: 10/22/13 12:38
Date Received: 10/23/13 09:00

Lab Sample ID: 500-65332-10
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 06:02	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 06:02	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 06:02	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 06:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 125*		*10/29/13 06:02*	*1*
Toluene-d8 (Surr)	*90*		*75 - 120*		*10/29/13 06:02*	*1*
4-Bromofluorobenzene (Surr)	*97*		*75 - 120*		*10/29/13 06:02*	*1*
Dibromofluoromethane	*99*		*75 - 120*		*10/29/13 06:02*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 20:41	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 18:23	1
Arsenic	**0.024**		0.0010		mg/L		10/24/13 16:55	11/01/13 11:27	1
Barium	**0.16**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:23	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:23	1
Boron	**3.5**		0.050		mg/L		10/24/13 16:55	10/24/13 18:23	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:23	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:27	1
Cobalt	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:23	1
Copper	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:23	1
Iron	**0.29**		0.10		mg/L		10/24/13 16:55	10/24/13 18:23	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:23	1
Manganese	**2.8**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:23	1
Nickel	**0.0024**		0.0020		mg/L		10/24/13 16:55	10/24/13 18:23	1
Selenium	<0.0025		0.0025		mg/L		10/24/13 16:55	10/24/13 18:23	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:23	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:23	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:27	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 18:23	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 12:34	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 11:45	10/25/13 17:28	1
Sulfate	**690**		250		mg/L			11/05/13 04:59	50
Chloride	**180**		10		mg/L			10/28/13 20:35	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**1700**		10		mg/L			10/28/13 03:05	1
Fluoride	**0.39**		0.10		mg/L			10/31/13 14:22	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/23/13 15:51	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			10/30/13 19:50	1

Client Sample ID: MW16
Date Collected: 10/22/13 15:05
Date Received: 10/23/13 09:00

Lab Sample ID: 500-65332-11
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 06:29	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 06:29	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 06:29	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 06:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 125*		*10/29/13 06:29*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*10/29/13 06:29*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*10/29/13 06:29*	*1*
Dibromofluoromethane	*93*		*75 - 120*		*10/29/13 06:29*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 20:56	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 18:35	1
Arsenic	<0.0010		0.0010		mg/L		10/24/13 16:55	11/01/13 11:29	1
Barium	**0.037**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:35	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:35	1
Boron	**0.35**		0.050		mg/L		10/24/13 16:55	10/24/13 18:35	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:35	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:29	1
Cobalt	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:35	1
Copper	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:35	1
Iron	<0.10		0.10		mg/L		10/24/13 16:55	10/24/13 18:35	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:35	1
Manganese	<0.0025		0.0025		mg/L		10/24/13 16:55	10/24/13 18:35	1
Nickel	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:35	1
Selenium	<0.0025		0.0025		mg/L		10/24/13 16:55	10/24/13 18:35	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:35	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:35	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:29	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 18:35	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 12:36	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 15:25	10/25/13 19:06	1
Sulfate	**55**		20		mg/L			11/05/13 05:00	4
Chloride	**35**		2.0		mg/L			10/28/13 19:58	1
Nitrogen, Nitrate	**19**		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**540**		10		mg/L			10/28/13 03:07	1
Fluoride	**0.11**		0.10		mg/L			10/31/13 14:26	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/23/13 15:52	1
Nitrogen, Nitrate Nitrite	**19**		1.0		mg/L			10/31/13 13:17	10

Client Sample ID: MW6
Date Collected: 10/23/13 12:50
Date Received: 10/24/13 12:24

Lab Sample ID: 500-65332-12
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 06:56	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 06:56	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 06:56	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 06:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*		*10/29/13 06:56*	*1*
Toluene-d8 (Surr)	*89*		*75 - 120*		*10/29/13 06:56*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*10/29/13 06:56*	*1*
Dibromofluoromethane	*96*		*75 - 120*		*10/29/13 06:56*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 21:12	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 18:39	1
Arsenic	**0.0039**		0.0010		mg/L		10/24/13 16:55	11/01/13 11:30	1
Barium	**0.11**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:39	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:39	1
Boron	**0.51**		0.050		mg/L		10/24/13 16:55	10/24/13 18:39	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:39	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:30	1
Cobalt	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:39	1
Copper	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:39	1
Iron	**1.8**		0.10		mg/L		10/24/13 16:55	10/24/13 18:39	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:39	1
Manganese	**0.58**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:39	1
Nickel	**0.0020**		0.0020		mg/L		10/24/13 16:55	10/24/13 18:39	1
Selenium	**0.0065**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:39	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:39	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:39	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:30	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 18:39	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 12:38	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 15:25	10/25/13 19:08	1
Sulfate	**310**		100		mg/L			11/05/13 05:03	20
Chloride	**210**		10		mg/L			10/28/13 20:35	5
Nitrogen, Nitrate	**0.16**		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**1100**		10		mg/L			10/29/13 00:05	1
Fluoride	**0.64**		0.10		mg/L			10/31/13 14:29	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/24/13 19:19	1
Nitrogen, Nitrate Nitrite	**0.16**		0.10		mg/L			10/30/13 19:54	1

Client Sample ID: MW7
Date Collected: 10/23/13 12:00
Date Received: 10/24/13 12:24

Lab Sample ID: 500-65332-13
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 07:23	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 07:23	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 07:23	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 07:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 125*		*10/29/13 07:23*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*10/29/13 07:23*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*		*10/29/13 07:23*	*1*
Dibromofluoromethane	*96*		*75 - 120*		*10/29/13 07:23*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 21:27	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 18:43	1
Arsenic	**0.20**		0.0010		mg/L		10/24/13 16:55	11/01/13 11:32	1
Barium	**0.49**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:43	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:43	1
Boron	**0.46**		0.050		mg/L		10/24/13 16:55	10/24/13 18:43	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:43	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:32	1
Cobalt	**0.0071**		0.0010		mg/L		10/24/13 16:55	10/24/13 18:43	1
Copper	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:43	1
Iron	**20**		0.10		mg/L		10/24/13 16:55	10/24/13 18:43	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:43	1
Manganese	**5.9**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:43	1
Nickel	**0.0081**		0.0020		mg/L		10/24/13 16:55	10/24/13 18:43	1
Selenium	**0.0056**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:43	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:43	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:43	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:32	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 18:43	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 12:40	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 15:25	10/25/13 19:08	1
Sulfate	**80**		20		mg/L			11/05/13 05:04	4
Chloride	**160**		10		mg/L			10/28/13 20:36	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**1200**		10		mg/L			10/29/13 00:08	1
Fluoride	**0.43**		0.10		mg/L			10/31/13 14:32	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/24/13 19:20	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			10/30/13 19:56	1

Client Sample ID: MW8
Date Collected: 10/23/13 13:55
Date Received: 10/24/13 12:24

Lab Sample ID: 500-65332-14
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 07:50	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 07:50	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 07:50	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 07:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 125*		*10/29/13 07:50*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*10/29/13 07:50*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*10/29/13 07:50*	*1*
Dibromofluoromethane	*94*		*75 - 120*		*10/29/13 07:50*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 22:13	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 18:47	1
Arsenic	**0.0037**		0.0010		mg/L		10/24/13 16:55	11/01/13 11:33	1
Barium	**0.13**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:47	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:47	1
Boron	**0.93**		0.050		mg/L		10/24/13 16:55	10/24/13 18:47	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:47	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:33	1
Cobalt	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:47	1
Copper	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:47	1
Iron	**1.3**		0.10		mg/L		10/24/13 16:55	10/24/13 18:47	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:47	1
Manganese	**0.16**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:47	1
Nickel	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:47	1
Selenium	**0.0048**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:47	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:47	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:47	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:33	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 18:47	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 12:46	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 15:25	10/25/13 19:09	1
Sulfate	**350**		100		mg/L			11/05/13 05:05	20
Chloride	**260**		10		mg/L			10/28/13 20:38	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**1300**		10		mg/L			10/29/13 00:10	1
Fluoride	**0.74**		0.10		mg/L			10/31/13 14:35	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/24/13 19:22	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			10/30/13 19:58	1

Client Sample ID: MW10
Date Collected: 10/23/13 15:20
Date Received: 10/24/13 12:24

Lab Sample ID: 500-65332-15
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 08:16	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 08:16	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 08:16	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 08:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*		*10/29/13 08:16*	*1*
Toluene-d8 (Surr)	*88*		*75 - 120*		*10/29/13 08:16*	*1*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*		*10/29/13 08:16*	*1*
Dibromofluoromethane	*100*		*75 - 120*		*10/29/13 08:16*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 22:29	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 18:51	1
Arsenic	<0.0010		0.0010		mg/L		10/24/13 16:55	11/01/13 11:35	1
Barium	**0.23**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:51	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:51	1
Boron	**0.61**		0.050		mg/L		10/24/13 16:55	10/24/13 18:51	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:51	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:35	1
Cobalt	**0.0025**		0.0010		mg/L		10/24/13 16:55	10/24/13 18:51	1
Copper	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:51	1
Iron	**0.18**		0.10		mg/L		10/24/13 16:55	10/24/13 18:51	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:51	1
Manganese	**2.0**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:51	1
Nickel	**0.0051**		0.0020		mg/L		10/24/13 16:55	10/24/13 18:51	1
Selenium	**0.0080**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:51	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:51	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:51	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 11:35	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 18:51	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 12:48	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 15:25	10/25/13 19:09	1
Sulfate	**90**		25		mg/L			11/05/13 05:06	5
Chloride	**54**		2.0		mg/L			10/28/13 20:02	1
Nitrogen, Nitrate	**1.2**		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**620**		10		mg/L			10/29/13 00:13	1
Fluoride	**0.17**		0.10		mg/L			10/31/13 14:38	1
Nitrogen, Nitrite	**0.034**		0.020		mg/L			10/24/13 19:22	1
Nitrogen, Nitrate Nitrite	**1.2**		0.10		mg/L			10/30/13 20:00	1

Client Sample ID: MW14
Date Collected: 10/23/13 09:00
Date Received: 10/24/13 12:24

Lab Sample ID: 500-65332-16
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 19:50	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 19:50	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 19:50	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 19:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*		*10/29/13 19:50*	*1*
Toluene-d8 (Surr)	*88*		*75 - 120*		*10/29/13 19:50*	*1*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*		*10/29/13 19:50*	*1*
Dibromofluoromethane	*97*		*75 - 120*		*10/29/13 19:50*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 22:44	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 18:55	1
Arsenic	<0.0010		0.0010		mg/L		10/24/13 16:55	11/01/13 11:36	1
Barium	**0.050**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:55	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:55	1
Boron	**2.0**		0.050		mg/L		10/24/13 16:55	10/24/13 18:55	1
Cadmium	**0.00062**		0.00050		mg/L		10/24/13 16:55	10/24/13 18:55	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/05/13 12:39	1
Cobalt	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:55	1
Copper	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:55	1
Iron	**0.39**		0.10		mg/L		10/24/13 16:55	10/24/13 18:55	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:55	1
Manganese	**1.2**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:55	1
Nickel	**0.0042**		0.0020		mg/L		10/24/13 16:55	10/24/13 18:55	1
Selenium	<0.0025		0.0025		mg/L		10/24/13 16:55	10/24/13 18:55	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:55	1
Thallium	**0.0022**		0.0020		mg/L		10/24/13 16:55	10/24/13 18:55	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/05/13 12:39	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 18:55	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 12:50	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 15:25	10/25/13 19:10	1
Sulfate	**840**		250		mg/L			11/05/13 05:07	50
Chloride	**190**		10		mg/L			10/28/13 20:38	5
Nitrogen, Nitrate	**0.16**		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**2100**		10		mg/L			10/29/13 00:15	1
Fluoride	**0.95**		0.10		mg/L			10/31/13 14:42	1
Nitrogen, Nitrite	**0.022**		0.020		mg/L			10/24/13 19:23	1
Nitrogen, Nitrate Nitrite	**0.18**		0.10		mg/L			10/30/13 20:07	1

Client Sample ID: MW15
Date Collected: 10/23/13 10:30
Date Received: 10/24/13 12:24

Lab Sample ID: 500-65332-17
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 20:18	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 20:18	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 20:18	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 20:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*		*10/29/13 20:18*	*1*
Toluene-d8 (Surr)	*89*		*75 - 120*		*10/29/13 20:18*	*1*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*		*10/29/13 20:18*	*1*
Dibromofluoromethane	*95*		*75 - 120*		*10/29/13 20:18*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 22:59	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 18:59	1
Arsenic	**0.0066**		0.0010		mg/L		10/24/13 16:55	11/01/13 11:37	1
Barium	**0.12**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:59	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:59	1
Boron	**1.2**		0.050		mg/L		10/24/13 16:55	10/24/13 18:59	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:59	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/05/13 12:40	1
Cobalt	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 18:59	1
Copper	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:59	1
Iron	**1.1**		0.10		mg/L		10/24/13 16:55	10/24/13 18:59	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:59	1
Manganese	**0.43**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:59	1
Nickel	**0.0052**		0.0020		mg/L		10/24/13 16:55	10/24/13 18:59	1
Selenium	**0.013**		0.0025		mg/L		10/24/13 16:55	10/24/13 18:59	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 18:59	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 18:59	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/05/13 12:40	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 18:59	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 12:52	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 15:25	10/25/13 19:11	1
Sulfate	**420**		100		mg/L			11/05/13 05:08	20
Chloride	**210**		10		mg/L			10/28/13 20:39	5
Nitrogen, Nitrate	**0.22**		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**1400**		10		mg/L			10/29/13 00:18	1
Fluoride	**0.71**		0.10		mg/L			10/31/13 14:55	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/24/13 19:23	1
Nitrogen, Nitrate Nitrite	**0.22**		0.10		mg/L			10/30/13 20:09	1

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-65332-1

Client Sample ID: Trip Blank
Date Collected: 10/21/13 00:00
Date Received: 10/24/13 12:24

Lab Sample ID: 500-65332-18
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 13:05	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 13:05	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 13:05	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 13:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 125*		*10/29/13 13:05*	*1*
Toluene-d8 (Surr)	*90*		*75 - 120*		*10/29/13 13:05*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*		*10/29/13 13:05*	*1*
Dibromofluoromethane	*97*		*75 - 120*		*10/29/13 13:05*	*1*

Qualifiers

Metals

Qualifier	Qualifier Description
F	MS/MSD Recovery and/or RPD exceeds the control limits
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA

Analysis Batch: 208953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-1	MW1	Total/NA	Water	8260B	
500-65332-2	MW2	Total/NA	Water	8260B	
LCS 500-208953/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-208953/6	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 209049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-3	MW3	Total/NA	Water	8260B	
500-65332-4	MW4	Total/NA	Water	8260B	
500-65332-5	MW5	Total/NA	Water	8260B	
500-65332-6	DUP	Total/NA	Water	8260B	
500-65332-7	MW9	Total/NA	Water	8260B	
500-65332-8	MW11	Total/NA	Water	8260B	
500-65332-9	MW12	Total/NA	Water	8260B	
500-65332-10	MW13	Total/NA	Water	8260B	
500-65332-11	MW16	Total/NA	Water	8260B	
500-65332-12	MW6	Total/NA	Water	8260B	
500-65332-13	MW7	Total/NA	Water	8260B	
500-65332-14	MW8	Total/NA	Water	8260B	
500-65332-15	MW10	Total/NA	Water	8260B	
500-65332-15 MS	MW10	Total/NA	Water	8260B	
500-65332-15 MSD	MW10	Total/NA	Water	8260B	
LCS 500-209049/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-209049/6	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 209136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-16	MW14	Total/NA	Water	8260B	
500-65332-17	MW15	Total/NA	Water	8260B	
500-65332-17 MS	MW15	Total/NA	Water	8260B	
500-65332-17 MSD	MW15	Total/NA	Water	8260B	
500-65332-18	Trip Blank	Total/NA	Water	8260B	
LCS 500-209136/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-209136/6	Method Blank	Total/NA	Water	8260B	

HPLC/IC

Analysis Batch: 29361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-1	MW1	Total/NA	Water	314.0	
500-65332-1 MS	MW1	Total/NA	Water	314.0	
500-65332-1 MSD	MW1	Total/NA	Water	314.0	
500-65332-2	MW2	Total/NA	Water	314.0	
500-65332-3	MW3	Total/NA	Water	314.0	
500-65332-4	MW4	Total/NA	Water	314.0	
500-65332-5	MW5	Total/NA	Water	314.0	
500-65332-6	DUP	Total/NA	Water	314.0	
500-65332-7	MW9	Total/NA	Water	314.0	
500-65332-8	MW11	Total/NA	Water	314.0	
500-65332-9	MW12	Total/NA	Water	314.0	

HPLC/IC (Continued)

Analysis Batch: 29361 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-10	MW13	Total/NA	Water	314.0	
500-65332-11	MW16	Total/NA	Water	314.0	
500-65332-12	MW6	Total/NA	Water	314.0	
500-65332-13	MW7	Total/NA	Water	314.0	
500-65332-14	MW8	Total/NA	Water	314.0	
500-65332-15	MW10	Total/NA	Water	314.0	
500-65332-16	MW14	Total/NA	Water	314.0	
500-65332-17	MW15	Total/NA	Water	314.0	
LCS 320-29361/7	Lab Control Sample	Total/NA	Water	314.0	
MB 320-29361/6	Method Blank	Total/NA	Water	314.0	
MRL 320-29361/5 MRL	Lab Control Sample	Total/NA	Water	314.0	

Metals

Prep Batch: 208604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-1	MW1	Dissolved	Water	Soluble Metals	
500-65332-1 DU	MW1	Dissolved	Water	Soluble Metals	
500-65332-1 MS	MW1	Dissolved	Water	Soluble Metals	
500-65332-1 MSD	MW1	Dissolved	Water	Soluble Metals	
500-65332-2	MW2	Dissolved	Water	Soluble Metals	
500-65332-3	MW3	Dissolved	Water	Soluble Metals	
500-65332-4	MW4	Dissolved	Water	Soluble Metals	
500-65332-5	MW5	Dissolved	Water	Soluble Metals	
500-65332-6	DUP	Dissolved	Water	Soluble Metals	
500-65332-7	MW9	Dissolved	Water	Soluble Metals	
500-65332-8	MW11	Dissolved	Water	Soluble Metals	
500-65332-9	MW12	Dissolved	Water	Soluble Metals	
500-65332-10	MW13	Dissolved	Water	Soluble Metals	
500-65332-11	MW16	Dissolved	Water	Soluble Metals	
500-65332-12	MW6	Dissolved	Water	Soluble Metals	
500-65332-13	MW7	Dissolved	Water	Soluble Metals	
500-65332-14	MW8	Dissolved	Water	Soluble Metals	
500-65332-15	MW10	Dissolved	Water	Soluble Metals	
500-65332-16	MW14	Dissolved	Water	Soluble Metals	
500-65332-17	MW15	Dissolved	Water	Soluble Metals	
LCS 500-208604/2-A	Lab Control Sample	Soluble	Water	Soluble Metals	
MB 500-208604/1-A	Method Blank	Soluble	Water	Soluble Metals	

Analysis Batch: 208697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-1	MW1	Dissolved	Water	6020A	208604
500-65332-1 DU	MW1	Dissolved	Water	6020A	208604
500-65332-1 MS	MW1	Dissolved	Water	6020A	208604
500-65332-1 MSD	MW1	Dissolved	Water	6020A	208604
500-65332-2	MW2	Dissolved	Water	6020A	208604
500-65332-3	MW3	Dissolved	Water	6020A	208604
500-65332-4	MW4	Dissolved	Water	6020A	208604
500-65332-5	MW5	Dissolved	Water	6020A	208604
500-65332-6	DUP	Dissolved	Water	6020A	208604

MWG13-15_19871

Metals (Continued)

Analysis Batch: 208697 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-7	MW9	Dissolved	Water	6020A	208604
500-65332-8	MW11	Dissolved	Water	6020A	208604
500-65332-9	MW12	Dissolved	Water	6020A	208604
500-65332-10	MW13	Dissolved	Water	6020A	208604
500-65332-11	MW16	Dissolved	Water	6020A	208604
500-65332-12	MW6	Dissolved	Water	6020A	208604
500-65332-13	MW7	Dissolved	Water	6020A	208604
500-65332-14	MW8	Dissolved	Water	6020A	208604
500-65332-15	MW10	Dissolved	Water	6020A	208604
500-65332-16	MW14	Dissolved	Water	6020A	208604
500-65332-17	MW15	Dissolved	Water	6020A	208604
LCS 500-208604/2-A	Lab Control Sample	Soluble	Water	6020A	208604
MB 500-208604/1-A	Method Blank	Soluble	Water	6020A	208604

Prep Batch: 208771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-1	MW1	Dissolved	Water	7470A	
500-65332-2	MW2	Dissolved	Water	7470A	
500-65332-3	MW3	Dissolved	Water	7470A	
500-65332-4	MW4	Dissolved	Water	7470A	
500-65332-5	MW5	Dissolved	Water	7470A	
500-65332-6	DUP	Dissolved	Water	7470A	
500-65332-7	MW9	Dissolved	Water	7470A	
500-65332-8	MW11	Dissolved	Water	7470A	
LCS 500-208771/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-208771/12-A	Method Blank	Total/NA	Water	7470A	

Prep Batch: 208772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-9	MW12	Dissolved	Water	7470A	
500-65332-10	MW13	Dissolved	Water	7470A	
500-65332-11	MW16	Dissolved	Water	7470A	
500-65332-12	MW6	Dissolved	Water	7470A	
500-65332-13	MW7	Dissolved	Water	7470A	
500-65332-14	MW8	Dissolved	Water	7470A	
500-65332-15	MW10	Dissolved	Water	7470A	
500-65332-16	MW14	Dissolved	Water	7470A	
500-65332-17	MW15	Dissolved	Water	7470A	
LCS 500-208772/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-208772/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 209053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-9	MW12	Dissolved	Water	7470A	208772
500-65332-10	MW13	Dissolved	Water	7470A	208772
500-65332-11	MW16	Dissolved	Water	7470A	208772
500-65332-12	MW6	Dissolved	Water	7470A	208772
500-65332-13	MW7	Dissolved	Water	7470A	208772
500-65332-14	MW8	Dissolved	Water	7470A	208772
500-65332-15	MW10	Dissolved	Water	7470A	208772
500-65332-16	MW14	Dissolved	Water	7470A	208772

Metals (Continued)

Analysis Batch: 209053 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-17	MW15	Dissolved	Water	7470A	208772
LCS 500-208772/13-A	Lab Control Sample	Total/NA	Water	7470A	208772
MB 500-208772/12-A	Method Blank	Total/NA	Water	7470A	208772

Analysis Batch: 209128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-1	MW1	Dissolved	Water	7470A	208771
500-65332-2	MW2	Dissolved	Water	7470A	208771
500-65332-3	MW3	Dissolved	Water	7470A	208771
500-65332-4	MW4	Dissolved	Water	7470A	208771
500-65332-5	MW5	Dissolved	Water	7470A	208771
500-65332-6	DUP	Dissolved	Water	7470A	208771
500-65332-7	MW9	Dissolved	Water	7470A	208771
500-65332-8	MW11	Dissolved	Water	7470A	208771
LCS 500-208771/13-A	Lab Control Sample	Total/NA	Water	7470A	208771
MB 500-208771/12-A	Method Blank	Total/NA	Water	7470A	208771

Analysis Batch: 209824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-1	MW1	Dissolved	Water	6020A	208604
500-65332-1 DU	MW1	Dissolved	Water	6020A	208604
500-65332-1 MS	MW1	Dissolved	Water	6020A	208604
500-65332-1 MSD	MW1	Dissolved	Water	6020A	208604
500-65332-2	MW2	Dissolved	Water	6020A	208604
500-65332-3	MW3	Dissolved	Water	6020A	208604
500-65332-4	MW4	Dissolved	Water	6020A	208604
500-65332-5	MW5	Dissolved	Water	6020A	208604
500-65332-6	DUP	Dissolved	Water	6020A	208604
500-65332-7	MW9	Dissolved	Water	6020A	208604
500-65332-8	MW11	Dissolved	Water	6020A	208604
500-65332-9	MW12	Dissolved	Water	6020A	208604
500-65332-10	MW13	Dissolved	Water	6020A	208604
500-65332-11	MW16	Dissolved	Water	6020A	208604
500-65332-12	MW6	Dissolved	Water	6020A	208604
500-65332-13	MW7	Dissolved	Water	6020A	208604
500-65332-14	MW8	Dissolved	Water	6020A	208604
500-65332-15	MW10	Dissolved	Water	6020A	208604
500-65332-16	MW14	Dissolved	Water	6020A	208604
500-65332-17	MW15	Dissolved	Water	6020A	208604
LCS 500-208604/2-A	Lab Control Sample	Soluble	Water	6020A	208604
MB 500-208604/1-A	Method Blank	Soluble	Water	6020A	208604

Analysis Batch: 210303

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-16	MW14	Dissolved	Water	6020A	208604
500-65332-17	MW15	Dissolved	Water	6020A	208604

General Chemistry

Analysis Batch: 208208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-1	MW1	Dissolved	Water	SM 4500 NO2 B	
500-65332-1 MS	MW1	Dissolved	Water	SM 4500 NO2 B	
500-65332-1 MSD	MW1	Dissolved	Water	SM 4500 NO2 B	
500-65332-2	MW2	Dissolved	Water	SM 4500 NO2 B	
500-65332-3	MW3	Dissolved	Water	SM 4500 NO2 B	
500-65332-4	MW4	Dissolved	Water	SM 4500 NO2 B	
500-65332-5	MW5	Dissolved	Water	SM 4500 NO2 B	
500-65332-6	DUP	Dissolved	Water	SM 4500 NO2 B	
LCS 500-208208/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-208208/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 208377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-7	MW9	Dissolved	Water	SM 4500 NO2 B	
500-65332-8	MW11	Dissolved	Water	SM 4500 NO2 B	
500-65332-9	MW12	Dissolved	Water	SM 4500 NO2 B	
500-65332-10	MW13	Dissolved	Water	SM 4500 NO2 B	
500-65332-11	MW16	Dissolved	Water	SM 4500 NO2 B	
LCS 500-208377/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-208377/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 208625

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-12	MW6	Dissolved	Water	SM 4500 NO2 B	
500-65332-13	MW7	Dissolved	Water	SM 4500 NO2 B	
500-65332-13 MS	MW7	Dissolved	Water	SM 4500 NO2 B	
500-65332-13 MSD	MW7	Dissolved	Water	SM 4500 NO2 B	
500-65332-14	MW8	Dissolved	Water	SM 4500 NO2 B	
500-65332-15	MW10	Dissolved	Water	SM 4500 NO2 B	
500-65332-16	MW14	Dissolved	Water	SM 4500 NO2 B	
500-65332-17	MW15	Dissolved	Water	SM 4500 NO2 B	
LCS 500-208625/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-208625/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 208644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-1	MW1	Dissolved	Water	SM 2540C	
500-65332-1 DU	MW1	Dissolved	Water	SM 2540C	
500-65332-1 MS	MW1	Dissolved	Water	SM 2540C	
500-65332-2	MW2	Dissolved	Water	SM 2540C	
500-65332-3	MW3	Dissolved	Water	SM 2540C	
500-65332-4	MW4	Dissolved	Water	SM 2540C	
500-65332-5	MW5	Dissolved	Water	SM 2540C	
500-65332-6	DUP	Dissolved	Water	SM 2540C	
LCS 500-208644/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-208644/1	Method Blank	Total/NA	Water	SM 2540C	

Prep Batch: 208736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-1	MW1	Dissolved	Water	9010B	
500-65332-2	MW2	Dissolved	Water	9010B	

General Chemistry (Continued)

Prep Batch: 208736 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-3	MW3	Dissolved	Water	9010B	
500-65332-4	MW4	Dissolved	Water	9010B	
500-65332-5	MW5	Dissolved	Water	9010B	
500-65332-6	DUP	Dissolved	Water	9010B	
500-65332-7	MW9	Dissolved	Water	9010B	
500-65332-8	MW11	Dissolved	Water	9010B	
500-65332-9	MW12	Dissolved	Water	9010B	
500-65332-10	MW13	Dissolved	Water	9010B	
LCS 500-208736/2-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-208736/1-A	Method Blank	Total/NA	Water	9010B	

Prep Batch: 208765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-11	MW16	Dissolved	Water	9010B	
500-65332-11 MS	MW16	Dissolved	Water	9010B	
500-65332-11 MSD	MW16	Dissolved	Water	9010B	
500-65332-12	MW6	Dissolved	Water	9010B	
500-65332-13	MW7	Dissolved	Water	9010B	
500-65332-14	MW8	Dissolved	Water	9010B	
500-65332-15	MW10	Dissolved	Water	9010B	
500-65332-16	MW14	Dissolved	Water	9010B	
500-65332-17	MW15	Dissolved	Water	9010B	
LCS 500-208765/2-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-208765/1-A	Method Blank	Total/NA	Water	9010B	

Analysis Batch: 208827

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-1	MW1	Dissolved	Water	9014	208736
500-65332-2	MW2	Dissolved	Water	9014	208736
500-65332-3	MW3	Dissolved	Water	9014	208736
500-65332-4	MW4	Dissolved	Water	9014	208736
500-65332-5	MW5	Dissolved	Water	9014	208736
500-65332-6	DUP	Dissolved	Water	9014	208736
500-65332-7	MW9	Dissolved	Water	9014	208736
500-65332-8	MW11	Dissolved	Water	9014	208736
500-65332-9	MW12	Dissolved	Water	9014	208736
500-65332-10	MW13	Dissolved	Water	9014	208736
LCS 500-208736/2-A	Lab Control Sample	Total/NA	Water	9014	208736
MB 500-208736/1-A	Method Blank	Total/NA	Water	9014	208736

Analysis Batch: 208934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-7	MW9	Dissolved	Water	SM 2540C	
500-65332-8	MW11	Dissolved	Water	SM 2540C	
500-65332-9	MW12	Dissolved	Water	SM 2540C	
500-65332-10	MW13	Dissolved	Water	SM 2540C	
500-65332-11	MW16	Dissolved	Water	SM 2540C	
LCS 500-208934/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-208934/1	Method Blank	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 208937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-1	MW1	Dissolved	Water	9038	
500-65332-2	MW2	Dissolved	Water	9038	
LCS 500-208937/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-208937/3	Method Blank	Total/NA	Water	9038	

Analysis Batch: 209110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-12	MW6	Dissolved	Water	SM 2540C	
500-65332-13	MW7	Dissolved	Water	SM 2540C	
500-65332-14	MW8	Dissolved	Water	SM 2540C	
500-65332-15	MW10	Dissolved	Water	SM 2540C	
500-65332-16	MW14	Dissolved	Water	SM 2540C	
500-65332-17	MW15	Dissolved	Water	SM 2540C	
LCS 500-209110/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-209110/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 209114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-11	MW16	Dissolved	Water	9014	208765
500-65332-11 MS	MW16	Dissolved	Water	9014	208765
500-65332-11 MSD	MW16	Dissolved	Water	9014	208765
500-65332-12	MW6	Dissolved	Water	9014	208765
500-65332-13	MW7	Dissolved	Water	9014	208765
500-65332-14	MW8	Dissolved	Water	9014	208765
500-65332-15	MW10	Dissolved	Water	9014	208765
500-65332-16	MW14	Dissolved	Water	9014	208765
500-65332-17	MW15	Dissolved	Water	9014	208765
LCS 500-208765/2-A	Lab Control Sample	Total/NA	Water	9014	208765
MB 500-208765/1-A	Method Blank	Total/NA	Water	9014	208765

Analysis Batch: 209479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-1	MW1	Dissolved	Water	SM 4500 NO3 F	
500-65332-2	MW2	Dissolved	Water	SM 4500 NO3 F	
500-65332-3	MW3	Dissolved	Water	SM 4500 NO3 F	
500-65332-4	MW4	Dissolved	Water	SM 4500 NO3 F	
500-65332-5	MW5	Dissolved	Water	SM 4500 NO3 F	
500-65332-6	DUP	Dissolved	Water	SM 4500 NO3 F	
500-65332-7	MW9	Dissolved	Water	SM 4500 NO3 F	
500-65332-7 MS	MW9	Dissolved	Water	SM 4500 NO3 F	
500-65332-7 MSD	MW9	Dissolved	Water	SM 4500 NO3 F	
LCS 500-209479/5	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-209479/4	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 209499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-1	MW1	Dissolved	Water	9251	
500-65332-2	MW2	Dissolved	Water	9251	
500-65332-3	MW3	Dissolved	Water	9251	
500-65332-4	MW4	Dissolved	Water	9251	
500-65332-5	MW5	Dissolved	Water	9251	

General Chemistry (Continued)

Analysis Batch: 209499 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-6	DUP	Dissolved	Water	9251	
500-65332-7	MW9	Dissolved	Water	9251	
500-65332-8	MW11	Dissolved	Water	9251	
500-65332-9	MW12	Dissolved	Water	9251	
500-65332-9 MS	MW12	Dissolved	Water	9251	
500-65332-9 MSD	MW12	Dissolved	Water	9251	
500-65332-10	MW13	Dissolved	Water	9251	
500-65332-11	MW16	Dissolved	Water	9251	
500-65332-12	MW6	Dissolved	Water	9251	
500-65332-13	MW7	Dissolved	Water	9251	
500-65332-14	MW8	Dissolved	Water	9251	
500-65332-15	MW10	Dissolved	Water	9251	
500-65332-16	MW14	Dissolved	Water	9251	
500-65332-17	MW15	Dissolved	Water	9251	
LCS 500-209499/5	Lab Control Sample	Total/NA	Water	9251	
MB 500-209499/4	Method Blank	Total/NA	Water	9251	

Analysis Batch: 209685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-1	MW1	Dissolved	Water	SM 4500 F C	
500-65332-1 MS	MW1	Dissolved	Water	SM 4500 F C	
500-65332-1 MSD	MW1	Dissolved	Water	SM 4500 F C	
500-65332-2	MW2	Dissolved	Water	SM 4500 F C	
500-65332-3	MW3	Dissolved	Water	SM 4500 F C	
500-65332-4	MW4	Dissolved	Water	SM 4500 F C	
500-65332-5	MW5	Dissolved	Water	SM 4500 F C	
500-65332-6	DUP	Dissolved	Water	SM 4500 F C	
500-65332-7	MW9	Dissolved	Water	SM 4500 F C	
500-65332-8	MW11	Dissolved	Water	SM 4500 F C	
500-65332-9	MW12	Dissolved	Water	SM 4500 F C	
500-65332-10	MW13	Dissolved	Water	SM 4500 F C	
500-65332-11	MW16	Dissolved	Water	SM 4500 F C	
500-65332-12	MW6	Dissolved	Water	SM 4500 F C	
500-65332-13	MW7	Dissolved	Water	SM 4500 F C	
500-65332-14	MW8	Dissolved	Water	SM 4500 F C	
500-65332-15	MW10	Dissolved	Water	SM 4500 F C	
500-65332-16	MW14	Dissolved	Water	SM 4500 F C	
500-65332-17	MW15	Dissolved	Water	SM 4500 F C	
LCS 500-209685/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-209685/3	Method Blank	Total/NA	Water	SM 4500 F C	

Analysis Batch: 209892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-11	MW16	Dissolved	Water	SM 4500 NO3 F	
LCS 500-209892/5	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-209892/4	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 209934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-8	MW11	Dissolved	Water	SM 4500 NO3 F	
500-65332-9	MW12	Dissolved	Water	SM 4500 NO3 F	

General Chemistry (Continued)

Analysis Batch: 209934 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-10	MW13	Dissolved	Water	SM 4500 NO3 F	
500-65332-12	MW6	Dissolved	Water	SM 4500 NO3 F	
500-65332-13	MW7	Dissolved	Water	SM 4500 NO3 F	
500-65332-14	MW8	Dissolved	Water	SM 4500 NO3 F	
500-65332-15	MW10	Dissolved	Water	SM 4500 NO3 F	
500-65332-16	MW14	Dissolved	Water	SM 4500 NO3 F	
500-65332-17	MW15	Dissolved	Water	SM 4500 NO3 F	
LCS 500-209934/20	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-209934/4	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 210216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-3	MW3	Dissolved	Water	9038	
500-65332-4	MW4	Dissolved	Water	9038	
500-65332-5	MW5	Dissolved	Water	9038	
500-65332-6	DUP	Dissolved	Water	9038	
500-65332-7	MW9	Dissolved	Water	9038	
500-65332-8	MW11	Dissolved	Water	9038	
500-65332-9	MW12	Dissolved	Water	9038	
500-65332-10	MW13	Dissolved	Water	9038	
500-65332-11	MW16	Dissolved	Water	9038	
500-65332-12	MW6	Dissolved	Water	9038	
500-65332-13	MW7	Dissolved	Water	9038	
500-65332-14	MW8	Dissolved	Water	9038	
500-65332-15	MW10	Dissolved	Water	9038	
500-65332-16	MW14	Dissolved	Water	9038	
500-65332-17	MW15	Dissolved	Water	9038	
LCS 500-210216/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-210216/3	Method Blank	Total/NA	Water	9038	

Analysis Batch: 210360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65332-1	MW1	Dissolved	Water	Nitrate by calc	
500-65332-2	MW2	Dissolved	Water	Nitrate by calc	
500-65332-3	MW3	Dissolved	Water	Nitrate by calc	
500-65332-4	MW4	Dissolved	Water	Nitrate by calc	
500-65332-5	MW5	Dissolved	Water	Nitrate by calc	
500-65332-6	DUP	Dissolved	Water	Nitrate by calc	
500-65332-7	MW9	Dissolved	Water	Nitrate by calc	
500-65332-8	MW11	Dissolved	Water	Nitrate by calc	
500-65332-9	MW12	Dissolved	Water	Nitrate by calc	
500-65332-10	MW13	Dissolved	Water	Nitrate by calc	
500-65332-11	MW16	Dissolved	Water	Nitrate by calc	
500-65332-12	MW6	Dissolved	Water	Nitrate by calc	
500-65332-13	MW7	Dissolved	Water	Nitrate by calc	
500-65332-14	MW8	Dissolved	Water	Nitrate by calc	
500-65332-15	MW10	Dissolved	Water	Nitrate by calc	
500-65332-16	MW14	Dissolved	Water	Nitrate by calc	
500-65332-17	MW15	Dissolved	Water	Nitrate by calc	

MWG13-15_19878

Surrogate Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-65332-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(75-125)	(75-120)	(75-120)	(75-120)
500-65332-1	MW1	94	90	92	97
500-65332-2	MW2	94	91	90	95
500-65332-3	MW3	97	90	90	99
500-65332-4	MW4	99	90	90	97
500-65332-5	MW5	97	91	95	97
500-65332-6	DUP	98	91	93	94
500-65332-7	MW9	101	91	94	99
500-65332-8	MW11	97	91	95	93
500-65332-9	MW12	99	90	91	97
500-65332-10	MW13	98	90	97	99
500-65332-11	MW16	95	93	94	93
500-65332-12	MW6	100	89	95	96
500-65332-13	MW7	97	91	93	96
500-65332-14	MW8	98	91	95	94
500-65332-15	MW10	102	88	91	100
500-65332-15 MS	MW10	100	89	94	102
500-65332-15 MSD	MW10	100	89	94	102
500-65332-16	MW14	102	88	92	97
500-65332-17	MW15	102	89	91	95
500-65332-17 MS	MW15	101	88	94	103
500-65332-17 MSD	MW15	101	90	91	102
500-65332-18	Trip Blank	97	90	93	97
LCS 500-208953/4	Lab Control Sample	93	90	91	97
LCS 500-209049/4	Lab Control Sample	99	91	94	102
LCS 500-209136/4	Lab Control Sample	95	90	90	99
MB 500-208953/6	Method Blank	92	90	92	91
MB 500-209049/6	Method Blank	92	90	93	93
MB 500-209136/6	Method Blank	97	89	93	96

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-208953/6
Matrix: Water
Analysis Batch: 208953

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/28/13 11:30	1
Toluene	<0.00050		0.00050		mg/L			10/28/13 11:30	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/28/13 11:30	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/28/13 11:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 125*		*10/28/13 11:30*	*1*
Toluene-d8 (Surr)	*90*		*75 - 120*		*10/28/13 11:30*	*1*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*		*10/28/13 11:30*	*1*
Dibromofluoromethane	*91*		*75 - 120*		*10/28/13 11:30*	*1*

Lab Sample ID: LCS 500-208953/4
Matrix: Water
Analysis Batch: 208953

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0442		mg/L		88	70 - 120
Toluene	0.0500	0.0442		mg/L		88	70 - 120
Ethylbenzene	0.0500	0.0449		mg/L		90	75 - 120
Xylenes, Total	0.100	0.0888		mg/L		89	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*93*		*75 - 125*
Toluene-d8 (Surr)	*90*		*75 - 120*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*
Dibromofluoromethane	*97*		*75 - 120*

Lab Sample ID: MB 500-209049/6
Matrix: Water
Analysis Batch: 209049

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 00:14	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 00:14	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 00:14	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 00:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 125*		*10/29/13 00:14*	*1*
Toluene-d8 (Surr)	*90*		*75 - 120*		*10/29/13 00:14*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*		*10/29/13 00:14*	*1*
Dibromofluoromethane	*93*		*75 - 120*		*10/29/13 00:14*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-209049/4
Matrix: Water
Analysis Batch: 209049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0473		mg/L		95	70 - 120
Toluene	0.0500	0.0476		mg/L		95	70 - 120
Ethylbenzene	0.0500	0.0487		mg/L		97	75 - 120
Xylenes, Total	0.100	0.0974		mg/L		97	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 125*
Toluene-d8 (Surr)	*91*		*75 - 120*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*
Dibromofluoromethane	*102*		*75 - 120*

Lab Sample ID: 500-65332-15 MS
Matrix: Water
Analysis Batch: 209049

Client Sample ID: MW10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00050		0.0500	0.0442		mg/L		88	70 - 120
Toluene	<0.00050		0.0500	0.0445		mg/L		89	70 - 120
Ethylbenzene	<0.00050		0.0500	0.0447		mg/L		89	75 - 120
Xylenes, Total	<0.0010		0.100	0.0897		mg/L		90	70 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*
Toluene-d8 (Surr)	*89*		*75 - 120*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*
Dibromofluoromethane	*102*		*75 - 120*

Lab Sample ID: 500-65332-15 MSD
Matrix: Water
Analysis Batch: 209049

Client Sample ID: MW10
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00050		0.0500	0.0448		mg/L		90	70 - 120	1	20
Toluene	<0.00050		0.0500	0.0442		mg/L		88	70 - 120	1	20
Ethylbenzene	<0.00050		0.0500	0.0454		mg/L		91	75 - 120	2	20
Xylenes, Total	<0.0010		0.100	0.0898		mg/L		90	70 - 120	0	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*
Toluene-d8 (Surr)	*89*		*75 - 120*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*
Dibromofluoromethane	*102*		*75 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-209136/6
Matrix: Water
Analysis Batch: 209136

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/29/13 12:38	1
Toluene	<0.00050		0.00050		mg/L			10/29/13 12:38	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/29/13 12:38	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/29/13 12:38	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 125*		*10/29/13 12:38*	*1*
Toluene-d8 (Surr)	*89*		*75 - 120*		*10/29/13 12:38*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*		*10/29/13 12:38*	*1*
Dibromofluoromethane	*96*		*75 - 120*		*10/29/13 12:38*	*1*

Lab Sample ID: LCS 500-209136/4
Matrix: Water
Analysis Batch: 209136

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0438		mg/L		88	70 - 120
Toluene	0.0500	0.0436		mg/L		87	70 - 120
Ethylbenzene	0.0500	0.0454		mg/L		91	75 - 120
Xylenes, Total	0.100	0.0893		mg/L		89	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 125*
Toluene-d8 (Surr)	*90*		*75 - 120*
4-Bromofluorobenzene (Surr)	*90*		*75 - 120*
Dibromofluoromethane	*99*		*75 - 120*

Lab Sample ID: 500-65332-17 MS
Matrix: Water
Analysis Batch: 209136

Client Sample ID: MW15
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00050		0.0500	0.0460		mg/L		92	70 - 120
Toluene	<0.00050		0.0500	0.0460		mg/L		92	70 - 120
Ethylbenzene	<0.00050		0.0500	0.0462		mg/L		92	75 - 120
Xylenes, Total	<0.0010		0.100	0.0929		mg/L		93	70 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*
Toluene-d8 (Surr)	*88*		*75 - 120*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*
Dibromofluoromethane	*103*		*75 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-65332-17 MSD
Matrix: Water
Analysis Batch: 209136

Client Sample ID: MW15
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00050		0.0500	0.0446		mg/L		89	70 - 120	3	20
Toluene	<0.00050		0.0500	0.0448		mg/L		90	70 - 120	3	20
Ethylbenzene	<0.00050		0.0500	0.0459		mg/L		92	75 - 120	1	20
Xylenes, Total	<0.0010		0.100	0.0918		mg/L		92	70 - 120	1	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*
Toluene-d8 (Surr)	*90*		*75 - 120*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*
Dibromofluoromethane	*102*		*75 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-29361/6
Matrix: Water
Analysis Batch: 29361

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/06/13 15:17	1

Lab Sample ID: LCS 320-29361/7
Matrix: Water
Analysis Batch: 29361

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	0.0500	0.0493		mg/L		99	85 - 115

Lab Sample ID: MRL 320-29361/5 MRL
Matrix: Water
Analysis Batch: 29361

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	<4.0		ug/L		97	75 - 125

Lab Sample ID: 500-65332-1 MS
Matrix: Water
Analysis Batch: 29361

Client Sample ID: MW1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	<0.0040		0.0500	0.0406		mg/L		81	80 - 120

Lab Sample ID: 500-65332-1 MSD
Matrix: Water
Analysis Batch: 29361

Client Sample ID: MW1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	<0.0040		0.0500	0.0400		mg/L		80	80 - 120	1	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: 500-65332-1 MS
Matrix: Water
Analysis Batch: 208697

Client Sample ID: MW1
Prep Type: Dissolved
Prep Batch: 208604

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.385		mg/L		77	75 - 125
Barium	0.070		0.500	0.543		mg/L		95	75 - 125
Beryllium	<0.0010		0.0500	0.0485		mg/L		97	75 - 125
Boron	0.62		1.00	1.65		mg/L		103	75 - 125
Cadmium	<0.00050		0.0500	0.0479		mg/L		96	75 - 125
Cobalt	<0.0010		0.500	0.473		mg/L		95	75 - 125
Copper	<0.0020		0.250	0.239		mg/L		95	75 - 125
Iron	<0.10		1.00	1.07		mg/L		105	75 - 125
Lead	<0.00050		0.100	0.0975		mg/L		98	75 - 125
Manganese	<0.0025		0.500	0.467		mg/L		93	75 - 125
Nickel	<0.0020		0.500	0.472		mg/L		94	75 - 125
Selenium	0.0042		0.100	0.155	F	mg/L		151	75 - 125
Silver	<0.00050		0.0500	0.0413		mg/L		83	75 - 125
Thallium	<0.0020		0.100	0.0921		mg/L		92	75 - 125
Zinc	<0.020		0.500	0.487		mg/L		97	75 - 125

Lab Sample ID: 500-65332-1 MS
Matrix: Water
Analysis Batch: 209824

Client Sample ID: MW1
Prep Type: Dissolved
Prep Batch: 208604

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	<0.0010		0.100	0.119		mg/L		118	75 - 125
Chromium	<0.0050		0.200	0.204		mg/L		102	75 - 125
Vanadium	<0.0050		0.500	0.501		mg/L		100	75 - 125

Lab Sample ID: 500-65332-1 MSD
Matrix: Water
Analysis Batch: 208697

Client Sample ID: MW1
Prep Type: Dissolved
Prep Batch: 208604

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.402		mg/L		80	75 - 125	4	20
Barium	0.070		0.500	0.552		mg/L		97	75 - 125	2	20
Beryllium	<0.0010		0.0500	0.0503		mg/L		101	75 - 125	4	20
Boron	0.62		1.00	1.68		mg/L		106	75 - 125	2	20
Cadmium	<0.00050		0.0500	0.0494		mg/L		99	75 - 125	3	20
Cobalt	<0.0010		0.500	0.487		mg/L		97	75 - 125	3	20
Copper	<0.0020		0.250	0.244		mg/L		97	75 - 125	2	20
Iron	<0.10		1.00	1.09		mg/L		106	75 - 125	2	20
Lead	<0.00050		0.100	0.0955		mg/L		96	75 - 125	2	20
Manganese	<0.0025		0.500	0.480		mg/L		96	75 - 125	3	20
Nickel	<0.0020		0.500	0.490		mg/L		98	75 - 125	4	20
Selenium	0.0042		0.100	0.160	F	mg/L		155	75 - 125	3	20
Silver	<0.00050		0.0500	0.0450		mg/L		90	75 - 125	9	20
Thallium	<0.0020		0.100	0.0937		mg/L		94	75 - 125	2	20
Zinc	<0.020		0.500	0.506		mg/L		100	75 - 125	4	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-65332-1 MSD — **Client Sample ID: MW1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 209824 — **Prep Batch: 208604**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	<0.0010		0.100	0.120		mg/L		119	75 - 125	1	20
Chromium	<0.0050		0.200	0.203		mg/L		101	75 - 125	1	20
Iron	<0.10		1.00	0.904	^	mg/L		90	75 - 125	1	20
Lead	<0.00050		0.100	0.0900	^	mg/L		90	75 - 125	2	20
Nickel	<0.0020		0.500	0.479		mg/L		96	75 - 125	0	20
Vanadium	<0.0050		0.500	0.505		mg/L		101	75 - 125	1	20

Lab Sample ID: 500-65332-1 DU — **Client Sample ID: MW1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 208697 — **Prep Batch: 208604**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0030		<0.0030		mg/L		NC	20
Barium	0.070		0.0704		mg/L		0.9	20
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Boron	0.62		0.627		mg/L		1	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Cobalt	<0.0010		<0.0010		mg/L		NC	20
Copper	<0.0020		<0.0020		mg/L		NC	20
Iron	<0.10		<0.10		mg/L		NC	20
Lead	<0.00050		<0.00050		mg/L		NC	20
Manganese	<0.0025		<0.0025		mg/L		NC	20
Nickel	<0.0020		<0.0020		mg/L		NC	20
Selenium	0.0042		0.00416		mg/L		0.6	20
Silver	<0.00050		<0.00050		mg/L		NC	20
Thallium	<0.0020		<0.0020		mg/L		NC	20
Zinc	<0.020		<0.020		mg/L		NC	20

Lab Sample ID: 500-65332-1 DU — **Client Sample ID: MW1**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 209824 — **Prep Batch: 208604**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	<0.0010		<0.0010		mg/L		NC	20
Chromium	<0.0050		<0.0050		mg/L		NC	20
Vanadium	<0.0050		<0.0050		mg/L		NC	20

Lab Sample ID: MB 500-208604/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Soluble**
Analysis Batch: 208697 — **Prep Batch: 208604**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/24/13 16:55	10/24/13 17:17	1
Barium	<0.0025		0.0025		mg/L		10/24/13 16:55	10/24/13 17:17	1
Beryllium	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 17:17	1
Boron	<0.050		0.050		mg/L		10/24/13 16:55	10/24/13 17:17	1
Cadmium	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 17:17	1
Cobalt	<0.0010		0.0010		mg/L		10/24/13 16:55	10/24/13 17:17	1
Copper	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 17:17	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 500-208604/1-A
Matrix: Water
Analysis Batch: 208697

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 208604

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	<0.10		0.10		mg/L		10/24/13 16:55	10/24/13 17:17	1
Lead	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 17:17	1
Manganese	<0.0025		0.0025		mg/L		10/24/13 16:55	10/24/13 17:17	1
Nickel	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 17:17	1
Selenium	<0.0025		0.0025		mg/L		10/24/13 16:55	10/24/13 17:17	1
Silver	<0.00050		0.00050		mg/L		10/24/13 16:55	10/24/13 17:17	1
Thallium	<0.0020		0.0020		mg/L		10/24/13 16:55	10/24/13 17:17	1
Zinc	<0.020		0.020		mg/L		10/24/13 16:55	10/24/13 17:17	1

Lab Sample ID: MB 500-208604/1-A
Matrix: Water
Analysis Batch: 209824

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 208604

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0010		0.0010		mg/L		10/24/13 16:55	11/01/13 10:57	1
Chromium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 10:57	1
Vanadium	<0.0050		0.0050		mg/L		10/24/13 16:55	11/01/13 10:57	1

Lab Sample ID: LCS 500-208604/2-A
Matrix: Water
Analysis Batch: 208697

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 208604

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.440		mg/L		88	80 - 120
Barium	0.500	0.486		mg/L		97	80 - 120
Beryllium	0.0500	0.0476		mg/L		95	80 - 120
Boron	1.00	0.958		mg/L		96	80 - 120
Cadmium	0.0500	0.0483		mg/L		97	80 - 120
Cobalt	0.500	0.489		mg/L		98	80 - 120
Copper	0.250	0.243		mg/L		97	80 - 120
Iron	1.00	1.07		mg/L		107	80 - 120
Lead	0.100	0.0937		mg/L		94	80 - 120
Manganese	0.500	0.482		mg/L		96	80 - 120
Nickel	0.500	0.491		mg/L		98	80 - 120
Selenium	0.100	0.0967		mg/L		97	80 - 120
Silver	0.0500	0.0443		mg/L		89	80 - 120
Thallium	0.100	0.0920		mg/L		92	80 - 120
Zinc	0.500	0.487		mg/L		97	80 - 120

Lab Sample ID: LCS 500-208604/2-A
Matrix: Water
Analysis Batch: 209824

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 208604

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.111		mg/L		111	80 - 120
Chromium	0.200	0.199		mg/L		100	80 - 120
Vanadium	0.500	0.513		mg/L		103	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-208771/12-A
Matrix: Water
Analysis Batch: 209128

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208771

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 15:54	1

Lab Sample ID: LCS 500-208771/13-A
Matrix: Water
Analysis Batch: 209128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208771

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00202		mg/L		101	80 - 120

Lab Sample ID: MB 500-208772/12-A
Matrix: Water
Analysis Batch: 209053

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208772

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 12:24	1

Lab Sample ID: LCS 500-208772/13-A
Matrix: Water
Analysis Batch: 209053

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208772

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00204		mg/L		102	80 - 120

Method: 9014 - Cyanide

Lab Sample ID: MB 500-208736/1-A
Matrix: Water
Analysis Batch: 208827

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208736

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 11:45	10/25/13 17:20	1

Lab Sample ID: LCS 500-208736/2-A
Matrix: Water
Analysis Batch: 208827

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208736

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.0991		mg/L		99	80 - 120

Lab Sample ID: MB 500-208765/1-A
Matrix: Water
Analysis Batch: 209114

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208765

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 15:25	10/25/13 19:05	1

Method: 9014 - Cyanide (Continued)

Lab Sample ID: LCS 500-208765/2-A
Matrix: Water
Analysis Batch: 209114

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208765

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.106		mg/L		106	80 - 120

Lab Sample ID: 500-65332-11 MS
Matrix: Water
Analysis Batch: 209114

Client Sample ID: MW16
Prep Type: Dissolved
Prep Batch: 208765

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	<0.010		0.0400	0.0400		mg/L		100	75 - 125

Lab Sample ID: 500-65332-11 MSD
Matrix: Water
Analysis Batch: 209114

Client Sample ID: MW16
Prep Type: Dissolved
Prep Batch: 208765

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	<0.010		0.0400	0.0421		mg/L		105	75 - 125	5	20

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 500-208937/3
Matrix: Water
Analysis Batch: 208937

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			10/27/13 04:23	1

Lab Sample ID: LCS 500-208937/4
Matrix: Water
Analysis Batch: 208937

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.7		mg/L		104	80 - 120

Lab Sample ID: MB 500-210216/3
Matrix: Water
Analysis Batch: 210216

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/05/13 04:51	1

Lab Sample ID: LCS 500-210216/4
Matrix: Water
Analysis Batch: 210216

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.8		mg/L		99	80 - 120

Method: 9251 - Chloride

Lab Sample ID: MB 500-209499/4
Matrix: Water
Analysis Batch: 209499

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			10/28/13 19:44	1

Lab Sample ID: LCS 500-209499/5
Matrix: Water
Analysis Batch: 209499

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.1		mg/L		102	80 - 120

Lab Sample ID: 500-65332-9 MS
Matrix: Water
Analysis Batch: 209499

Client Sample ID: MW12
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	180		50.0	222		mg/L		84	75 - 125

Lab Sample ID: 500-65332-9 MSD
Matrix: Water
Analysis Batch: 209499

Client Sample ID: MW12
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	180		50.0	226		mg/L		91	75 - 125	2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-208644/1
Matrix: Water
Analysis Batch: 208644

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			10/25/13 00:01	1

Lab Sample ID: LCS 500-208644/2
Matrix: Water
Analysis Batch: 208644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	276		mg/L		110	80 - 120

Lab Sample ID: MB 500-208934/1
Matrix: Water
Analysis Batch: 208934

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			10/28/13 02:40	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 500-208934/2
Matrix: Water
Analysis Batch: 208934

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	242		mg/L		97	80 - 120

Lab Sample ID: MB 500-209110/1
Matrix: Water
Analysis Batch: 209110

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			10/29/13 00:01	1

Lab Sample ID: LCS 500-209110/2
Matrix: Water
Analysis Batch: 209110

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	256		mg/L		102	80 - 120

Lab Sample ID: 500-65332-1 MS
Matrix: Water
Analysis Batch: 208644

Client Sample ID: MW1
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	660		250	890		mg/L		94	75 - 125

Lab Sample ID: 500-65332-1 DU
Matrix: Water
Analysis Batch: 208644

Client Sample ID: MW1
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	660		646		mg/L		2	5

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-209685/3
Matrix: Water
Analysis Batch: 209685

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			10/31/13 13:31	1

Lab Sample ID: LCS 500-209685/4
Matrix: Water
Analysis Batch: 209685

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.5		mg/L		105	80 - 120

Method: SM 4500 F C - Fluoride (Continued)

Lab Sample ID: 500-65332-1 MS
Matrix: Water
Analysis Batch: 209685

Client Sample ID: MW1
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.11		5.00	5.54		mg/L		109	75 - 125

Lab Sample ID: 500-65332-1 MSD
Matrix: Water
Analysis Batch: 209685

Client Sample ID: MW1
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.11		5.00	5.48		mg/L		107	75 - 125	1	20

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-208208/3
Matrix: Water
Analysis Batch: 208208

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/22/13 18:11	1

Lab Sample ID: LCS 500-208208/4
Matrix: Water
Analysis Batch: 208208

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.103		mg/L		103	80 - 120

Lab Sample ID: MB 500-208377/3
Matrix: Water
Analysis Batch: 208377

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/23/13 15:46	1

Lab Sample ID: LCS 500-208377/4
Matrix: Water
Analysis Batch: 208377

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.106		mg/L		106	80 - 120

Lab Sample ID: MB 500-208625/3
Matrix: Water
Analysis Batch: 208625

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/24/13 19:15	1

Method: SM 4500 NO2 B - Nitrogen, Nitrite (Continued)

Lab Sample ID: LCS 500-208625/4
Matrix: Water
Analysis Batch: 208625

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.103		mg/L		103	80 - 120

Lab Sample ID: 500-65332-1 MS
Matrix: Water
Analysis Batch: 208208

Client Sample ID: MW1
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	<0.020		0.100	0.100		mg/L		100	75 - 125

Lab Sample ID: 500-65332-1 MSD
Matrix: Water
Analysis Batch: 208208

Client Sample ID: MW1
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	<0.020		0.100	0.0992		mg/L		99	75 - 125	0	20

Lab Sample ID: 500-65332-13 MS
Matrix: Water
Analysis Batch: 208625

Client Sample ID: MW7
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	<0.020		0.100	0.103		mg/L		100	75 - 125

Lab Sample ID: 500-65332-13 MSD
Matrix: Water
Analysis Batch: 208625

Client Sample ID: MW7
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	<0.020		0.100	0.104		mg/L		101	75 - 125	1	20

Method: SM 4500 NO3 F - Nitrogen, Nitrate

Lab Sample ID: MB 500-209479/4
Matrix: Water
Analysis Batch: 209479

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			10/30/13 12:34	1

Lab Sample ID: LCS 500-209479/5
Matrix: Water
Analysis Batch: 209479

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	1.00		mg/L		100	80 - 120

Method: SM 4500 NO3 F - Nitrogen, Nitrate (Continued)

Lab Sample ID: MB 500-209892/4
Matrix: Water
Analysis Batch: 209892

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			10/31/13 13:13	1

Lab Sample ID: LCS 500-209892/5
Matrix: Water
Analysis Batch: 209892

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	0.989		mg/L		99	80 - 120

Lab Sample ID: MB 500-209934/4
Matrix: Water
Analysis Batch: 209934

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			10/30/13 19:41	1

Lab Sample ID: LCS 500-209934/20
Matrix: Water
Analysis Batch: 209934

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	0.921		mg/L		92	80 - 120

Lab Sample ID: 500-65332-7 MS
Matrix: Water
Analysis Batch: 209479

Client Sample ID: MW9
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	4.6		1.00	5.22	4	mg/L		60	75 - 125

Lab Sample ID: 500-65332-7 MSD
Matrix: Water
Analysis Batch: 209479

Client Sample ID: MW9
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrate Nitrite	4.6		1.00	5.82	4	mg/L		120	75 - 125	11	20

Client Sample ID: MW1

Lab Sample ID: 500-65332-1

Date Collected: 10/21/13 15:10

Matrix: Water

Date Received: 10/22/13 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	208953	10/28/13 15:59	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 16:03	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 17:25	BJH	TAL CHI
Dissolved	Prep	7470A			208771	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209128	10/28/13 16:27	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:00	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208208		BIS	TAL CHI
					(Start)	10/22/13 18:12		
					(End)	10/22/13 18:12		
Dissolved	Analysis	SM 2540C		1	208644	10/25/13 00:25	CLB	TAL CHI
Dissolved	Prep	9010B			208736	10/25/13 11:45	EAT	TAL CHI
Dissolved	Analysis	9014		1	208827		EAT	TAL CHI
					(Start)	10/25/13 17:23		
					(End)	10/25/13 17:23		
Dissolved	Analysis	9038		4	208937		CLB	TAL CHI
					(Start)	10/27/13 04:43		
					(End)	10/27/13 04:44		
Dissolved	Analysis	SM 4500 NO3 F		5	209479		BIS	TAL CHI
					(Start)	10/30/13 13:53		
					(End)	10/30/13 13:58		
Dissolved	Analysis	9251		1	209499	10/28/13 19:46	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 13:37	EAT	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Client Sample ID: MW2

Lab Sample ID: 500-65332-2

Date Collected: 10/21/13 10:55

Matrix: Water

Date Received: 10/22/13 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	208953	10/28/13 16:26	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 16:50	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 17:52	BJH	TAL CHI
Dissolved	Prep	7470A			208771	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209128	10/28/13 16:29	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:12	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208208		BIS	TAL CHI
					(Start)	10/22/13 18:13		
					(End)	10/22/13 18:14		
Dissolved	Analysis	SM 2540C		1	208644	10/25/13 00:32	CLB	TAL CHI

Client Sample ID: MW2

Lab Sample ID: 500-65332-2

Date Collected: 10/21/13 10:55

Matrix: Water

Date Received: 10/22/13 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	9010B			208736	10/25/13 11:45	EAT	TAL CHI
Dissolved	Analysis	9014		1	208827		EAT	TAL CHI
					(Start)	10/25/13 17:23		
					(End)	10/25/13 17:24		
Dissolved	Analysis	9038		10	208937		CLB	TAL CHI
					(Start)	10/27/13 04:44		
					(End)	10/27/13 04:45		
Dissolved	Analysis	SM 4500 NO3 F		1	209479		BIS	TAL CHI
					(Start)	10/30/13 13:13		
					(End)	10/30/13 13:58		
Dissolved	Analysis	9251		5	209499	10/28/13 20:31	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 13:45	EAT	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Client Sample ID: MW3

Lab Sample ID: 500-65332-3

Date Collected: 10/21/13 09:20

Matrix: Water

Date Received: 10/22/13 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	209049	10/29/13 02:54	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 17:05	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 17:56	BJH	TAL CHI
Dissolved	Prep	7470A			208771	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209128	10/28/13 16:31	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:13	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208208		BIS	TAL CHI
					(Start)	10/22/13 18:14		
					(End)	10/22/13 18:15		
Dissolved	Analysis	SM 2540C		1	208644	10/25/13 00:35	CLB	TAL CHI
Dissolved	Prep	9010B			208736	10/25/13 11:45	EAT	TAL CHI
Dissolved	Analysis	9014		1	208827		EAT	TAL CHI
					(Start)	10/25/13 17:24		
					(End)	10/25/13 17:24		
Dissolved	Analysis	SM 4500 NO3 F		1	209479		BIS	TAL CHI
					(Start)	10/30/13 13:15		
					(End)	10/30/13 13:58		
Dissolved	Analysis	9251		1	209499	10/28/13 19:48	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 13:49	EAT	TAL CHI
Dissolved	Analysis	9038		4	210216		CLB	TAL CHI
					(Start)	11/05/13 05:12		
					(End)	11/05/13 05:13		
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Client Sample ID: MW4
Date Collected: 10/21/13 12:25
Date Received: 10/22/13 10:05

Lab Sample ID: 500-65332-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	209049	10/29/13 03:21	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 17:20	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 18:00	BJH	TAL CHI
Dissolved	Prep	7470A			208771	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209128	10/28/13 16:33	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:15	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208208		BIS	TAL CHI
					(Start)	10/22/13 18:14		
					(End)	10/22/13 18:15		
Dissolved	Analysis	SM 2540C		1	208644	10/25/13 00:37	CLB	TAL CHI
Dissolved	Prep	9010B			208736	10/25/13 11:45	EAT	TAL CHI
Dissolved	Analysis	9014		1	208827		EAT	TAL CHI
					(Start)	10/25/13 17:24		
					(End)	10/25/13 17:25		
Dissolved	Analysis	SM 4500 NO3 F		1	209479		BIS	TAL CHI
					(Start)	10/30/13 13:17		
					(End)	10/30/13 13:58		
Dissolved	Analysis	9251		5	209499	10/28/13 20:32	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 13:52	EAT	TAL CHI
Dissolved	Analysis	9038		20	210216		CLB	TAL CHI
					(Start)	11/05/13 04:53		
					(End)	11/05/13 04:54		
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Client Sample ID: MW5
Date Collected: 10/21/13 13:40
Date Received: 10/22/13 10:05

Lab Sample ID: 500-65332-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	209049	10/29/13 03:48	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 17:36	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 18:04	BJH	TAL CHI
Dissolved	Prep	7470A			208771	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209128	10/28/13 16:35	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:16	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208208		BIS	TAL CHI
					(Start)	10/22/13 18:15		
					(End)	10/22/13 18:16		
Dissolved	Analysis	SM 2540C		1	208644	10/25/13 00:40	CLB	TAL CHI

Client Sample ID: MW5 — **Lab Sample ID: 500-65332-5**
Date Collected: 10/21/13 13:40 — **Matrix: Water**
Date Received: 10/22/13 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	9010B			208736	10/25/13 11:45	EAT	TAL CHI
Dissolved	Analysis	9014		1	208827		EAT	TAL CHI
					(Start)	10/25/13 17:25		
					(End)	10/25/13 17:25		
Dissolved	Analysis	SM 4500 NO3 F		1	209479		BIS	TAL CHI
					(Start)	10/30/13 13:18		
					(End)	10/30/13 13:58		
Dissolved	Analysis	9251		5	209499	10/28/13 20:32	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 13:55	EAT	TAL CHI
Dissolved	Analysis	9038		20	210216		CLB	TAL CHI
					(Start)	11/05/13 04:54		
					(End)	11/05/13 04:55		
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Client Sample ID: DUP — **Lab Sample ID: 500-65332-6**
Date Collected: 10/21/13 00:00 — **Matrix: Water**
Date Received: 10/22/13 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	209049	10/29/13 04:14	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 19:39	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 18:08	BJH	TAL CHI
Dissolved	Prep	7470A			208771	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209128	10/28/13 16:37	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:17	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208208		BIS	TAL CHI
					(Start)	10/22/13 18:16		
					(End)	10/22/13 18:16		
Dissolved	Analysis	SM 2540C		1	208644	10/25/13 00:42	CLB	TAL CHI
Dissolved	Prep	9010B			208736	10/25/13 11:45	EAT	TAL CHI
Dissolved	Analysis	9014		1	208827		EAT	TAL CHI
					(Start)	10/25/13 17:26		
					(End)	10/25/13 17:27		
Dissolved	Analysis	SM 4500 NO3 F		1	209479		BIS	TAL CHI
					(Start)	10/30/13 13:21		
					(End)	10/30/13 13:58		
Dissolved	Analysis	9251		1	209499	10/28/13 19:50	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 13:58	EAT	TAL CHI
Dissolved	Analysis	9038		4	210216		CLB	TAL CHI
					(Start)	11/05/13 04:55		
					(End)	11/05/13 04:56		
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Client Sample ID: MW9

Lab Sample ID: 500-65332-7

Date Collected: 10/22/13 13:56

Matrix: Water

Date Received: 10/23/13 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	209049	10/29/13 04:41	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 19:54	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 18:12	BJH	TAL CHI
Dissolved	Prep	7470A			208771	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209128	10/28/13 16:39	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:19	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208377		BIS	TAL CHI
					(Start)	10/23/13 15:49		
					(End)	10/23/13 15:49		
Dissolved	Prep	9010B			208736	10/25/13 11:45	EAT	TAL CHI
Dissolved	Analysis	9014		1	208827		EAT	TAL CHI
					(Start)	10/25/13 17:27		
					(End)	10/25/13 17:27		
Dissolved	Analysis	SM 2540C		1	208934	10/28/13 02:57	CLB	TAL CHI
Dissolved	Analysis	SM 4500 NO3 F		5	209479		BIS	TAL CHI
					(Start)	10/30/13 13:54		
					(End)	10/30/13 13:58		
Dissolved	Analysis	9251		1	209499	10/28/13 19:54	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 14:13	EAT	TAL CHI
Dissolved	Analysis	9038		5	210216		CLB	TAL CHI
					(Start)	11/05/13 04:56		
					(End)	11/05/13 04:57		
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Client Sample ID: MW11

Lab Sample ID: 500-65332-8

Date Collected: 10/22/13 08:45

Matrix: Water

Date Received: 10/23/13 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	209049	10/29/13 05:08	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 20:10	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 18:16	BJH	TAL CHI
Dissolved	Prep	7470A			208771	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209128	10/28/13 16:41	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:20	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208377		BIS	TAL CHI
					(Start)	10/23/13 15:49		
					(End)	10/23/13 15:50		
Dissolved	Prep	9010B			208736	10/25/13 11:45	EAT	TAL CHI

Client Sample ID: MW11

Lab Sample ID: 500-65332-8

Date Collected: 10/22/13 08:45

Matrix: Water

Date Received: 10/23/13 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9014		1	208827		EAT	TAL CHI
					(Start)	10/25/13 17:27		
					(End)	10/25/13 17:27		
Dissolved	Analysis	SM 2540C		1	208934	10/28/13 03:00	CLB	TAL CHI
Dissolved	Analysis	9251		5	209499	10/28/13 20:33	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 14:16	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO3 F		1	209934	10/30/13 19:45	BIS	TAL CHI
Dissolved	Analysis	9038		10	210216		CLB	TAL CHI
					(Start)	11/05/13 04:57		
					(End)	11/05/13 04:58		
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Client Sample ID: MW12

Lab Sample ID: 500-65332-9

Date Collected: 10/22/13 11:10

Matrix: Water

Date Received: 10/23/13 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	209049	10/29/13 05:35	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 20:25	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 18:19	BJH	TAL CHI
Dissolved	Prep	7470A			208772	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209053	10/28/13 12:32	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:26	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208377		BIS	TAL CHI
					(Start)	10/23/13 15:50		
					(End)	10/23/13 15:50		
Dissolved	Prep	9010B			208736	10/25/13 11:45	EAT	TAL CHI
Dissolved	Analysis	9014		1	208827		EAT	TAL CHI
					(Start)	10/25/13 17:27		
					(End)	10/25/13 17:28		
Dissolved	Analysis	SM 2540C		1	208934	10/28/13 03:02	CLB	TAL CHI
Dissolved	Analysis	9251		5	209499	10/28/13 20:33	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 14:19	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO3 F		1	209934	10/30/13 19:48	BIS	TAL CHI
Dissolved	Analysis	9038		20	210216		CLB	TAL CHI
					(Start)	11/05/13 04:58		
					(End)	11/05/13 04:59		
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Client Sample ID: MW13

Lab Sample ID: 500-65332-10

Date Collected: 10/22/13 12:38

Matrix: Water

Date Received: 10/23/13 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	209049	10/29/13 06:02	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 20:41	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 18:23	BJH	TAL CHI
Dissolved	Prep	7470A			208772	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209053	10/28/13 12:34	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:27	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208377		BIS	TAL CHI
					(Start)	10/23/13 15:51		
					(End)	10/23/13 15:52		
Dissolved	Prep	9010B			208736	10/25/13 11:45	EAT	TAL CHI
Dissolved	Analysis	9014		1	208827		EAT	TAL CHI
					(Start)	10/25/13 17:28		
					(End)	10/25/13 17:28		
Dissolved	Analysis	SM 2540C		1	208934	10/28/13 03:05	CLB	TAL CHI
Dissolved	Analysis	9251		5	209499	10/28/13 20:35	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 14:22	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO3 F		1	209934	10/30/13 19:50	BIS	TAL CHI
Dissolved	Analysis	9038		50	210216		CLB	TAL CHI
					(Start)	11/05/13 04:59		
					(End)	11/05/13 05:00		
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Client Sample ID: MW16

Lab Sample ID: 500-65332-11

Date Collected: 10/22/13 15:05

Matrix: Water

Date Received: 10/23/13 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	209049	10/29/13 06:29	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 20:56	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 18:35	BJH	TAL CHI
Dissolved	Prep	7470A			208772	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209053	10/28/13 12:36	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:29	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208377		BIS	TAL CHI
					(Start)	10/23/13 15:52		
					(End)	10/23/13 15:52		
Dissolved	Analysis	SM 2540C		1	208934	10/28/13 03:07	CLB	TAL CHI
Dissolved	Prep	9010B			208765	10/25/13 15:25	EAT	TAL CHI

Client Sample ID: MW16

Lab Sample ID: 500-65332-11

Date Collected: 10/22/13 15:05

Matrix: Water

Date Received: 10/23/13 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9014		1	209114		EAT	TAL CHI
					(Start)	10/25/13 19:06		
					(End)	10/25/13 19:07		
Dissolved	Analysis	9251		1	209499	10/28/13 19:58	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 14:26	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO3 F		10	209892	10/31/13 13:17	BIS	TAL CHI
Dissolved	Analysis	9038		4	210216		CLB	TAL CHI
					(Start)	11/05/13 05:00		
					(End)	11/05/13 05:01		
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Client Sample ID: MW6

Lab Sample ID: 500-65332-12

Date Collected: 10/23/13 12:50

Matrix: Water

Date Received: 10/24/13 12:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	209049	10/29/13 06:56	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 21:12	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 18:39	BJH	TAL CHI
Dissolved	Prep	7470A			208772	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209053	10/28/13 12:38	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:30	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208625		BIS	TAL CHI
					(Start)	10/24/13 19:19		
					(End)	10/24/13 19:20		
Dissolved	Analysis	SM 2540C		1	209110	10/29/13 00:05	CLB	TAL CHI
Dissolved	Prep	9010B			208765	10/25/13 15:25	EAT	TAL CHI
Dissolved	Analysis	9014		1	209114		EAT	TAL CHI
					(Start)	10/25/13 19:08		
					(End)	10/25/13 19:08		
Dissolved	Analysis	9251		5	209499	10/28/13 20:35	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 14:29	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO3 F		1	209934	10/30/13 19:54	BIS	TAL CHI
Dissolved	Analysis	9038		20	210216		CLB	TAL CHI
					(Start)	11/05/13 05:03		
					(End)	11/05/13 05:04		
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

MWG13-15_19901

Client Sample ID: MW7

Lab Sample ID: 500-65332-13

Date Collected: 10/23/13 12:00

Matrix: Water

Date Received: 10/24/13 12:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	209049	10/29/13 07:23	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 21:27	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 18:43	BJH	TAL CHI
Dissolved	Prep	7470A			208772	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209053	10/28/13 12:40	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:32	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208625		BIS	TAL CHI
					(Start)	10/24/13 19:20		
					(End)	10/24/13 19:21		
Dissolved	Analysis	SM 2540C		1	209110	10/29/13 00:08	CLB	TAL CHI
Dissolved	Prep	9010B			208765	10/25/13 15:25	EAT	TAL CHI
Dissolved	Analysis	9014		1	209114		EAT	TAL CHI
					(Start)	10/25/13 19:08		
					(End)	10/25/13 19:09		
Dissolved	Analysis	9251		5	209499	10/28/13 20:36	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 14:32	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO3 F		1	209934	10/30/13 19:56	BIS	TAL CHI
Dissolved	Analysis	9038		4	210216		CLB	TAL CHI
					(Start)	11/05/13 05:04		
					(End)	11/05/13 05:05		
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Client Sample ID: MW8

Lab Sample ID: 500-65332-14

Date Collected: 10/23/13 13:55

Matrix: Water

Date Received: 10/24/13 12:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	209049	10/29/13 07:50	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 22:13	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 18:47	BJH	TAL CHI
Dissolved	Prep	7470A			208772	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209053	10/28/13 12:46	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:33	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208625		BIS	TAL CHI
					(Start)	10/24/13 19:22		
					(End)	10/24/13 19:22		
Dissolved	Analysis	SM 2540C		1	209110	10/29/13 00:10	CLB	TAL CHI
Dissolved	Prep	9010B			208765	10/25/13 15:25	EAT	TAL CHI

Client Sample ID: MW8

Lab Sample ID: 500-65332-14

Date Collected: 10/23/13 13:55

Matrix: Water

Date Received: 10/24/13 12:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9014		1	209114		EAT	TAL CHI
					(Start)	10/25/13 19:09		
					(End)	10/25/13 19:09		
Dissolved	Analysis	9251		5	209499	10/28/13 20:38	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 14:35	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO3 F		1	209934	10/30/13 19:58	BIS	TAL CHI
Dissolved	Analysis	9038		20	210216		CLB	TAL CHI
					(Start)	11/05/13 05:05		
					(End)	11/05/13 05:06		
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Client Sample ID: MW10

Lab Sample ID: 500-65332-15

Date Collected: 10/23/13 15:20

Matrix: Water

Date Received: 10/24/13 12:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	209049	10/29/13 08:16	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 22:29	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 18:51	BJH	TAL CHI
Dissolved	Prep	7470A			208772	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209053	10/28/13 12:48	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:35	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208625		BIS	TAL CHI
					(Start)	10/24/13 19:22		
					(End)	10/24/13 19:23		
Dissolved	Analysis	SM 2540C		1	209110	10/29/13 00:13	CLB	TAL CHI
Dissolved	Prep	9010B			208765	10/25/13 15:25	EAT	TAL CHI
Dissolved	Analysis	9014		1	209114		EAT	TAL CHI
					(Start)	10/25/13 19:09		
					(End)	10/25/13 19:10		
Dissolved	Analysis	9251		1	209499	10/28/13 20:02	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 14:38	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO3 F		1	209934	10/30/13 20:00	BIS	TAL CHI
Dissolved	Analysis	9038		5	210216		CLB	TAL CHI
					(Start)	11/05/13 05:06		
					(End)	11/05/13 05:07		
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Client Sample ID: MW14

Lab Sample ID: 500-65332-16

Date Collected: 10/23/13 09:00

Matrix: Water

Date Received: 10/24/13 12:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	209136	10/29/13 19:50	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 22:44	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 18:55	BJH	TAL CHI
Dissolved	Prep	7470A			208772	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209053	10/28/13 12:50	PFK	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:36	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	210303	11/05/13 12:39	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208625		BIS	TAL CHI
						(Start) 10/24/13 19:23		
						(End) 10/24/13 19:23		
Dissolved	Analysis	SM 2540C		1	209110	10/29/13 00:15	CLB	TAL CHI
Dissolved	Prep	9010B			208765	10/25/13 15:25	EAT	TAL CHI
Dissolved	Analysis	9014		1	209114		EAT	TAL CHI
						(Start) 10/25/13 19:10		
						(End) 10/25/13 19:10		
Dissolved	Analysis	9251		5	209499	10/28/13 20:38	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 14:42	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO3 F		1	209934	10/30/13 20:07	BIS	TAL CHI
Dissolved	Analysis	9038		50	210216		CLB	TAL CHI
						(Start) 11/05/13 05:07		
						(End) 11/05/13 05:08		
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Client Sample ID: MW15

Lab Sample ID: 500-65332-17

Date Collected: 10/23/13 10:30

Matrix: Water

Date Received: 10/24/13 12:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	209136	10/29/13 20:18	BBS	TAL CHI
Total/NA	Analysis	314.0		1	29361	11/06/13 22:59	LW1	TAL SAC
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	208697	10/24/13 18:59	BJH	TAL CHI
Dissolved	Prep	7470A			208772	10/25/13 15:20	BJB	TAL CHI
Dissolved	Analysis	7470A		1	209053	10/28/13 12:52	PFK	TAL CHI
Dissolved	Prep	Soluble Metals			208604	10/24/13 16:55	BJH	TAL CHI
Dissolved	Analysis	6020A		1	209824	11/01/13 11:37	PFK	TAL CHI
Dissolved	Analysis	6020A		1	210303	11/05/13 12:40	PFK	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	208625		BIS	TAL CHI
						(Start) 10/24/13 19:23		
						(End) 10/24/13 19:24		
Dissolved	Analysis	SM 2540C		1	209110	10/29/13 00:18	CLB	TAL CHI

Client Sample ID: MW15 — **Lab Sample ID: 500-65332-17**
Date Collected: 10/23/13 10:30 — **Matrix: Water**
Date Received: 10/24/13 12:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	9010B			208765	10/25/13 15:25	EAT	TAL CHI
Dissolved	Analysis	9014		1	209114		EAT	TAL CHI
					(Start)	10/25/13 19:11		
					(End)	10/25/13 19:12		
Dissolved	Analysis	9251		5	209499	10/28/13 20:39	HMW	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	209685	10/31/13 14:55	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO3 F		1	209934	10/30/13 20:09	BIS	TAL CHI
Dissolved	Analysis	9038		20	210216		CLB	TAL CHI
					(Start)	11/05/13 05:08		
					(End)	11/05/13 05:09		
Dissolved	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Client Sample ID: Trip Blank — **Lab Sample ID: 500-65332-18**
Date Collected: 10/21/13 00:00 — **Matrix: Water**
Date Received: 10/24/13 12:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	209136	10/29/13 13:05	BBS	TAL CHI

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-65332-1

Laboratory: TestAmerica Chicago

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40461	04-30-14
California	NELAP	9	01132CA	04-30-14
Georgia	State Program	4	N/A	04-30-14
Hawaii	State Program	9	N/A	04-30-14
Illinois	NELAP	5	100201	04-30-14
Indiana	State Program	5	C-IL-02	04-30-14
Iowa	State Program	7	82	05-01-14
Kansas	NELAP	7	E-10161	10-31-14 *
Kentucky	State Program	4	90023	12-31-13
Kentucky (UST)	State Program	4	66	04-30-14
Louisiana	NELAP	6	30720	06-30-14
Massachusetts	State Program	1	M-IL035	06-30-14
Mississippi	State Program	4	N/A	04-30-14
North Carolina DENR	State Program	4	291	12-31-13
North Dakota	State Program	8	R-194	04-30-14
Oklahoma	State Program	6	8908	08-31-14
South Carolina	State Program	4	77001	04-30-14
Texas	NELAP	6	T104704252-09-TX	02-28-14
USDA	Federal		P330-12-00038	02-06-15
Wisconsin	State Program	5	999580010	08-31-14
Wyoming	State Program	8	8TMS-Q	04-30-14

Laboratory: TestAmerica Sacramento

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NE-OS-22-13	01-31-14
A2LA	DoD ELAP		2928-01	01-31-14
Alaska (UST)	State Program	10	UST-055	12-18-13
Arizona	State Program	9	AZ0708	08-11-14
Arkansas DEQ	State Program	6	88-0691	06-17-14
California	NELAP	9	1119CA	01-31-14
Connecticut	State Program	1	PH-0691	06-30-15
Florida	NELAP	4	E87570	06-30-14
Guam	State Program	9	N/A	08-31-14
Hawaii	State Program	9	N/A	01-31-14
Illinois	NELAP	5	200060	03-17-14
Kansas	NELAP	7	E-10375	10-31-14
Louisiana	NELAP	6	30612	06-30-14
Michigan	State Program	5	9947	01-31-14
Nebraska	State Program	7	NE-OS-22-13	01-31-14
Nevada	State Program	9	CA44	07-31-14
New Jersey	NELAP	2	CA005	06-30-14
New York	NELAP	2	11666	04-01-14
Northern Mariana Islands	State Program	9	MP0007	02-01-14
Oregon	NELAP	10	CA200005	03-28-14
Pennsylvania	NELAP	3	68-01272	03-31-14
South Carolina	State Program	4	87014	06-30-14
Texas	NELAP	6	T104704399-08-TX	05-31-14
US Fish & Wildlife	Federal		LE148388-0	12-31-13

* Expired certification is currently pending renewal and is considered valid.

Laboratory: TestAmerica Sacramento (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
USDA	Federal		P330-11-00436	12-30-14
USEPA UCMR	Federal	1	CA00044	11-06-14
Utah	NELAP	8	QUAN1	01-31-14
Washington	State Program	10	C581	05-05-14
West Virginia	State Program	3	9930C	12-31-13
Wyoming	State Program	8	8TMS-Q	01-31-14

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 60
Phone: 708.534.5200 Fax: 708.534

500-65332 COC

(optional)
Report To
Contact: RICH GNAT
Company: KPRG & ASSOC INC
Address: 14665 W. LISBON RD
Address: BROOKFIELD, WI
Phone: 262-781-0475
Fax:
E-Mail:

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-65332

Chain of Custody Number:

Page 1 of 1

Temperature °C of Cooler: 1.7

Client: KPRG
Client Project #: 12313.1
Project Name: POWERTON STATION ASH PONDS.
Project Location/State: PEKIN, IL
Lab Project #:
Sampler: I. J. HOWIESON
Lab PM: B. STADELMANN.

Preservative: 7
Parameter: NITROGEN NITRATE NO2

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	NITROGEN NITRATE NO2	Comments
1		MW 1	10-21	15:10	1	W	X	
2		MW 2	10-21	10:55	1	W	X	
3		MW 3	10-21	09:20	1	W	X	
4		MW 4	10-21	12:25	1	W	X	
5		MW 5	10-21	13:40	1	W	X	
6		DUP.	10-21	—	1	W	X	

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days ___ Other
Requested Due Date:

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ___ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	KPRG	10-21-13	15:58	[signature]	TA	10/22/13	1005

Lab Courier:
Shipped: FX
Hand Delivered:

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

11/8/2013

MWG13-15_19908

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 604
Phone: 708.534.5200 Fax: 708.534.

500-65332 COC

Chain of Custody Record

Lab Job #: 500-65332

Chain of Custody Number:

Page 1 of 1

Temperature °C of Cooler: 1.0

Report To (optional)	Bill To (optional)
Contact: RICH GNAT	Contact:
Company: KPRG & ASSOC INC.	Company:
Address: N4665 W. LISBON RD.	Address:
Address: BROOKFIELD, WI	Address:
Phone: 262-781-0475	Phone:
Fax:	Fax:
E-Mail:	PO#/Reference#

Client	Client Project #	Preservative	7										
KPRG	12313.1												
Project Name		Parameter	NITROGEN NITRATE NO2										
POWERTON STATION ASH PONDS													
Project Location/State	Lab Project #												
PEKIN, IL													
Sampler	Lab PM												
J. J. HOWIESON	B. STARKMANN												

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix									
7		MW9	10-22	13:56	1	W	X								
8		MW11	10-22	08:45	1	W	X								
9		MW12	10-22	11:10	1	W	X								
10		MW13	10-22	12:38	1	W	X								
11		MW16	10-22	15:05	1	W	X								

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Comments

Turnaround Time Required (Business Days)

___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other

Requested Due Date: _____

Sample Disposal

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	KPRG	10-22-13	15:55		TA-CHI	10/23/13	0900

Lab Courier

Shipped: Fed-X

Hand Delivered

Matrix Key

WW – Wastewater	SE – Sediment
W – Water	SO – Soil
S – Soil	L – Leachate
SL – Sludge	WI – Wipe
MS – Miscellaneous	DW – Drinking Water
OL – Oil	O – Other
A – Air	

Client Comments

Lab Comments:

TAL-4124-500 (1209)
11/8/2013

MWG13-15_19909

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL
Phone: 708.534.5200 Fax: 708.5

500-65332 COC

(optional)
Report To
Contact: RICH GNAP.
Company: KPRG & ASSOCIATES, INC
Address: 14665 W. LISBON RD.
Address: BROOKFIELD, WI
Phone: 262-781-0475
Fax:
E-Mail:

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-65332

Chain of Custody Number:

Page 1 of 2

Temperature °C of Cooler: (4.4)(3.7)(3.2)(3.5)

Client: KPRG
Client Project #: 1231.1
Project Name: POWERTON STATION ASH PONDS
Project Location/State: PEKIN, IL
Lab Project #:
Sampler: I.J. HOWESON
Lab PM: B. STADELMANN.

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
6. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	4	3	1	7	7	2	7	3	3	Comments
							Parameter	CYANIDE	METALS	BTEX BENZENE	TDS, Cl, Fl, SO4	NO2	NO3-NO2	PERCHLORATE	RADIUM 226	RADIUM 228	
1		MW 1	10-21	15:10	8	W		X	X	X	X	1	X	X	1	1	
2		MW 2	10-21	10:55	8	W						1			1	1	
3		MW 3	10-21	09:20	8	W						1			1	1	
4		MW 4	10-21	12:25	8	W						1			1	1	
5		MW 5	10-21	13:40	8	W						1			1	1	
12	MS/MSD	MW 6	10-23	12:50	9	W						X			1	1	
13		MW 7	10-23	12:00	9	W						X			1	1	
14		MW 8	10-23	13:55	9	W						X			1	1	
7		MW 9	10-22	13:56	8	W						1			X	X	
15		MW 10	10-23	15:20	9	W		X	X	X	X	X	X	X	1	1	

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date: _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
[signature]	KPRG	10-24-13	12:24	[signature]	TestAm	10/24/13	1224
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier:
Shipped:
Hand Delivered: KPRG

Matrix Key
WW - Wastewater
W - Water
S - Soil
SL - Sludge
MS - Miscellaneous
OL - Oil
A - Air
SE - Sediment
SO - Soil
L - Leachate
WI - Wipe
DW - Drinking Water
O - Other

Client Comments:

Lab Comments:

MWG13-15_19910

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

Chain of Custody Record

Lab Job #: 500-65332

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler:

Report To (optional)		Bill To (optional)	
Contact:	RICH GNAT	Contact:	
Company:	KPRG & ASSOCIATES INC.	Company:	
Address:	14665 W. LISBON RD	Address:	
Address:	BROOKFIELD, WI	Address:	
Phone:	262-781-0475	Phone:	
Fax:		Fax:	
E-Mail:		PO#/Reference#	

Client	KPRG	Client Project #	12313.1
Project Name	KINCAID STATION ASH PONDS		
Project Location/State	PANA, IL	Lab Project #	
Sampler	I.S. HOLLESON	Lab PM	B. STADELMANN

Preservative Key: 1. HCL, Cool to 4° 2. H2SO4, Cool to 4° 3. HNO3, Cool to 4° 4. NaOH, Cool to 4° 5. NaOH/Zn, Cool to 4° 6. NaHSO4 7. Cool to 4° 8. None 9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Preservative	4	3	1	7	7	2	7	3	3	Comments
							Parameter	CYANIDE	METALS	BTEX BENZENE	TDS, Cl, Fl, SO4	NO2	NO3-NO2	PERCHLORATE	RADIUM 226	RADIUM 228	
8		MW 11	10.22	08:45	18	W		X	X	X	X	—	X	X	X	X	
9		MW 12	10.22	11:10	18	W						—			X	X	
10		MW 13	10.22	12:38	8	W						—			—	—	
16		MW 14	10.23	09:00	9	W						X			—	—	
17		MW 15	10.23	10:30	9	W						X			—	—	
11		MW 16	10.22	15:05	8	W						—			—	—	
6		DUPLICATE	10.21	—	8	W		X	X	X	X	—	X	X	—	—	
18		TRIP BLANK			2	W		—	—	—	—	—	—	—	—	—	
															—	—	
															—	—	

Turnaround Time Required (Business Days)

___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other

Requested Due Date _____

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	KPRG	10-24-13	12:24		TestA	10/24/13	1224
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier: _____ Shipped: _____ Hand Delivered: KPRG

Matrix Key

WW – Wastewater	SE – Sediment
W – Water	SO – Soil
S – Soil	L – Leachate
SL – Sludge	WI – Wipe
MS – Miscellaneous	DW – Drinking Water
OL – Oil	O – Other
A – Air	

Client Comments:

Lab Comments:

MWG13-15_19911

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Stadelmann, Bonnie M	Carrier Tracking No(s):	COC No: 500-41541.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.				Job #: 500-65332-1
Address: 880 Riverside Parkway,	Due Date Requested: 11/4/2013			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #			
Email	WO #			
Project Name: Powerton Station Ash Ponds	Project #: 50008027			
Site	SSOW#:			

Analysis Requested

500-65332 Chain of Custody

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code						
MW1 (500-65332-1)	10/21/13	15:10 Central		Water			X	1	
MW2 (500-65332-2)	10/21/13	10:55 Central		Water			X	1	
MW3 (500-65332-3)	10/21/13	09:20 Central		Water			X	1	
MW4 (500-65332-4)	10/21/13	12 25 Central		Water			X	1	
MW5 (500-65332-5)	10/21/13	13:40 Central		Water			X	1	
DUP (500-65332-6)	10/21/13	Central		Water			X	1	
MW9 (500-65332-7)	10/22/13	13.56 Central		Water			X	1	
MW11 (500-65332-8)	10/22/13	08.45 Central		Water			X	1	
MW12 (500-65332-9)	10/22/13	11.10 Central		Water			X	1	
MW13 (500-65332-10)	10/22/13	12:38 Central		Water			X	1	
MW16 (500-65332-11)	10/22/13	15:05 Central		Water			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date.	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	10/24/13 1600	TAL-Chicago	[signature]	10/25/13 925	[signature]

Custody Seals Intact.	Custody Seal No	Cooler Temperature(s) °C and Other Remarks
☒ Yes Δ No	775868	0.9°C

11/8/2013

MWG13-15_19912

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Stadelmann, Bonnie M	Carrier Tracking No(s):	COC No: 500-41541.2
Client Contact: Shipping/Receiving	Phone	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.				Job #: 500-65332-1
Address: 880 Riverside Parkway,	Due Date Requested: 11/4/2013			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email	WO #:			
Project Name: Powerton Station Ash Ponds	Project #: 50008027			
Site	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
	Preservation Code:								
MW6 (500-65332-12)	10/23/13	12:50 Central		Water			X		
MW7 (500-65332-13)	10/23/13	12.00 Central		Water			X		
MW8 (500-65332-14)	10/23/13	13:55 Central		Water			X		
MW10 (500-65332-15)	10/23/13	15:20 Central		Water			X		
MW14 (500-65332-16)	10/23/13	09.00 Central		Water			X		
MW15 (500-65332-17)	10/23/13	10:30 Central		Water			X		

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For _____ Months*

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment
Relinquished by: [signature]	Date/Time: 10/24/13 1600	Company: TAL-Chicago	Received by	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

11/8/2013

MWG13-15_19913

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-65332-1

Login Number: 65332

List Number: 1

Creator: Lunt, Jeff T

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	1.7,1.0,4.4,3.7,3.2,3.5
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

MWG13-15_19914

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

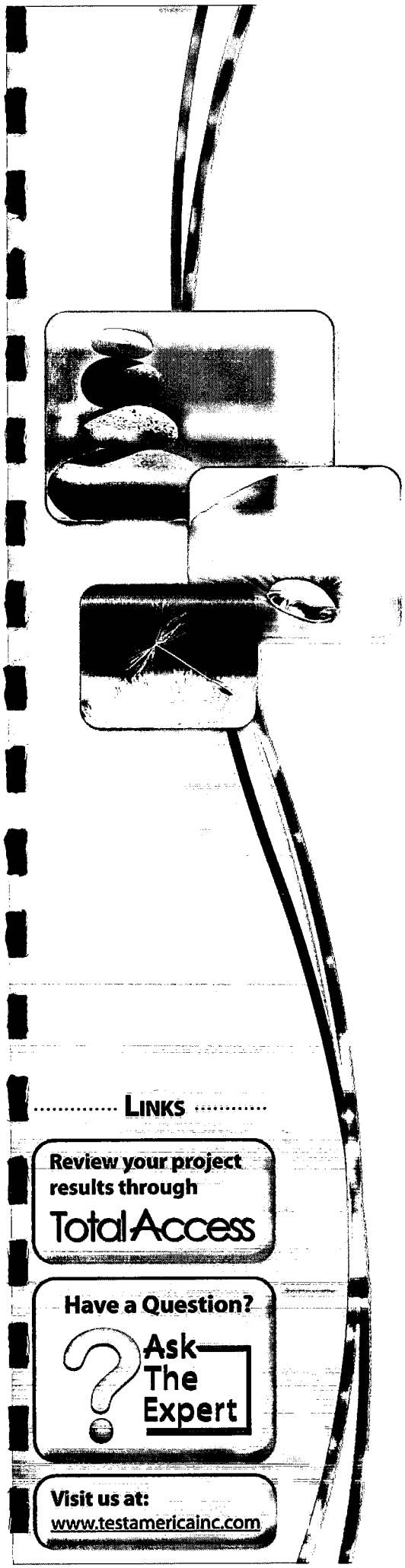
Job Number: 500-65332-1

Login Number: 65332
List Number: 1
Creator: Nelson, Kym D

List Source: TestAmerica Sacramento
List Creation: 10/25/13 04:50 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

MWG13-15_19915



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-65402-1
Client Project/Site: Powerton Station Ash Ponds

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
11/6/2013 3:41:44 PM

Bonnie Stadelmann, Project Manager II
(708)534-5200
bonnie.stadelmann@testamericainc.com

..... LINKS .....

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Job ID: 500-65402-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-65402-1

Comments
No additional comments.

Receipt
The sample was received on 10/23/2013 9:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 1.0° C.

GC/MS VOA
No analytical or quality issues were noted.

Metals
Method(s) 200.8, 6020, 6020A: The internal standard (Rh) was used to report As in batch 208962.

No other analytical or quality issues were noted.

General Chemistry
No analytical or quality issues were noted.

MWG13-15_19918

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-65402-1

Client Sample ID: East Yard Run Off

Lab Sample ID: 500-65402-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0036		0.0010		mg/L	1		6020A	Total Recoverable
Barium	0.098		0.0025		mg/L	1		6020A	Total Recoverable
Boron	0.38		0.050		mg/L	1		6020A	Total Recoverable
Copper	0.0032		0.0020		mg/L	1		6020A	Total Recoverable
Iron	2.6		0.10		mg/L	1		6020A	Total Recoverable
Manganese	0.021		0.0025		mg/L	1		6020A	Total Recoverable
Nickel	0.0027		0.0020		mg/L	1		6020A	Total Recoverable
Vanadium	0.0066		0.0050		mg/L	1		6020A	Total Recoverable
Sulfate	240		50		mg/L	10		9038	Total/NA
Chloride	170		10		mg/L	5		9251	Total/NA
Total Dissolved Solids	750		10		mg/L	1		SM 2540C	Total/NA
Fluoride	0.45		0.10		mg/L	1		SM 4500 F C	Total/NA
Nitrogen, Nitrite	0.024		0.020		mg/L	1		SM 4500 NO2 B	Total/NA
Nitrogen, Nitrate Nitrite	0.12		0.10		mg/L	1		SM 4500 NO3 F	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-65402-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
314.0	Perchlorate (IC)	EPA	TAL SAC
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
9014	Cyanide	SW846	TAL CHI
9038	Sulfate, Turbidimetric	SW846	TAL CHI
9251	Chloride	SW846	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-65402-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-65402-1	East Yard Run Off	Water	10/22/13 10:30	10/23/13 09:00

MWG13-15_19921

Client Sample ID: East Yard Run Off
Date Collected: 10/22/13 10:30
Date Received: 10/23/13 09:00

Lab Sample ID: 500-65402-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/28/13 16:14	1
Toluene	<0.00050		0.00050		mg/L			10/28/13 16:14	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/28/13 16:14	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/28/13 16:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 125*		*10/28/13 16:14*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*10/28/13 16:14*	*1*
4-Bromofluorobenzene (Surr)	*106*		*75 - 120*		*10/28/13 16:14*	*1*
Dibromofluoromethane	*90*		*75 - 120*		*10/28/13 16:14*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/02/13 21:09	1

Method: 6020A - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/25/13 08:00	10/25/13 15:14	1
Arsenic	**0.0036**		0.0010		mg/L		10/25/13 08:00	10/26/13 02:14	1
Barium	**0.098**		0.0025		mg/L		10/25/13 08:00	10/25/13 15:14	1
Beryllium	<0.0010		0.0010		mg/L		10/25/13 08:00	10/25/13 15:14	1
Boron	**0.38**		0.050		mg/L		10/25/13 08:00	10/25/13 15:14	1
Cadmium	<0.00050		0.00050		mg/L		10/25/13 08:00	10/25/13 15:14	1
Chromium	<0.0050		0.0050		mg/L		10/25/13 08:00	10/25/13 15:14	1
Cobalt	<0.0010		0.0010		mg/L		10/25/13 08:00	10/25/13 15:14	1
Copper	**0.0032**		0.0020		mg/L		10/25/13 08:00	10/25/13 15:14	1
Iron	**2.6**		0.10		mg/L		10/25/13 08:00	10/26/13 02:14	1
Lead	<0.00050		0.00050		mg/L		10/25/13 08:00	10/25/13 15:14	1
Manganese	**0.021**		0.0025		mg/L		10/25/13 08:00	10/25/13 15:14	1
Nickel	**0.0027**		0.0020		mg/L		10/25/13 08:00	10/25/13 15:14	1
Selenium	<0.0025		0.0025		mg/L		10/25/13 08:00	10/25/13 15:14	1
Silver	<0.00050		0.00050		mg/L		10/25/13 08:00	10/25/13 15:14	1
Thallium	<0.0020		0.0020		mg/L		10/25/13 08:00	10/25/13 15:14	1
Vanadium	**0.0066**		0.0050		mg/L		10/25/13 08:00	10/25/13 15:14	1
Zinc	<0.020		0.020		mg/L		10/25/13 08:00	10/25/13 15:14	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 12:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 15:25	10/25/13 19:12	1
Sulfate	**240**		50		mg/L			11/05/13 05:09	10
Chloride	**170**		10		mg/L			11/01/13 17:39	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			11/05/13 15:58	1
Total Dissolved Solids	**750**		10		mg/L			10/28/13 03:27	1
Fluoride	**0.45**		0.10		mg/L			10/31/13 15:02	1
Nitrogen, Nitrite	**0.024**		0.020		mg/L			10/23/13 15:52	1
Nitrogen, Nitrate Nitrite	**0.12**		0.10		mg/L			10/31/13 13:20	1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA

Analysis Batch: 208981

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65402-1	East Yard Run Off	Total/NA	Water	8260B	
LCS 500-208981/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-208981/7	Method Blank	Total/NA	Water	8260B	

HPLC/IC

Analysis Batch: 29014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65402-1	East Yard Run Off	Total/NA	Water	314.0	
LCS 320-29014/7	Lab Control Sample	Total/NA	Water	314.0	
MB 320-29014/6	Method Blank	Total/NA	Water	314.0	
MRL 320-29014/5 MRL	Lab Control Sample	Total/NA	Water	314.0	

Metals

Prep Batch: 208682

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65402-1	East Yard Run Off	Total Recoverable	Water	3005A	
LCS 500-208682/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 500-208682/1-A	Method Blank	Total Recoverable	Water	3005A	

Prep Batch: 208772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65402-1	East Yard Run Off	Total/NA	Water	7470A	
LCS 500-208772/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-208772/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 208813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65402-1	East Yard Run Off	Total Recoverable	Water	6020A	208682
LCS 500-208682/2-A	Lab Control Sample	Total Recoverable	Water	6020A	208682
MB 500-208682/1-A	Method Blank	Total Recoverable	Water	6020A	208682

Analysis Batch: 208962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65402-1	East Yard Run Off	Total Recoverable	Water	6020A	208682
LCS 500-208682/2-A	Lab Control Sample	Total Recoverable	Water	6020A	208682
MB 500-208682/1-A	Method Blank	Total Recoverable	Water	6020A	208682

Analysis Batch: 209053

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65402-1	East Yard Run Off	Total/NA	Water	7470A	208772
LCS 500-208772/13-A	Lab Control Sample	Total/NA	Water	7470A	208772
MB 500-208772/12-A	Method Blank	Total/NA	Water	7470A	208772

General Chemistry

Analysis Batch: 208377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65402-1	East Yard Run Off	Total/NA	Water	SM 4500 NO2 B	

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General Chemistry (Continued)

Analysis Batch: 208377 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-208377/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-208377/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Prep Batch: 208765

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65402-1	East Yard Run Off	Total/NA	Water	9010B	
LCS 500-208765/2-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-208765/1-A	Method Blank	Total/NA	Water	9010B	

Analysis Batch: 208934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65402-1	East Yard Run Off	Total/NA	Water	SM 2540C	
500-65402-1 DU	East Yard Run Off	Total/NA	Water	SM 2540C	
500-65402-1 MS	East Yard Run Off	Total/NA	Water	SM 2540C	
LCS 500-208934/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-208934/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 209114

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65402-1	East Yard Run Off	Total/NA	Water	9014	208765
LCS 500-208765/2-A	Lab Control Sample	Total/NA	Water	9014	208765
MB 500-208765/1-A	Method Blank	Total/NA	Water	9014	208765

Analysis Batch: 209685

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65402-1	East Yard Run Off	Total/NA	Water	SM 4500 F C	
LCS 500-209685/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-209685/3	Method Blank	Total/NA	Water	SM 4500 F C	

Analysis Batch: 209892

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65402-1	East Yard Run Off	Total/NA	Water	SM 4500 NO3 F	
LCS 500-209892/5	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-209892/4	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 209902

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65402-1	East Yard Run Off	Total/NA	Water	9251	
LCS 500-209902/5	Lab Control Sample	Total/NA	Water	9251	
MB 500-209902/4	Method Blank	Total/NA	Water	9251	

Analysis Batch: 210216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65402-1	East Yard Run Off	Total/NA	Water	9038	
500-65402-1 MS	East Yard Run Off	Total/NA	Water	9038	
500-65402-1 MSD	East Yard Run Off	Total/NA	Water	9038	
LCS 500-210216/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-210216/3	Method Blank	Total/NA	Water	9038	

General Chemistry (Continued)

Analysis Batch: 210360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-65402-1	East Yard Run Off	Total/NA	Water	Nitrate by calc	

Surrogate Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-65402-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		12DCE	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(75-125)	(75-120)	(75-120)	(75-120)
500-65402-1	East Yard Run Off	108	93	106	90
LCS 500-208981/4	Lab Control Sample	108	96	104	93
MB 500-208981/7	Method Blank	108	94	103	90

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane

MWG13-15_19927

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-208981/7
Matrix: Water
Analysis Batch: 208981

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			10/28/13 14:12	1
Toluene	<0.00050		0.00050		mg/L			10/28/13 14:12	1
Ethylbenzene	<0.00050		0.00050		mg/L			10/28/13 14:12	1
Xylenes, Total	<0.0010		0.0010		mg/L			10/28/13 14:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 125*		*10/28/13 14:12*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*10/28/13 14:12*	*1*
4-Bromofluorobenzene (Surr)	*103*		*75 - 120*		*10/28/13 14:12*	*1*
Dibromofluoromethane	*90*		*75 - 120*		*10/28/13 14:12*	*1*

Lab Sample ID: LCS 500-208981/4
Matrix: Water
Analysis Batch: 208981

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0442		mg/L		88	70 - 120
Toluene	0.0500	0.0462		mg/L		92	70 - 120
Ethylbenzene	0.0500	0.0454		mg/L		91	75 - 120
Xylenes, Total	0.100	0.0958		mg/L		96	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 125*
Toluene-d8 (Surr)	*96*		*75 - 120*
4-Bromofluorobenzene (Surr)	*104*		*75 - 120*
Dibromofluoromethane	*93*		*75 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-29014/6
Matrix: Water
Analysis Batch: 29014

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			11/02/13 14:43	1

Lab Sample ID: LCS 320-29014/7
Matrix: Water
Analysis Batch: 29014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	0.0500	0.0495		mg/L		99	85 - 115

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MRL 320-29014/5 MRL
Matrix: Water
Analysis Batch: 29014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	<4.0		ug/L		95	75 - 125

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-208682/1-A
Matrix: Water
Analysis Batch: 208813

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 208682

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		10/25/13 08:00	10/25/13 14:29	1
Barium	<0.0025		0.0025		mg/L		10/25/13 08:00	10/25/13 14:29	1
Beryllium	<0.0010		0.0010		mg/L		10/25/13 08:00	10/25/13 14:29	1
Boron	<0.050		0.050		mg/L		10/25/13 08:00	10/25/13 14:29	1
Cadmium	<0.00050		0.00050		mg/L		10/25/13 08:00	10/25/13 14:29	1
Chromium	<0.0050		0.0050		mg/L		10/25/13 08:00	10/25/13 14:29	1
Cobalt	<0.0010		0.0010		mg/L		10/25/13 08:00	10/25/13 14:29	1
Copper	<0.0020		0.0020		mg/L		10/25/13 08:00	10/25/13 14:29	1
Lead	<0.00050		0.00050		mg/L		10/25/13 08:00	10/25/13 14:29	1
Manganese	<0.0025		0.0025		mg/L		10/25/13 08:00	10/25/13 14:29	1
Nickel	<0.0020		0.0020		mg/L		10/25/13 08:00	10/25/13 14:29	1
Selenium	<0.0025		0.0025		mg/L		10/25/13 08:00	10/25/13 14:29	1
Silver	<0.00050		0.00050		mg/L		10/25/13 08:00	10/25/13 14:29	1
Thallium	<0.0020		0.0020		mg/L		10/25/13 08:00	10/25/13 14:29	1
Vanadium	<0.0050		0.0050		mg/L		10/25/13 08:00	10/25/13 14:29	1
Zinc	<0.020		0.020		mg/L		10/25/13 08:00	10/25/13 14:29	1

Lab Sample ID: MB 500-208682/1-A
Matrix: Water
Analysis Batch: 208962

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 208682

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0010		0.0010		mg/L		10/25/13 08:00	10/26/13 01:57	1
Iron	<0.10		0.10		mg/L		10/25/13 08:00	10/26/13 01:57	1

Lab Sample ID: LCS 500-208682/2-A
Matrix: Water
Analysis Batch: 208813

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 208682

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.487		mg/L		97	80 - 120
Barium	0.500	0.487		mg/L		97	80 - 120
Beryllium	0.0500	0.0493		mg/L		99	80 - 120
Boron	1.00	0.996		mg/L		100	80 - 120
Cadmium	0.0500	0.0489		mg/L		98	80 - 120
Chromium	0.200	0.195		mg/L		98	80 - 120
Cobalt	0.500	0.495		mg/L		99	80 - 120
Copper	0.250	0.252		mg/L		101	80 - 120
Lead	0.100	0.0947		mg/L		95	80 - 120

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 500-208682/2-A
Matrix: Water
Analysis Batch: 208813

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 208682

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	0.500	0.500		mg/L		100	80 - 120
Nickel	0.500	0.496		mg/L		99	80 - 120
Selenium	0.100	0.104		mg/L		104	80 - 120
Silver	0.0500	0.0495		mg/L		99	80 - 120
Thallium	0.100	0.0927		mg/L		93	80 - 120
Vanadium	0.500	0.473		mg/L		95	80 - 120
Zinc	0.500	0.516		mg/L		103	80 - 120

Lab Sample ID: LCS 500-208682/2-A
Matrix: Water
Analysis Batch: 208962

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 208682

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.0985		mg/L		99	80 - 120
Iron	1.00	0.945		mg/L		94	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-208772/12-A
Matrix: Water
Analysis Batch: 209053

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208772

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		10/25/13 15:20	10/28/13 12:24	1

Lab Sample ID: LCS 500-208772/13-A
Matrix: Water
Analysis Batch: 209053

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208772

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00200	0.00204		mg/L		102	80 - 120

Method: 9014 - Cyanide

Lab Sample ID: MB 500-208765/1-A
Matrix: Water
Analysis Batch: 209114

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208765

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		10/25/13 15:25	10/25/13 19:05	1

Lab Sample ID: LCS 500-208765/2-A
Matrix: Water
Analysis Batch: 209114

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208765

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.100	0.106		mg/L		106	80 - 120

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 500-210216/3
Matrix: Water
Analysis Batch: 210216

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			11/05/13 04:51	1

Lab Sample ID: LCS 500-210216/4
Matrix: Water
Analysis Batch: 210216

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.8		mg/L		99	80 - 120

Lab Sample ID: 500-65402-1 MS
Matrix: Water
Analysis Batch: 210216

Client Sample ID: East Yard Run Off
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	240		400	632		mg/L		98	75 - 125

Lab Sample ID: 500-65402-1 MSD
Matrix: Water
Analysis Batch: 210216

Client Sample ID: East Yard Run Off
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	240		400	658		mg/L		105	75 - 125	4	20

Method: 9251 - Chloride

Lab Sample ID: MB 500-209902/4
Matrix: Water
Analysis Batch: 209902

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/01/13 17:23	1

Lab Sample ID: LCS 500-209902/5
Matrix: Water
Analysis Batch: 209902

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.1		mg/L		102	80 - 120

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-208934/1
Matrix: Water
Analysis Batch: 208934

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			10/28/13 02:40	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 500-208934/2
Matrix: Water
Analysis Batch: 208934

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	250	242		mg/L		97	80 - 120

Lab Sample ID: 500-65402-1 MS
Matrix: Water
Analysis Batch: 208934

Client Sample ID: East Yard Run Off
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	750		250	1010		mg/L		106	75 - 125

Lab Sample ID: 500-65402-1 DU
Matrix: Water
Analysis Batch: 208934

Client Sample ID: East Yard Run Off
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	750		738		mg/L		1	5

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-209685/3
Matrix: Water
Analysis Batch: 209685

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			10/31/13 13:31	1

Lab Sample ID: LCS 500-209685/4
Matrix: Water
Analysis Batch: 209685

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	10.0	10.5		mg/L		105	80 - 120

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-208377/3
Matrix: Water
Analysis Batch: 208377

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			10/23/13 15:46	1

Lab Sample ID: LCS 500-208377/4
Matrix: Water
Analysis Batch: 208377

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.106		mg/L		106	80 - 120

Method: SM 4500 NO3 F - Nitrogen, Nitrate

Lab Sample ID: MB 500-209892/4
Matrix: Water
Analysis Batch: 209892

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			10/31/13 13:13	1

Lab Sample ID: LCS 500-209892/5
Matrix: Water
Analysis Batch: 209892

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrate Nitrite	1.00	0.989		mg/L		99	80 - 120

Client Sample ID: East Yard Run Off
Date Collected: 10/22/13 10:30
Date Received: 10/23/13 09:00

Lab Sample ID: 500-65402-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	208981	10/28/13 16:14	EMA	TAL CHI
Total/NA	Analysis	314.0		1	29014	11/02/13 21:09	JCB	TAL SAC
Total Recoverable	Prep	3005A			208682	10/25/13 08:00	MJP	TAL CHI
Total Recoverable	Analysis	6020A		1	208813	10/25/13 15:14	BJH	TAL CHI
Total Recoverable	Prep	3005A			208682	10/25/13 08:00	MJP	TAL CHI
Total Recoverable	Analysis	6020A		1	208962	10/26/13 02:14	PFK	TAL CHI
Total/NA	Prep	7470A			208772	10/25/13 15:20	BJB	TAL CHI
Total/NA	Analysis	7470A		1	209053	10/28/13 12:54	PFK	TAL CHI
Total/NA	Analysis	SM 4500 NO2 B		1	208377		BIS	TAL CHI
					(Start)	10/23/13 15:52		
					(End)	10/23/13 15:53		
Total/NA	Analysis	SM 2540C		1	208934	10/28/13 03:27	CLB	TAL CHI
Total/NA	Prep	9010B			208765	10/25/13 15:25	EAT	TAL CHI
Total/NA	Analysis	9014		1	209114		EAT	TAL CHI
					(Start)	10/25/13 19:12		
					(End)	10/25/13 19:12		
Total/NA	Analysis	SM 4500 F C		1	209685	10/31/13 15:02	EAT	TAL CHI
Total/NA	Analysis	SM 4500 NO3 F		1	209892	10/31/13 13:20	BIS	TAL CHI
Total/NA	Analysis	9251		5	209902	11/01/13 17:39	HMW	TAL CHI
Total/NA	Analysis	9038		10	210216		CLB	TAL CHI
					(Start)	11/05/13 05:09		
					(End)	11/05/13 05:10		
Total/NA	Analysis	Nitrate by calc		1	210360	11/05/13 15:58	SJS	TAL CHI

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

MWG13-15_19934

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-65402-1

Laboratory: TestAmerica Chicago

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alabama	State Program	4	40461	04-30-14
California	NELAP	9	01132CA	04-30-14
Georgia	State Program	4	N/A	04-30-14
Hawaii	State Program	9	N/A	04-30-14
Illinois	NELAP	5	100201	04-30-14
Indiana	State Program	5	C-IL-02	04-30-14
Iowa	State Program	7	82	05-01-14
Kansas	NELAP	7	E-10161	10-31-14 *
Kentucky	State Program	4	90023	12-31-13
Kentucky (UST)	State Program	4	66	04-30-14
Louisiana	NELAP	6	30720	06-30-14
Massachusetts	State Program	1	M-IL035	06-30-14
Mississippi	State Program	4	N/A	04-30-14
North Carolina DENR	State Program	4	291	12-31-13
North Dakota	State Program	8	R-194	04-30-14
Oklahoma	State Program	6	8908	08-31-14
South Carolina	State Program	4	77001	04-30-14
Texas	NELAP	6	T104704252-09-TX	02-28-14
USDA	Federal		P330-12-00038	02-06-15
Wisconsin	State Program	5	999580010	08-31-14
Wyoming	State Program	8	8TMS-Q	04-30-14

Laboratory: TestAmerica Sacramento

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	A2LA		NE-OS-22-13	01-31-14
A2LA	DoD ELAP		2928-01	01-31-14
Alaska (UST)	State Program	10	UST-055	12-18-13
Arizona	State Program	9	AZ0708	08-11-14
Arkansas DEQ	State Program	6	88-0691	06-17-14
California	NELAP	9	1119CA	01-31-14
Connecticut	State Program	1	PH-0691	06-30-15
Florida	NELAP	4	E87570	06-30-14
Guam	State Program	9	N/A	08-31-14
Hawaii	State Program	9	N/A	01-31-14
Illinois	NELAP	5	200060	03-17-14
Kansas	NELAP	7	E-10375	10-31-14
Louisiana	NELAP	6	30612	06-30-14
Michigan	State Program	5	9947	01-31-14
Nebraska	State Program	7	NE-OS-22-13	01-31-14
Nevada	State Program	9	CA44	07-31-14
New Jersey	NELAP	2	CA005	06-30-14
New York	NELAP	2	11666	04-01-14
Northern Mariana Islands	State Program	9	MP0007	02-01-14
Oregon	NELAP	10	CA200005	03-28-14
Pennsylvania	NELAP	3	68-01272	03-31-14
South Carolina	State Program	4	87014	06-30-14
Texas	NELAP	6	T104704399-08-TX	05-31-14
US Fish & Wildlife	Federal		LE148388-0	12-31-13

* Expired certification is currently pending renewal and is considered valid.

Laboratory: TestAmerica Sacramento (Continued)

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
USDA	Federal		P330-11-00436	12-30-14
USEPA UCMR	Federal	1	CA00044	11-06-14
Utah	NELAP	8	QUAN1	01-31-14
Washington	State Program	10	C581	05-05-14
West Virginia	State Program	3	9930C	12-31-13
Wyoming	State Program	8	8TMS-Q	01-31-14

TestAmerica

THE LEADER IN ENVIRONMENTAL

2417 Bond Street, University Park, IL 6048
Phone: 708.534.5200 Fax: 708.534.5

500-65402 COC

Chain of Custody Record

Lab Job #: 500-65402

Chain of Custody Number:

Page 1 of 1

Temperature °C of Cooler: 3.5

Report To (optional)	Bill To (optional)
Contact: RICH GNAT	Contact:
Company: KPRG & ASSOCIATES INC.	Company:
Address: 14665 W. LISBON RD.	Address:
Address: BROOKFIELD, WI	Address:
Phone: 262-781-0475	Phone:
Fax:	Fax:
E-Mail:	PO#/Reference#

Client	Client Project #	Preservative	3	1	7	7	2	7	4			Preservative Key
KPRG	12313.1											1. HCL, Cool to 4°
Project Name		Parameter										2. H2SO4, Cool to 4°
POWERTON STATION ASH PONDS.			METALS	BTEX BENZENE	TDS, Cl, F, SO4	NO2	NO3-NO2	PHENOLPHTHALEIN	CYANIDE			3. HNO3, Cool to 4°
Project Location/State	Lab Project #											4. NaOH, Cool to 4°
PEKIN, IL												5. NaOH/Zn, Cool to 4°
Sampler	Lab PM											6. NaHSO4
T.S. HOWLESON	B. STARKMANN.											7. Cool to 4°
												8. None
												9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix										Comments
1		EAST YARD RUN OFF	10.22	10:30	8	W	X	X	X	—	X	X	X			NOT FILTERED.

Turnaround Time Required (Business Days)

___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other

Requested Due Date: _____

Sample Disposal

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	KPRG	10-24-13	12:24		Test America	10/24/13	1224
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier: _____

Shipped: _____

Hand Delivered: KPRG

Matrix Key

WW – Wastewater	SE – Sediment
W – Water	SO – Soil
S – Soil	L – Leachate
SL – Sludge	WI – Wipe
MS – Miscellaneous	DW – Drinking Water
OL – Oil	O – Other
A – Air	

Client Comments:

Lab Comments:

11/6/2013

TAL-0122-580 (1209)

MWG13-15_19937

TestAmerica

THE LEADER IN ENVIRONMENTAL T

2417 Bond Street, University Park, IL 604(
Phone: 708.534.5200 Fax: 708.534.5

500-65402 COC

Chain of Custody Record

Lab Job #: 500-65402

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler: 1.0

Report To (optional)	Bill To (optional)
Contact: RICH GNAT	Contact:
Company: KPRG & ASSOC INC.	Company:
Address: 14665 W. LISBON RD.	Address:
Address: BROOKFIELD, WI	Address:
Phone: 262-781-0475	Phone:
Fax:	Fax:
E-Mail:	PO#/Reference#

Client: KPRG	Client Project #: 12313.1	Preservative: 7	
Project Name: POWERTON STATION ASH PONDS		Parameter: NITRATE NITROGEN	
Project Location/State: PEKIN, IL	Lab Project #		
Sampler: T.S. HOLICSON	Lab PM: B. STADELMANN.		

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	Comments
1		EAST YARD RUN OFF	10.22	10:30			

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date: _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	KPRG	10-22-13	15:55		TA-CHI	10/23/13	0900
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped: Fed X
Hand Delivered

Matrix Key

WW – Wastewater	SE – Sediment
W – Water	SO – Soil
S – Soil	L – Leachate
SL – Sludge	WI – Wipe
MS – Miscellaneous	DW – Drinking Water
OL – Oil	O – Other
A – Air	

Client Comments

Lab Comments:

MWG13-15_19938

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-65402-1

Login Number: 65402

List Number: 1

Creator: Scott, Sherri L

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.0
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

MWG13-15_19939

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-65402-1

Login Number: 65402
List Number: 1
Creator: Nelson, Kym D

List Source: TestAmerica Sacramento
List Creation: 10/25/13 04:50 PM

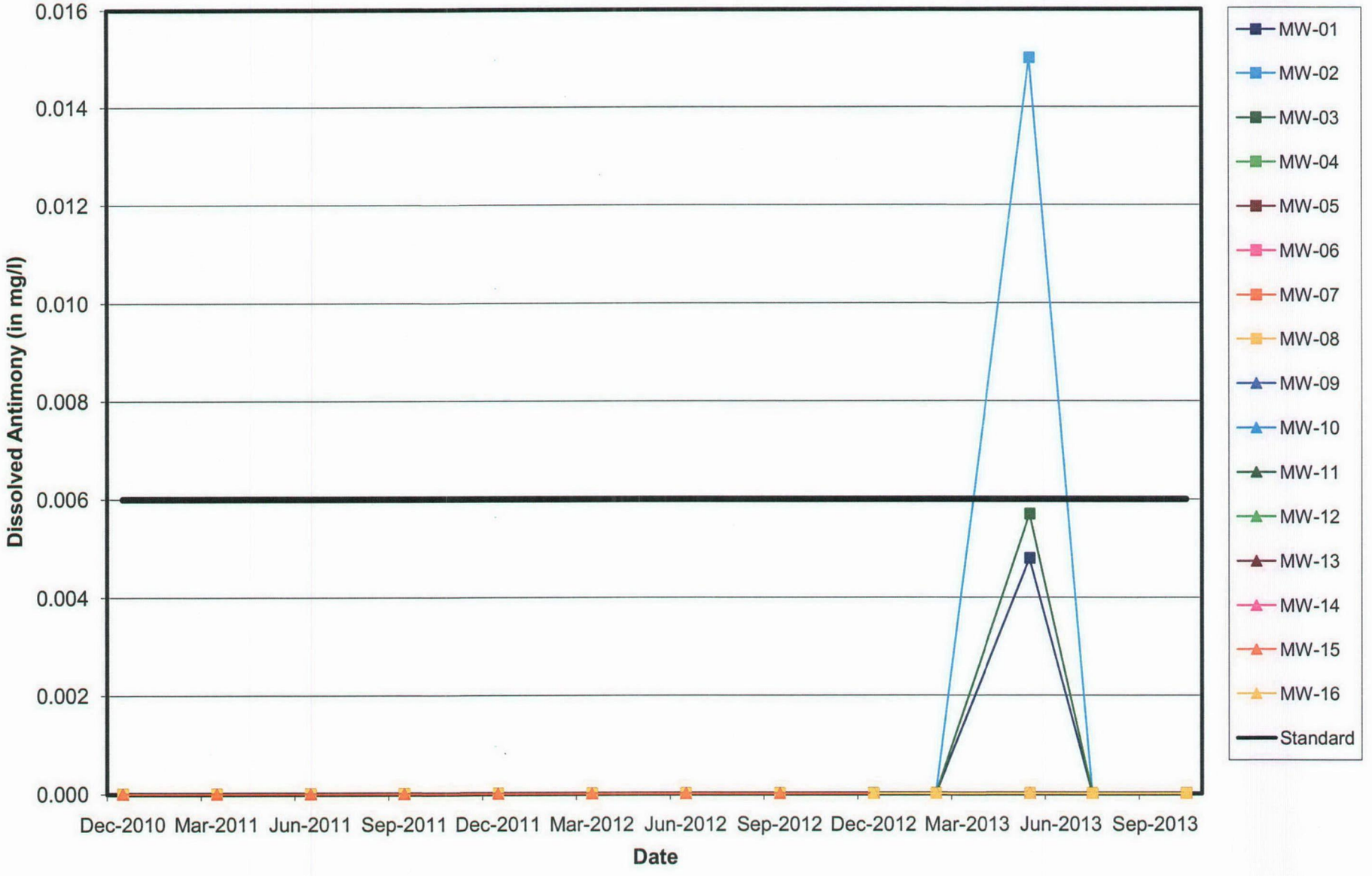
Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	

MWG13-15_19940

ATTACHMENT 3
Time Versus Concentration Curves

Midwest Generation Powerton Station, Pekin, IL

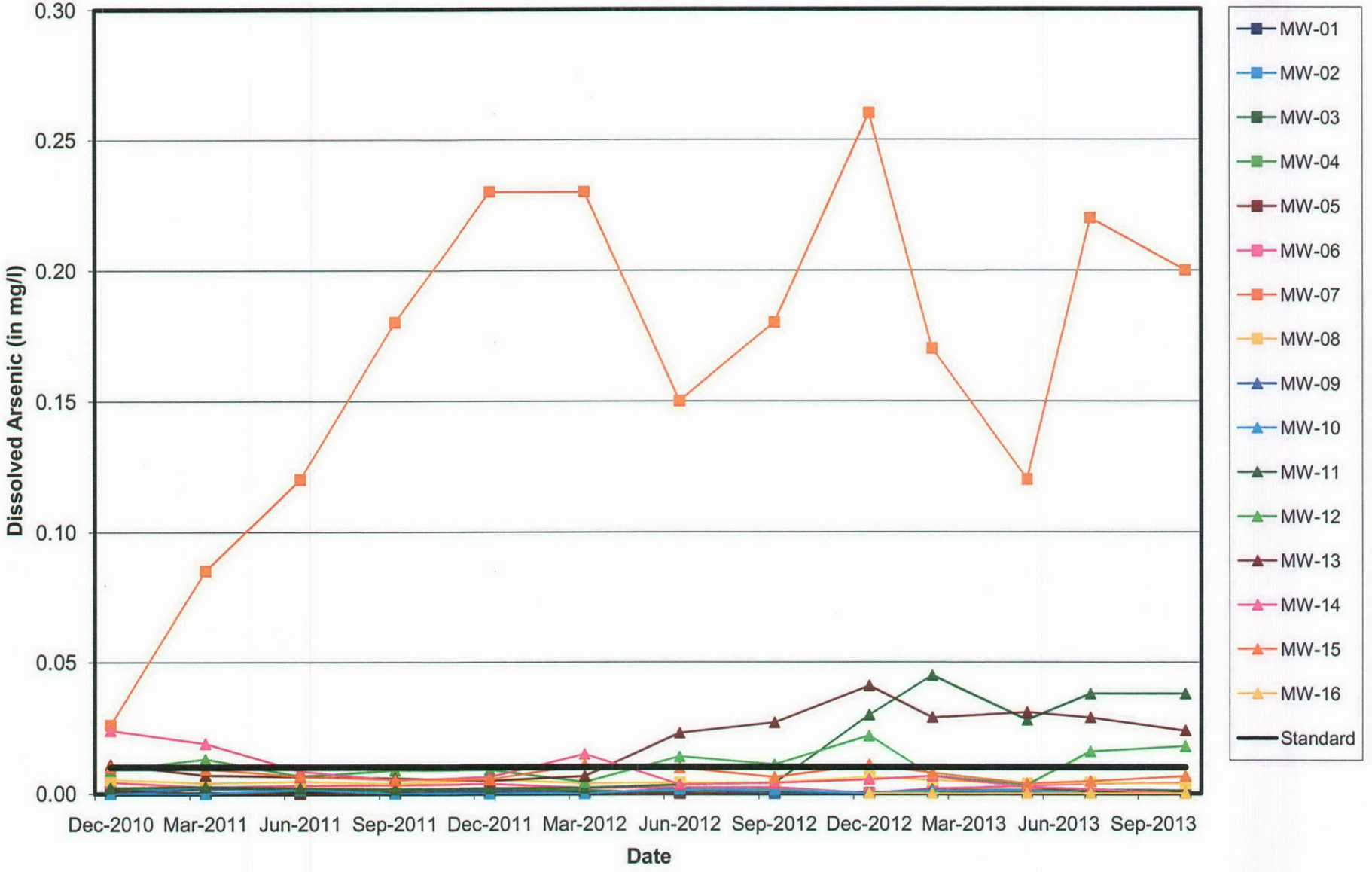
Dissolved Antimony vs. Time



MWG13-15_19942

Midwest Generation Powerton Station, Pekin, IL

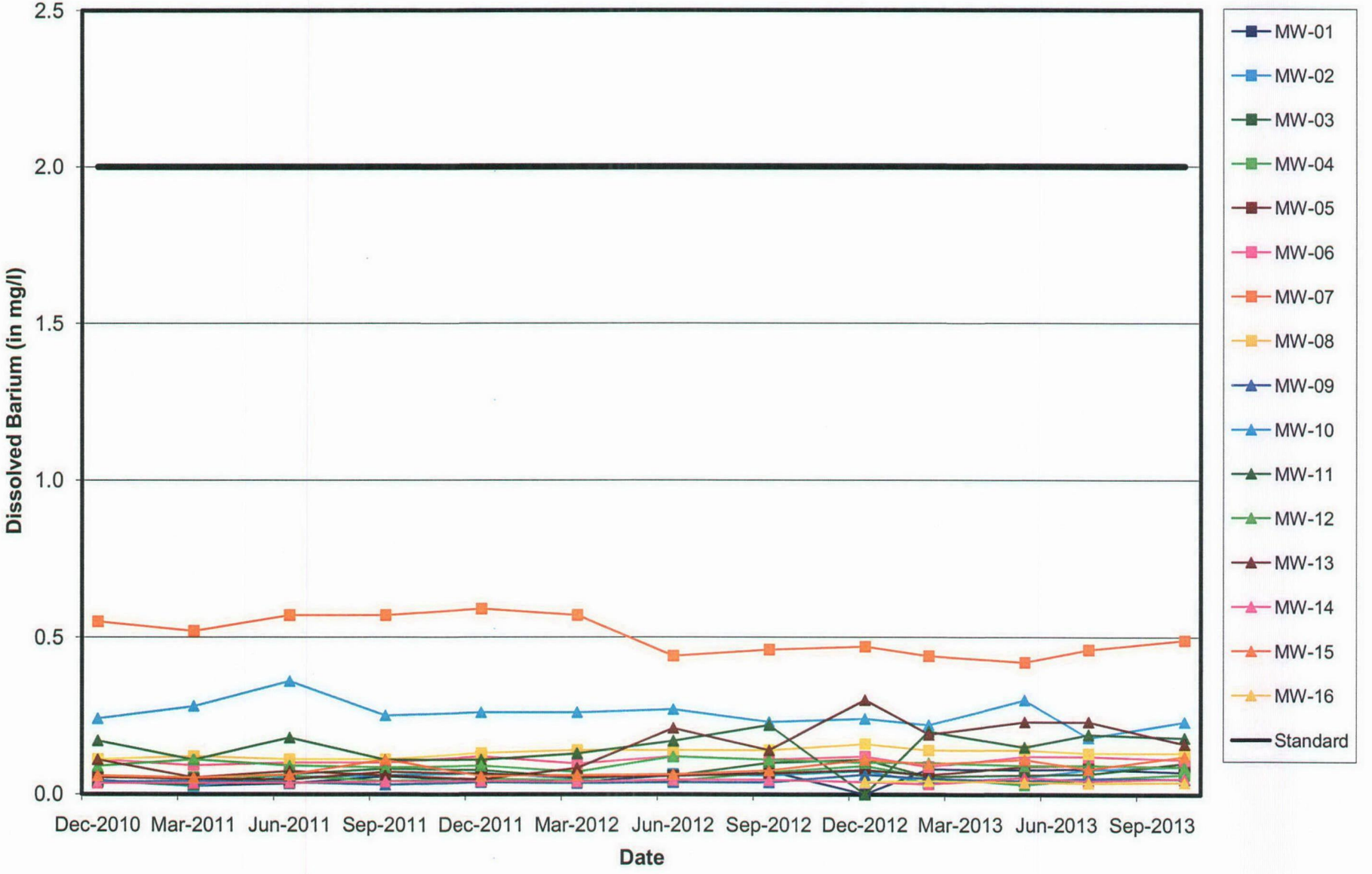
Dissolved Arsenic vs. Time



MWG13-15_19943

Midwest Generation Powerton Station, Pekin, IL

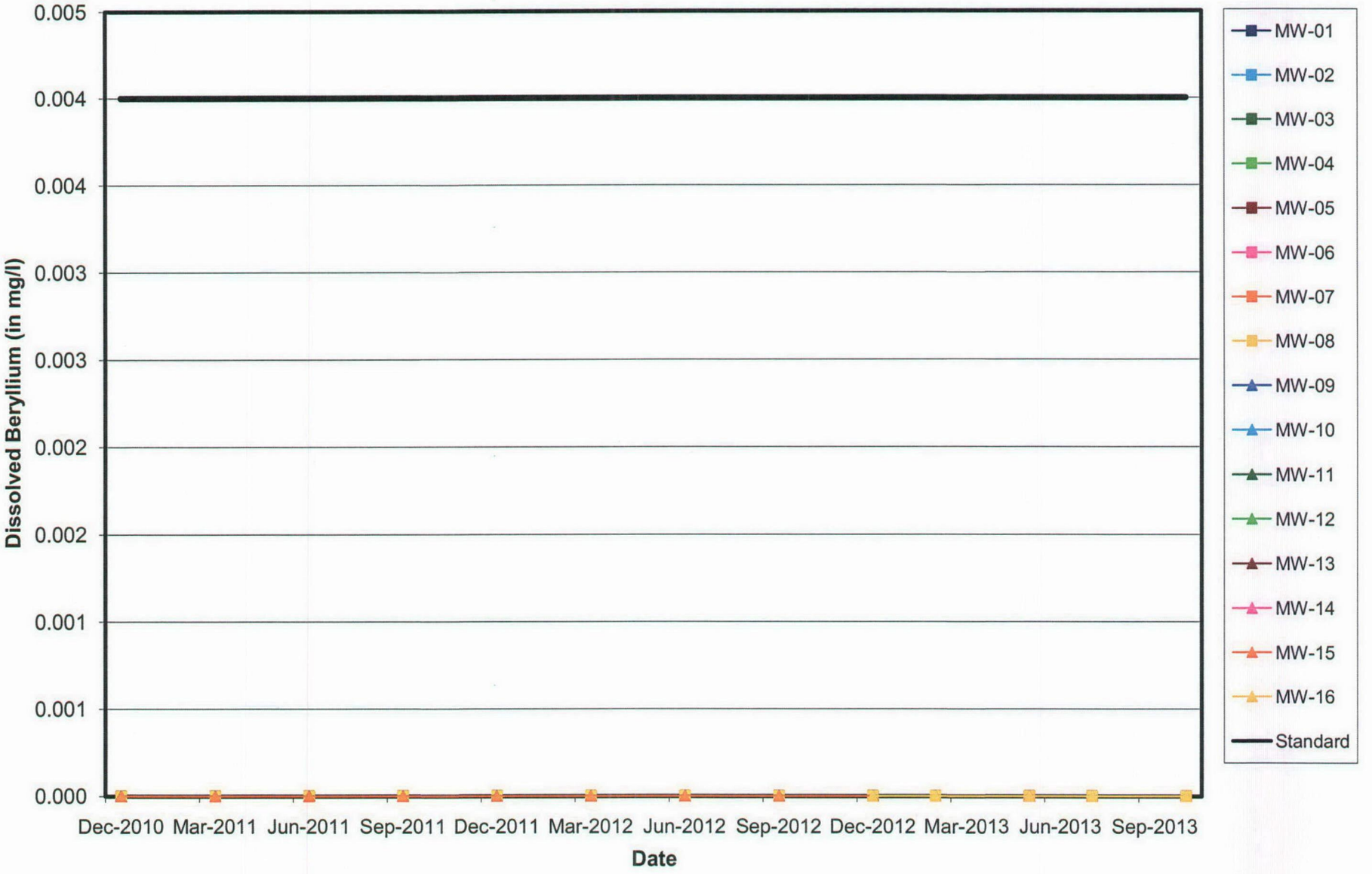
Dissolved Barium vs. Time



MWG13-15_19944

Midwest Generation Powerton Station, Pekin, IL

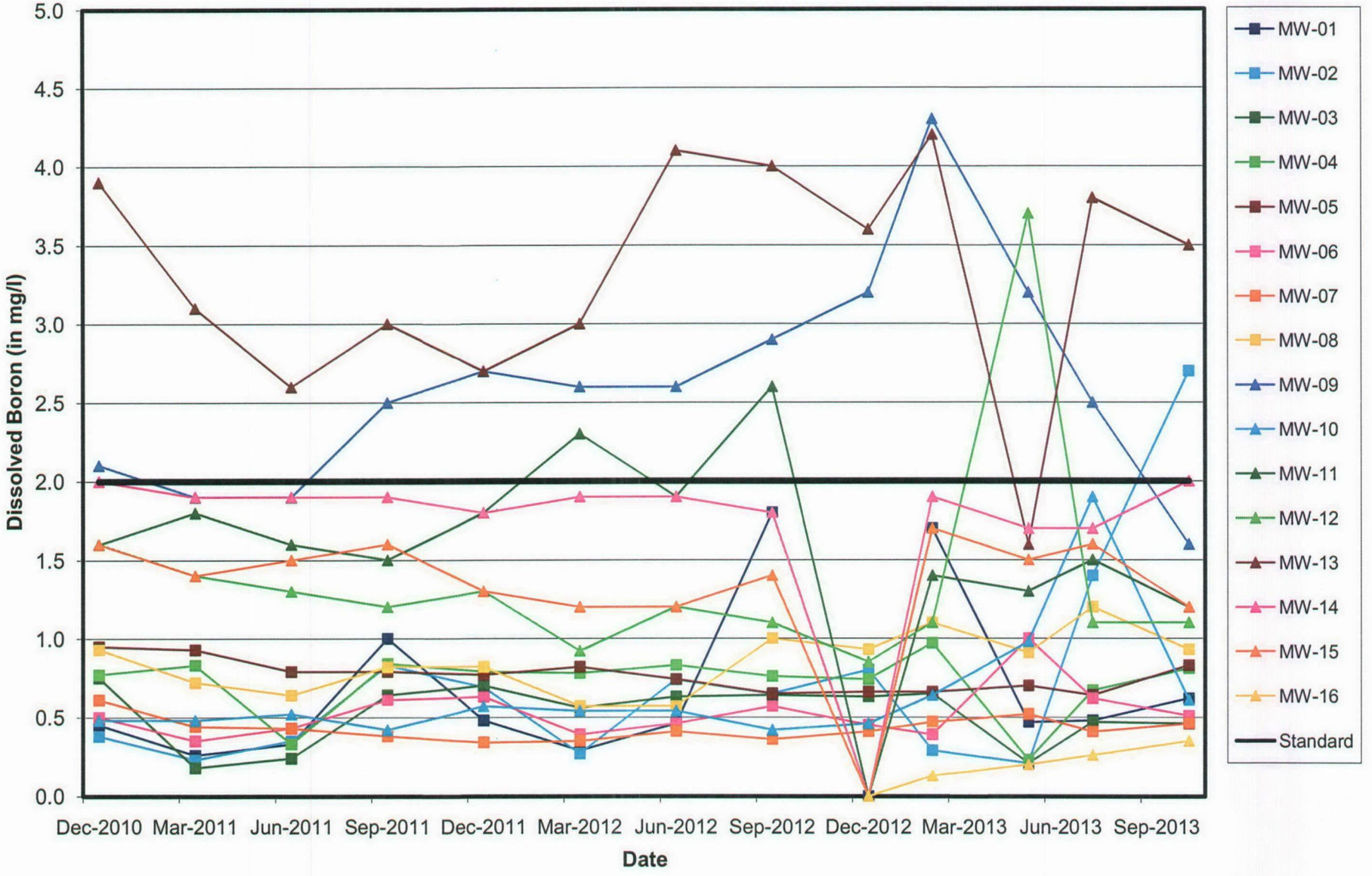
Dissolved Beryllium vs. Time



MWG13-15_19945

Midwest Generation Powerton Station, Pekin, IL

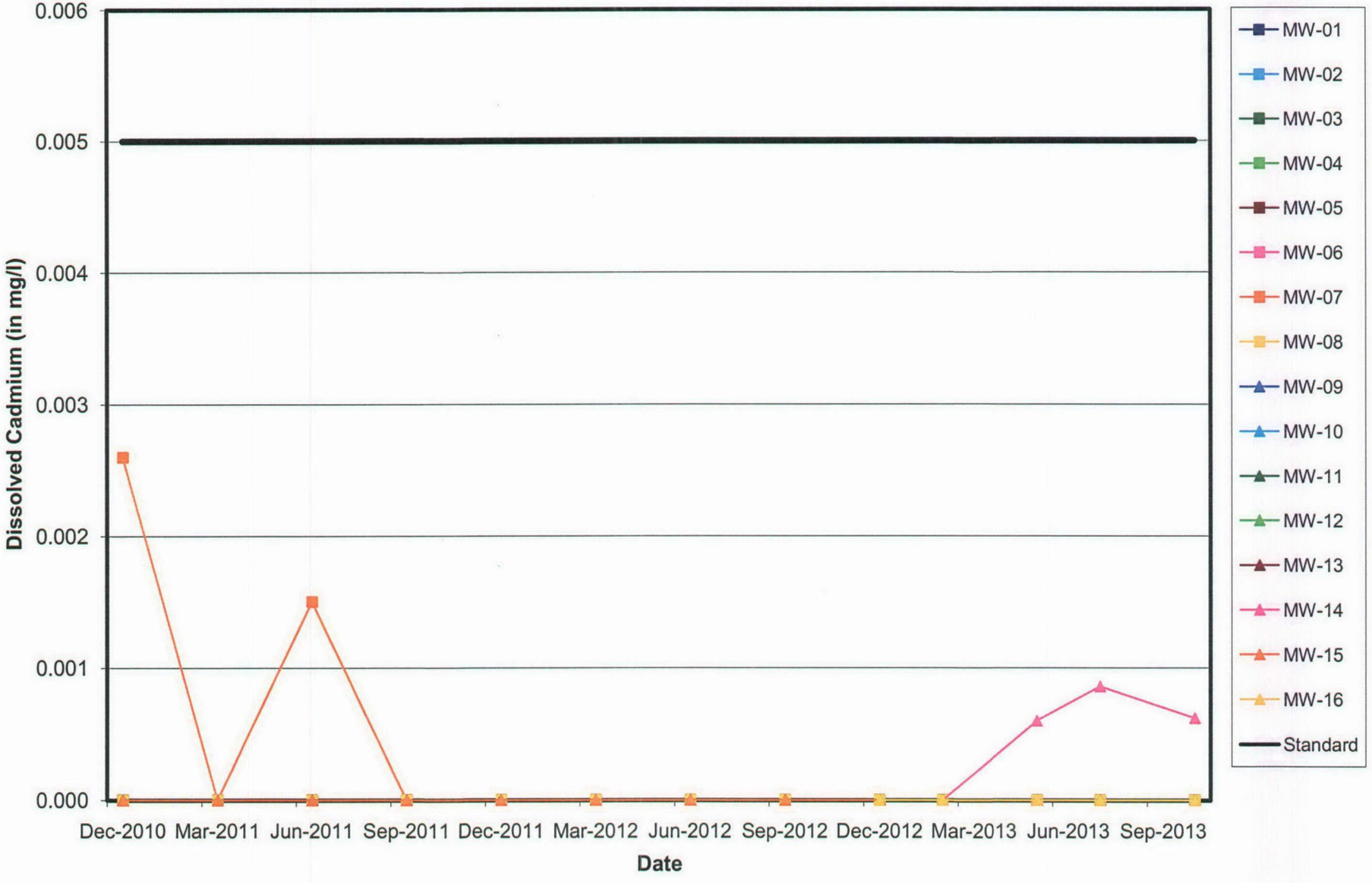
Dissolved Boron vs. Time



MWG13-15_19946

Midwest Generation Powerton Station, Pekin, IL

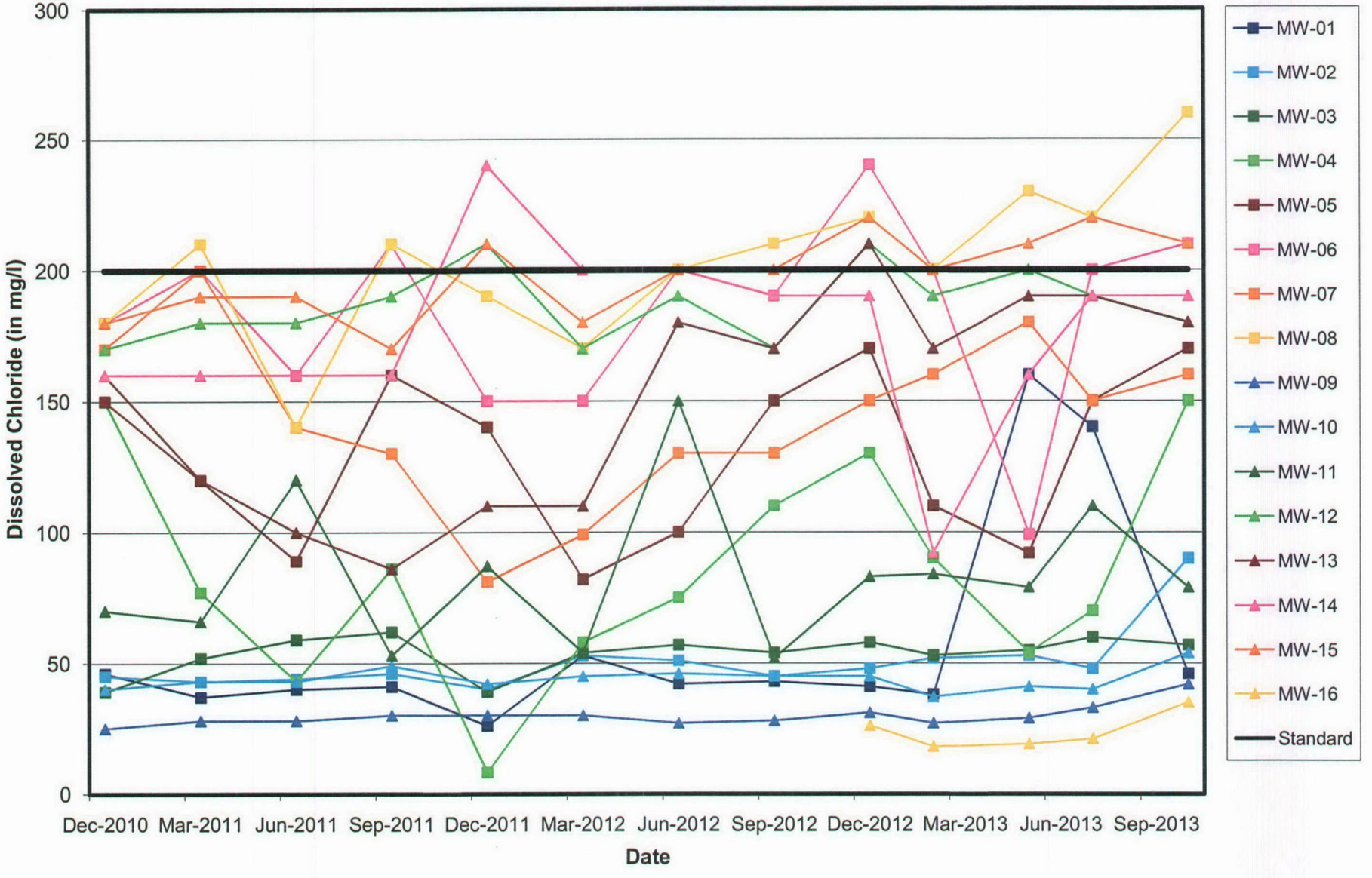
Dissolved Cadmium vs. Time



MWG13-15_19947

Midwest Generation Powerton Station, Pekin, IL

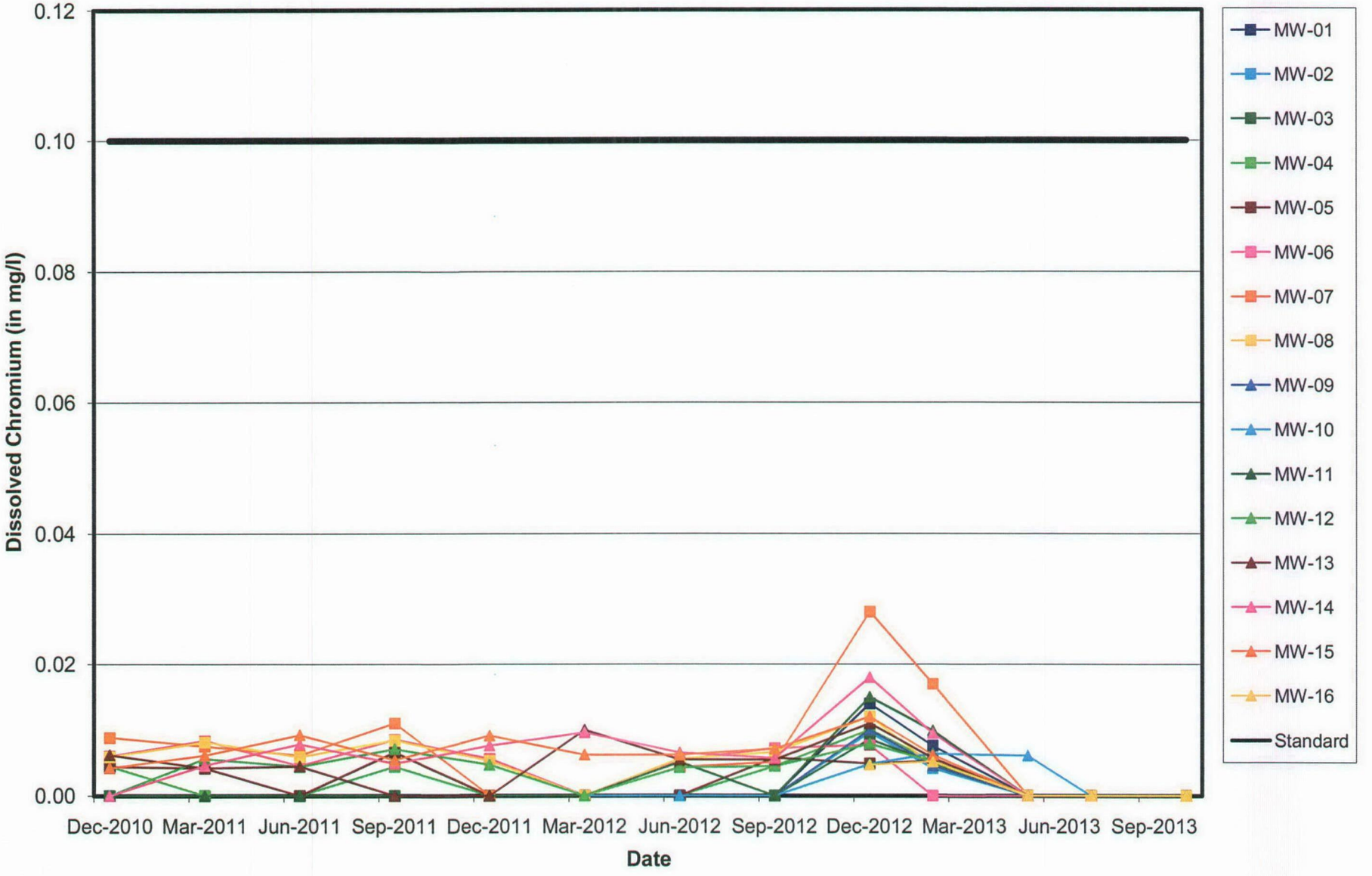
Dissolved Chloride vs. Time



MWG13-15_19948

Midwest Generation Powerton Station, Pekin, IL

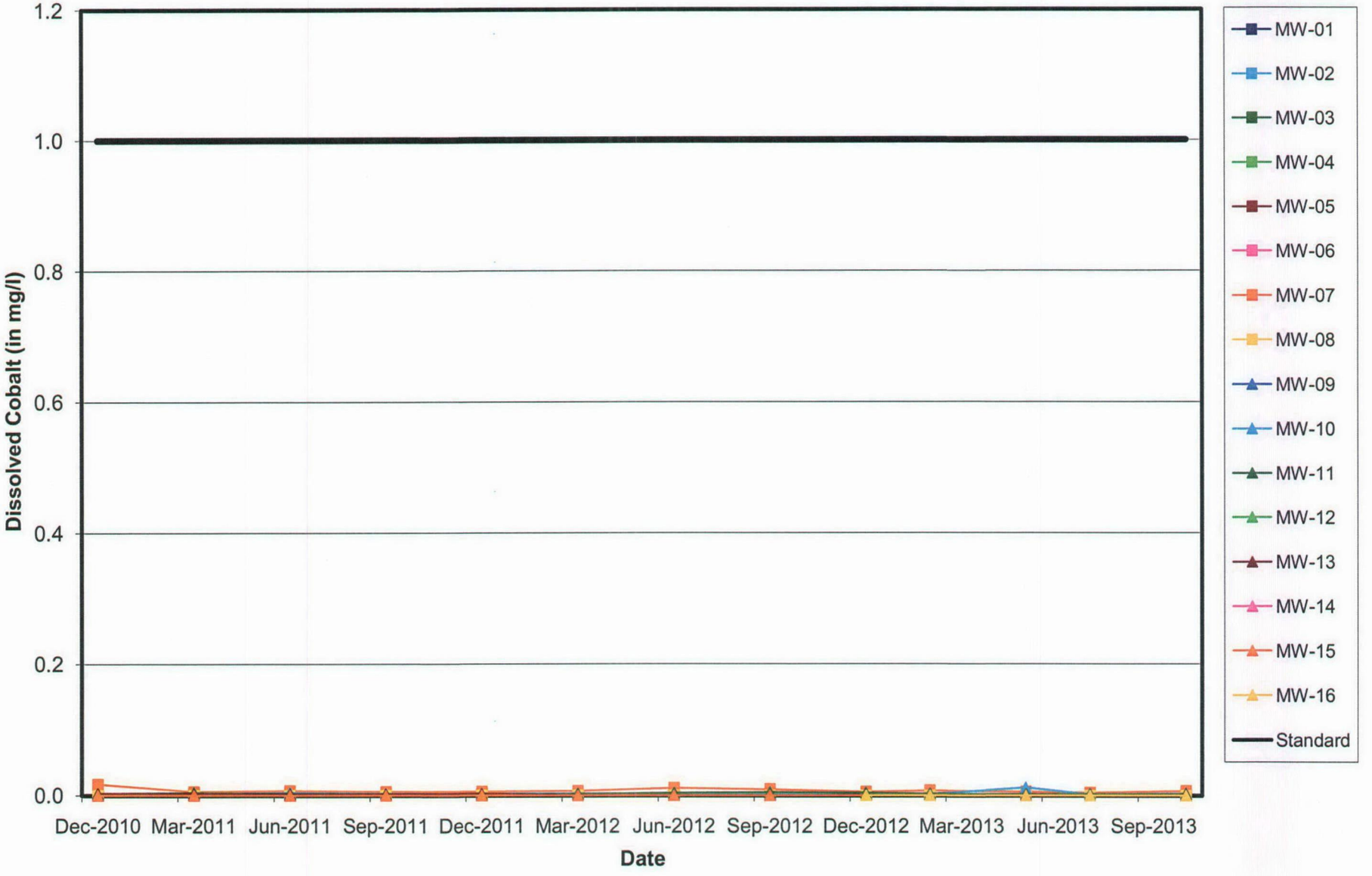
Dissolved Chromium vs. Time



MWG13-15_19949

Midwest Generation Powerton Station, Pekin, IL

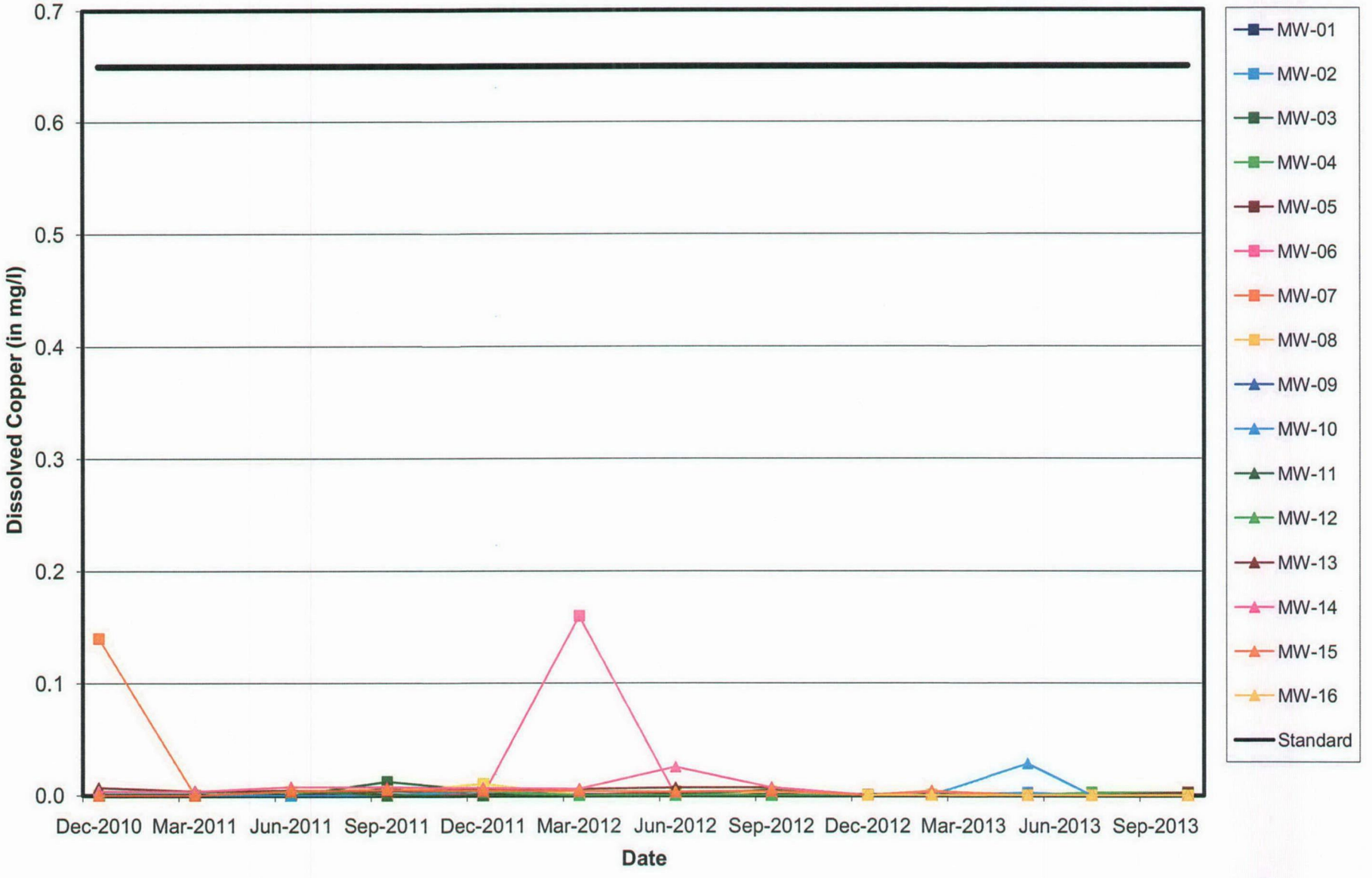
Dissolved Cobalt vs. Time



MWG13-15_19950

Midwest Generation Powerton Station, Pekin, IL

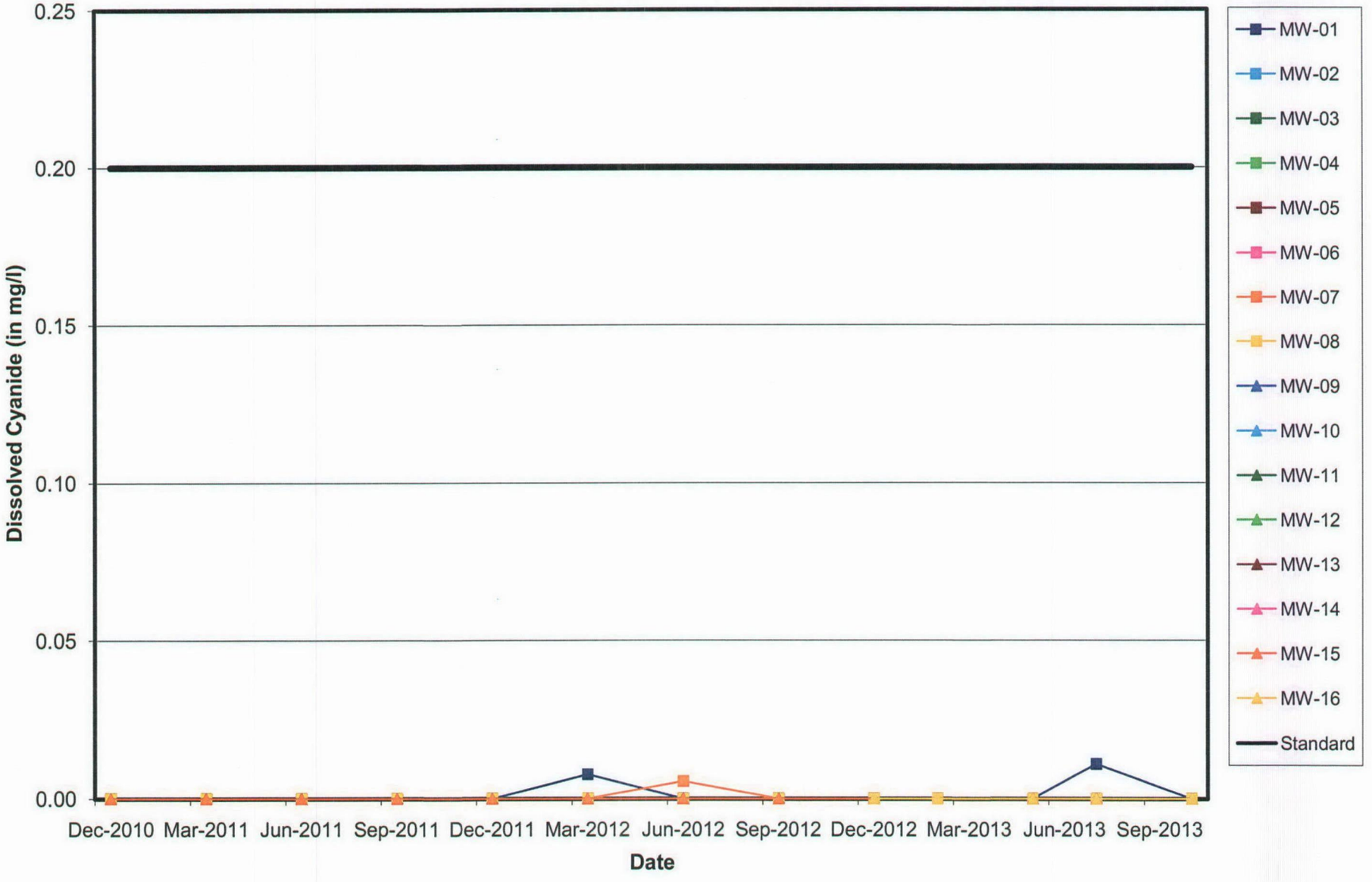
Dissolved Copper vs. Time



MWG13-15_19951

Midwest Generation Powerton Station, Pekin, IL

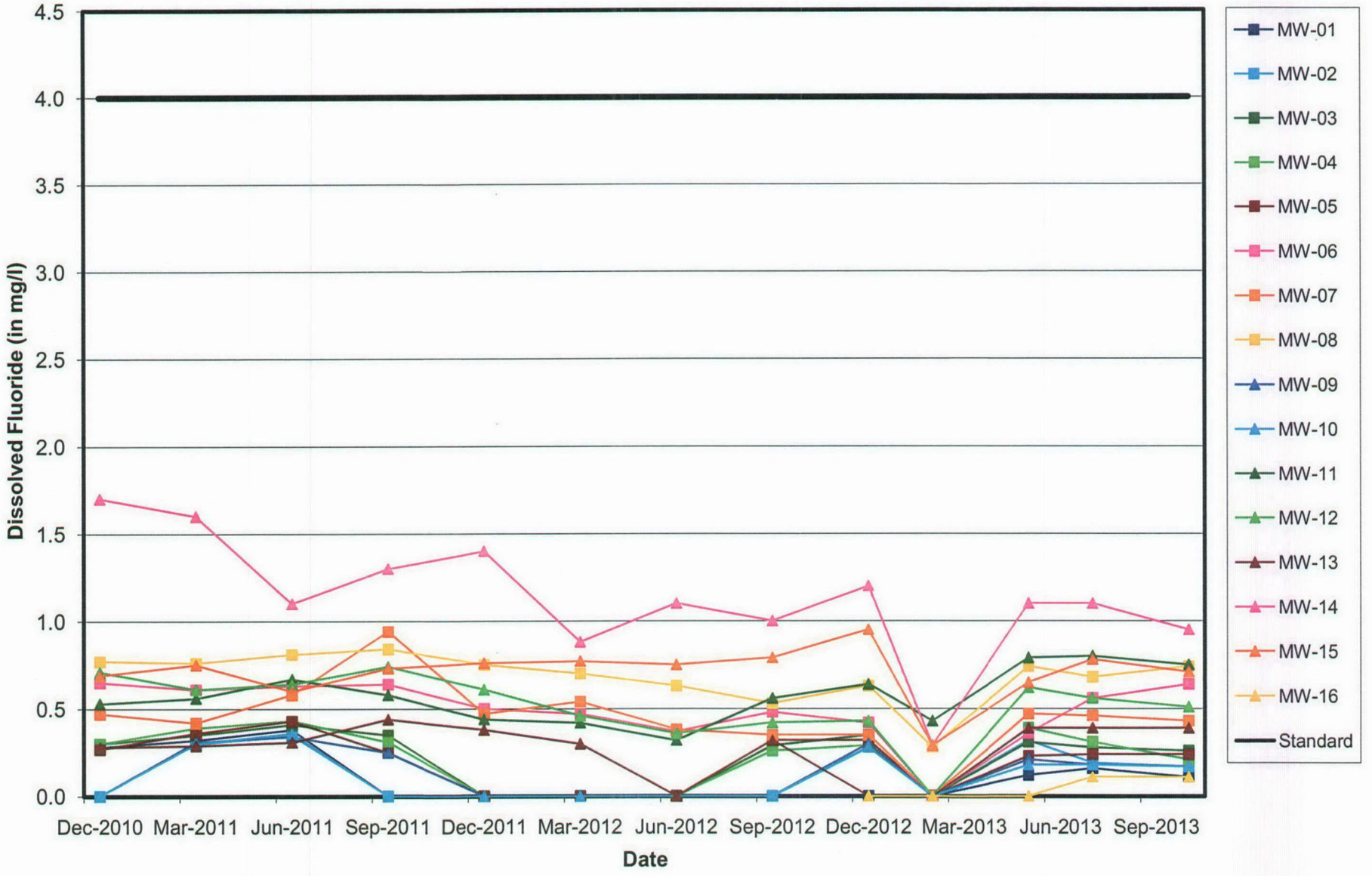
Dissolved Cyanide vs. Time



MWG13-15_19952

Midwest Generation Powerton Station, Pekin, IL

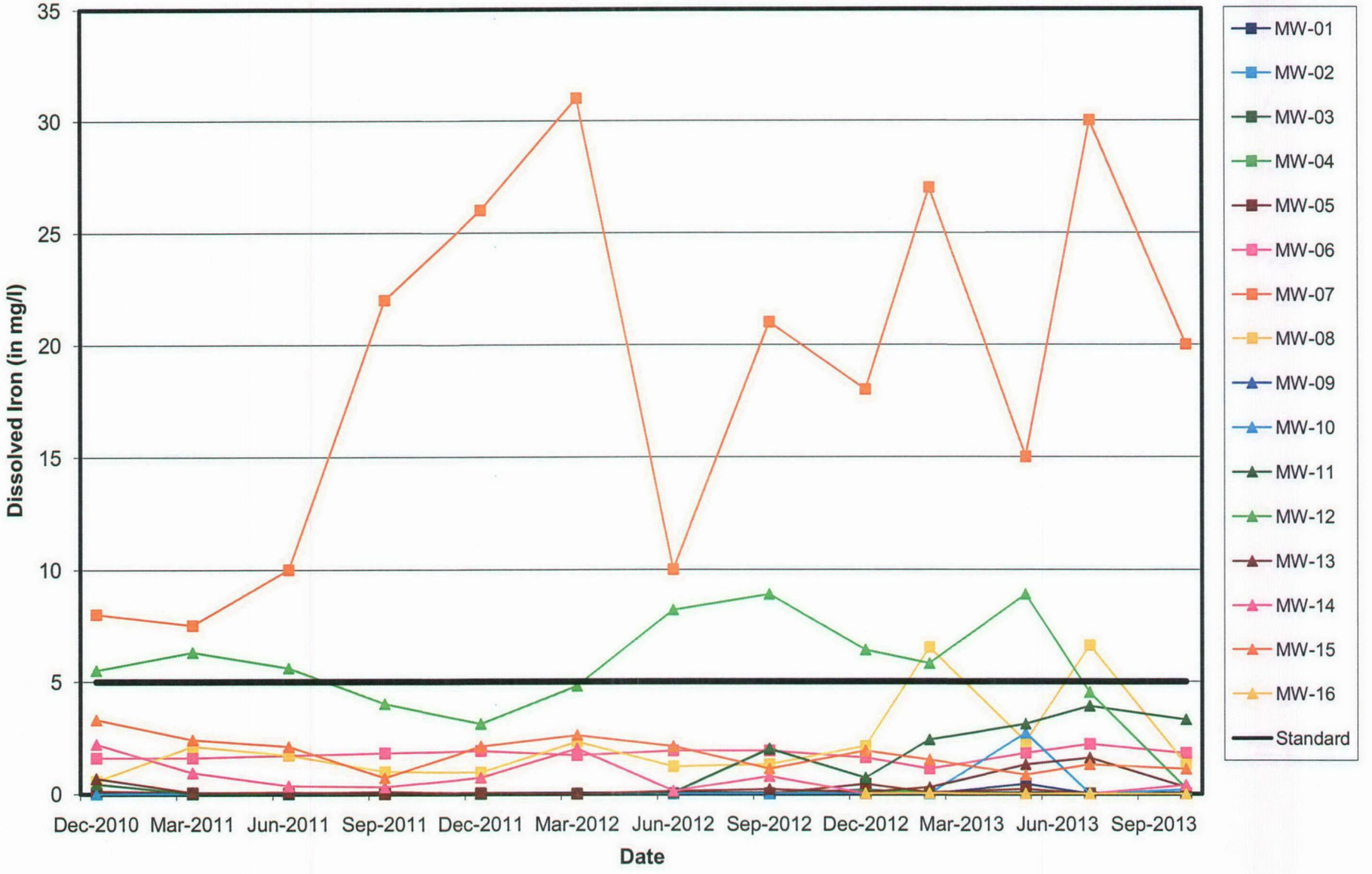
Dissolved Fluoride vs. Time



MWG13-15_19953

Midwest Generation Powerton Station, Pekin, IL

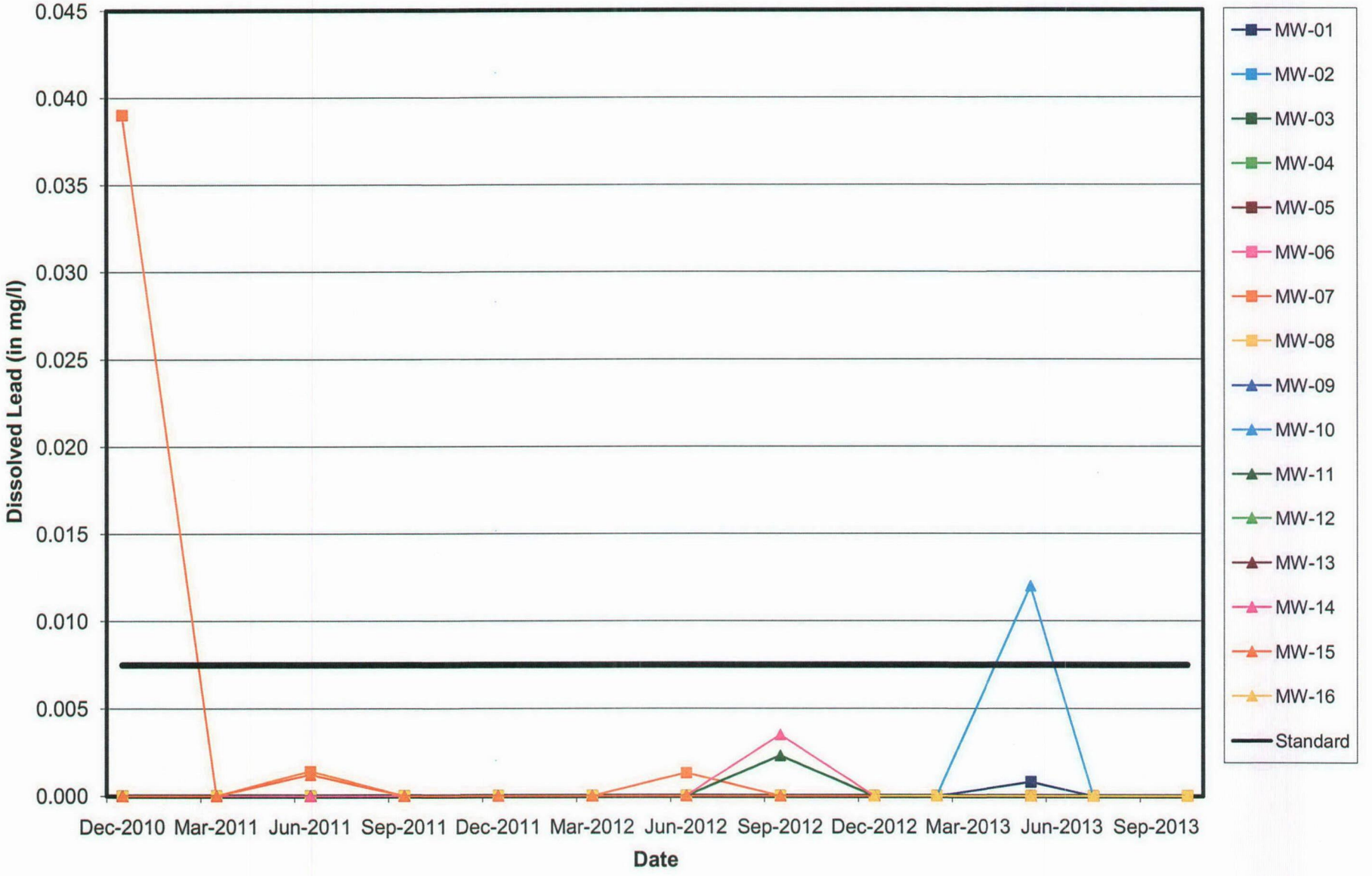
Dissolved Iron vs. Time



MWG13-15_19954

Midwest Generation Powerton Station, Pekin, IL

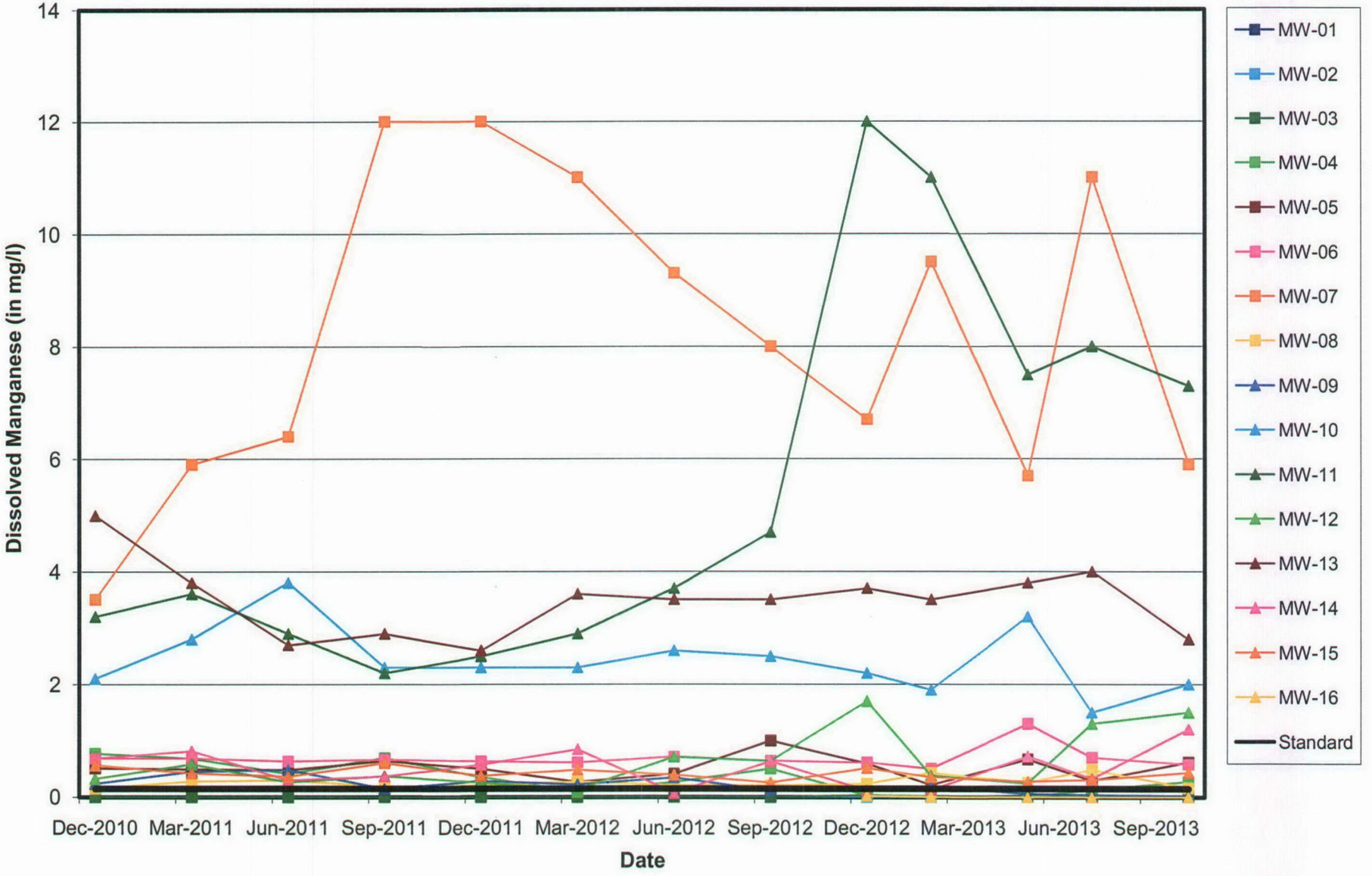
Dissolved Lead vs. Time



MWG13-15_19955

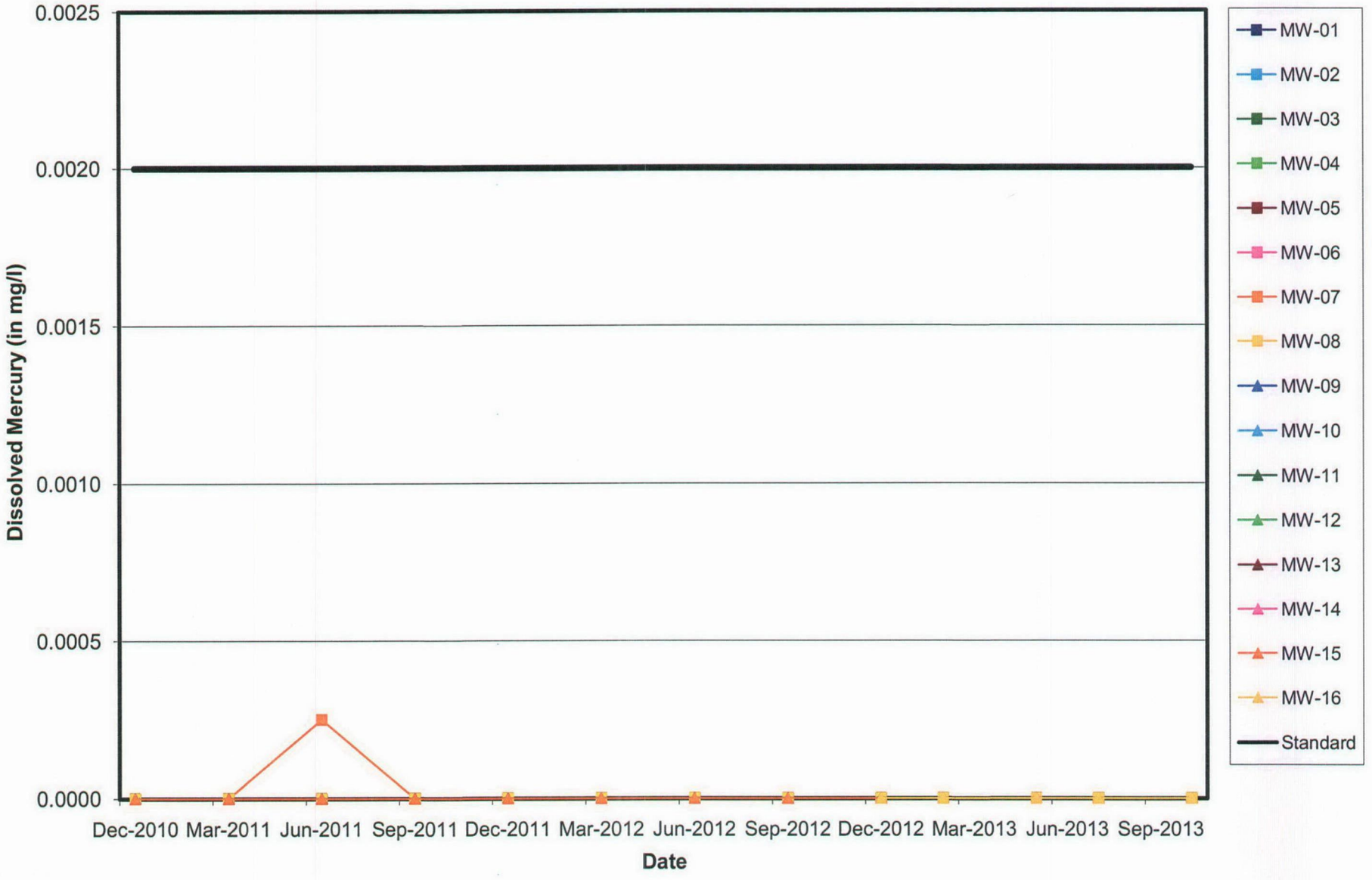
Midwest Generation Powerton Station, Pekin, IL

Dissolved Manganese vs. Time



Midwest Generation Powerton Station, Pekin, IL

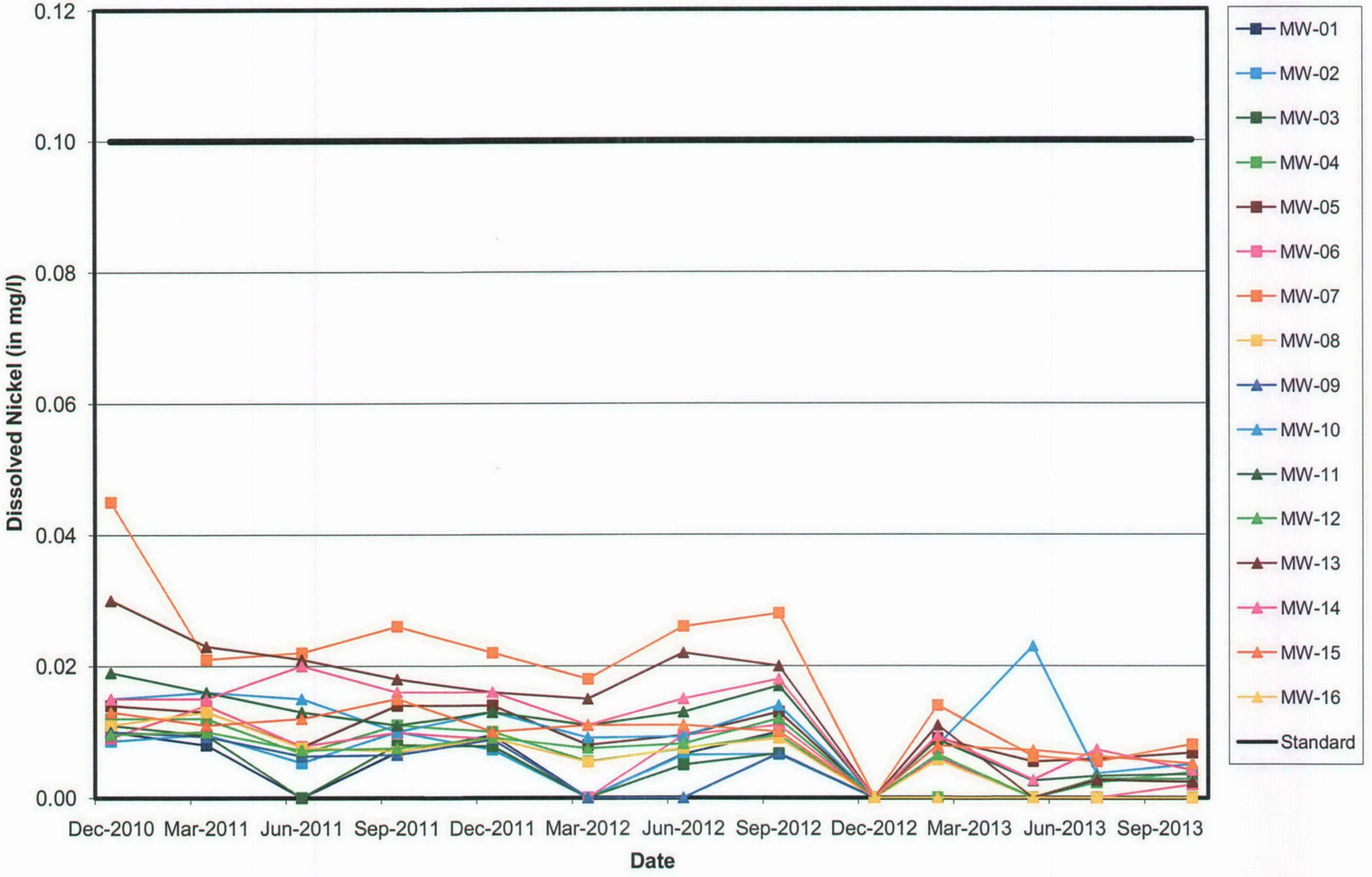
Dissolved Mercury vs. Time



MWG13-15_19957

Midwest Generation Powerton Station, Pekin, IL

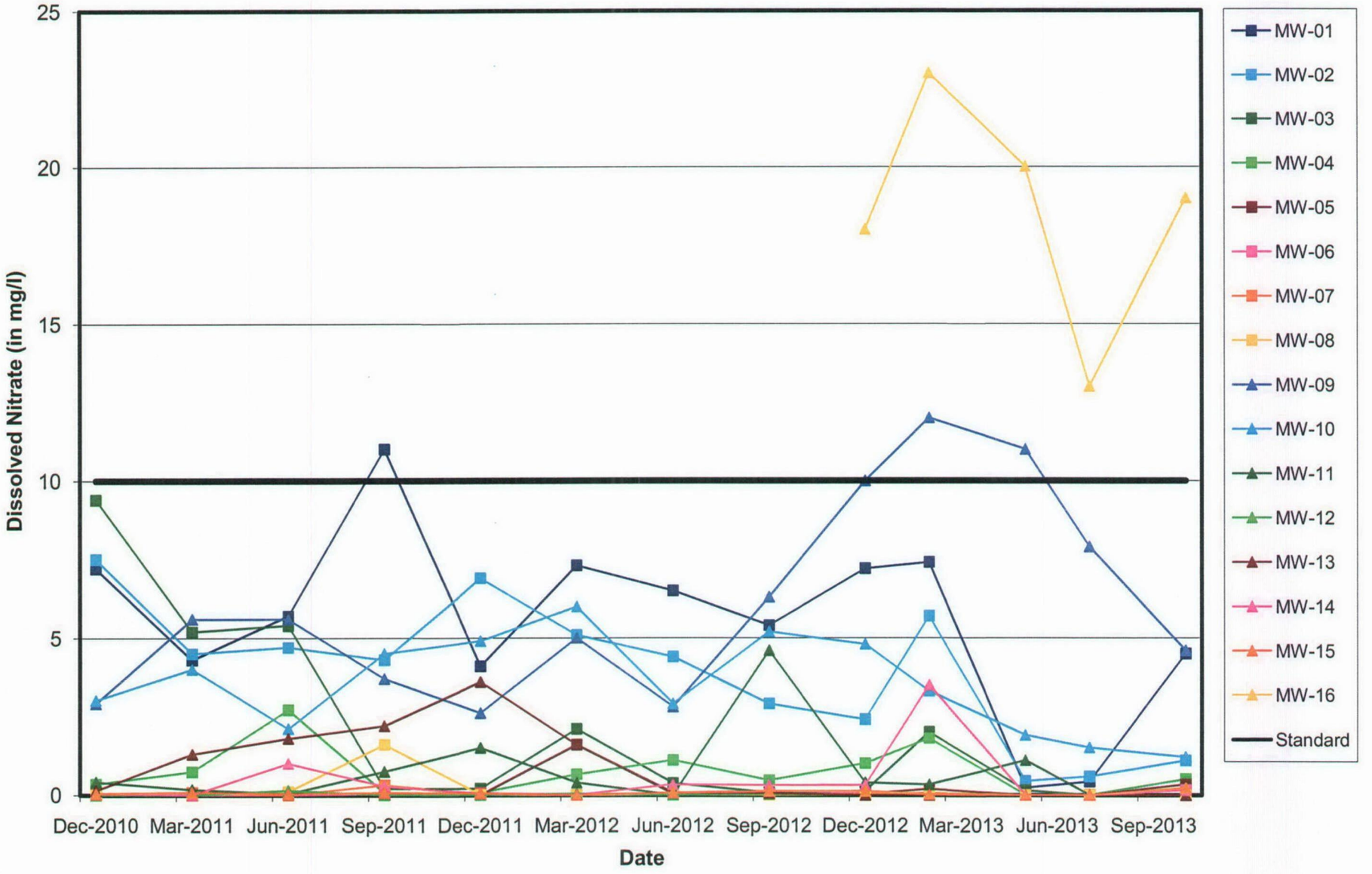
Dissolved Nickel vs. Time



MWG13-15_19958

Midwest Generation Powerton Station, Pekin, IL

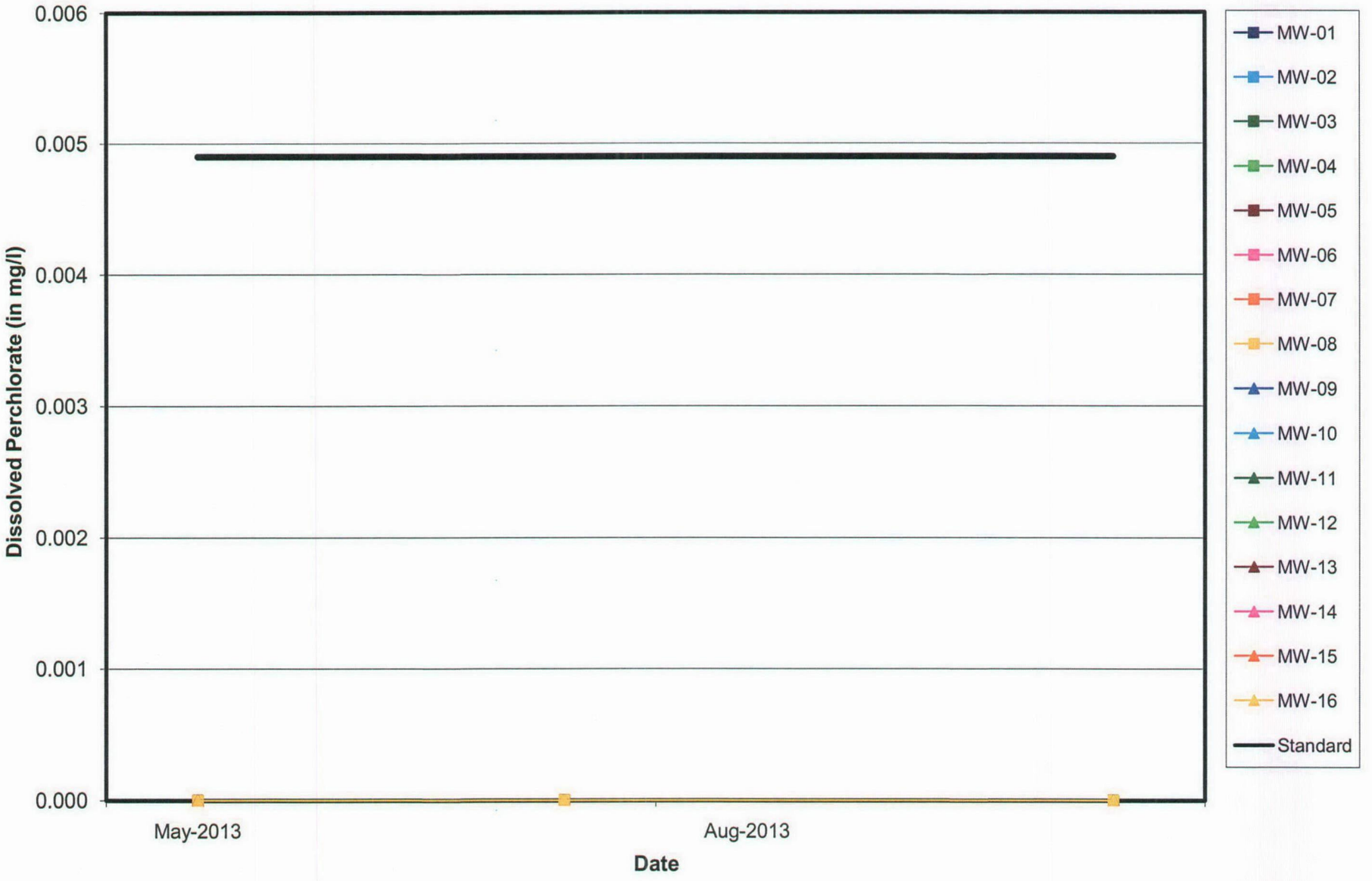
Dissolved Nitrate vs. Time



MWG13-15_19959

Midwest Generation Powerton Station, Pekin, IL

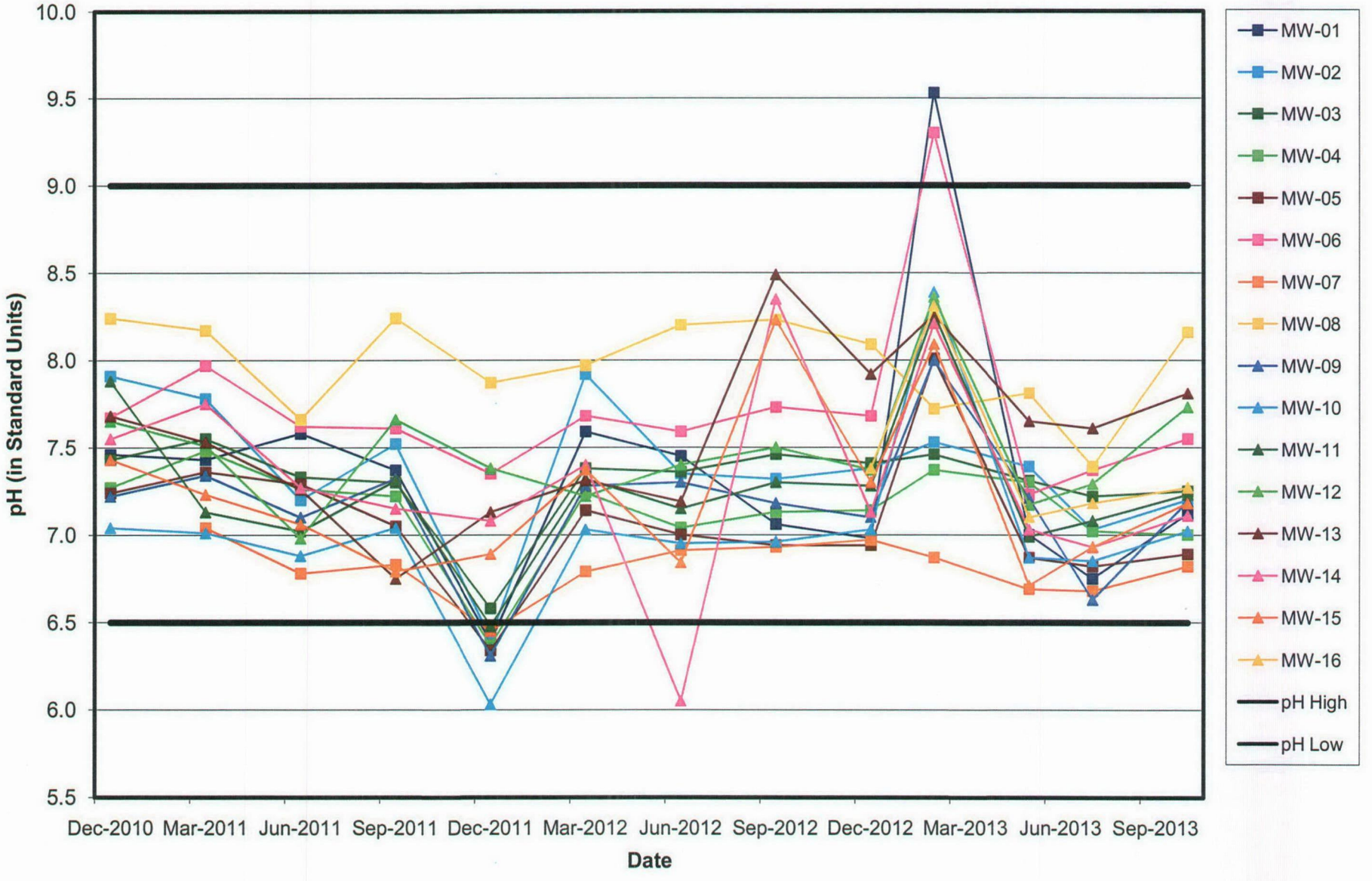
Dissolved Perchlorate vs. Time



MWG13-15_19960

Midwest Generation Powerton Station, Pekin, IL

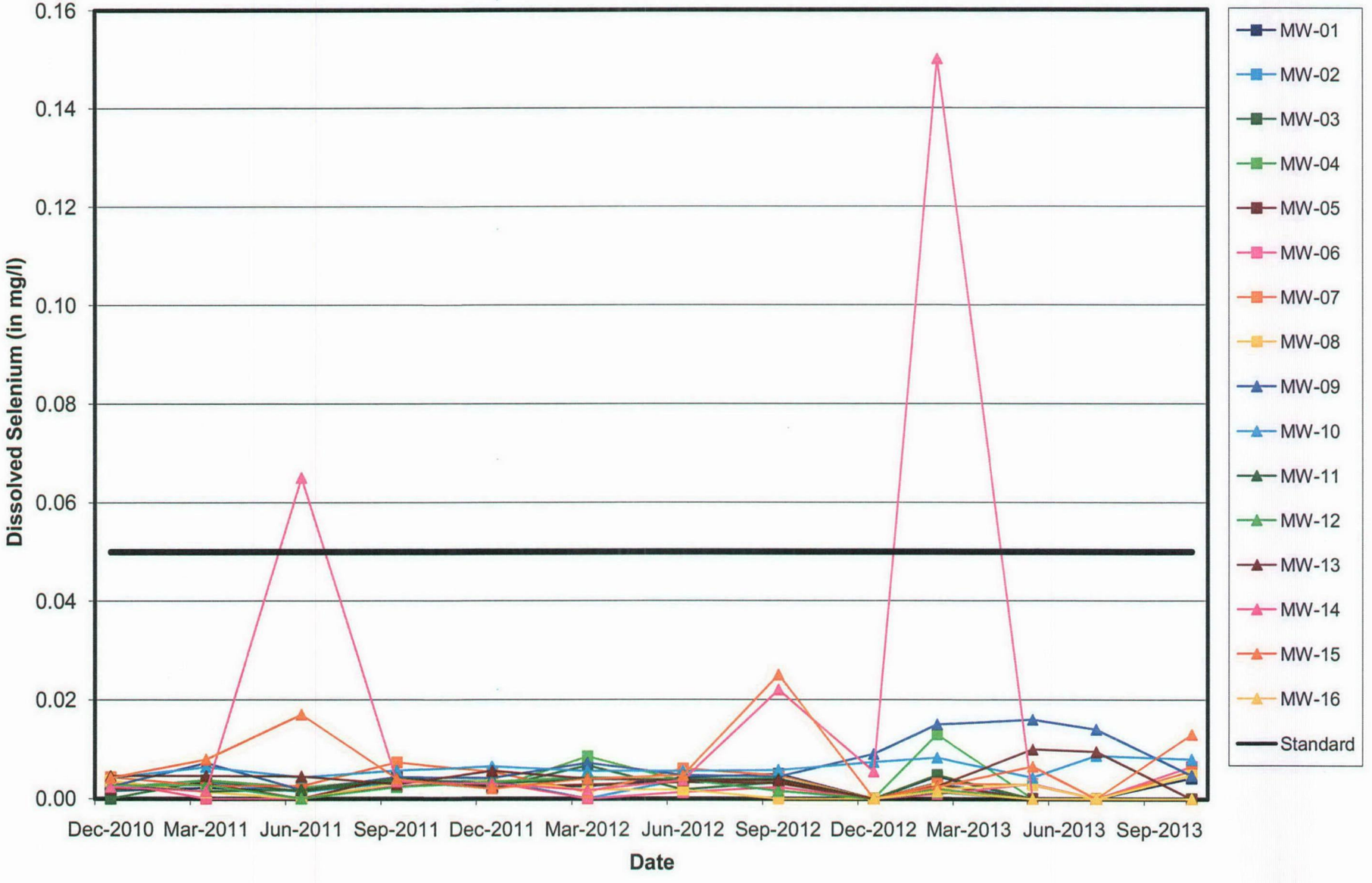
pH vs. Time



MWG13-15_19961

Midwest Generation Powerton Station, Pekin, IL

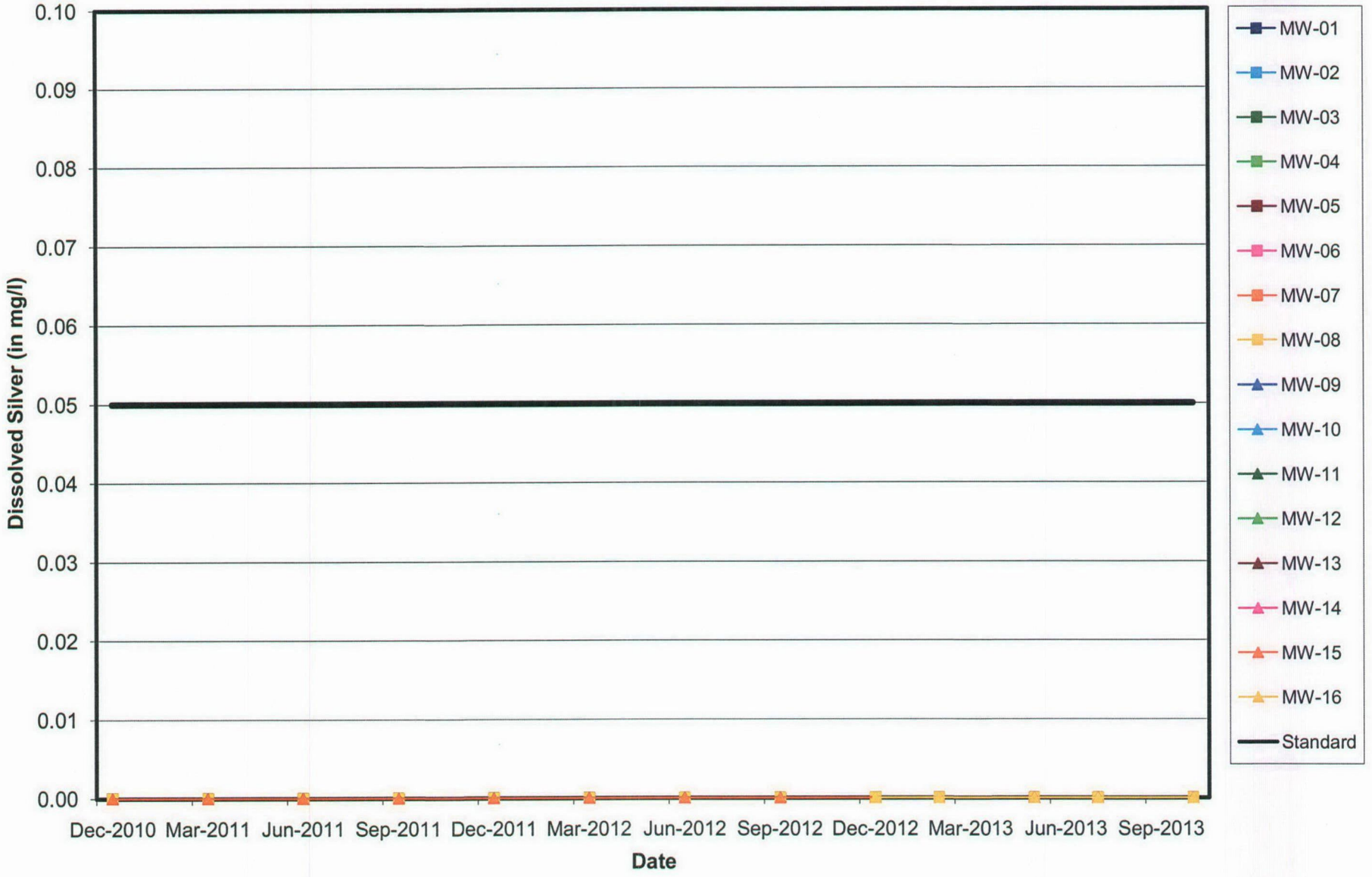
Dissolved Selenium vs. Time



MWG13-15_19962

Midwest Generation Powerton Station, Pekin, IL

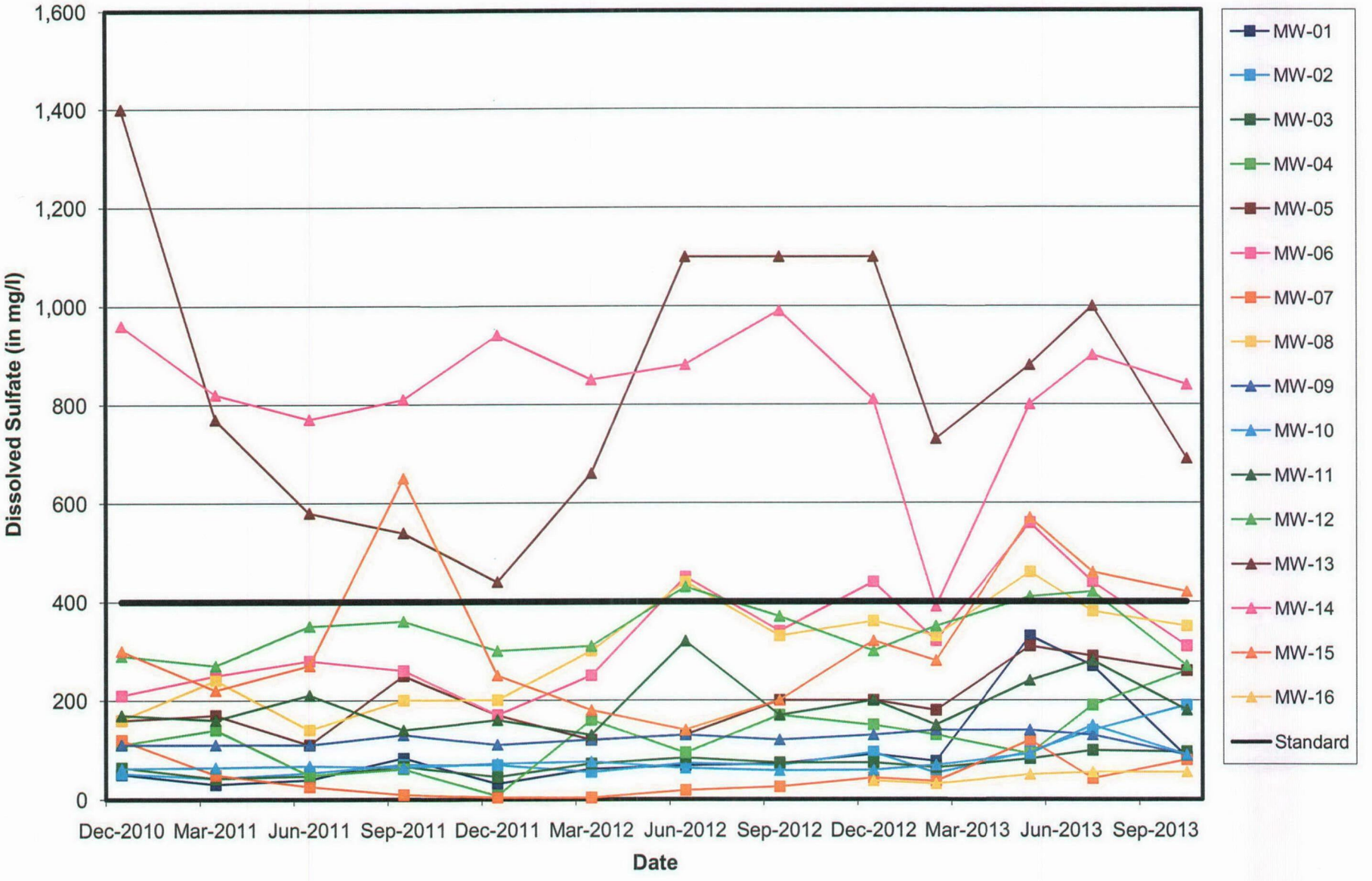
Dissolved Silver vs. Time



MWG13-15_19963

Midwest Generation Powerton Station, Pekin, IL

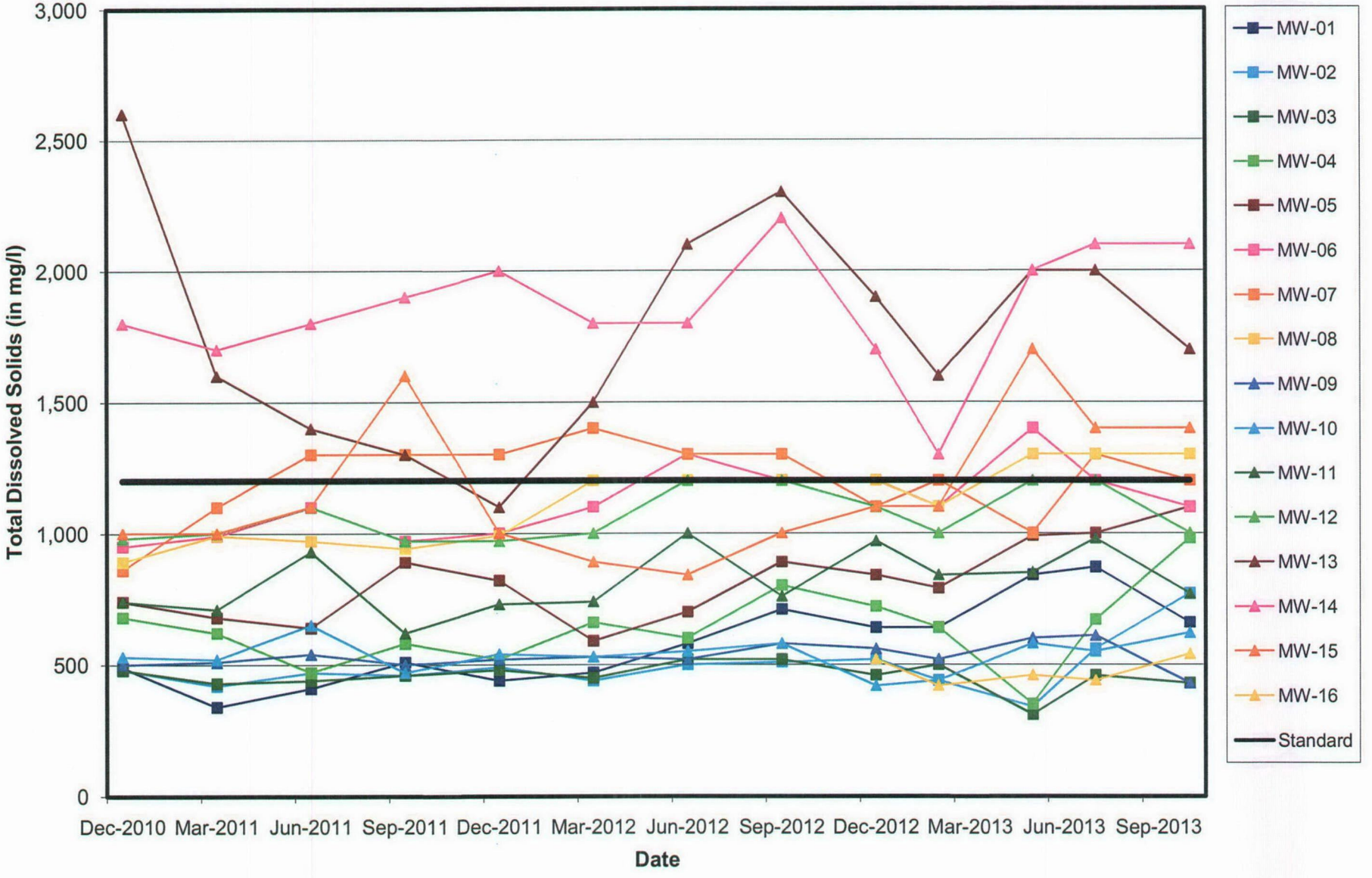
Dissolved Sulfate vs. Time



MWG13-15_19964

Midwest Generation Powerton Station, Pekin, IL

Total Dissolved Solids vs. Time



MWG13-15_19965

Midwest Generation Powerton Station, Pekin, IL

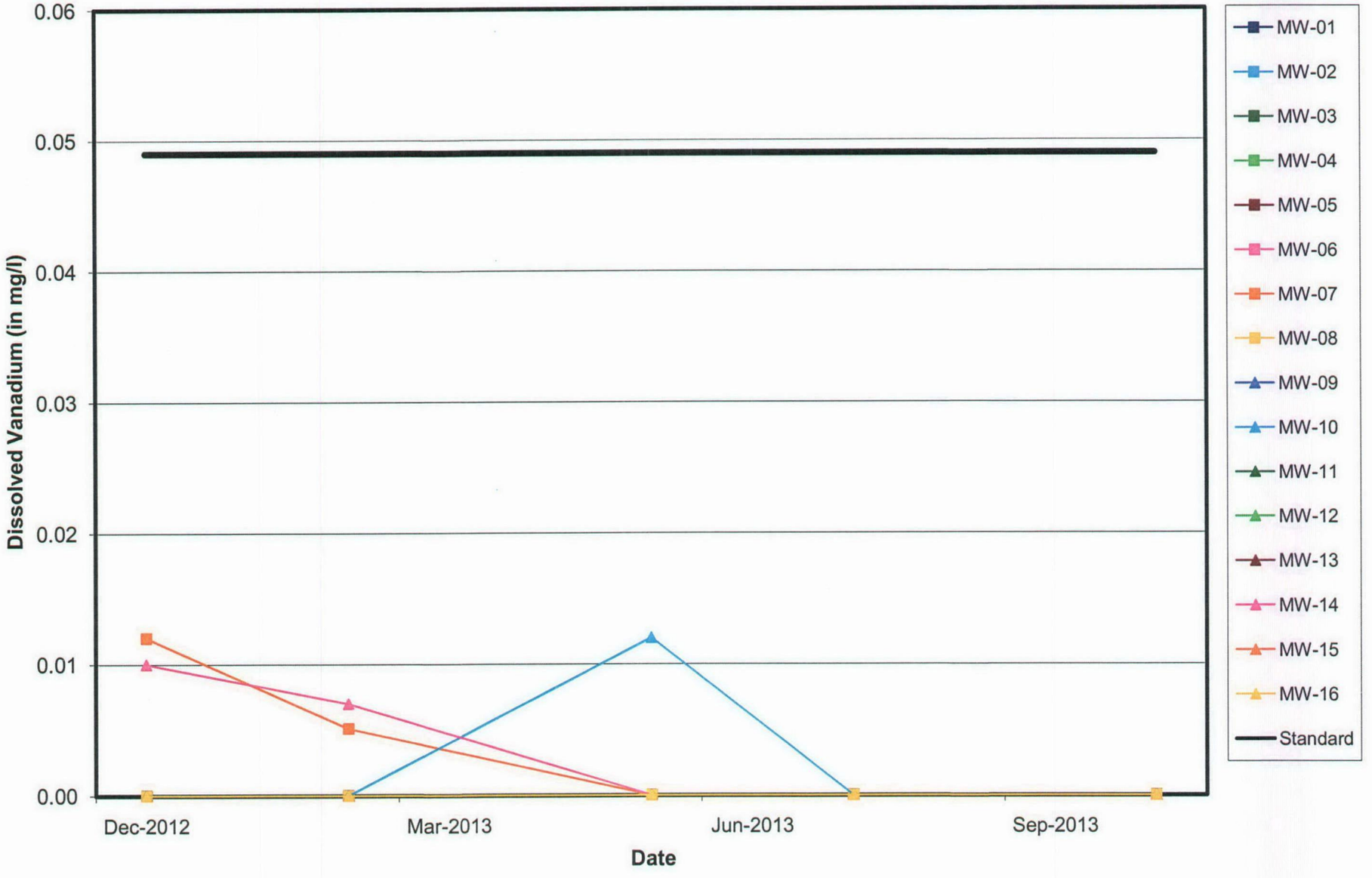
Dissolved Thallium vs. Time



MWG13-15_19966

Midwest Generation Powerton Station, Pekin, IL

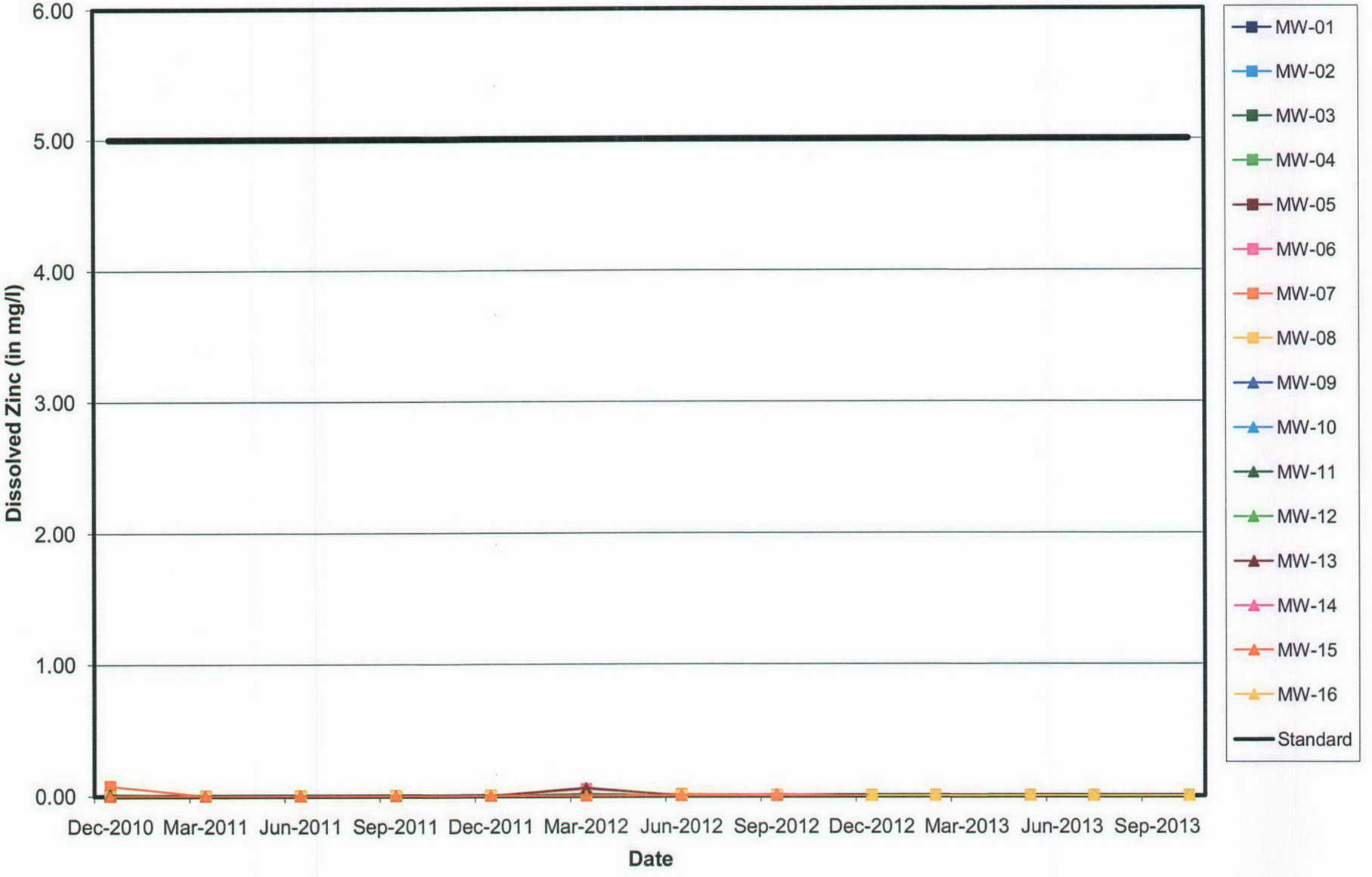
Dissolved Vanadium vs. Time



MWG13-15_19967

Midwest Generation Powerton Station, Pekin, IL

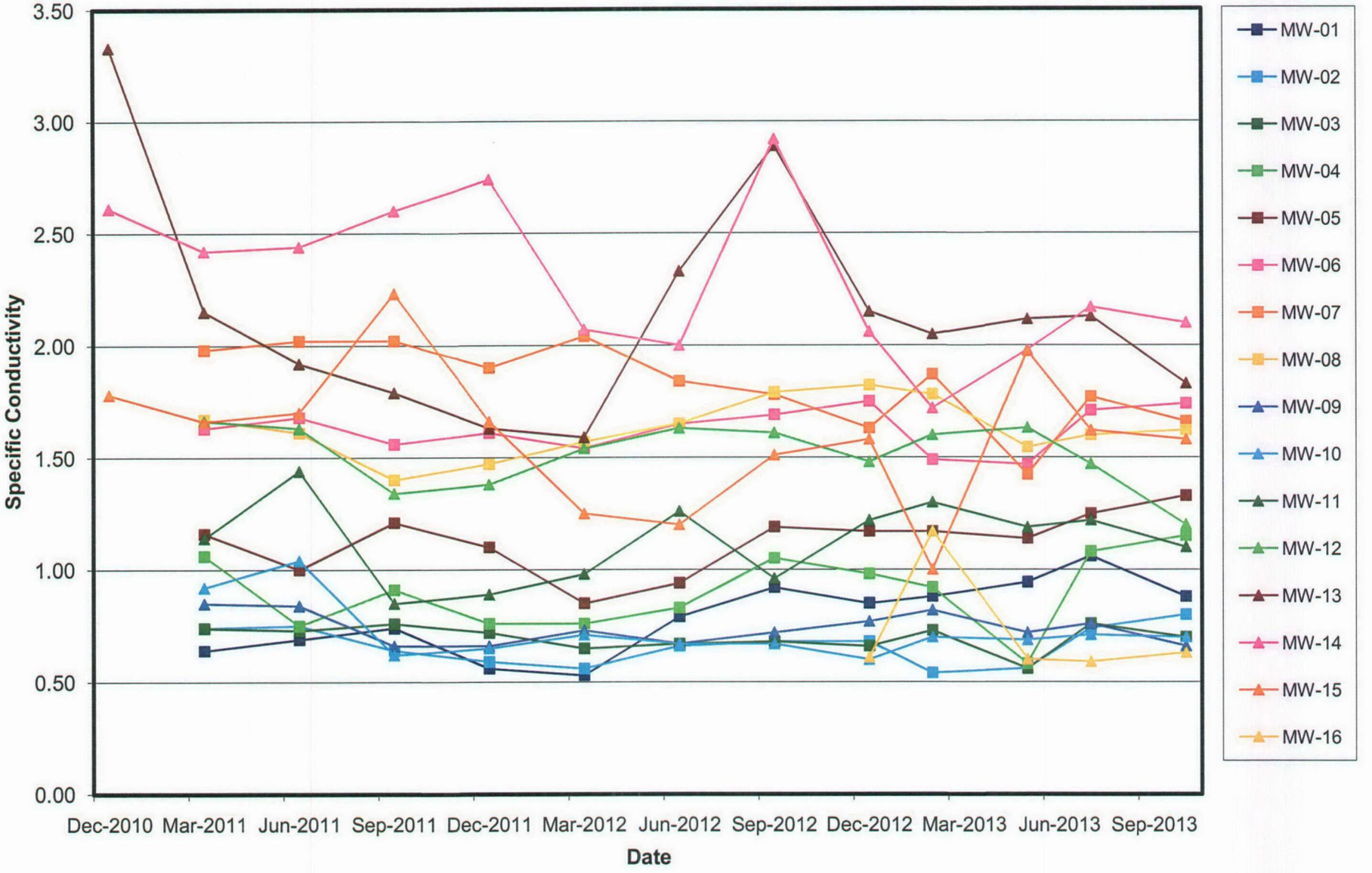
Dissolved Zinc vs. Time



MWG13-15_19968

Midwest Generation Powerton Station, Pekin, IL

Specific Conductivity vs. Time



MWG13-15_19969

Exhibit D18

NRG Energy
13082 E. Manito Rd.
Pekin, Illinois, 61554

ANNUAL and QUARTERLY GROUNDWATER MONITORING REPORT
POWERTON GENERATING STATION

January 22, 2016

Ms. Andrea Rhodes
Illinois Environmental Protection Agency
Division of Public Water Supplies
MC#19
1021 North Grand Avenue East
Springfield, IL 62794-9276

VIA FEDERAL EXPRESS

Re: Annual and Quarterly Groundwater Monitoring Results – Fourth Quarter 2015
Powerton Generating Station – Ash Impoundments
Compliance Commitment Agreement VN W-2012-00057; ID# 6282

Dear Ms. Rhodes:

The fourth quarterly groundwater sampling for 2015 has been completed for the ash pond monitoring wells located at the Midwest Generation, LLC (Midwest Generation) Powerton Generating Station in accordance with the Compliance Commitment Agreement (CCA) with Illinois Environmental Protection Agency (IEPA) dated October 24, 2012. This quarterly monitoring report summarizes the results of the monitoring event. This report is also intended to serve as the Annual Report and includes historical data analysis/summaries.

Well Inspection and Sampling Procedures

The groundwater monitoring network around the ash ponds at the Powerton facility consists of sixteen wells (MW-01 through MW-16) as shown on Figure 1. As part of sampling procedures, the integrity of all monitoring wells was inspected and water levels obtained using an electronic water level meter (see summary of water level discussion below). All wells were found in good condition with locked protector casings and the concrete surface seals were intact.

Groundwater samples at well locations MW-01 through MW-16 were collected using the low-flow sampling technique.

One duplicate sample was collected from well MW-10 for quality assurance purposes. In addition, a deionized water trip blank was placed with the sample bottle shipment by the laboratory and accompanied the groundwater samples bottles from and back to the laboratory. All samples were analyzed for the inorganic compounds listed in Illinois Administrative Code (IAC) 620.410(a), 620.410(d) and 620.410(e), excluding radium 226/228. The trip blank was analyzed for the volatile organic compounds (VOCs) listed in IAC 620.410(d).

Groundwater Flow Evaluation

Water level data from the most recent round of sampling along with historical water levels obtained from each well are summarized in Table 1. As noted in previous submittals, monitoring wells MW-06, MW-08, MW-12, MW-14 and MW-15 are screened within a shallow, localized, saturated clay/silt unit which is underlain by a more extensive sand unit. The remaining eleven monitoring wells have deeper screens, within the more extensive sand unit. The water levels from wells screened in the clay/silt unit and the water levels from monitoring wells screened within the sand unit were evaluated separately and used to generate groundwater flow maps for each unit. These maps are provided on Figures 2 and 3. The water elevation data within the clay/silt unit indicates localized groundwater flow in a westerly direction (Figure 2). Groundwater flow within the more extensive sand unit is generally in a northwesterly direction (Figure 3). The flow conditions observed during this sampling are generally consistent with historical conditions reported for the site.

Relative to an annual evaluation of groundwater levels, a historical hydrograph is presented in Attachment 1. The hydrograph indicates some seasonal variability over time with the highest water levels of 2015 occurring in the 2nd quarter (Spring) and the lowest water levels generally occurring in the 4th quarter (late Fall/Winter). The high water levels are associated with Illinois River flood stage.

Summary of Analytical Data

A copy of the analytical data package is provided in Attachment 2. The field parameter and groundwater analytical data from the most recent sampling, along with the previous eight quarters of data, are summarized in Table 2. As stated above, the duplicate sample was collected from well MW-10. All duplicate values were within an acceptable range (below 30%) with the exception of benzene which was detected in the duplicate but not the investigative sample, iron which was detected in the investigative sample but not the duplicate and sulfate which was detected at a higher level than in the duplicate. The data are generally consistent with previous data generated for the site with any exceptions noted below. All wells for which the sampling data reports a value above one or more groundwater standards are located within the area of the approved Groundwater Management Zone (GMZ) and the Environmental Land Use Control (ELUC) restrictions placed on the property with the exception of upgradient well MW-16 which has noted nitrate impacts above the Class I groundwater standard (see discussion below on nitrate trends over time).

At this time a statistical evaluation of background water quality for comparing against downgradient wells has not been completed. The initial anticipated background well MW-09 indicates impacts that are not associated with the ash ponds at the site and however, IEPA does not recognize the water quality data from this well as representative of background. The exact nature of the statistics that will be required by IEPA is still in the process of being finalized.

Relative to an annual evaluation of the water chemistry data, time versus concentration curves are provided for each parameter analyzed in Attachment 3. The curves include the Class I drinking water standard for reference

As noted previously, all wells for which the sampling data reports a value above one or more applicable groundwater standards are located within the area of the approved GMZ and the ELUC restrictions placed on the property, except upgradient well MW-16.

If there are any questions, please contact either Sharene Shealey of Midwest Generation at 815-372-4625 or Richard Gnat of KPRG and Associates, Inc. at 262-781-0475.

Sincerely,

Dale Green
Station Manager

Attachments

cc: William Buscher, IEPA
Rachelle Winters, Midwest Generation
Sharene Shealey, Midwest Generation
Richard Gnat, KPRG and Associates, Inc.

FIGURES



ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

SITE MAP

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: January 23, 2015

KPRG Project No. 12313.1 | FIGURE 1

MWG13-15_30201

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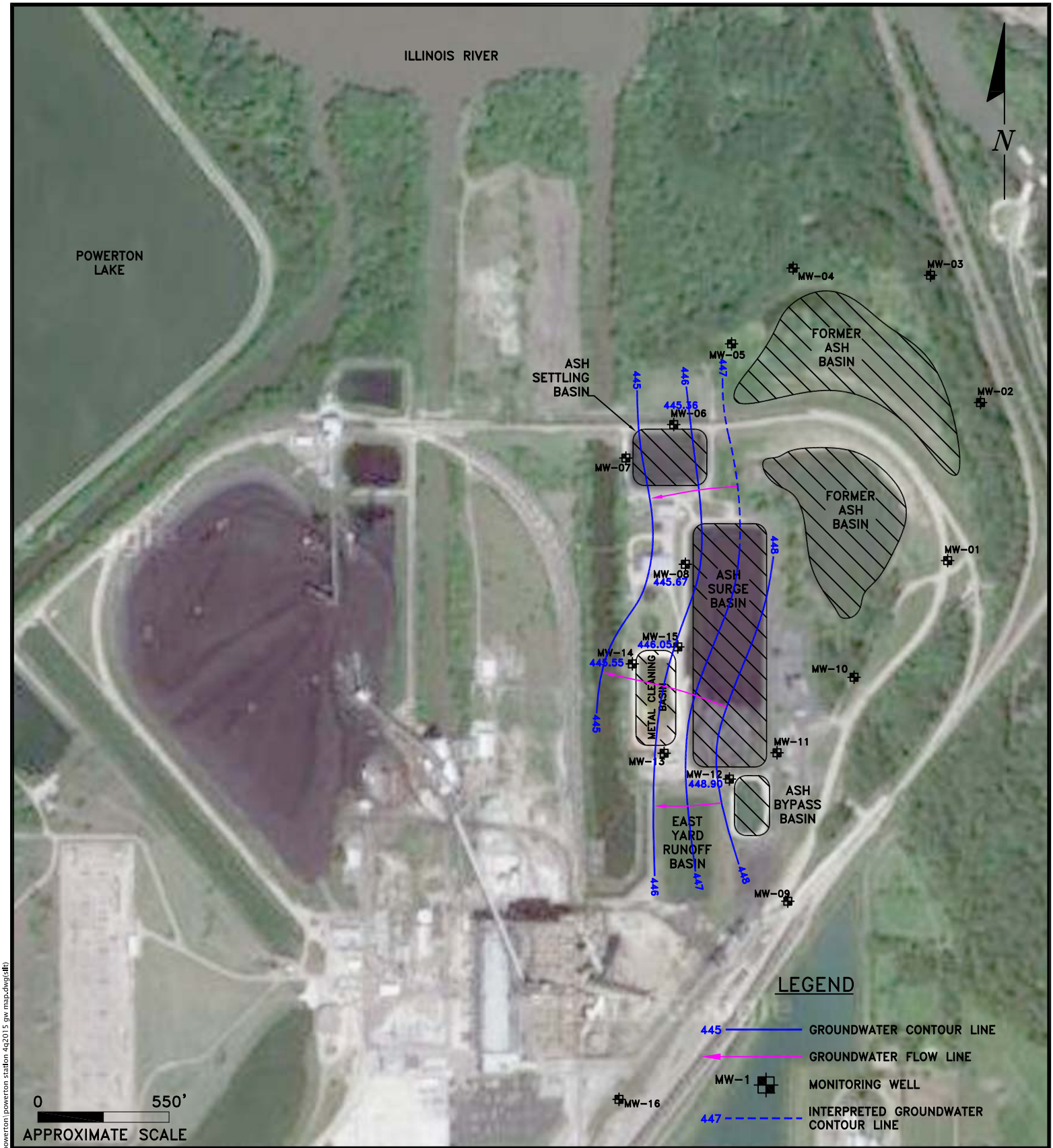

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K P R G

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

GROUNDWATER CONTOUR MAP FOR SILT/CLAY UNIT 11/2015

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: January 7, 2016

KPRG Project No. 12313.1 | FIGURE 2

MWG13-15_96202

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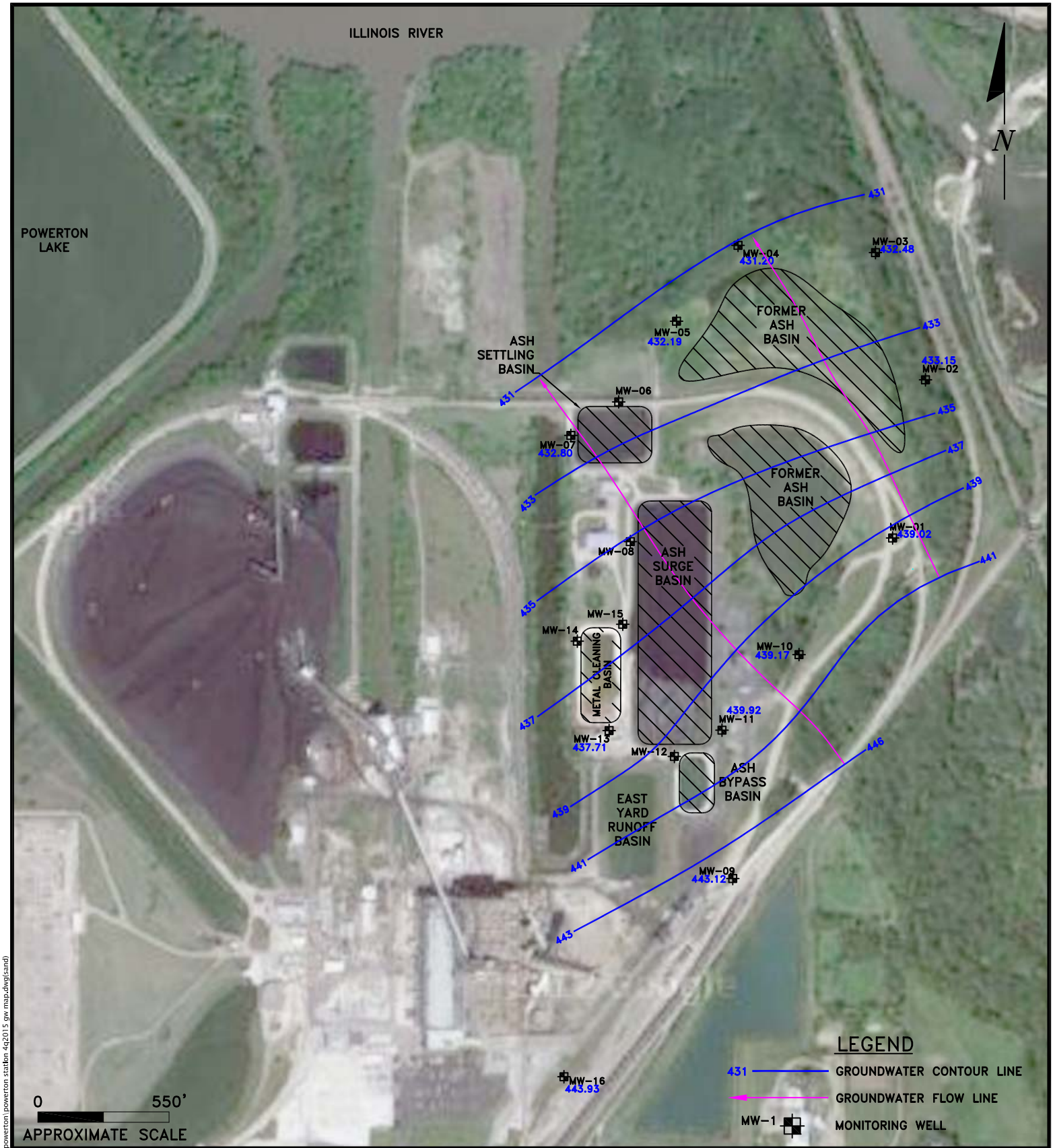

ENVIRONMENTAL CONSULTATION & REMEDIATION

K P R G

KPRG and Associates, inc.

14665 West Lisbon Road, Suite 2B Brookfield, Wisconsin 53005 Telephone 262-781-0475 Facsimile 262-781-0478

414 Plaza Drive, Suite 106 Westmont, Illinois 60559 Telephone 630-325-1300 Facsimile 630-325-1593

GROUNDWATER CONTOUR MAP FOR GRAVELLY SAND UNIT 11/2015

POWERTON STATION
PEKIN, ILLINOIS

Scale: 1" = 550' | Date: January 7, 2016

KPRG Project No. 12313.1 | FIGURE 3

MWG13-15_96203

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TABLES

Table 1. Groundwater Elevations - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-01	9/19/2011	465.06	461.67	439.95	439.93	430.97	25.11	25.13	34.09
	12/12/2011	465.06	461.67	439.78	439.78	430.97	25.28	25.28	34.09
	3/19/2012	465.06	461.67	442.40	442.40	430.97	22.66	22.66	34.09
	4/4/2012	465.06	461.67	441.39	NM	430.97	23.67	NM	34.09
	6/25/2012	465.06	461.67	437.84	437.84	430.97	27.22	27.22	34.09
	9/18/2012	465.06	461.67	435.37	435.34	430.97	29.69	29.72	34.09
	12/12/2012	465.06	461.67	435.06	435.06	430.97	30.00	30.00	34.09
	2/27/2013	465.06	461.67	439.56	438.62	430.97	25.50	26.44	34.09
	5/29/2013	465.06	461.67	446.35	446.50	430.96	18.71	18.56	34.10
	7/29/2013	465.06	461.67	441.71	441.71	430.96	23.35	23.35	34.10
	10/21/2013	465.06	461.67	435.98	435.99	430.96	29.08	29.07	34.10
	3/6/2014	465.06	461.67	442.20	442.20	430.96	22.86	22.86	34.10
	5/27/2014	465.06	461.67	442.00	442.01	430.96	23.06	23.05	34.10
	8/28/2014	465.06	461.67	439.33	439.34	430.96	25.73	25.72	34.10
	10/29/2014	465.06	461.67	441.92	441.92	430.96	23.14	23.14	34.10
	2/23/2015	465.06	461.67	441.45	441.45	430.96	23.61	23.61	34.10
	5/11/2015	465.06	461.67	441.72	441.73	430.96	23.34	23.33	34.10
	8/18/2015	465.06	461.67	443.73	443.73	430.96	21.33	21.33	34.10
	11/16/2015	465.06	461.67	439.02	439.04	430.96	26.04	26.02	34.10
MW-02	9/19/2011	462.42	459.25	433.27	433.27	425.31	29.15	29.15	37.11
	12/12/2011	462.42	459.25	434.78	434.78	425.31	27.64	27.64	37.11
	3/19/2012	462.42	459.25	437.48	437.48	425.31	24.94	24.94	37.11
	4/4/2012	462.42	459.25	436.92	NM	425.31	25.50	NM	37.11
	6/25/2012	462.42	459.25	433.69	433.68	425.31	28.73	28.74	37.11
	9/18/2012	462.42	459.25	431.30	431.31	425.31	31.12	31.11	37.11
	12/12/2012	462.42	459.25	431.12	431.12	425.31	31.30	31.30	37.11
	2/27/2013	462.42	459.25	436.02	434.63	425.31	26.40	27.79	37.11
	5/29/2013	462.42	459.25	444.38	444.81	425.31	18.04	17.61	37.11
	7/29/2013	462.42	459.25	434.84	434.84	425.31	27.58	27.58	37.11
	10/21/2013	462.42	459.25	431.64	431.65	425.31	30.78	30.77	37.11
	3/5/2014	462.42	459.25	442.74	442.73	425.31	19.68	19.69	37.11
	5/27/2014	462.42	459.25	440.91	440.91	425.31	21.51	21.51	37.11
	8/25/2014	462.42	459.25	436.20	436.27	425.31	26.22	26.15	37.11
	10/27/2014	462.42	459.25	439.27	439.25	425.31	23.15	23.17	37.11
	2/25/2015	462.42	459.25	435.54	435.53	425.31	26.88	26.89	37.11
	5/13/2015	462.42	459.25	440.57	440.59	425.31	21.85	21.83	37.11
	8/17/2015	462.42	459.25	438.03	438.02	425.31	24.39	24.40	37.11
	11/16/2015	462.42	459.25	433.15	434.16	425.31	29.27	28.26	37.11
MW-03	9/19/2011	462.34	459.10	432.73	432.72	425.05	29.61	29.62	37.29
	12/12/2011	462.34	459.10	433.88	433.88	425.05	28.46	28.46	37.29
	3/19/2012	462.34	459.10	436.94	436.94	425.05	25.40	25.40	37.29
	4/4/2012	462.34	459.10	435.67	NM	425.05	26.67	NM	37.29
	6/25/2012	462.34	459.10	432.86	432.86	425.05	29.48	29.48	37.29
	9/18/2012	462.34	459.10	430.71	430.71	425.05	31.63	31.63	37.29
	12/12/2012	462.34	459.10	429.94	429.94	425.05	32.40	32.40	37.29
	2/27/2013	462.34	459.10	436.39	435.87	425.05	25.95	26.47	37.29
	5/29/2013	462.34	459.10	444.87	445.14	425.04	17.47	17.20	37.30
	7/31/2013	462.34	459.10	434.87	434.87	425.04	27.47	27.47	37.30
	10/21/2013	462.34	459.10	430.91	430.91	425.04	31.43	31.43	37.30
	3/5/2014	462.34	459.10	442.23	442.22	425.04	20.11	20.12	37.30
	5/27/2014	462.34	459.10	440.70	440.69	425.04	21.64	21.65	37.30
	8/25/2014	462.34	459.10	434.72	434.73	425.04	27.62	27.61	37.30
	10/27/2014	462.34	459.10	439.45	439.46	425.04	22.89	22.88	37.30
	2/25/2015	462.34	459.10	436.26	436.25	425.04	26.08	26.09	37.30
	5/13/2015	462.34	459.10	440.77	440.79	425.04	21.57	21.55	37.30
	8/17/2015	462.34	459.10	440.42	440.41	425.04	21.92	21.93	37.30
	11/16/2015	462.34	459.10	432.48	432.42	425.04	29.86	29.92	37.30

Table 1. Groundwater Elevations - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-04	9/19/2011	460.48	457.29	431.63	431.63	423.39	28.85	28.85	37.09
	12/12/2011	460.48	457.29	433.28	433.28	423.39	27.20	27.20	37.09
	3/19/2012	460.48	457.29	434.93	434.93	423.39	25.55	25.55	37.09
	4/4/2012	460.48	457.29	434.15	NM	423.39	26.33	NM	37.09
	6/25/2012	460.48	457.29	432.38	432.38	423.39	28.10	28.10	37.09
	9/18/2012	460.48	457.29	430.34	430.34	423.39	30.14	30.14	37.09
	12/12/2012	460.48	457.29	430.28	430.28	423.39	30.20	30.20	37.09
	2/27/2013	460.48	457.29	434.36	433.21	423.39	26.12	27.27	37.09
	5/29/2013	460.48	457.29	443.93	444.59	423.33	16.55	15.89	37.15
	7/31/2013	460.48	457.29	432.86	432.86	423.33	27.62	27.62	37.15
	10/21/2013	460.48	457.29	430.60	430.62	423.33	29.88	29.86	37.15
	3/5/2014	460.48	457.29	442.09	442.09	423.33	18.39	18.39	37.15
	5/27/2014	460.48	457.29	439.49	439.48	423.33	20.99	21.00	37.15
	8/25/2014	460.48	457.29	435.10	435.14	423.33	25.38	25.34	37.15
	10/27/2014	460.48	457.29	436.01	435.97	423.33	24.47	24.51	37.15
	2/25/2015	460.48	457.29	432.09	432.09	423.33	28.39	28.39	37.15
	5/13/2015	460.48	457.29	439.29	439.32	423.33	21.19	21.16	37.15
	8/17/2015	460.48	457.29	436.02	436.01	423.33	24.46	24.47	37.15
	11/16/2015	460.48	457.29	431.20	431.23	423.33	29.28	29.25	37.15
MW-05	9/19/2011	458.58	455.80	432.77	432.77	423.79	25.81	25.81	34.79
	12/12/2011	458.58	455.80	434.13	434.13	423.79	24.45	24.45	34.79
	3/19/2012	458.58	455.80	435.71	435.72	423.79	22.87	22.86	34.79
	4/4/2012	458.58	455.80	434.93	NM	423.79	23.65	NM	34.79
	6/25/2012	458.58	455.80	433.23	433.21	423.79	25.35	25.37	34.79
	9/18/2012	458.58	455.80	430.99	430.98	423.79	27.59	27.60	34.79
	12/12/2012	458.58	455.80	430.98	430.98	423.79	27.60	27.60	34.79
	2/27/2013	458.58	455.80	434.93	434.01	423.79	23.65	24.57	34.79
	5/29/2013	458.58	455.80	444.11	444.85	423.79	14.47	13.73	34.79
	7/31/2013	458.58	455.80	433.63	433.63	423.79	24.95	24.95	34.79
	10/21/2013	458.58	455.80	431.41	431.43	423.79	27.17	27.15	34.79
	3/5/2014	458.58	455.80	442.36	442.36	423.79	16.22	16.22	34.79
	5/27/2014	458.58	455.80	439.99	439.98	423.79	18.59	18.60	34.79
	8/25/2014	458.58	455.80	436.01	436.02	423.79	22.57	22.56	34.79
	10/27/2014	458.58	455.80	436.33	436.31	423.79	22.25	22.27	34.79
	2/25/2015	458.58	455.80	432.97	432.98	423.79	25.61	25.60	34.79
	5/13/2015	458.58	455.80	439.74	439.75	423.79	18.84	18.83	34.79
	8/17/2015	458.58	455.80	436.46	436.45	423.79	22.12	22.13	34.79
	11/16/2015	458.58	455.80	432.19	429.26	423.79	26.39	29.32	34.79
MW-06	9/19/2011	464.47	461.22	445.71	445.66	431.87	18.76	18.81	32.60
	12/12/2011	464.47	461.22	446.30	446.30	431.87	18.17	18.17	32.60
	3/19/2012	464.47	461.22	446.17	446.17	431.87	18.30	18.30	32.60
	4/4/2012	464.47	461.22	445.81	NM	431.87	18.66	NM	32.60
	6/25/2012	464.47	461.22	445.99	445.94	431.87	18.48	18.53	32.60
	9/18/2012	464.47	461.22	445.63	445.63	431.87	18.84	18.84	32.60
	12/12/2012	464.47	461.22	447.37	447.37	431.87	17.10	17.10	32.60
	2/27/2013	464.47	461.22	448.45	448.48	431.87	16.02	15.99	32.60
	5/31/2013	464.47	461.22	443.12	443.12	431.87	21.35	21.35	32.60
	7/31/2013	464.47	461.22	449.46	449.44	431.87	15.01	15.03	32.60
	10/23/2013	464.47	461.22	448.12	448.12	431.87	16.35	16.35	32.60
	3/6/2014	464.47	461.22	449.65	449.64	431.87	14.82	14.83	32.60
	5/29/2014	464.47	461.22	447.32	447.33	431.87	17.15	17.14	32.60
	8/27/2014	464.47	461.22	447.00	447.00	431.87	17.47	17.47	32.60
	10/29/2014	464.47	461.22	446.49	446.48	431.87	17.98	17.99	32.60
	2/23/2015	464.47	461.22	447.80	447.82	431.87	16.67	16.65	32.60
	5/11/2015	464.47	461.22	447.21	447.19	431.87	17.26	17.28	32.60
	8/18/2015	464.47	461.22	448.82	448.80	431.87	15.65	15.67	32.60
	11/16/2015	464.47	461.22	445.36	445.51	431.87	19.11	18.96	32.60

Table 1. Groundwater Elevations - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-07	9/19/2011	463.23	459.65	433.40	433.40	423.12	29.83	29.83	40.11
	12/12/2011	463.23	459.65	434.64	433.73	423.12	28.59	29.50	40.11
	3/19/2012	463.23	459.65	436.04	435.18	423.12	27.19	28.05	40.11
	4/4/2012	463.23	459.65	435.10	NM	423.12	28.13	NM	40.11
	6/25/2012	463.23	459.65	433.77	433.66	423.12	29.46	29.57	40.11
	9/18/2012	463.23	459.65	431.39	425.61	423.12	31.84	37.62	40.11
	12/12/2012	463.23	459.65	431.38	431.38	423.12	31.85	31.85	40.11
	2/27/2013	463.23	459.65	435.30	433.79	423.12	27.93	29.44	40.11
	5/31/2013	463.23	459.65	443.93	445.24	414.93	19.30	17.99	48.30
	7/31/2013	463.23	459.65	433.88	433.88	414.93	29.35	29.35	48.30
	10/23/2013	463.23	459.65	432.19	431.93	414.93	31.04	31.30	48.30
	3/5/2014	463.23	459.65	442.61	442.41	414.93	20.62	20.82	48.30
	5/29/2014	463.23	459.65	439.81	439.79	414.93	23.42	23.44	48.30
	8/27/2014	463.23	459.65	438.63	438.58	414.93	24.60	24.65	48.30
	10/29/2014	463.23	459.65	435.75	435.64	414.93	27.48	27.59	48.30
	2/23/2015	463.23	459.65	433.66	433.66	414.93	29.57	29.57	48.30
	5/11/2015	463.23	459.65	438.83	438.80	414.93	24.40	24.43	48.30
	8/18/2015	463.23	459.65	436.10	436.07	414.93	27.13	27.16	48.30
	11/16/2015	463.23	459.65	432.80	432.78	414.93	30.43	30.45	48.30
MW-08	9/19/2011	471.73	468.70	446.76	446.77	438.18	24.97	24.96	33.55
	12/12/2011	471.73	468.70	446.85	446.85	438.18	24.88	24.88	33.55
	3/19/2012	471.73	468.70	447.66	447.66	438.18	24.07	24.07	33.55
	4/4/2012	471.73	468.70	447.27	NM	438.18	24.46	NM	33.55
	6/25/2012	471.73	468.70	447.06	447.06	438.18	24.67	24.67	33.55
	9/18/2012	471.73	468.70	446.70	446.70	438.18	25.03	25.03	33.55
	12/12/2012	471.73	468.70	447.23	447.23	438.18	24.50	24.50	33.55
	2/27/2013	471.73	468.70	448.53	449.98	438.18	23.20	21.75	33.55
	5/30/2013	471.73	468.70	447.82	447.80	438.21	23.91	23.93	33.52
	7/31/2013	471.73	468.70	448.53	448.53	438.21	23.20	23.20	33.52
	10/23/2013	471.73	468.70	447.12	447.12	438.21	24.61	24.61	33.52
	3/3/2014	471.73	468.70	447.89	447.89	438.21	23.84	23.84	33.52
	5/28/2014	471.73	468.70	446.86	446.91	438.21	24.87	24.82	33.52
	8/27/2014	471.73	468.70	446.35	446.35	438.21	25.38	25.38	33.52
	10/28/2014	471.73	468.70	446.16	446.16	438.21	25.57	25.57	33.52
	2/26/2015	471.73	468.70	446.67	446.68	438.21	25.06	25.05	33.52
	5/11/2015	471.73	468.70	446.25	446.25	438.21	25.48	25.48	33.52
	8/18/2015	471.73	468.70	448.48	448.50	438.21	23.25	23.23	33.52
	11/16/2015	471.73	468.70	445.67	445.66	438.21	26.06	26.07	33.52
MW-09	9/19/2011	469.19	466.21	443.64	443.64	434.06	25.55	25.55	35.13
	12/12/2011	469.19	466.21	443.08	443.08	434.06	26.11	26.11	35.13
	3/19/2012	469.19	466.21	443.78	443.78	434.06	25.41	25.41	35.13
	4/4/2012	469.19	466.21	443.49	NM	434.06	25.70	NM	35.13
	6/25/2012	469.19	466.21	442.55	442.52	434.06	26.64	26.67	35.13
	9/18/2012	469.19	466.21	440.29	440.29	434.06	28.90	28.90	35.13
	12/12/2012	469.19	466.21	439.77	439.77	434.06	29.42	29.42	35.13
	2/27/2013	469.19	466.21	441.69	442.40	434.06	27.50	26.79	35.13
	5/30/2013	469.19	466.21	449.35	449.50	434.05	19.84	19.69	35.14
	7/30/2013	469.19	466.21	444.99	444.99	434.05	24.20	24.20	35.14
	10/22/2013	469.19	466.21	441.05	441.04	434.05	28.14	28.15	35.14
	3/3/2014	469.19	466.21	444.36	444.36	434.05	24.83	24.83	35.14
	5/29/2014	469.19	466.21	444.82	444.83	434.05	24.37	24.36	35.14
	8/26/2014	469.19	466.21	443.42	443.43	434.05	25.77	25.76	35.14
	10/30/2014	469.19	466.21	444.08	444.09	434.05	25.11	25.10	35.14
	2/24/2015	469.19	466.21	443.11	443.08	434.05	26.08	26.11	35.14
	5/12/2015	469.19	466.21	444.36	444.36	434.05	24.83	24.83	35.14
	8/19/2015	469.19	466.21	447.13	447.12	434.05	22.06	22.07	35.14
	11/16/2015	469.19	466.21	443.12	443.59	434.05	26.07	25.60	35.14

Table 1. Groundwater Elevations - Midwest Generation, LLC, Powerton Station, Pekin, IL

Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-10	9/19/2011	457.39	454.09	439.99	439.98	424.89	17.40	17.41	32.50
	12/12/2011	457.39	454.09	440.01	440.01	424.89	17.38	17.38	32.50
	3/19/2012	457.39	454.09	442.03	442.03	424.89	15.36	15.36	32.50
	4/4/2012	457.39	454.09	441.06	NM	424.89	16.33	NM	32.50
	6/25/2012	457.39	454.09	438.39	438.39	424.89	19.00	19.00	32.50
	9/18/2012	457.39	454.09	436.06	436.06	424.89	21.33	21.33	32.50
	12/12/2012	457.39	454.09	435.79	435.79	424.89	21.60	21.60	32.50
	2/27/2013	457.39	454.09	439.50	439.85	424.89	17.89	17.54	32.50
	5/29/2013	457.39	454.09	446.90	447.06	424.89	10.49	10.33	32.50
	7/31/2013	457.39	454.09	441.21	441.21	424.89	16.18	16.18	32.50
	10/23/2013	457.39	454.09	436.73	436.74	424.89	20.66	20.65	32.50
	3/6/2014	457.39	454.09	442.64	442.64	424.89	14.75	14.75	32.50
	5/30/2014	457.39	454.09	442.23	442.23	424.89	15.16	15.16	32.50
	8/28/2014	457.39	454.09	440.07	440.07	424.89	17.32	17.32	32.50
	10/30/2014	457.39	454.09	441.45	441.45	424.89	15.94	15.94	32.50
	2/23/2015	457.39	454.09	440.88	440.88	424.89	16.51	16.51	32.50
	5/14/2015	457.39	454.09	442.44	442.44	424.89	14.95	14.95	32.50
	8/18/2015	457.39	454.09	443.57	443.56	424.89	13.82	13.83	32.50
	11/16/2015	457.39	454.09	439.17	439.68	424.89	18.22	17.71	32.50
MW-11	9/19/2011	471.59	468.07	440.49	440.49	427.94	31.10	31.10	43.65
	12/12/2011	471.59	468.07	440.51	440.50	427.94	31.08	31.09	43.65
	3/19/2012	471.59	468.07	441.63	441.60	427.94	29.96	29.99	43.65
	4/4/2012	471.59	468.07	441.03	NM	427.94	30.56	NM	43.65
	6/25/2012	471.59	468.07	439.54	439.52	427.94	32.05	32.07	43.65
	9/18/2012	471.59	468.07	437.31	437.31	427.94	34.28	34.28	43.65
	12/12/2012	471.59	468.07	437.09	437.09	427.94	34.50	34.50	43.65
	2/27/2013	471.59	468.07	439.79	440.57	427.94	31.80	31.02	43.65
	5/30/2013	471.59	468.07	447.35	447.79	427.89	24.24	23.80	43.70
	7/30/2013	471.59	468.07	441.49	441.49	427.89	30.10	30.10	43.70
	10/22/2013	471.59	468.07	437.95	437.94	427.89	33.64	33.65	43.70
	3/4/2014	471.59	468.07	443.65	443.66	427.89	27.94	27.93	43.70
	5/29/2014	471.59	468.07	443.02	442.99	427.89	28.57	28.60	43.70
	8/26/2014	471.59	468.07	441.27	441.25	427.89	30.32	30.34	43.70
	10/28/2014	471.59	468.07	441.37	441.38	427.89	30.22	30.21	43.70
	2/24/2015	471.59	468.07	440.57	440.55	427.89	31.02	31.04	43.70
	5/12/2015	471.59	468.07	442.91	442.92	427.89	28.68	28.67	43.70
	8/19/2015	471.59	468.07	443.15	443.12	427.89	28.44	28.47	43.70
	11/16/2015	471.59	468.07	439.92	440.81	427.89	31.67	30.78	43.70
MW-12	9/19/2011	473.38	470.00	449.88	449.88	440.81	23.50	23.50	32.57
	12/12/2011	473.38	470.00	450.03	450.03	440.81	23.35	23.35	32.57
	3/19/2012	473.38	470.00	451.18	451.18	440.81	22.20	22.20	32.57
	4/4/2012	473.38	470.00	450.83	NM	440.81	22.55	NM	32.57
	6/25/2012	473.38	470.00	450.38	450.35	440.81	23.00	23.03	32.57
	9/18/2012	473.38	470.00	449.95	449.93	440.81	23.43	23.45	32.57
	12/12/2012	473.38	470.00	449.18	449.18	440.81	24.20	24.20	32.57
	2/27/2013	473.38	470.00	451.07	451.43	440.81	22.31	21.95	32.57
	5/30/2013	473.38	470.00	451.84	451.84	440.79	21.54	21.54	32.59
	7/29/2013	473.38	470.00	449.45	449.43	440.79	23.93	23.95	32.59
	10/22/2013	473.38	470.00	447.83	447.22	440.79	25.55	26.16	32.59
	3/4/2014	473.38	470.00	451.45	451.45	440.79	21.93	21.93	32.59
	5/29/2014	473.38	470.00	450.22	450.23	440.79	23.16	23.15	32.59
	8/26/2014	473.38	470.00	449.49	449.48	440.79	23.89	23.90	32.59
	10/28/2014	473.38	470.00	449.21	449.20	440.79	24.17	24.18	32.59
	2/24/2015	473.38	470.00	451.43	451.42	440.79	21.95	21.96	32.59
	5/12/2015	473.38	470.00	450.63	450.63	440.79	22.75	22.75	32.59
	8/19/2015	473.38	470.00	451.05	451.03	440.79	22.33	22.35	32.59
	11/16/2015	473.38	470.00	448.90	448.92	440.79	24.48	24.46	32.59

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Well ID	Date	Top of Casing (TOC) Elevation (ft above MSL)	Ground Elevation (ft above MSL)	Groundwater Elevation (ft above MSL)	Sampling Groundwater Elevation (ft above MSL)	Bottom of Well Elevation (ft above MSL)	Depth to Groundwater (ft below TOC)	Sampling Depth to Groundwater (ft below TOC)	Depth to Bottom of Well (ft below TOC)
MW-13	4/25/2011	470.94	467.65	446.06	446.12	427.82	24.88	24.82	43.12
	6/16/2011	470.94	467.65	447.39	447.39	427.82	23.55	23.55	43.12
	8/9/2011	470.94	467.65	437.72	438.55	427.82	33.22	32.39	43.12
	10/13/2011	470.94	467.65	436.84	436.84	427.82	34.10	34.10	43.12
	12/12/2011	470.94	467.65	437.79	437.64	427.82	33.15	33.30	43.12
	4/10/2012	470.94	467.65	437.73	437.29	427.82	33.21	33.65	43.12
	12/14/2012	470.94	467.65	437.40	437.40	427.82	33.54	33.54	43.12
	2/27/2013	470.94	467.65	437.99	438.04	427.82	32.95	32.90	43.12
	5/30/2013	470.94	467.65	445.45	446.45	427.85	25.49	24.49	43.09
	7/30/2013	470.94	467.65	437.59	437.59	427.85	33.35	33.35	43.09
	10/22/2013	470.94	467.65	437.56	437.40	427.85	33.38	33.54	43.09
	3/4/2014	470.94	467.65	443.96	443.51	427.85	26.98	27.43	43.09
	5/28/2014	470.94	467.65	442.19	442.18	427.85	28.75	28.76	43.09
	8/27/2014	470.94	467.65	440.82	440.71	427.85	30.12	30.23	43.09
	10/29/2014	470.94	467.65	438.47	438.20	427.85	32.47	32.74	43.09
	2/20/2015	470.94	467.65	437.57	437.30	427.85	33.37	33.64	43.09
	5/13/2015	470.94	467.65	442.61	442.15	427.85	28.33	28.79	43.09
	8/19/2015	470.94	467.65	439.23	438.72	427.85	31.71	32.22	43.09
	11/16/2015	470.94	467.65	437.71	437.76	427.85	33.23	33.18	43.09
MW-14	4/25/2011	470.79	467.67	448.13	447.95	437.21	22.66	22.84	33.58
	6/16/2011	470.79	467.67	448.28	448.27	437.21	22.51	22.52	33.58
	8/9/2011	470.79	467.67	448.11	446.76	437.21	22.68	24.03	33.58
	10/13/2011	470.79	467.67	445.28	441.14	437.21	25.51	29.65	33.58
	12/12/2011	470.79	467.67	443.71	440.10	437.21	27.08	30.69	33.58
	4/10/2012	470.79	467.67	446.80	446.74	437.21	23.99	24.05	33.58
	12/14/2012	470.79	467.67	444.89	444.89	437.21	25.90	25.90	33.58
	2/27/2013	470.79	467.67	447.29	447.89	437.21	23.50	22.90	33.58
	5/30/2013	470.79	467.67	448.37	448.33	437.21	22.42	22.46	33.58
	7/30/2013	470.79	467.67	447.59	447.54	437.21	23.20	23.25	33.58
	10/23/2013	470.79	467.67	444.92	444.54	437.21	25.87	26.25	33.58
	3/4/2014	470.79	467.67	446.32	445.94	437.21	24.47	24.85	33.58
	5/28/2014	470.79	467.67	446.55	446.54	439.32	24.24	24.25	31.47
	8/28/2014	470.79	467.67	445.81	445.07	439.32	24.98	25.72	31.47
	10/29/2014	470.79	467.67	445.55	444.59	439.32	25.24	26.20	31.47
	2/26/2015	470.79	467.67	441.69	441.26	439.32	29.10	29.53	31.47
	5/13/2015	470.79	467.67	446.82	446.41	439.32	23.97	24.38	31.47
	8/19/2015	470.79	467.67	448.13	448.08	439.32	22.66	22.71	31.47
	11/16/2015	470.79	467.67	445.55	444.53	439.32	25.24	26.26	31.47
MW-15	4/25/2011	471.38	468.26	448.29	448.29	439.04	23.09	23.09	32.34
	6/16/2011	471.38	468.26	449.16	448.56	439.04	22.22	22.82	32.34
	8/9/2011	471.38	468.26	447.82	447.82	439.04	23.56	23.56	32.34
	10/13/2011	471.38	468.26	446.73	446.73	439.04	24.65	24.65	32.34
	12/12/2011	471.38	468.26	446.78	446.76	439.04	24.60	24.62	32.34
	4/10/2012	471.38	468.26	447.49	447.56	439.04	23.89	23.82	32.34
	12/14/2012	471.38	468.26	446.71	446.71	439.04	24.67	24.67	32.34
	2/27/2013	471.38	468.26	448.48	449.05	439.04	22.90	22.33	32.34
	5/30/2013	471.38	468.26	449.36	449.29	439.91	22.02	22.09	31.47
	7/30/2013	471.38	468.26	448.70	448.68	439.91	22.68	22.70	31.47
	10/23/2013	471.38	468.26	447.70	447.70	439.91	23.68	23.68	31.47
	3/6/2014	471.38	468.26	447.52	447.53	439.91	23.86	23.85	31.47
	5/28/2014	471.38	468.26	447.14	447.13	439.91	24.24	24.25	31.47
	8/27/2014	471.38	468.26	446.52	446.51	439.91	24.86	24.87	31.47
	10/28/2014	471.38	468.26	446.22	446.12	439.91	25.16	25.26	31.47
	2/26/2015	471.38	468.26	446.41	446.35	439.91	24.97	25.03	31.47
	5/14/2015	471.38	468.26	446.70	446.70	439.91	24.68	24.68	31.47
	8/19/2015	471.38	468.26	449.21	449.21	439.91	22.17	22.17	31.47
	11/16/2015	471.38	468.26	446.05	445.96	439.91	25.33	25.42	31.47
MW-16	12/12/2012	471.56	468.26	441.16	441.16	434.36	30.40	30.40	37.20
	2/27/2013	471.56	468.26	442.56	441.13	434.36	29.00	30.43	37.20
	5/29/2013	471.56	468.26	449.74	449.74	434.27	21.82	21.82	37.29
	7/29/2013	471.56	468.26	446.17	446.16	434.27	25.39	25.40	37.29
	10/22/2013	471.56	468.26	442.54	442.54	434.27	29.02	29.02	37.29
	3/3/2014	471.56	468.26	444.36	444.36	434.27	27.20	27.20	37.29
	5/30/2014	471.56	468.26	445.54	445.54	434.27	26.02	26.02	37.29
	8/26/2014	471.56	468.26	443.83	443.82	434.27	27.73	27.74	37.29
	10/30/2014	471.56	468.26	444.76	444.76	434.27	26.80	26.80	37.29
	2/24/2015	471.56	468.26	443.74	443.74	434.27	27.82	27.82	37.29
	5/12/2015	471.56	468.26	444.54	444.54	434.27	27.02	27.02	37.29
	8/18/2015	471.56	468.26	448.73	448.72	434.27	22.83	22.84	37.29
	11/16/2015	471.56	468.26	443.93	443.94	434.27	27.63	27.62	37.29

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-01	Date	10/21/2013		3/6/2014		5/27/2014		8/28/2014		10/29/2014		2/23/2015		5/11/2015		8/18/2015		11/16/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.070	0.0025	0.064	0.0025	0.041	0.0025	0.046	0.0025	0.049	0.0025	0.037	0.0025	0.038	0.0025	0.065	0.0025	0.054
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.62	0.050	0.53	0.050	0.26	0.050	0.16	0.050	0.075	0.050	0.059	0.050	0.087	0.050	0.30	0.050	0.94
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	46	2.0	48	2.0	73	2.0	58	2.0	42	2.0	37	2.0	67	2.0	58	2.0	44
Chromium	0.1	0.0050	ND	0.0050	ND^	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND^	0.0020	ND	0.0020	ND ^	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.11	0.10	0.10	0.10	0.13	0.10	0.15	0.10	0.18	0.10	0.17	0.10	0.23	0.10	0.16	0.10	0.18
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0043	0.0025	ND	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	4.5	0.10	4.7	0.10	2.2	0.10	1.5	0.10	4.4	0.10	4.1	0.10	2.6	0.10	0.27	0.10	4.3
Nitrogen/Nitrate, Nitrite	NA	0.50	4.5	0.50	4.7	0.50	2.2	0.10	1.5	0.50	4.4	0.50	4.1	0.20	2.6	0.10	0.27	0.50	4.3
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0042	0.0025	0.0040	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	20	85	20	99	20	51	10	36	20	54	10	43	10	50	20	55	20	66
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	660	10	590	10	440	10	350	10	410	10	470	10	450	10	650	10	510
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0016
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0053
pH	6.5 - 9.0	NA	7.12	NA	7.65	NA	7.15	NA	7.25	NA	7.25	NA	6.93	NA	7.39	NA	6.89	NA	7.07
Temperature	NA	NA	15.06	NA	9.08	NA	18.25 *	NA	21.57	NA	17.15	NA	1.92	NA	14.01	NA	22.91	NA	13.85
Conductivity	NA	NA	0.88	NA	0.55	NA	0.73	NA	0.71	NA	0.92	NA	0.44	NA	0.65	NA	1.01	NA	0.68
Dissolved Oxygen	NA	NA	1.33	NA	3.25	NA	5.05	NA	0.94	NA	1.63	NA	9.99	NA	4.82	NA	2.51	NA	1.62
ORP	NA	NA	-127	NA	-37.2	NA	-14.1	NA	21.5	NA	-3.6	NA	150.7	NA	53.6	NA	-15.3	NA	118.2

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

* - Median Value

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-02	Date	10/21/2013		3/5/2014		5/27/2014		8/25/2014		10/27/2014		2/25/2015		5/13/2015		8/17/2015		11/17/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0015	0.0010	0.0016	0.0010	0.0017	0.0010	ND
Barium	2.0	0.0025	0.088	0.0025	0.046	0.0025	0.069	0.0025	0.071	0.0025	0.067	0.0025	0.051	0.0025	0.055	0.0025	0.072	0.0025	0.066
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	2.7	0.050	0.28	0.050	0.38	0.050	1.1	0.050	0.078	0.050	0.082	0.050	0.11	0.050	0.41	0.050	0.50
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	90	10	88	10	91	2.0	58 ^	2.0	44	2.0	54	10	92	2.0	51	2.0	45
Chromium	0.1	0.0050	ND	0.0050	ND^	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND^	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	0.024	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.17	0.10	0.19	0.10	0.18	0.10	0.19	0.10	0.22	0.10	0.17	0.10	0.22	0.10	0.22	0.10	0.18
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0013	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.0060	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.015	0.0025	0.0027
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	1.1	0.10	2.4	0.10	4.0	0.10	0.28	0.10	4.3	0.10	5.9	0.10	1.2	0.10	ND	0.10	3.2
Nitrogen/Nitrate, Nitrite	NA	0.10	1.1	0.50	2.4	0.50	4.0	0.10	0.28	0.50	4.3	0.50	5.9	0.10	1.2	0.10	ND ^	0.20	3.2
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	190	10	53	20	63	20	76	20	49	10	57	10	41	10	53	20	77
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	770	10	430	10	440	10	460	10	440	10	510	10	490	10	540	10	480
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.001
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00055	0.0025	0.0042
pH	6.5 - 9.0	NA	7.20	NA	8.21	NA	7.19	NA	7.01	NA	7.37	NA	8.13	NA	7.86	NA	7.28	NA	7.12
Temperature	NA	NA	12.34	NA	6.67	NA	15.72 *	NA	20.87	NA	17.43	NA	2.61	NA	12.12	NA	24.86	NA	13.93
Conductivity	NA	NA	0.80	NA	0.40	NA	0.69	NA	0.76	NA	0.78	NA	0.49	NA	0.66	NA	0.86	NA	0.64
Dissolved Oxygen	NA	NA	0.32	NA	7.92	NA	0.55	NA	0.46	NA	2.96	NA	11.55	NA	1.99	NA	1.52	NA	8.66
ORP	NA	NA	-180.3	NA	-53.0	NA	72.5	NA	35.9	NA	60.1	NA	113.1	NA	87.3	NA	-37.7	NA	112.9

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

* - Median Value

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-03	Date	10/21/2013		3/5/2014		5/27/2014		8/25/2014		10/27/2014		2/25/2015		5/13/2015		8/17/2015		11/17/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0011	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0010	0.0010	0.0017	0.0010	ND
Barium	2.0	0.0025	0.099	0.0025	0.056	0.0025	0.052	0.0025	0.070	0.0025	0.063	0.0025	0.048	0.0025	0.045	0.0025	0.054	0.0025	0.061
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.46	0.050	0.14	0.050	0.15	0.050	0.37	0.050	0.14	0.050	0.32	0.050	0.086	0.050	0.34	0.050	0.30
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	57	10	120	10	100	10	79	2.0	47	2.0	47	2.0	48	2.0	45	2.0	43
Chromium	0.1	0.0050	ND	0.0050	ND^	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND^	0.0020	0.0057	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	0.011	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.26	0.10	0.24	0.10	0.23	0.10	0.25	0.10	0.25	0.10	0.23	0.10	0.22	0.10	0.30	0.10	0.29
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	0.00097	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.0039	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.016	0.0025	0.0031
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	0.0036	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	2.6	0.10	5.3	0.10	ND	0.10	2.4	0.10	2.0	0.10	2.7	0.10	ND	0.10	0.19
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.50	2.6	0.50	5.3	0.10	ND	0.50	2.4	0.10	2.0	0.20	2.7	0.10	ND ^	0.10	0.19
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0046	0.0025	ND F1	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	20	96	20	65	20	65	25	100	10	40	10	46	10	39	10	48	20	50
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	430	10	490	10	440	10	490	10	440	10	400	10	380	10	420	10	380
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	0.14	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.002
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0012	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0054
pH	6.5 - 9.0	NA	7.25	NA	8.34	NA	7.27	NA	6.97	NA	7.43	NA	7.75	NA	7.63	NA	7.63	NA	7.12
Temperature	NA	NA	20.22	NA	7.08	NA	16.70	NA	19.57	NA	19.36	NA	8.51	NA	10.39	NA	25.85	NA	19.09
Conductivity	NA	NA	0.70	NA	0.43	NA	0.66	NA	0.83	NA	0.79	NA	0.49	NA	0.53	NA	0.74	NA	0.60
Dissolved Oxygen	NA	NA	0.35	NA	5.08	NA	4.83	NA	0.48	NA	2.33	NA	3.65	NA	6.34	NA	3.10	NA	1.01
ORP	NA	NA	-160.1	NA	-60.3	NA	117.3	NA	45.0	NA	52.0	NA	102.3	NA	107.9	NA	-35.7	NA	92.5

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NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

* - Median Value

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-04	Date	10/21/2013		3/5/2014		5/27/2014		8/25/2014		10/27/2014		2/25/2015		5/13/2015		8/17/2015		11/17/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.062	0.0025	0.039	0.0025	0.054	0.0025	0.055	0.0025	0.070	0.0025	0.025	0.0025	0.025	0.0025	0.027	0.0025	0.030
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.81	0.050	0.81	0.050	0.94	0.050	1.0	0.050	0.77	0.050	0.94	0.050	0.80	0.050	0.44	0.050	0.51
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	150	10	130	10	92	10	95	10	96	10	74	2.0	65	2.0	47	2.0	74
Chromium	0.1	0.0050	ND	0.0050	ND^	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	0.0025	0.0020	ND^	0.0020	ND	0.0020	0.0021	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0021
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.21	0.10	0.29	0.10	0.23	0.10	0.25	0.10	0.21	0.10	0.32	0.10	0.26	0.10	0.30	0.10	0.26
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.27	0.0025	0.026	0.0025	0.029	0.0025	0.24	0.0025	0.075	0.0025	0.018	0.0025	ND	0.0025	0.015	0.0025	0.14
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0039	0.0020	ND	0.0020	ND	0.0020	0.0024	0.0020	0.0020	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	0.50	0.10	ND	0.10	ND	0.10	ND	0.10	0.14	0.10	0.30	0.10	ND	0.10	ND	0.10	0.85
Nitrogen/Nitrate, Nitrite	NA	0.10	0.50	0.10	ND	0.10	ND	0.10	ND	0.10	0.14	0.10	0.30	0.10	ND	0.10	ND ^	0.10	0.85
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	260	50	200	100	320	50	260	100	390	25	100	20	120	10	47	25	75
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	980	10	780	10	980	10	880	10	1100	10	580	10	540	10	470	10	550
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0017
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0056
pH	6.5 - 9.0	NA	7.00	NA	8.00	NA	7.04	NA	7.06	NA	7.20	NA	7.63	NA	7.30	NA	7.37	NA	6.72
Temperature	NA	NA	16.83	NA	11.96	NA	17.48 *	NA	24.18	NA	20.48	NA	8.95	NA	13.52	NA	24.79	NA	16.54
Conductivity	NA	NA	1.15	NA	0.81	NA	1.20	NA	1.36	NA	1.62	NA	0.72	NA	0.73	NA	0.79	NA	0.77
Dissolved Oxygen	NA	NA	0.53	NA	1.63	NA	2.01	NA	1.23	NA	0.83	NA	1.97	NA	3.05	NA	1.31	NA	6.90
ORP	NA	NA	-169.7	NA	-57.0	NA	13.7	NA	53.5	NA	22.9	NA	22.5	NA	72.4	NA	-32.1	NA	88.4

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

* - Median Value

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-05	Date	10/21/2013		3/5/2014		5/27/2014		8/25/2014		10/27/2014		2/25/2015		5/13/2015		8/17/2015		11/17/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.088	0.0025	0.059	0.0025	0.052	0.0025	0.069	0.0025	ND	0.0025	0.041	0.0025	0.055	0.0025	0.073	0.0025	0.060
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.83	0.050	0.70	0.050	0.76	0.050	0.71	0.050	ND	0.050	1.1	0.050	0.72	0.050	1.3	0.050	0.74
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00050	0.00050	ND
Chloride	200.0	10	170	10	120	10	80	10	140	10	120	10	79	10	120	2.0	60	10	110
Chromium	0.1	0.0050	ND	0.0050	ND^	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0015	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	0.0027	0.0020	ND^	0.0020	ND	0.0020	0.0023	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.24	0.10	0.35	0.10	0.29	0.10	0.32	0.10	0.28	0.10	0.38	0.10	0.37	0.10	0.26	0.10	0.27
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.62	0.0025	0.077	0.0025	0.043	0.0025	0.016	0.0025	ND	0.0025	0.058	0.0025	0.0078	0.0025	0.13	0.0025	0.084
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0068	0.0020	0.0038	0.0020	0.0036	0.0020	0.0041	0.0020	ND	0.0020	0.0025	0.0020	0.0023	0.0020	0.0051	0.0020	0.0027
Nitrogen/Nitrate	10.0	0.10	0.34	0.10	0.74	0.10	2.2	0.10	0.11	0.10	0.20	0.10	0.74	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	0.34	0.10	0.77	0.50	2.2	0.10	0.11	0.10	0.20	0.10	0.74	0.10	ND	0.10	ND ^	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	0.033	0.020	0.026	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0028	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	260	50	180	50	150	50	200	50	310	20	110	50	150	50	250	50	180
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1100	10	840	10	640	10	870	10	910	10	570	10	730	10	860	10	810
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00068
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00278
pH	6.5 - 9.0	NA	6.89	NA	7.69	NA	7.01	NA	6.86	NA	7.30	NA	7.52	NA	7.26	NA	7.35	NA	6.65
Temperature	NA	NA	14.79	NA	12.62	NA	20.54	NA	21.14	NA	21.18	NA	5.51	NA	17.46	NA	25.42	NA	15.07
Conductivity	NA	NA	1.33	NA	0.28	NA	1.01	NA	1.28	NA	1.38	NA	0.69	NA	1.06	NA	1.32	NA	1.06
Dissolved Oxygen	NA	NA	0.32	NA	1.17	NA	0.53	NA	1.01	NA	2.20	NA	2.50	NA	1.54	NA	2.24	NA	1.32
ORP	NA	NA	-197	NA	-51	NA	-59.6	NA	64.8	NA	6.8	NA	9.8	NA	23.5	NA	-27.7	NA	-4.8

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
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NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

* - Median Value

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-06	Date	10/23/2013		3/6/2014		5/29/2014		8/27/2014		10/29/2014		2/23/2015		5/11/2015		8/18/2015		11/17/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0039	0.0010	0.0010	0.0010	0.20	0.0010	0.0024	0.0010	0.0016	0.0010	0.0011	0.0010	ND	0.0010	0.0025	0.0010	0.0016
Barium	2.0	0.0025	0.11	0.0025	0.10	0.0025	0.54	0.0025	0.11	0.0025	0.10	0.0025	0.099	0.0025	0.094	0.0025	0.12	0.0025	0.11
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.51	0.050	0.34	0.050	0.35	0.050	0.52	0.050	0.34	0.050	0.34	0.050	0.35	0.050	0.75	0.050	0.51
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	210	10	230	10	230	10	230 ^	10	240	10	110	10	230	10	170	10	210
Chromium	0.1	0.0050	ND	0.0050	ND^	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	0.0068	0.0010	ND	0.0010	ND	0.0010	0.0013	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND^	0.0020	ND	0.0020	ND ^	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.64	0.10	0.42	0.10	0.53	0.10	0.74	0.10	0.79	0.10	0.48	0.10	0.52	0.10	0.56	0.10	0.64
Iron	5.0	0.10	1.8	0.10	1.5	0.10	22	0.10	1.0	0.10	0.81	0.10	1.0	0.10	0.29	0.10	1.8	0.10	1.4
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00082	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.58	0.0025	0.68	0.013	8.0	0.0025	0.71	0.0025	0.57	0.0025	0.86	0.0025	0.90	0.0025	1.2	0.0025	0.98
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0020	0.0020	ND	0.0020	0.0061	0.0020	ND	0.0020	ND	0.0020	0.0024	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	0.16	0.10	ND	0.10	ND	0.10	ND	0.10	0.11	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	0.16	0.10	ND	0.10	ND	0.10	ND	0.10	0.11	0.10	ND	0.10	ND	0.10	ND ^	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0065	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	310	100	410	100	530	100	300	100	380	100	360	100	350	100	400	100	490
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1100	10	1100	10	1400	10	1300	10	1100	10	1100	10	1300	10	1400	10	1100
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0013
pH	6.5 - 9.0	NA	7.55	NA	8.21	NA	7.45	NA	7.73	NA	7.60	NA	8.05	NA	7.76	NA	7.94	NA	7.46
Temperature	NA	NA	23.30	NA	10.06	NA	19.41 *	NA	26.15	NA	19.31	NA	7.20	NA	17.91	NA	21.94	NA	18.66
Conductivity	NA	NA	1.74	NA	1.01	NA	1.84	NA	1.91	NA	2.36	NA	1.17	NA	1.67	NA	1.99	NA	1.58
Dissolved Oxygen	NA	NA	0.26	NA	1.24	NA	0.80	NA	0.39	NA	0.32	NA	0.96	NA	1.57	NA	1.60	NA	1.20
ORP	NA	NA	-233.2	NA	-168.8	NA	-25.3	NA	-143.4	NA	-126.7	NA	-147.7	NA	-73.6	NA	-142.7	NA	-90.4

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NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

* - Median Value

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-07	Date	10/23/2013		3/5/2014		5/29/2014		8/27/2014		10/29/2014		2/23/2015		5/11/2015		8/18/2015		11/16/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.20	0.0010	0.15	0.0010	ND	0.0010	0.19	0.0010	0.31	0.0010	0.18	0.0010	0.18	0.0010	0.23	0.0010	0.13
Barium	2.0	0.0025	0.49	0.0025	0.56	0.0025	0.13	0.0025	0.52	0.0025	0.55	0.0025	0.61	0.0025	0.50	0.0025	0.49	0.0025	0.43
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.46	0.050	0.37	0.25	1.0	0.050	0.33	0.050	0.27	0.050	0.39	0.050	0.34	0.050	0.38	0.050	0.36
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	160	10	170	10	150	10	160 ^	10	150	10	130	10	170	10	140	10	160
Chromium	0.1	0.0050	ND	0.0050	ND^	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0071	0.0010	0.0085	0.0010	ND	0.0010	0.0070	0.0010	0.0046	0.0010	0.012	0.0010	0.0070	0.0010	0.0026	0.0010	0.0062
Copper	0.65	0.0020	ND	0.0020	ND^	0.0020	ND	0.0020	ND ^	0.0020	ND	0.0020	0.0091	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.43	0.10	0.41	0.10	0.41	0.10	0.43	0.10	0.46	0.10	0.42	0.10	0.42	0.10	0.44	0.10	0.43
Iron	5.0	0.10	20	0.10	17	0.10	0.15	0.10	14	0.10	35	0.10	23	0.10	9.5	0.10	38	0.10	12
Lead	0.0075	0.00050	ND	0.00050	0.0011	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0066	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	5.9	0.0025	5.8 E	0.0025	0.33	0.013	6.6	0.013	13	0.013	7.0	0.050	5.9	0.13	15	0.025	6.2
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0081	0.0020	0.0099	0.0020	ND	0.0020	0.0072	0.0020	0.0045	0.0020	0.020	0.0020	0.0077	0.0020	0.0024	0.0020	0.0064
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND ^	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0056	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	20	80	20	95	10	52	20	71	5.0	16	10	50	10	55	10	59	20	68
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1200	10	1200	10	1200	10	1300	10	1300	10	1100	10	1100	10	1300	10	1100
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	0.0084	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	0.027	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00078
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00238
pH	6.5 - 9.0	NA	6.82	NA	7.20	NA	6.67	NA	7.00	NA	6.94	NA	6.90	NA	6.88	NA	7.03	NA	6.60
Temperature	NA	NA	16.36	NA	14.02	NA	17.66 *	NA	22.30	NA	14.31	NA	8.40	NA	17.66	NA	22.21	NA	13.34
Conductivity	NA	NA	1.66	NA	1.36	NA	1.78	NA	1.87	NA	2.62	NA	1.37	NA	1.67	NA	2.18	NA	1.47
Dissolved Oxygen	NA	NA	0.44	NA	1.01	NA	0.65	NA	0.47	NA	1.50	NA	2.66	NA	1.19	NA	0.75	NA	1.47
ORP	NA	NA	-134.7	NA	-116.9	NA	-94.6	NA	-118.1	NA	-109.2	NA	-93.7	NA	-109.8	NA	-149.0	NA	-40.8

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

* - Median Value

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-08	Date	10/23/2013		3/3/2014		5/28/2014		8/27/2014		10/28/2014		2/26/2015		5/11/2015		8/18/2015		11/18/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0037	0.0010	0.0030	0.0010	ND	0.0010	0.0025	0.0010	0.0022	0.0010	0.0026	0.0010	0.0024	0.0010	0.0024	0.0010	0.0021
Barium	2.0	0.0025	0.13	0.0025	0.11	0.0025	0.11	0.0025	0.13	0.0025	0.13	0.0025	0.12	0.0025	0.10	0.0025	0.092	0.0025	0.14
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.93	0.050	0.83	0.050	0.44	0.050	0.80	0.050	0.72	0.050	0.81	0.050	0.74	0.050	1.5	0.050	1.4
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	260	10	230	10	340	50	380 ^	10	340	10	260	10	270	10	250	10	160
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND ^	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.74	0.10	0.67	0.10	0.65	0.10	0.73	0.10	0.71	0.10	0.63	0.10	0.66	0.10	0.34	0.10	0.44
Iron	5.0	0.10	1.3	0.10	0.89	0.10	0.24	0.10	0.62	0.10	0.53	0.10	0.17	0.10	0.12	0.10	0.85	0.10	0.89
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.16	0.0025	0.20	0.0025	0.70	0.0025	0.17	0.0025	0.13	0.0025	0.11	0.0025	0.11	0.0025	0.78	0.0025	0.21
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0040	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0048	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	350	100	320	100	300	50	240	50	290	50	160	50	160	50	310	100	530
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1300	10	1200	10	1400	10	1400	10	1200	10	1100	10	1100	10	1200	10	1200
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00081
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0040	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00281
pH	6.5 - 9.0	NA	8.16	NA	8.46	NA	7.72	NA	8.12	NA	7.89	NA	8.62	NA	7.90	NA	7.36	NA	7.61
Temperature	NA	NA	15.62	NA	11.74	NA	19.53	NA	19.84	NA	16.22	NA	6.86	NA	15.81	NA	19.60	NA	14.72
Conductivity	NA	NA	1.62	NA	1.29	NA	1.94	NA	1.95	NA	1.99	NA	1.19	NA	1.55	NA	1.86	NA	1.56
Dissolved Oxygen	NA	NA	0.25	NA	1.19	NA	0.59	NA	0.51	NA	0.66	NA	1.22	NA	2.97	NA	1.03	NA	0.72
ORP	NA	NA	-225	NA	140.2	NA	-65.2	NA	-148.4	NA	-62.6	NA	-154.2	NA	-97.9	NA	-81.8	NA	-30.2

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

* - Median Value

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-09	Date	10/22/2013		3/3/2014		5/29/2014		8/26/2014		10/30/2014		2/24/2015		5/12/2015		8/19/2015		11/18/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	0.0021	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.048	0.0025	0.064	0.0025	0.044	0.0025	0.039	0.0025	0.047	0.0025	0.043	0.0025	0.026	0.0025	0.034	0.0025	0.023
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND
Boron	2.0	0.050	1.6	0.050	1.7	0.25	2.5	0.050	2.4	0.050	1.6	0.050	3.0	0.050	3.2	0.25	3.3	0.050	2.2
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	42	2.0	25	2.0	34	2.0	33	2.0	32	2.0	34	2.0	37	2.0	36	2.0	30
Chromium	0.1	0.0050	ND	0.0050	ND^	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	0.0032	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND^	0.0020	ND	0.0020	ND ^	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.17	0.10	0.16	0.10	0.20	0.10	0.19	0.10	0.15	0.10	0.18	0.10	0.16	0.10	0.14	0.10	0.19
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	0.00051	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.019	0.0025	0.84	0.0025	0.36	0.0025	0.031	0.0025	0.022	0.0025	0.024	0.0025	0.086	0.0025	0.020	0.0025	0.076
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	0.0045	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	4.6	0.10	3.2	0.10	11	0.10	1.6	0.10	5.9	0.10	13	0.10	9.3	0.10	11	0.10	0.74
Nitrogen/Nitrate, Nitrite	NA	0.50	4.6	0.50	3.2	2.5	11	0.10	1.6	0.50	5.9	1.0	13	1.0	9.3	2.0	11	0.10	0.74
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0047	0.0025	0.0030	0.0025	0.0074	0.0025	0.0061	0.0025	0.0084	0.0025	0.0091	0.0025	0.014	0.0025	0.010	0.0025	0.0028
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	25	90	25	110	50	110	25	100	50	160	25	130	50	140	50	160	25	130
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	430	10	560	10	540	10	490	10	630	10	570	10	620	10	670	10	410
Vanadium	0.049	0.0050	ND	0.0050	ND^	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00089
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00379
pH	6.5 - 9.0	NA	7.19	NA	7.53	NA	6.99	NA	7.09	NA	7.29	NA	7.53	NA	7.44	NA	7.35	NA	7.15
Temperature	NA	NA	14.68	NA	11.20	NA	19.42	NA	20.80	NA	12.73	NA	11.65	NA	14.26	NA	18.58	NA	16.51
Conductivity	NA	NA	0.66	NA	0.66	NA	0.78	NA	0.79	NA	1.05	NA	0.67	NA	0.79	NA	0.88	NA	0.67
Dissolved Oxygen	NA	NA	1.01	NA	1.27	NA	2.11	NA	0.80	NA	1.52	NA	1.37	NA	2.20	NA	0.68	NA	1.42
ORP	NA	NA	-159.8	NA	316.1	NA	41.5	NA	22.3	NA	16.3	NA	25.0	NA	35.5	NA	-22.6	NA	72.9

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NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

* - Median Value

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-10	Date	10/23/2013		3/6/2014		5/30/2014		8/28/2014		10/30/2014		2/23/2015		5/14/2015		8/18/2015		11/18/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	0.0011	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.23	0.0025	0.31	0.0025	0.25	0.0025	0.28	0.0025	0.13	0.0025	0.17	0.0025	0.23	0.0025	0.14	0.0025	0.17
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.61	0.050	2.1	0.25	3.2	0.050	1.9	0.050	0.84	0.050	0.83	0.050	0.64	0.050	0.42	0.050	0.30
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	54	2.0	40	2.0	37	2.0	57	2.0	62	2.0	22	2.0	52	2.0	55	2.0	53
Chromium	0.1	0.0050	ND	0.0050	ND^	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0025	0.0010	0.0037	0.0010	0.0012	0.0010	0.0034	0.0010	0.0015	0.0010	0.0019	0.0010	0.0019	0.0010	0.0013	0.0010	0.0017
Copper	0.65	0.0020	ND	0.0020	0.0020^	0.0020	ND	0.0020	ND ^	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	0.024	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.17	0.10	0.20	0.10	0.18	0.10	0.20	0.10	0.18	0.10	0.17	0.10	0.21	0.10	0.17	0.10	0.17
Iron	5.0	0.10	0.18	0.10	0.19	0.10	0.11	0.10	0.34	0.10	ND	0.10	0.22	0.10	0.34	0.10	ND	0.10	0.13
Lead	0.0075	0.00050	ND	0.00050	0.00080	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	2.0	0.0025	3.1	0.0025	1.6	0.0025	2.1	0.0025	1.1	0.0025	1.3	0.0025	1.7	0.0025	0.94	0.0025	1.4
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0051	0.0020	0.0073	0.0020	0.0038	0.0020	0.0046	0.0020	0.0028	0.0020	0.0045	0.0020	0.0049	0.0020	0.0024	0.0020	0.0030
Nitrogen/Nitrate	10.0	0.10	1.2	0.10	2.0	0.10	2.1	0.10	0.41	0.10	0.67	0.10	0.90	0.10	1.2	0.10	2.8	0.10	1.3
Nitrogen/Nitrate, Nitrite	NA	0.10	1.2	0.50	2.0	0.50	2.1	0.10	0.43	0.10	0.71	0.10	0.94	0.10	1.2	0.20	2.9	0.10	1.3
Nitrogen/Nitrite	NA	0.020	0.034	0.020	ND	0.020	0.028	0.020	0.022	0.020	0.039	0.020	0.038	0.020	0.032	0.020	0.077	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	0.0080	0.0025	ND	0.0025	0.0073	0.0025	0.0057	0.0025	0.0048	0.0025	0.0028	0.0025	0.0050	0.0025	0.0054	0.0025	0.0033
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	25	90	50	160	50	140	25	110	25	95	10	46	10	50	20	64	20	110
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	620	10	670	10	630	10	590	10	550	10	530	10	530	10	550	10	500
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00055	0.0025	0.00066	0.0025	0.0011
pH	6.5 - 9.0	NA	7.02	NA	7.90	NA	7.09	NA	6.74	NA	7.16	NA	7.36	NA	7.13	NA	7.46	NA	6.74
Temperature	NA	NA	11.61	NA	10.63	NA	18.61 *	NA	15.79	NA	11.11	NA	5.22	NA	13.91	NA	23.06	NA	13.70
Conductivity	NA	NA	0.70	NA	0.63	NA	0.93	NA	0.83	NA	1.04	NA	0.56	NA	0.70	NA	0.86	NA	0.67
Dissolved Oxygen	NA	NA	0.50	NA	1.00	NA	3.29	NA	0.77	NA	0.64	NA	3.45	NA	0.88	NA	2.21	NA	2.01
ORP	NA	NA	-138.7	NA	-65.7	NA	-39.0	NA	-0.5	NA	-86.1	NA	20.3	NA	-4.0	NA	-56.8	NA	70.3

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

* - Median Value

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-11	Date	10/22/2013		3/4/2014		5/29/2014		8/26/2014		10/28/2014		2/24/2015		5/12/2015		8/19/2015		11/19/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.038	0.0010	0.057	0.0010	0.036	0.0010	0.068	0.0010	0.045	0.0010	0.022	0.0010	0.052	0.0010	0.027	0.0010	0.015
Barium	2.0	0.0025	0.18	0.0025	0.22	0.0025	0.16	0.0025	0.21	0.0025	0.19	0.0025	0.16	0.0025	0.16	0.0025	0.15	0.0025	0.15
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	1.2	0.050	1.1	0.25	1.4	0.050	0.97	0.050	0.89	0.050	1.7	0.050	1.3	0.050	2.0	0.050	1.5
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	79	2.0	67	2.0	70	10	120	10	91	2.0	66	2.0	65	2.0	60	2.0	60
Chromium	0.1	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	0.0025	0.0010	ND	0.0010	0.0017	0.0010	0.0017	0.0010	0.0017	0.0010	0.0023	0.0010	0.0017	0.0010	0.0021	0.0010	0.0021
Copper	0.65	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND ^	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.75	0.10	0.64	0.10	0.64	0.10	0.71	0.10	0.71	0.10	0.66	0.10	0.79	0.10	0.61	0.10	0.56
Iron	5.0	0.10	3.3	0.10	5.8	0.10	3.8	0.10	5.5	0.10	5.0	0.10	2.0	0.10	4.2	0.10	2.2	0.10	1.5
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	7.3	0.013	7.9	0.013	8.0	0.013	8.4	0.013	6.6	0.025	5.5	0.050	7.8	0.025	5.9	0.0025	4.1
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0036	0.0020	0.0024	0.0020	ND	0.0020	ND	0.0020	0.0023	0.0020	0.0042	0.0020	ND	0.0020	0.0028	0.0020	0.0031
Nitrogen/Nitrate	10.0	0.10	0.18	0.10	0.34	0.10	0.27	0.10	ND	0.10	ND	0.10	ND	0.10	0.52	0.10	0.20	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	0.18	0.10	0.34	0.10	0.27	0.10	ND	0.10	ND^	0.10	ND	0.10	0.52	0.10	0.20	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	50	180	50	210	50	170	50	200	50	200	25	120	20	130	50	150	50	210
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	770	10	760	10	660	10	860	10	790	10	700	10	710	10	750	10	630
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0013
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00086	0.0025	0.0041
pH	6.5 - 9.0	NA	7.23	NA	8.00	NA	7.10	NA	7.12	NA	7.37	NA	7.55	NA	7.33	NA	7.25	NA	7.06
Temperature	NA	NA	13.33	NA	9.77	NA	19.35	NA	22.73	NA	16.12	NA	10.59	NA	16.31	NA	20.65	NA	13.73
Conductivity	NA	NA	1.10	NA	0.92	NA	1.19	NA	1.38	NA	1.34	NA	0.91	NA	1.17	NA	1.21	NA	0.95
Dissolved Oxygen	NA	NA	0.76	NA	2.38	NA	0.32	NA	0.98	NA	0.71	NA	2.74	NA	1.62	NA	0.57	NA	0.85
ORP	NA	NA	-141.3	NA	-108.3	NA	-126.2	NA	-138.8	NA	-126.3	NA	-110.5	NA	-146.8	NA	-115.3	NA	-40.7

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

* - Median Value

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-12	Date	10/22/2013		3/4/2014		5/29/2014		8/26/2014		10/28/2014		2/24/2015		5/12/2015		8/19/2015		11/19/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.018	0.0010	0.0025	0.0010	0.0017	0.0010	0.0021	0.0010	0.0019	0.0010	ND	0.0010	0.0034	0.0010	0.0025	0.0010	0.0033
Barium	2.0	0.0025	0.087	0.0025	0.086	0.0025	0.073	0.0025	0.066	0.0025	0.063	0.0025	0.070	0.0025	0.071	0.0025	0.083	0.0025	0.091
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	1.1	0.050	0.41	0.050	0.69	0.050	0.73	0.050	0.59	0.050	0.58	0.050	0.59	0.050	1.5	0.050	0.94
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	180	10	220	10	220	10	210	10	200	10	210	10	230	10	220	10	220
Chromium	0.1	0.0050	ND	0.0050	ND^	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND^	0.0020	ND	0.0020	ND ^	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.51	0.10	0.56	0.10	0.42	0.10	0.54	0.10	0.54	0.10	0.58	0.10	0.52	0.10	0.59	0.10	0.58
Iron	5.0	0.10	0.23	0.10	2.4	0.10	0.39	0.10	0.17	0.10	0.33	0.10	1.7	0.10	0.48	0.10	2.2	0.10	0.61
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	1.5	0.0025	0.23	0.0025	0.65	0.0025	1.2	0.0025	1.2	0.0025	0.17	0.0025	0.63	0.0025	0.16	0.0025	1.2
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0028	0.0020	0.0020	0.0020	0.0026	0.0020	0.0033	0.0020	0.0031	0.0020	0.0031	0.0020	0.0022	0.0020	0.0020	0.0020	0.0023
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND^	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	0.048	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	0.024
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	270	100	530	100	560	100	310	100	420	100	450	100	530	100	390	100	750
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1000	10	1400	10	1300 H	10	1100	10	1000	10	1300	10	1400	10	1300	10	1400
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0013
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0061
pH	6.5 - 9.0	NA	7.73	NA	7.99	NA	7.14	NA	7.37	NA	7.33	NA	7.61	NA	7.49	NA	7.43	NA	7.12
Temperature	NA	NA	14.78	NA	11.22	NA	19.48	NA	22.71	NA	16.37	NA	6.11	NA	18.19	NA	19.48	NA	14.85
Conductivity	NA	NA	1.20	NA	1.30	NA	1.73	NA	1.69	NA	1.55	NA	1.24	NA	1.76	NA	1.74	NA	1.59
Dissolved Oxygen	NA	NA	0.20	NA	1.43	NA	1.59	NA	0.36	NA	0.36	NA	1.29	NA	1.87	NA	1.13	NA	1.49
ORP	NA	NA	-205.6	NA	-91.9	NA	-23.6	NA	-49.2	NA	6.0	NA	-80.6	NA	-55.7	NA	-109.9	NA	36.6

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* - Median Value

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-13	Date	10/22/2013		3/4/2014		5/28/2014		8/27/2014		10/29/2014		2/26/2015		5/13/2015		8/19/2015		11/19/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.024	0.0010	0.028	0.0010	0.024	0.0010	0.031	0.0010	0.028	0.0010	0.028	0.0010	0.033	0.0010	0.030	0.0010	0.027
Barium	2.0	0.0025	0.16	0.0025	0.21	0.0025	0.22	0.0025	0.21	0.0025	0.24	0.0025	0.24	0.0025	0.27	0.0025	0.25	0.0025	0.14
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0050	ND	0.0010	ND
Boron	2.0	0.050	3.5	0.050	2.9	0.25	3.5	0.050	3.0	0.050	2.2	0.25	3.5	0.50	3.8	0.25	3.6	0.050	3.2
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	180	10	190	10	180	10	190	10	180	10	180	10	180	10	190	10	170 [F1]
Chromium	0.1	0.0050	ND	0.0050	ND^	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.010	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND^	0.0020	ND	0.0020	ND ^	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.39	0.10	0.36	0.10	0.35	0.10	0.40	0.10	0.40	0.10	0.37	0.10	0.39	0.10	0.34	0.10	0.37
Iron	5.0	0.10	0.29	0.10	1.8	0.10	0.74	0.10	0.63	0.10	0.98	0.10	0.69	0.10	0.92	0.10	1.0	0.10	0.85
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	2.8	0.0025	2.9	0.0025	3.4	0.0025	3.5	0.0025	3.8	0.0025	3.8	0.0025	3.9	0.025	4.7	0.0025	4.3
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0024	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	0.0020	0.0020	0.0040	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0047	0.0025	0.0045	0.0025	ND	0.0025	0.012	0.0025	0.0066	0.0025	0.0031
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	250	690	250	660	250	630	250	740	250	1400	250	1000	250	1100	250	1300	250	1700
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1700	10	1900	10	2100	10	2300	10	2200	10	2300	10	2600	10	2500	10	2400
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.001
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0033
pH	6.5 - 9.0	NA	7.81	NA	8.67	NA	7.73	NA	7.82	NA	7.72	NA	8.20	NA	7.99	NA	8.03	NA	7.57
Temperature	NA	NA	12.38	NA	12.91	NA	23.09	NA	20.49	NA	13.90	NA	9.51	NA	16.67	NA	19.27	NA	12.62
Conductivity	NA	NA	1.83	NA	1.72	NA	2.63	NA	2.50	NA	3.41	NA	2.11	NA	2.78	NA	2.91	NA	2.36
Dissolved Oxygen	NA	NA	0.94	NA	0.99	NA	0.93	NA	0.34	NA	0.84	NA	1.60	NA	1.10	NA	1.20	NA	0.96
ORP	NA	NA	-189.1	NA	-190.9	NA	-44.7	NA	-128.5	NA	-140.4	NA	-161.4	NA	-175.5	NA	-153.2	NA	-76.2

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

* - Median Value

Temperature	°C	degrees Celcius
Conductivity	ms/cm[c]	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-14	Date	10/23/2013		3/4/2014		5/28/2014		8/28/2014		10/29/2014		2/26/2015		5/13/2015		8/19/2015		11/18/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	0.0016	0.0010	0.0011	0.0010	0.0052	0.0010	0.0063	0.0010	0.0011	0.0010	0.0017	0.0010	0.0020	0.0010	0.0023
Barium	2.0	0.0025	0.050	0.0025	0.044	0.0025	0.033	0.0025	0.057	0.0025	0.045	0.0025	0.050	0.0025	0.042	0.0025	0.069	0.0025	0.053
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	2.0	0.050	1.6	0.25	1.8	0.050	1.9	0.50	2.2	0.25	2.2	0.25	1.7	0.050	1.9	0.050	2.5
Cadmium	0.005	0.00050	0.00062	0.00050	0.00053	0.00050	ND	0.00050	0.00052	0.00050	ND	0.00050	ND	0.00050	0.00056	0.00050	0.00070	0.00050	0.00051
Chloride	200.0	10	190	10	220	10	140	10	190	10	180	10	180	10	180	10	150	10	160
Chromium	0.1	0.0050	ND	0.0050	ND^	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.010	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND^	0.0020	ND	0.0020	ND ^	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.95	0.10	0.96	0.10	0.95	0.10	0.91	0.10	0.94	0.10	0.76	0.10	0.98	0.10	1.1	0.10	1.1
Iron	5.0	0.10	0.39	0.10	1.2	0.10	0.60	0.10	4.6	0.10	5.3	0.10	0.17	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.00078	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	1.2	0.0025	1.3	0.0025	0.34	0.0025	1.8	0.0025	1.3	0.0025	0.15	0.0025	0.073	0.0025	0.32	0.0025	1.2
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0042	0.0020	0.0032	0.0020	0.0031	0.0020	0.0033	0.0020	0.0030	0.0020	0.0045	0.0020	0.0036	0.0020	0.0043	0.0020	0.0030
Nitrogen/Nitrate	10.0	0.10	0.16	0.10	ND	0.10	0.22	0.10	ND	0.10	ND	0.10	0.24	0.10	2.4	0.10	ND	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	0.18	0.10	ND	0.10	0.22	0.10	ND	0.10	ND	0.10	0.24	0.20	2.4	0.10	ND	0.10	ND
Nitrogen/Nitrite	NA	0.020	0.022	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	0.020	0.0025	0.014	0.0025	ND	0.0025	ND	0.0025	0.023	0.0025	0.042	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	250	840	100	680	100	720	250	1100	250	1300	250	850	250	1200	250	1000	500	1200
Thallium	0.002	0.0020	0.0022	0.0020	0.0023	0.0020	0.0026	0.0020	0.0023	0.0020	ND	0.0020	ND	0.0020	0.0044	0.0020	0.0065	0.0020	0.0033
Total Dissolved Solids	1,200	10	2100	10	1900	10	1700	10	2400	10	2200	10	2200	13	2700	10	2400	10	2300
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	0.0021
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00069	0.0025	0.0061
pH	6.5 - 9.0	NA	7.11	NA	7.72	NA	6.99	NA	7.17	NA	7.31	NA	7.28	NA	7.04	NA	7.30	NA	7.03
Temperature	NA	NA	13.59	NA	12.83	NA	17.53	NA	20.10	NA	14.66	NA	6.67	NA	16.35	NA	21.01	NA	17.89
Conductivity	NA	NA	2.10	NA	1.74	NA	2.00	NA	2.83	NA	3.49	NA	1.89	NA	2.98	NA	2.90	NA	2.62
Dissolved Oxygen	NA	NA	0.51	NA	1.55	NA	0.42	NA	0.37	NA	0.66	NA	4.11	NA	1.03	NA	1.15	NA	0.59
ORP	NA	NA	-146.8	NA	-77.3	NA	-26.4	NA	-41.2	NA	-105.4	NA	52.4	NA	9.8	NA	-30.6	NA	67.6

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

* - Median Value

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-15	Date	10/23/2013		3/6/2014		5/28/2014		8/27/2014		10/28/2014		2/26/2015		5/14/2015		8/19/2015		11/18/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	0.0066	0.0010	0.0072	0.0010	0.0019	0.0010	0.0029	0.0010	0.0059	0.0010	0.0017	0.0010	0.0024	0.0010	0.0020	0.0010	0.0032
Barium	2.0	0.0025	0.12	0.0025	0.098	0.0025	0.068	0.0025	0.14	0.0025	0.14	0.0025	0.10	0.0025	0.12	0.0025	0.070	0.0025	0.083
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	1.2	0.050	1.1	0.25	1.2	0.050	0.95	0.050	0.74	0.25	1.1	0.25	1.4	0.050	1.9	0.050	1.5
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	10	210	10	240	10	220	10	240	10	230	10	240	10	230	10	110	10	200
Chromium	0.1	0.0050	ND	0.0050	ND^	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND^	0.0020	ND	0.0020	ND ^	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.71	0.10	0.78	0.10	0.65	0.10	0.67	0.10	0.71	0.10	0.64	0.10	0.47	0.10	0.57	0.10	0.52
Iron	5.0	0.10	1.1	0.10	2.0	0.10	0.37	0.10	0.78	0.10	2.1	0.10	0.28	0.10	0.44	0.10	0.17	0.10	1.8
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	0.43	0.0025	0.59	0.0025	0.30	0.0025	0.95	0.0025	0.87	0.0025	0.40	0.0025	0.42	0.0025	0.18	0.0025	1.3
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	0.0052	0.0020	0.0034	0.0020	0.0047	0.0020	0.0038	0.0020	0.0037	0.0020	0.0090	0.0020	0.010	0.0020	0.0057	0.0020	0.0082
Nitrogen/Nitrate	10.0	0.10	0.22	0.10	ND	0.10	0.40	0.10	ND	0.10	ND	0.10	0.18	0.10	0.10	0.10	0.34	0.10	ND
Nitrogen/Nitrate, Nitrite	NA	0.10	0.22	0.10	ND	0.10	0.40	0.10	ND	0.10	ND^	0.10	0.18	0.10	0.10	0.10	0.34	0.10	ND
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	0.046	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND [F1]	0.0040	ND
Selenium	0.05	0.0025	0.013	0.0025	ND	0.0025	0.033	0.0025	ND	0.0025	0.0030	0.0025	0.068	0.0025	0.051	0.0025	0.013	0.0025	0.0080
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	100	420	100	260	100	390	130	620	100	660	100	460	250	930	250	640	250	1500
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	1400	10	1300	10	1300	10	1800	10	1600	10	1400	10	2500	10	1900	10	2400
Vanadium	0.049	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.00073	0.0025	ND
pH	6.5 - 9.0	NA	7.18	NA	7.75	NA	6.89	NA	7.45	NA	7.36	NA	7.53	NA	7.05	NA	7.07	NA	6.55
Temperature	NA	NA	15.59	NA	14.71	NA	20.04	NA	26.66	NA	17.05	NA	7.93	NA	15.57	NA	19.19	NA	15.04
Conductivity	NA	NA	1.58	NA	1.29	NA	1.80	NA	2.32	NA	2.26	NA	1.41	NA	2.67	NA	2.45	NA	2.55
Dissolved Oxygen	NA	NA	0.28	NA	1.15	NA	0.65	NA	0.57	NA	0.45	NA	1.36	NA	0.83	NA	1.51	NA	0.70
ORP	NA	NA	-180.6	NA	-141.6	NA	-8.6	NA	-30.9	NA	-84.6	NA	-34.4	NA	-25.7	NA	-29.2	NA	31.9

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^ - Denotes instrument related QC exceeds the control limits
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* - Median Value

Temperature	°C	degrees Celcius
Conductivity	ms/cm[c]	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

Table 2. Groundwater Analytical Results - Midwest Generation LLC, Powerton Station, Pekin, IL

Sample: MW-16	Date	10/22/2013		3/3/2014		5/30/2014		8/26/2014		10/30/2014		2/24/2015		5/12/2015		8/18/2015		11/16/2015	
Parameter	Standards	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL	Result
Antimony	0.006	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND	0.0030	ND
Arsenic	0.010	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Barium	2.0	0.0025	0.037	0.0025	0.060	0.0025	0.036	0.0025	0.035	0.0025	0.034	0.0025	0.038	0.0025	0.037	0.0025	0.039	0.0025	0.038
Beryllium	0.004	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Boron	2.0	0.050	0.35	0.050	0.17	0.050	0.17	0.050	0.15	0.050	0.14	0.050	0.17	0.050	0.15	0.050	0.25	0.050	1.0
Cadmium	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Chloride	200.0	2.0	35	10	230	2.0	20	2.0	25	2.0	24	2.0	24	2.0	29	2.0	29	2.0	33
Chromium	0.1	0.0050	ND	0.0050	ND^	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Cobalt	1.0	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND	0.0010	ND
Copper	0.65	0.0020	ND	0.0020	ND^	0.0020	ND	0.0020	ND ^	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Cyanide	0.2	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND	0.010	ND
Fluoride	4.0	0.10	0.11	0.10	ND	0.10	0.11	0.10	0.11	0.10	0.10	0.10	0.10	0.10	0.11	0.10	0.10	0.10	0.11
Iron	5.0	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND	0.10	ND
Lead	0.0075	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Manganese	0.15	0.0025	ND	0.0025	0.0035	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0025	0.0025	ND	0.0025	ND	0.0025	ND
Mercury	0.002	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND	0.00020	ND
Nickel	0.1	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Nitrogen/Nitrate	10.0	0.10	19	0.10	16	0.10	21	0.10	22	0.10	28	0.10	28	0.10	24	0.10	19	0.10	17
Nitrogen/Nitrate, Nitrite	NA	1.0	19	2.0	16	2.5	21	2.0	22	2.5	28	2.0	28	2.0	24	2.0	19	1.0	17
Nitrogen/Nitrite	NA	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Perchlorate	0.0049	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND	0.0040	ND
Selenium	0.05	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND
Silver	0.05	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
Sulfate	400.0	20	55	10	34	10	40	10	35	10	54	10	27	10	33	20	64	25	57
Thallium	0.002	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND	0.0020	ND
Total Dissolved Solids	1,200	10	540	10	800	10	390	10	440	10	510	10	490	10	530	10	540	10	460
Vanadium	0.049	0.0050	ND	0.0050	ND^	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND	0.0050	ND
Zinc	5.0	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND	0.020	ND
Benzene	0.005	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND	0.00050	ND
BETX	11.705	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	ND	0.0025	0.0011
pH	6.5 - 9.0	NA	7.27	NA	7.85	NA	7.20	NA	7.41	NA	7.30	NA	7.56	NA	7.35	NA	7.19	NA	6.78
Temperature	NA	NA	12.74	NA	9.98	NA	17.83 *	NA	22.10	NA	13.09	NA	8.21	NA	12.56	NA	19.75	NA	13.05
Conductivity	NA	NA	0.63	NA	0.89	NA	0.88	NA	0.75	NA	0.94	NA	0.57	NA	0.67	NA	0.80	NA	0.62
Dissolved Oxygen	NA	NA	6.24	NA	6.50	NA	6.99	NA	6.84	NA	2.05	NA	8.44	NA	7.97	NA	7.43	NA	7.61
ORP	NA	NA	-83.4	NA	315.3	NA	74.8	NA	36.7	NA	-2.7	NA	95.6	NA	105.0	NA	-9.1	NA	188.1

Notes: Standards obtained from IAC, Title 35, Chapter I, Part 620, Subpart D, Section 620.410 - Groundwater Quality Standards for Class I: Potable Resource Groundwater
All values are in mg/L (ppm) unless otherwise noted.

DL - Detection limit
NA - Not Applicable
ND - Not Detected
NM - Not Measured

NR - Not Required
NS - Not Sampled
^ - Denotes instrument related QC exceeds the control limits
F1- MS and/or MSD Recovery outside of limits.

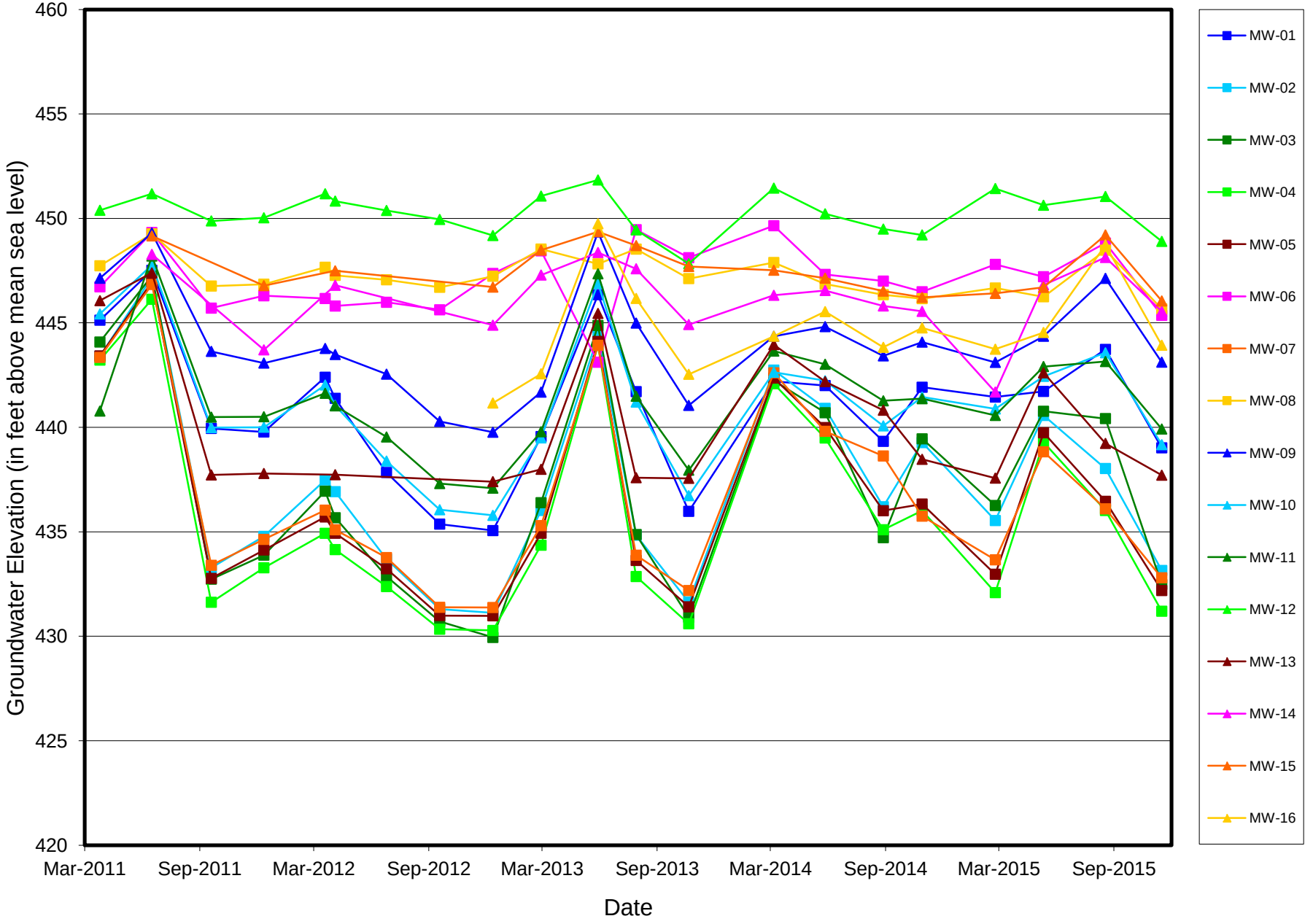
* - Median Value

Temperature	°C	degrees Celcius
Conductivity	ms/cm^c	millisiemens/centimeters
Dissolved Oxygen	mg/L	milligrams/liter
Oxygen Reduction Potential (ORP)	mV	millivolts

ATTACHMENT 1
Hydrograph

Midwest Generation Powerton Station, Pekin, IL

Groundwater Elevation vs Time



MWG13-15_56227

ATTACHMENT 2
Analytical Data Package

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING



ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

TestAmerica Job ID: 500-104085-1
Client Project/Site: Powerton Station Ash Ponds

For:
KPRG and Associates, Inc.
14665 West Lisbon Road,
Suite 2B
Brookfield, Wisconsin 53005

Attn: Richard Gnat

Authorized for release by:
12/8/2015 8:27:28 AM

Bonnie Stadelmann, Senior Project Manager
(708)534-5200
bonnie.stadelmann@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Case Narrative

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-104085-1

Job ID: 500-104085-1

Laboratory: TestAmerica Chicago

Narrative

Job Narrative
500-104085-1

Comments
No additional comments.

Receipt
The samples were received on 11/17/2015 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 7 coolers at receipt time were 0.3º C, 0.5º C, 1.1º C, 1.4º C, 1.8º C, 2.1º C and 8.7º C.

Receipt Exceptions

The following samples were received at the laboratory outside the required temperature criteria (8.7 C): MW-01 (500-104085-1); MW-07 (500-104085-2) and MW-16 (500-104085-3). The client was contacted regarding this issue, and the laboratory was instructed to proceed with analysis.

GC/MS VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-104085-1

Client Sample ID: MW-01 — Lab Sample ID: 500-104085-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.0016		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0037		0.00050		mg/L	1		8260B	Total/NA
Barium	0.054		0.0025		mg/L	1		6020A	Dissolved
Boron	0.94		0.050		mg/L	1		6020A	Dissolved
Sulfate	66		20		mg/L	4		9038	Dissolved
Chloride	44		2.0		mg/L	1		9251	Dissolved
Nitrogen, Nitrate	4.3		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	510		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.18		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrate Nitrite	4.3		0.50		mg/L	5		SM 4500 NO3 F	Dissolved

Client Sample ID: MW-07 — Lab Sample ID: 500-104085-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.00078		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0016		0.00050		mg/L	1		8260B	Total/NA
Arsenic	0.13		0.0010		mg/L	1		6020A	Dissolved
Barium	0.43		0.0025		mg/L	1		6020A	Dissolved
Boron	0.36		0.050		mg/L	1		6020A	Dissolved
Cobalt	0.0062		0.0010		mg/L	1		6020A	Dissolved
Iron	12		0.10		mg/L	1		6020A	Dissolved
Manganese	6.2		0.025		mg/L	10		6020A	Dissolved
Nickel	0.0064		0.0020		mg/L	1		6020A	Dissolved
Sulfate	68		20		mg/L	4		9038	Dissolved
Chloride	160		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	1100		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.43		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-16 — Lab Sample ID: 500-104085-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.0011		0.00050		mg/L	1		8260B	Total/NA
Barium	0.038		0.0025		mg/L	1		6020A	Dissolved
Boron	1.0		0.050		mg/L	1		6020A	Dissolved
Sulfate	57		25		mg/L	5		9038	Dissolved
Chloride	33		2.0		mg/L	1		9251	Dissolved
Nitrogen, Nitrate	17		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	460		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.11		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrate Nitrite	17		1.0		mg/L	10		SM 4500 NO3 F	Dissolved

Client Sample ID: MW-02 — Lab Sample ID: 500-104085-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.0010		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0032		0.00050		mg/L	1		8260B	Total/NA
Barium	0.066		0.0025		mg/L	1		6020A	Dissolved
Boron	0.50		0.050		mg/L	1		6020A	Dissolved
Manganese	0.0027		0.0025		mg/L	1		6020A	Dissolved
Sulfate	77		20		mg/L	4		9038	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-02 (Continued) — Lab Sample ID: 500-104085-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	45		2.0		mg/L	1		9251	Dissolved
Nitrogen, Nitrate	3.2		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	480		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.18		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrate Nitrite	3.2		0.20		mg/L	2		SM 4500 NO3 F	Dissolved

Client Sample ID: MW-03 — Lab Sample ID: 500-104085-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.0020		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0034		0.00050		mg/L	1		8260B	Total/NA
Barium	0.061		0.0025		mg/L	1		6020A	Dissolved
Boron	0.30		0.050		mg/L	1		6020A	Dissolved
Manganese	0.0031		0.0025		mg/L	1		6020A	Dissolved
Sulfate	50		20		mg/L	4		9038	Dissolved
Chloride	43		2.0		mg/L	1		9251	Dissolved
Nitrogen, Nitrate	0.19		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	380		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.29		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrate Nitrite	0.19		0.10		mg/L	1		SM 4500 NO3 F	Dissolved

Client Sample ID: MW-04 — Lab Sample ID: 500-104085-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.0017		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0039		0.00050		mg/L	1		8260B	Total/NA
Barium	0.030		0.0025		mg/L	1		6020A	Dissolved
Boron	0.51		0.050		mg/L	1		6020A	Dissolved
Copper	0.0021		0.0020		mg/L	1		6020A	Dissolved
Manganese	0.14		0.0025		mg/L	1		6020A	Dissolved
Sulfate	75		25		mg/L	5		9038	Dissolved
Chloride	74		2.0		mg/L	1		9251	Dissolved
Nitrogen, Nitrate	0.85		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	550		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.26		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrate Nitrite	0.85		0.10		mg/L	1		SM 4500 NO3 F	Dissolved

Client Sample ID: MW-05 — Lab Sample ID: 500-104085-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.00068		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0021		0.00050		mg/L	1		8260B	Total/NA
Barium	0.060		0.0025		mg/L	1		6020A	Dissolved
Boron	0.74		0.050		mg/L	1		6020A	Dissolved
Manganese	0.084		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0027		0.0020		mg/L	1		6020A	Dissolved
Sulfate	180		50		mg/L	10		9038	Dissolved
Chloride	110		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	810		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.27		0.10		mg/L	1		SM 4500 F C	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-104085-1

Client Sample ID: MW-06 — Lab Sample ID: 500-104085-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.0013		0.00050		mg/L	1		8260B	Total/NA
Arsenic	0.0016		0.0010		mg/L	1		6020A	Dissolved
Barium	0.11		0.0025		mg/L	1		6020A	Dissolved
Boron	0.51		0.050		mg/L	1		6020A	Dissolved
Iron	1.4		0.10		mg/L	1		6020A	Dissolved
Manganese	0.98		0.0025		mg/L	1		6020A	Dissolved
Sulfate	490		100		mg/L	20		9038	Dissolved
Chloride	210		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	1100		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.64		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-08 — Lab Sample ID: 500-104085-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.00081		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0020		0.00050		mg/L	1		8260B	Total/NA
Arsenic	0.0021		0.0010		mg/L	1		6020A	Dissolved
Barium	0.14		0.0025		mg/L	1		6020A	Dissolved
Boron	1.4		0.050		mg/L	1		6020A	Dissolved
Iron	0.89		0.10		mg/L	1		6020A	Dissolved
Manganese	0.21		0.0025		mg/L	1		6020A	Dissolved
Sulfate	530		100		mg/L	20		9038	Dissolved
Chloride	160		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	1200		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.44		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-09 — Lab Sample ID: 500-104085-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.00089		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0029		0.00050		mg/L	1		8260B	Total/NA
Barium	0.023		0.0025		mg/L	1		6020A	Dissolved
Boron	2.2		0.050		mg/L	1		6020A	Dissolved
Manganese	0.076		0.0025		mg/L	1		6020A	Dissolved
Selenium	0.0028		0.0025		mg/L	1		6020A	Dissolved
Sulfate	130		25		mg/L	5		9038	Dissolved
Chloride	30		2.0		mg/L	1		9251	Dissolved
Nitrogen, Nitrate	0.74		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	410		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.19		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrate Nitrite	0.74		0.10		mg/L	1		SM 4500 NO3 F	Dissolved

Client Sample ID: MW-10 — Lab Sample ID: 500-104085-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.0011		0.00050		mg/L	1		8260B	Total/NA
Barium	0.17		0.0025		mg/L	1		6020A	Dissolved
Boron	0.30		0.050		mg/L	1		6020A	Dissolved
Cobalt	0.0017		0.0010		mg/L	1		6020A	Dissolved
Iron	0.13		0.10		mg/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-10 (Continued) — Lab Sample ID: 500-104085-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.4		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0030		0.0020		mg/L	1		6020A	Dissolved
Selenium	0.0033		0.0025		mg/L	1		6020A	Dissolved
Sulfate	110		20		mg/L	4		9038	Dissolved
Chloride	53		2.0		mg/L	1		9251	Dissolved
Nitrogen, Nitrate	1.3		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	500		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.17		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrate Nitrite	1.3		0.10		mg/L	1		SM 4500 NO3 F	Dissolved

Client Sample ID: MW-14 — Lab Sample ID: 500-104085-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.0021		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0040		0.00050		mg/L	1		8260B	Total/NA
Arsenic	0.0023		0.0010		mg/L	1		6020A	Dissolved
Barium	0.053		0.0025		mg/L	1		6020A	Dissolved
Boron	2.5		0.050		mg/L	1		6020A	Dissolved
Cadmium	0.00051		0.00050		mg/L	1		6020A	Dissolved
Manganese	1.2		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0030		0.0020		mg/L	1		6020A	Dissolved
Thallium	0.0033		0.0020		mg/L	1		6020A	Dissolved
Sulfate	1200		500		mg/L	100		9038	Dissolved
Chloride	160		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	2300		10		mg/L	1		SM 2540C	Dissolved
Fluoride	1.1		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-15 — Lab Sample ID: 500-104085-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0032		0.0010		mg/L	1		6020A	Dissolved
Barium	0.083		0.0025		mg/L	1		6020A	Dissolved
Boron	1.5		0.050		mg/L	1		6020A	Dissolved
Iron	1.8		0.10		mg/L	1		6020A	Dissolved
Manganese	1.3		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0082		0.0020		mg/L	1		6020A	Dissolved
Selenium	0.0080		0.0025		mg/L	1		6020A	Dissolved
Sulfate	1500		250		mg/L	50		9038	Dissolved
Chloride	200		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	2400		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.52		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: Duplicate — Lab Sample ID: 500-104085-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.0012		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0029		0.00050		mg/L	1		8260B	Total/NA
Barium	0.16		0.0025		mg/L	1		6020A	Dissolved
Boron	0.29		0.050		mg/L	1		6020A	Dissolved
Cobalt	0.0018		0.0010		mg/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: Duplicate (Continued) — Lab Sample ID: 500-104085-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.4		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0030		0.0020		mg/L	1		6020A	Dissolved
Selenium	0.0037		0.0025		mg/L	1		6020A	Dissolved
Sulfate	88		20		mg/L	4		9038	Dissolved
Chloride	54		2.0		mg/L	1		9251	Dissolved
Nitrogen, Nitrate	1.3		0.10		mg/L	1		Nitrate by calc	Dissolved
Total Dissolved Solids	500		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.17		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrite	0.020		0.020		mg/L	1		SM 4500 NO2 B	Dissolved
Nitrogen, Nitrate Nitrite	1.3		0.10		mg/L	1		SM 4500 NO3 F	Dissolved

Client Sample ID: MW-11 — Lab Sample ID: 500-104085-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.0013		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0028		0.00050		mg/L	1		8260B	Total/NA
Arsenic	0.015		0.0010		mg/L	1		6020A	Dissolved
Barium	0.15		0.0025		mg/L	1		6020A	Dissolved
Boron	1.5		0.050		mg/L	1		6020A	Dissolved
Cobalt	0.0021		0.0010		mg/L	1		6020A	Dissolved
Iron	1.5		0.10		mg/L	1		6020A	Dissolved
Manganese	4.1		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0031		0.0020		mg/L	1		6020A	Dissolved
Sulfate	210		50		mg/L	10		9038	Dissolved
Chloride	60		2.0		mg/L	1		9251	Dissolved
Total Dissolved Solids	630		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.56		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: MW-12 — Lab Sample ID: 500-104085-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.0013		0.00050		mg/L	1		8260B	Total/NA
Toluene	0.0037		0.00050		mg/L	1		8260B	Total/NA
Xylenes, Total	0.0011		0.0010		mg/L	1		8260B	Total/NA
Arsenic	0.0033		0.0010		mg/L	1		6020A	Dissolved
Barium	0.091		0.0025		mg/L	1		6020A	Dissolved
Boron	0.94		0.050		mg/L	1		6020A	Dissolved
Iron	0.61		0.10		mg/L	1		6020A	Dissolved
Manganese	1.2		0.0025		mg/L	1		6020A	Dissolved
Nickel	0.0023		0.0020		mg/L	1		6020A	Dissolved
Sulfate	750		100		mg/L	20		9038	Dissolved
Chloride	220		10		mg/L	5		9251	Dissolved
Total Dissolved Solids	1400		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.58		0.10		mg/L	1		SM 4500 F C	Dissolved
Nitrogen, Nitrite	0.024		0.020		mg/L	1		SM 4500 NO2 B	Dissolved

Client Sample ID: MW-13 — Lab Sample ID: 500-104085-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	0.0010		0.00050		mg/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-104085-1

Client Sample ID: MW-13 (Continued) — Lab Sample ID: 500-104085-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.0023		0.00050		mg/L	1		8260B	Total/NA
Arsenic	0.027		0.0010		mg/L	1		6020A	Dissolved
Barium	0.14		0.0025		mg/L	1		6020A	Dissolved
Boron	3.2		0.050		mg/L	1		6020A	Dissolved
Iron	0.85		0.10		mg/L	1		6020A	Dissolved
Manganese	4.3		0.0025		mg/L	1		6020A	Dissolved
Selenium	0.0031		0.0025		mg/L	1		6020A	Dissolved
Sulfate	1700		250		mg/L	50		9038	Dissolved
Chloride	170	F1	10		mg/L	5		9251	Dissolved
Total Dissolved Solids	2400		10		mg/L	1		SM 2540C	Dissolved
Fluoride	0.37		0.10		mg/L	1		SM 4500 F C	Dissolved

Client Sample ID: Trip Blank — Lab Sample ID: 500-104085-18

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-104085-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
314.0	Perchlorate (IC)	EPA	TAL SAC
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
9014	Cyanide	SW846	TAL CHI
9038	Sulfate, Turbidimetric	SW846	TAL CHI
9251	Chloride	SW846	TAL CHI
Nitrate by calc	Nitrogen, Nitrate-Nitrite	SM	TAL CHI
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CHI
SM 4500 F C	Fluoride	SM	TAL CHI
SM 4500 NO2 B	Nitrogen, Nitrite	SM	TAL CHI
SM 4500 NO3 F	Nitrogen, Nitrate	SM	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-104085-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-104085-1	MW-01	Water	11/16/15 14:45	11/17/15 09:45
500-104085-2	MW-07	Water	11/16/15 13:40	11/17/15 09:45
500-104085-3	MW-16	Water	11/16/15 12:00	11/17/15 09:45
500-104085-4	MW-02	Water	11/17/15 09:00	11/18/15 09:45
500-104085-5	MW-03	Water	11/17/15 11:25	11/18/15 09:45
500-104085-6	MW-04	Water	11/17/15 12:50	11/18/15 09:45
500-104085-7	MW-05	Water	11/17/15 14:45	11/18/15 09:45
500-104085-8	MW-06	Water	11/17/15 16:05	11/18/15 09:45
500-104085-9	MW-08	Water	11/18/15 09:58	11/19/15 10:20
500-104085-10	MW-09	Water	11/18/15 11:25	11/19/15 10:20
500-104085-11	MW-10	Water	11/18/15 13:40	11/19/15 10:20
500-104085-12	MW-14	Water	11/18/15 15:20	11/19/15 10:20
500-104085-13	MW-15	Water	11/18/15 16:10	11/19/15 10:20
500-104085-14	Duplicate	Water	11/18/15 00:00	11/19/15 10:20
500-104085-15	MW-11	Water	11/19/15 16:30	11/20/15 14:45
500-104085-16	MW-12	Water	11/19/15 13:45	11/20/15 14:45
500-104085-17	MW-13	Water	11/19/15 09:10	11/20/15 14:45
500-104085-18	Trip Blank	Water	11/16/15 00:00	11/20/15 14:45

Client Sample ID: MW-01

Date Collected: 11/16/15 14:45
Date Received: 11/17/15 09:45

Lab Sample ID: 500-104085-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0016**		0.00050		mg/L			11/28/15 18:40	1
Toluene	**0.0037**		0.00050		mg/L			11/28/15 18:40	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/28/15 18:40	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/28/15 18:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*		*11/28/15 18:40*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/28/15 18:40*	*1*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*		*11/28/15 18:40*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/28/15 18:40*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/04/15 19:40	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 11:58	1
Arsenic	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 11:58	1
Barium	**0.054**		0.0025		mg/L		12/02/15 10:56	12/02/15 11:58	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 14:24	1
Boron	**0.94**		0.050		mg/L		12/02/15 10:56	12/02/15 11:58	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 11:58	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 11:58	1
Cobalt	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 11:58	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 11:58	1
Iron	<0.10		0.10		mg/L		12/02/15 10:56	12/02/15 11:58	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 11:58	1
Manganese	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 11:58	1
Nickel	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 11:58	1
Selenium	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 11:58	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 11:58	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 11:58	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 14:24	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 11:58	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:13	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:26	1
Sulfate	**66**		20		mg/L			12/02/15 08:05	4
Chloride	**44**		2.0		mg/L			11/30/15 19:26	1
Nitrogen, Nitrate	**4.3**		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**510**		10		mg/L			11/21/15 06:37	1
Fluoride	**0.18**		0.10		mg/L			11/21/15 17:06	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/17/15 16:34	1
Nitrogen, Nitrate Nitrite	**4.3**		0.50		mg/L			12/03/15 18:33	5

Client Sample ID: MW-07

Date Collected: 11/16/15 13:40
Date Received: 11/17/15 09:45

Lab Sample ID: 500-104085-2

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00078**		0.00050		mg/L			11/28/15 19:30	1
Toluene	**0.0016**		0.00050		mg/L			11/28/15 19:30	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/28/15 19:30	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/28/15 19:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*		*11/28/15 19:30*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/28/15 19:30*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/28/15 19:30*	*1*
Dibromofluoromethane	*104*		*75 - 120*		*11/28/15 19:30*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/04/15 20:26	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 12:02	1
Arsenic	**0.13**		0.0010		mg/L		12/02/15 10:56	12/02/15 12:02	1
Barium	**0.43**		0.0025		mg/L		12/02/15 10:56	12/02/15 12:02	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 14:27	1
Boron	**0.36**		0.050		mg/L		12/02/15 10:56	12/02/15 12:02	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:02	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 12:02	1
Cobalt	**0.0062**		0.0010		mg/L		12/02/15 10:56	12/02/15 12:02	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:02	1
Iron	**12**		0.10		mg/L		12/02/15 10:56	12/02/15 12:02	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:02	1
Manganese	**6.2**		0.025		mg/L		12/02/15 10:56	12/02/15 16:05	10
Nickel	**0.0064**		0.0020		mg/L		12/02/15 10:56	12/02/15 12:02	1
Selenium	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 12:02	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:02	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:02	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 14:27	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 12:02	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:25	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:28	1
Sulfate	**68**		20		mg/L			12/02/15 08:08	4
Chloride	**160**		10		mg/L			11/30/15 19:51	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**1100**		10		mg/L			11/21/15 06:45	1
Fluoride	**0.43**		0.10		mg/L			11/21/15 17:13	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/17/15 16:34	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			12/03/15 17:19	1

Client Sample ID: MW-16

Date Collected: 11/16/15 12:00
Date Received: 11/17/15 09:45

Lab Sample ID: 500-104085-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/28/15 19:55	1
Toluene	**0.0011**		0.00050		mg/L			11/28/15 19:55	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/28/15 19:55	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/28/15 19:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*		*11/28/15 19:55*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/28/15 19:55*	*1*
4-Bromofluorobenzene (Surr)	*95*		*75 - 120*		*11/28/15 19:55*	*1*
Dibromofluoromethane	*102*		*75 - 120*		*11/28/15 19:55*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/04/15 20:41	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 12:20	1
Arsenic	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 12:20	1
Barium	**0.038**		0.0025		mg/L		12/02/15 10:56	12/02/15 12:20	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 14:47	1
Boron	**1.0**		0.050		mg/L		12/02/15 10:56	12/02/15 12:20	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:20	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 12:20	1
Cobalt	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 12:20	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:20	1
Iron	<0.10		0.10		mg/L		12/02/15 10:56	12/02/15 12:20	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:20	1
Manganese	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 12:20	1
Nickel	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:20	1
Selenium	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 12:20	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:20	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:20	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 14:47	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 12:20	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:27	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:28	1
Sulfate	**57**		25		mg/L			12/02/15 08:09	5
Chloride	**33**		2.0		mg/L			11/30/15 19:27	1
Nitrogen, Nitrate	**17**		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**460**		10		mg/L			11/21/15 06:47	1
Fluoride	**0.11**		0.10		mg/L			11/21/15 17:16	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/17/15 16:35	1
Nitrogen, Nitrate Nitrite	**17**		1.0		mg/L			12/03/15 18:34	10

Client Sample ID: MW-02
Date Collected: 11/17/15 09:00
Date Received: 11/18/15 09:45

Lab Sample ID: 500-104085-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0010**		0.00050		mg/L			11/28/15 20:20	1
Toluene	**0.0032**		0.00050		mg/L			11/28/15 20:20	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/28/15 20:20	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/28/15 20:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*		*11/28/15 20:20*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/28/15 20:20*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/28/15 20:20*	*1*
Dibromofluoromethane	*106*		*75 - 120*		*11/28/15 20:20*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/04/15 21:27	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 12:24	1
Arsenic	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 12:24	1
Barium	**0.066**		0.0025		mg/L		12/02/15 10:56	12/02/15 12:24	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 14:51	1
Boron	**0.50**		0.050		mg/L		12/02/15 10:56	12/02/15 12:24	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:24	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 12:24	1
Cobalt	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 12:24	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:24	1
Iron	<0.10		0.10		mg/L		12/02/15 10:56	12/02/15 12:24	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:24	1
Manganese	**0.0027**		0.0025		mg/L		12/02/15 10:56	12/02/15 12:24	1
Nickel	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:24	1
Selenium	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 12:24	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:24	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:24	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 14:51	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 12:24	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:29	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:28	1
Sulfate	**77**		20		mg/L			12/02/15 08:10	4
Chloride	**45**		2.0		mg/L			11/30/15 19:28	1
Nitrogen, Nitrate	**3.2**		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**480**		10		mg/L			11/21/15 06:50	1
Fluoride	**0.18**		0.10		mg/L			11/21/15 17:19	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/18/15 18:53	1
Nitrogen, Nitrate Nitrite	**3.2**		0.20		mg/L			12/03/15 18:34	2

Client Sample ID: MW-03

Date Collected: 11/17/15 11:25
Date Received: 11/18/15 09:45

Lab Sample ID: 500-104085-5

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0020**		0.00050		mg/L			11/28/15 20:45	1
Toluene	**0.0034**		0.00050		mg/L			11/28/15 20:45	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/28/15 20:45	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/28/15 20:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 125*		*11/28/15 20:45*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/28/15 20:45*	*1*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*		*11/28/15 20:45*	*1*
Dibromofluoromethane	*104*		*75 - 120*		*11/28/15 20:45*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/04/15 21:43	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 12:41	1
Arsenic	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 12:41	1
Barium	**0.061**		0.0025		mg/L		12/02/15 10:56	12/02/15 12:41	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 15:03	1
Boron	**0.30**		0.050		mg/L		12/02/15 10:56	12/02/15 12:41	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:41	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 12:41	1
Cobalt	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 12:41	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:41	1
Iron	<0.10		0.10		mg/L		12/02/15 10:56	12/02/15 12:41	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:41	1
Manganese	**0.0031**		0.0025		mg/L		12/02/15 10:56	12/02/15 12:41	1
Nickel	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:41	1
Selenium	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 12:41	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:41	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:41	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 15:03	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 12:41	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:31	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:29	1
Sulfate	**50**		20		mg/L			12/02/15 08:11	4
Chloride	**43**		2.0		mg/L			11/30/15 19:28	1
Nitrogen, Nitrate	**0.19**		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**380**		10		mg/L			11/21/15 06:52	1
Fluoride	**0.29**		0.10		mg/L			11/21/15 17:22	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/18/15 18:53	1
Nitrogen, Nitrate Nitrite	**0.19**		0.10		mg/L			12/03/15 17:26	1

Client Sample ID: MW-04

Date Collected: 11/17/15 12:50
Date Received: 11/18/15 09:45

Lab Sample ID: 500-104085-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0017**		0.00050		mg/L			11/28/15 21:10	1
Toluene	**0.0039**		0.00050		mg/L			11/28/15 21:10	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/28/15 21:10	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/28/15 21:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 125*		*11/28/15 21:10*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/28/15 21:10*	*1*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*		*11/28/15 21:10*	*1*
Dibromofluoromethane	*102*		*75 - 120*		*11/28/15 21:10*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/04/15 21:58	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 12:45	1
Arsenic	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 12:45	1
Barium	**0.030**		0.0025		mg/L		12/02/15 10:56	12/02/15 12:45	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 15:07	1
Boron	**0.51**		0.050		mg/L		12/02/15 10:56	12/02/15 12:45	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:45	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 12:45	1
Cobalt	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 12:45	1
Copper	**0.0021**		0.0020		mg/L		12/02/15 10:56	12/02/15 12:45	1
Iron	<0.10		0.10		mg/L		12/02/15 10:56	12/02/15 12:45	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:45	1
Manganese	**0.14**		0.0025		mg/L		12/02/15 10:56	12/02/15 12:45	1
Nickel	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:45	1
Selenium	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 12:45	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:45	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:45	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 15:07	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 12:45	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:33	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:29	1
Sulfate	**75**		25		mg/L			12/02/15 08:12	5
Chloride	**74**		2.0		mg/L			11/30/15 19:30	1
Nitrogen, Nitrate	**0.85**		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**550**		10		mg/L			11/21/15 06:55	1
Fluoride	**0.26**		0.10		mg/L			11/21/15 17:24	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/18/15 18:54	1
Nitrogen, Nitrate Nitrite	**0.85**		0.10		mg/L			12/03/15 17:37	1

Client Sample ID: MW-05

Date Collected: 11/17/15 14:45
Date Received: 11/18/15 09:45

Lab Sample ID: 500-104085-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00068**		0.00050		mg/L			11/28/15 21:35	1
Toluene	**0.0021**		0.00050		mg/L			11/28/15 21:35	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/28/15 21:35	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/28/15 21:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*		*11/28/15 21:35*	*1*
Toluene-d8 (Surr)	*91*		*75 - 120*		*11/28/15 21:35*	*1*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*		*11/28/15 21:35*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/28/15 21:35*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/04/15 22:14	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 12:49	1
Arsenic	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 12:49	1
Barium	**0.060**		0.0025		mg/L		12/02/15 10:56	12/02/15 12:49	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 15:10	1
Boron	**0.74**		0.050		mg/L		12/02/15 10:56	12/02/15 12:49	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:49	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 12:49	1
Cobalt	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 12:49	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:49	1
Iron	<0.10		0.10		mg/L		12/02/15 10:56	12/02/15 12:49	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:49	1
Manganese	**0.084**		0.0025		mg/L		12/02/15 10:56	12/02/15 12:49	1
Nickel	**0.0027**		0.0020		mg/L		12/02/15 10:56	12/02/15 12:49	1
Selenium	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 12:49	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:49	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:49	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 15:10	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 12:49	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:35	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:31	1
Sulfate	**180**		50		mg/L			12/02/15 08:13	10
Chloride	**110**		10		mg/L			11/30/15 19:51	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**810**		10		mg/L			11/21/15 06:57	1
Fluoride	**0.27**		0.10		mg/L			11/21/15 17:35	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/18/15 18:55	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			12/03/15 17:39	1

Client Sample ID: MW-06

Date Collected: 11/17/15 16:05
Date Received: 11/18/15 09:45

Lab Sample ID: 500-104085-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/28/15 22:00	1
Toluene	**0.0013**		0.00050		mg/L			11/28/15 22:00	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/28/15 22:00	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/28/15 22:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 125*		*11/28/15 22:00*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/28/15 22:00*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/28/15 22:00*	*1*
Dibromofluoromethane	*108*		*75 - 120*		*11/28/15 22:00*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/04/15 22:29	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 12:52	1
Arsenic	**0.0016**		0.0010		mg/L		12/02/15 10:56	12/02/15 12:52	1
Barium	**0.11**		0.0025		mg/L		12/02/15 10:56	12/02/15 12:52	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 15:14	1
Boron	**0.51**		0.050		mg/L		12/02/15 10:56	12/02/15 12:52	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:52	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 12:52	1
Cobalt	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 12:52	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:52	1
Iron	**1.4**		0.10		mg/L		12/02/15 10:56	12/02/15 12:52	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:52	1
Manganese	**0.98**		0.0025		mg/L		12/02/15 10:56	12/02/15 12:52	1
Nickel	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:52	1
Selenium	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 12:52	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:52	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:52	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 15:14	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 12:52	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:37	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:31	1
Sulfate	**490**		100		mg/L			12/02/15 08:14	20
Chloride	**210**		10		mg/L			11/30/15 19:52	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**1100**		10		mg/L			11/21/15 07:00	1
Fluoride	**0.64**		0.10		mg/L			11/21/15 17:38	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/18/15 18:56	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			12/03/15 17:41	1

Client Sample ID: MW-08

Date Collected: 11/18/15 09:58
Date Received: 11/19/15 10:20

Lab Sample ID: 500-104085-9

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00081**		0.00050		mg/L			11/30/15 14:27	1
Toluene	**0.0020**		0.00050		mg/L			11/30/15 14:27	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/30/15 14:27	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/30/15 14:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 125*		*11/30/15 14:27*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*11/30/15 14:27*	*1*
4-Bromofluorobenzene (Surr)	*90*		*75 - 120*		*11/30/15 14:27*	*1*
Dibromofluoromethane	*106*		*75 - 120*		*11/30/15 14:27*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/04/15 22:45	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 12:56	1
Arsenic	**0.0021**		0.0010		mg/L		12/02/15 10:56	12/02/15 12:56	1
Barium	**0.14**		0.0025		mg/L		12/02/15 10:56	12/02/15 12:56	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 15:18	1
Boron	**1.4**		0.050		mg/L		12/02/15 10:56	12/02/15 12:56	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:56	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 12:56	1
Cobalt	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 12:56	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:56	1
Iron	**0.89**		0.10		mg/L		12/02/15 10:56	12/02/15 12:56	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:56	1
Manganese	**0.21**		0.0025		mg/L		12/02/15 10:56	12/02/15 12:56	1
Nickel	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:56	1
Selenium	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 12:56	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 12:56	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 12:56	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 15:18	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 12:56	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:39	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:32	1
Sulfate	**530**		100		mg/L			12/04/15 05:13	20
Chloride	**160**		10		mg/L			11/30/15 19:52	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**1200**		10		mg/L			11/21/15 07:02	1
Fluoride	**0.44**		0.10		mg/L			11/21/15 17:40	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/19/15 14:42	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			12/03/15 17:43	1

Client Sample ID: MW-09
Date Collected: 11/18/15 11:25
Date Received: 11/19/15 10:20

Lab Sample ID: 500-104085-10
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.00089**		0.00050		mg/L			11/30/15 14:52	1
Toluene	**0.0029**		0.00050		mg/L			11/30/15 14:52	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/30/15 14:52	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/30/15 14:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 125*		*11/30/15 14:52*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/30/15 14:52*	*1*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*		*11/30/15 14:52*	*1*
Dibromofluoromethane	*104*		*75 - 120*		*11/30/15 14:52*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/04/15 23:00	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 13:00	1
Arsenic	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 13:00	1
Barium	**0.023**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:00	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 15:22	1
Boron	**2.2**		0.050		mg/L		12/02/15 10:56	12/02/15 13:00	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:00	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 13:00	1
Cobalt	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 13:00	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:00	1
Iron	<0.10		0.10		mg/L		12/02/15 10:56	12/02/15 13:00	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:00	1
Manganese	**0.076**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:00	1
Nickel	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:00	1
Selenium	**0.0028**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:00	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:00	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:00	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 15:22	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 13:00	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:41	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:32	1
Sulfate	**130**		25		mg/L			12/04/15 05:14	5
Chloride	**30**		2.0		mg/L			11/30/15 19:32	1
Nitrogen, Nitrate	**0.74**		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**410**		10		mg/L			11/21/15 07:05	1
Fluoride	**0.19**		0.10		mg/L			11/21/15 17:43	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/19/15 14:42	1
Nitrogen, Nitrate Nitrite	**0.74**		0.10		mg/L			12/03/15 17:45	1

Client Sample ID: MW-10
Date Collected: 11/18/15 13:40
Date Received: 11/19/15 10:20

Lab Sample ID: 500-104085-11
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/30/15 15:18	1
Toluene	**0.0011**		0.00050		mg/L			11/30/15 15:18	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/30/15 15:18	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/30/15 15:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*		*11/30/15 15:18*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/30/15 15:18*	*1*
4-Bromofluorobenzene (Surr)	*90*		*75 - 120*		*11/30/15 15:18*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/30/15 15:18*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/04/15 23:15	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 13:04	1
Arsenic	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 13:04	1
Barium	**0.17**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:04	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 15:26	1
Boron	**0.30**		0.050		mg/L		12/02/15 10:56	12/02/15 13:04	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:04	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 13:04	1
Cobalt	**0.0017**		0.0010		mg/L		12/02/15 10:56	12/02/15 13:04	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:04	1
Iron	**0.13**		0.10		mg/L		12/02/15 10:56	12/02/15 13:04	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:04	1
Manganese	**1.4**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:04	1
Nickel	**0.0030**		0.0020		mg/L		12/02/15 10:56	12/02/15 13:04	1
Selenium	**0.0033**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:04	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:04	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:04	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 15:26	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 13:04	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:43	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:32	1
Sulfate	**110**		20		mg/L			12/04/15 05:17	4
Chloride	**53**		2.0		mg/L			11/30/15 19:34	1
Nitrogen, Nitrate	**1.3**		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**500**		10		mg/L			11/21/15 07:07	1
Fluoride	**0.17**		0.10		mg/L			11/21/15 17:46	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/19/15 14:42	1
Nitrogen, Nitrate Nitrite	**1.3**		0.10		mg/L			12/03/15 17:47	1

Client Sample ID: MW-14

Date Collected: 11/18/15 15:20
Date Received: 11/19/15 10:20

Lab Sample ID: 500-104085-12

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0021**		0.00050		mg/L			11/30/15 15:43	1
Toluene	**0.0040**		0.00050		mg/L			11/30/15 15:43	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/30/15 15:43	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/30/15 15:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 125*		*11/30/15 15:43*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/30/15 15:43*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*		*11/30/15 15:43*	*1*
Dibromofluoromethane	*103*		*75 - 120*		*11/30/15 15:43*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/04/15 23:31	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 13:07	1
Arsenic	**0.0023**		0.0010		mg/L		12/02/15 10:56	12/02/15 13:07	1
Barium	**0.053**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:07	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 15:30	1
Boron	**2.5**		0.050		mg/L		12/02/15 10:56	12/02/15 13:07	1
Cadmium	**0.00051**		0.00050		mg/L		12/02/15 10:56	12/02/15 13:07	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 13:07	1
Cobalt	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 13:07	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:07	1
Iron	<0.10		0.10		mg/L		12/02/15 10:56	12/02/15 13:07	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:07	1
Manganese	**1.2**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:07	1
Nickel	**0.0030**		0.0020		mg/L		12/02/15 10:56	12/02/15 13:07	1
Selenium	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 13:07	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:07	1
Thallium	**0.0033**		0.0020		mg/L		12/02/15 10:56	12/02/15 13:07	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 15:30	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 13:07	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:49	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:33	1
Sulfate	**1200**		500		mg/L			12/04/15 05:18	100
Chloride	**160**		10		mg/L			11/30/15 19:53	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**2300**		10		mg/L			11/21/15 07:10	1
Fluoride	**1.1**		0.10		mg/L			11/21/15 17:48	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/19/15 14:43	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			12/03/15 17:49	1

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-104085-1

Client Sample ID: MW-15

Date Collected: 11/18/15 16:10
Date Received: 11/19/15 10:20

Lab Sample ID: 500-104085-13

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/30/15 16:08	1
Toluene	<0.00050		0.00050		mg/L			11/30/15 16:08	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/30/15 16:08	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/30/15 16:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 125*		*11/30/15 16:08*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/30/15 16:08*	*1*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*		*11/30/15 16:08*	*1*
Dibromofluoromethane	*107*		*75 - 120*		*11/30/15 16:08*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/04/15 23:46	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 13:11	1
Arsenic	**0.0032**		0.0010		mg/L		12/02/15 10:56	12/02/15 13:11	1
Barium	**0.083**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:11	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 15:34	1
Boron	**1.5**		0.050		mg/L		12/02/15 10:56	12/02/15 13:11	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:11	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 13:11	1
Cobalt	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 13:11	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:11	1
Iron	**1.8**		0.10		mg/L		12/02/15 10:56	12/02/15 13:11	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:11	1
Manganese	**1.3**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:11	1
Nickel	**0.0082**		0.0020		mg/L		12/02/15 10:56	12/02/15 13:11	1
Selenium	**0.0080**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:11	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:11	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:11	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 15:34	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 13:11	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:50	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:33	1
Sulfate	**1500**		250		mg/L			12/04/15 05:19	50
Chloride	**200**		10		mg/L			12/01/15 12:43	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**2400**		10		mg/L			11/21/15 07:12	1
Fluoride	**0.52**		0.10		mg/L			11/21/15 17:50	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/19/15 14:43	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			12/03/15 17:51	1

Client Sample ID: Duplicate

Date Collected: 11/18/15 00:00
Date Received: 11/19/15 10:20

Lab Sample ID: 500-104085-14

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0012**		0.00050		mg/L			11/30/15 16:33	1
Toluene	**0.0029**		0.00050		mg/L			11/30/15 16:33	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/30/15 16:33	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/30/15 16:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 125*		*11/30/15 16:33*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/30/15 16:33*	*1*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*		*11/30/15 16:33*	*1*
Dibromofluoromethane	*103*		*75 - 120*		*11/30/15 16:33*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/05/15 00:33	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 13:15	1
Arsenic	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 13:15	1
Barium	**0.16**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:15	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 15:46	1
Boron	**0.29**		0.050		mg/L		12/02/15 10:56	12/02/15 13:15	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:15	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 13:15	1
Cobalt	**0.0018**		0.0010		mg/L		12/02/15 10:56	12/02/15 13:15	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:15	1
Iron	<0.10		0.10		mg/L		12/02/15 10:56	12/02/15 13:15	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:15	1
Manganese	**1.4**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:15	1
Nickel	**0.0030**		0.0020		mg/L		12/02/15 10:56	12/02/15 13:15	1
Selenium	**0.0037**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:15	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:15	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:15	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 15:46	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 13:15	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:52	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:34	1
Sulfate	**88**		20		mg/L			12/04/15 05:20	4
Chloride	**54**		2.0		mg/L			12/01/15 13:16	1
Nitrogen, Nitrate	**1.3**		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**500**		10		mg/L			11/21/15 07:15	1
Fluoride	**0.17**		0.10		mg/L			11/21/15 17:53	1
Nitrogen, Nitrite	**0.020**		0.020		mg/L			11/19/15 14:44	1
Nitrogen, Nitrate Nitrite	**1.3**		0.10		mg/L			12/03/15 17:54	1

Client Sample ID: MW-11

Date Collected: 11/19/15 16:30
Date Received: 11/20/15 14:45

Lab Sample ID: 500-104085-15

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0013**		0.00050		mg/L			11/30/15 16:58	1
Toluene	**0.0028**		0.00050		mg/L			11/30/15 16:58	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/30/15 16:58	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/30/15 16:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 125*		*11/30/15 16:58*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/30/15 16:58*	*1*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*		*11/30/15 16:58*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/30/15 16:58*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/05/15 00:48	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 13:26	1
Arsenic	**0.015**		0.0010		mg/L		12/02/15 10:56	12/02/15 13:26	1
Barium	**0.15**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:26	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 15:50	1
Boron	**1.5**		0.050		mg/L		12/02/15 10:56	12/02/15 13:26	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:26	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 13:26	1
Cobalt	**0.0021**		0.0010		mg/L		12/02/15 10:56	12/02/15 13:26	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:26	1
Iron	**1.5**		0.10		mg/L		12/02/15 10:56	12/02/15 13:26	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:26	1
Manganese	**4.1**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:26	1
Nickel	**0.0031**		0.0020		mg/L		12/02/15 10:56	12/02/15 13:26	1
Selenium	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 13:26	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:26	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:26	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 15:50	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 13:26	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:54	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:34	1
Sulfate	**210**		50		mg/L			12/04/15 05:23	10
Chloride	**60**		2.0		mg/L			12/01/15 13:17	1
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**630**		10		mg/L			11/21/15 07:17	1
Fluoride	**0.56**		0.10		mg/L			11/21/15 17:55	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/21/15 09:02	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			12/03/15 17:56	1

Client Sample ID: MW-12
Date Collected: 11/19/15 13:45
Date Received: 11/20/15 14:45

Lab Sample ID: 500-104085-16
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0013**		0.00050		mg/L			11/30/15 17:23	1
Toluene	**0.0037**		0.00050		mg/L			11/30/15 17:23	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/30/15 17:23	1
Xylenes, Total	**0.0011**		0.0010		mg/L			11/30/15 17:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*75 - 125*		*11/30/15 17:23*	*1*
Toluene-d8 (Surr)	*92*		*75 - 120*		*11/30/15 17:23*	*1*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*		*11/30/15 17:23*	*1*
Dibromofluoromethane	*107*		*75 - 120*		*11/30/15 17:23*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/05/15 01:04	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 13:30	1
Arsenic	**0.0033**		0.0010		mg/L		12/02/15 10:56	12/02/15 13:30	1
Barium	**0.091**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:30	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 15:53	1
Boron	**0.94**		0.050		mg/L		12/02/15 10:56	12/02/15 13:30	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:30	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 13:30	1
Cobalt	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 13:30	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:30	1
Iron	**0.61**		0.10		mg/L		12/02/15 10:56	12/02/15 13:30	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:30	1
Manganese	**1.2**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:30	1
Nickel	**0.0023**		0.0020		mg/L		12/02/15 10:56	12/02/15 13:30	1
Selenium	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 13:30	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:30	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:30	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 15:53	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 13:30	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:56	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:35	1
Sulfate	**750**		100		mg/L			12/04/15 05:24	20
Chloride	**220**		10		mg/L			12/01/15 14:00	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**1400**		10		mg/L			11/21/15 07:20	1
Fluoride	**0.58**		0.10		mg/L			11/21/15 17:58	1
Nitrogen, Nitrite	**0.024**		0.020		mg/L			11/21/15 09:02	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			12/03/15 17:58	1

Client Sample ID: MW-13

Date Collected: 11/19/15 09:10
Date Received: 11/20/15 14:45

Lab Sample ID: 500-104085-17

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	**0.0010**		0.00050		mg/L			11/30/15 17:48	1
Toluene	**0.0023**		0.00050		mg/L			11/30/15 17:48	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/30/15 17:48	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/30/15 17:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 125*		*11/30/15 17:48*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/30/15 17:48*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/30/15 17:48*	*1*
Dibromofluoromethane	*106*		*75 - 120*		*11/30/15 17:48*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/05/15 01:19	1

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 13:33	1
Arsenic	**0.027**		0.0010		mg/L		12/02/15 10:56	12/02/15 13:33	1
Barium	**0.14**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:33	1
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 15:57	1
Boron	**3.2**		0.050		mg/L		12/02/15 10:56	12/02/15 13:33	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:33	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 13:33	1
Cobalt	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 13:33	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:33	1
Iron	**0.85**		0.10		mg/L		12/02/15 10:56	12/02/15 13:33	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:33	1
Manganese	**4.3**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:33	1
Nickel	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:33	1
Selenium	**0.0031**		0.0025		mg/L		12/02/15 10:56	12/02/15 13:33	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 13:33	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 13:33	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 15:57	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 13:33	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:58	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:36	1
Sulfate	**1700**		250		mg/L			12/04/15 05:25	50
Chloride	**170**	**F1**	10		mg/L			12/01/15 14:01	5
Nitrogen, Nitrate	<0.10		0.10		mg/L			12/04/15 10:03	1
Total Dissolved Solids	**2400**		10		mg/L			11/21/15 07:22	1
Fluoride	**0.37**		0.10		mg/L			11/21/15 18:08	1
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/21/15 09:01	1
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			12/03/15 17:59	1

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-104085-1

Client Sample ID: Trip Blank
Date Collected: 11/16/15 00:00
Date Received: 11/20/15 14:45

Lab Sample ID: 500-104085-18
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/28/15 19:05	1
Toluene	<0.00050		0.00050		mg/L			11/28/15 19:05	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/28/15 19:05	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/28/15 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*		*11/28/15 19:05*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/28/15 19:05*	*1*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*		*11/28/15 19:05*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*11/28/15 19:05*	*1*

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

GC/MS VOA

Analysis Batch: 314390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1	MW-01	Total/NA	Water	8260B	
500-104085-2	MW-07	Total/NA	Water	8260B	
500-104085-3	MW-16	Total/NA	Water	8260B	
500-104085-4	MW-02	Total/NA	Water	8260B	
500-104085-5	MW-03	Total/NA	Water	8260B	
500-104085-6	MW-04	Total/NA	Water	8260B	
500-104085-7	MW-05	Total/NA	Water	8260B	
500-104085-8	MW-06	Total/NA	Water	8260B	
500-104085-8 MS	MW-06	Total/NA	Water	8260B	
500-104085-8 MSD	MW-06	Total/NA	Water	8260B	
500-104085-18	Trip Blank	Total/NA	Water	8260B	
LCS 500-314390/7	Lab Control Sample	Total/NA	Water	8260B	
MB 500-314390/6	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 314442

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-9	MW-08	Total/NA	Water	8260B	
500-104085-10	MW-09	Total/NA	Water	8260B	
500-104085-11	MW-10	Total/NA	Water	8260B	
500-104085-12	MW-14	Total/NA	Water	8260B	
500-104085-13	MW-15	Total/NA	Water	8260B	
500-104085-14	Duplicate	Total/NA	Water	8260B	
500-104085-15	MW-11	Total/NA	Water	8260B	
500-104085-16	MW-12	Total/NA	Water	8260B	
500-104085-17	MW-13	Total/NA	Water	8260B	
LCS 500-314442/4	Lab Control Sample	Total/NA	Water	8260B	
MB 500-314442/6	Method Blank	Total/NA	Water	8260B	

HPLC/IC

Analysis Batch: 94679

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1	MW-01	Total/NA	Water	314.0	
500-104085-1 MS	MW-01	Total/NA	Water	314.0	
500-104085-1 MSD	MW-01	Total/NA	Water	314.0	
500-104085-2	MW-07	Total/NA	Water	314.0	
500-104085-3	MW-16	Total/NA	Water	314.0	
500-104085-4	MW-02	Total/NA	Water	314.0	
500-104085-5	MW-03	Total/NA	Water	314.0	
500-104085-6	MW-04	Total/NA	Water	314.0	
500-104085-7	MW-05	Total/NA	Water	314.0	
500-104085-8	MW-06	Total/NA	Water	314.0	
500-104085-9	MW-08	Total/NA	Water	314.0	
500-104085-10	MW-09	Total/NA	Water	314.0	
500-104085-11	MW-10	Total/NA	Water	314.0	
500-104085-12	MW-14	Total/NA	Water	314.0	
500-104085-13	MW-15	Total/NA	Water	314.0	
500-104085-14	Duplicate	Total/NA	Water	314.0	
500-104085-15	MW-11	Total/NA	Water	314.0	
500-104085-16	MW-12	Total/NA	Water	314.0	

HPLC/IC (Continued)

Analysis Batch: 94679 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-17	MW-13	Total/NA	Water	314.0	
LCS 320-94679/7	Lab Control Sample	Total/NA	Water	314.0	
MB 320-94679/6	Method Blank	Total/NA	Water	314.0	
MRL 320-94679/5	Lab Control Sample	Total/NA	Water	314.0	

Metals

Prep Batch: 314492

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1	MW-01	Dissolved	Water	7470A	
500-104085-1 DU	MW-01	Dissolved	Water	7470A	
500-104085-1 MS	MW-01	Dissolved	Water	7470A	
500-104085-1 MSD	MW-01	Dissolved	Water	7470A	
500-104085-2	MW-07	Dissolved	Water	7470A	
500-104085-3	MW-16	Dissolved	Water	7470A	
500-104085-4	MW-02	Dissolved	Water	7470A	
500-104085-5	MW-03	Dissolved	Water	7470A	
500-104085-6	MW-04	Dissolved	Water	7470A	
500-104085-7	MW-05	Dissolved	Water	7470A	
500-104085-8	MW-06	Dissolved	Water	7470A	
500-104085-9	MW-08	Dissolved	Water	7470A	
500-104085-10	MW-09	Dissolved	Water	7470A	
500-104085-11	MW-10	Dissolved	Water	7470A	
500-104085-12	MW-14	Dissolved	Water	7470A	
500-104085-13	MW-15	Dissolved	Water	7470A	
500-104085-14	Duplicate	Dissolved	Water	7470A	
500-104085-15	MW-11	Dissolved	Water	7470A	
500-104085-16	MW-12	Dissolved	Water	7470A	
500-104085-17	MW-13	Dissolved	Water	7470A	
LCS 500-314492/13-A	Lab Control Sample	Total/NA	Water	7470A	
MB 500-314492/12-A	Method Blank	Total/NA	Water	7470A	

Analysis Batch: 314697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1	MW-01	Dissolved	Water	7470A	314492
500-104085-1 DU	MW-01	Dissolved	Water	7470A	314492
500-104085-1 MS	MW-01	Dissolved	Water	7470A	314492
500-104085-1 MSD	MW-01	Dissolved	Water	7470A	314492
500-104085-2	MW-07	Dissolved	Water	7470A	314492
500-104085-3	MW-16	Dissolved	Water	7470A	314492
500-104085-4	MW-02	Dissolved	Water	7470A	314492
500-104085-5	MW-03	Dissolved	Water	7470A	314492
500-104085-6	MW-04	Dissolved	Water	7470A	314492
500-104085-7	MW-05	Dissolved	Water	7470A	314492
500-104085-8	MW-06	Dissolved	Water	7470A	314492
500-104085-9	MW-08	Dissolved	Water	7470A	314492
500-104085-10	MW-09	Dissolved	Water	7470A	314492
500-104085-11	MW-10	Dissolved	Water	7470A	314492
500-104085-12	MW-14	Dissolved	Water	7470A	314492
500-104085-13	MW-15	Dissolved	Water	7470A	314492

Metals (Continued)

Analysis Batch: 314697 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-14	Duplicate	Dissolved	Water	7470A	314492
500-104085-15	MW-11	Dissolved	Water	7470A	314492
500-104085-16	MW-12	Dissolved	Water	7470A	314492
500-104085-17	MW-13	Dissolved	Water	7470A	314492
LCS 500-314492/13-A	Lab Control Sample	Total/NA	Water	7470A	314492
MB 500-314492/12-A	Method Blank	Total/NA	Water	7470A	314492

Prep Batch: 314825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1	MW-01	Dissolved	Water	Soluble Metals	
500-104085-2	MW-07	Dissolved	Water	Soluble Metals	
500-104085-2 DU	MW-07	Dissolved	Water	Soluble Metals	
500-104085-2 MS	MW-07	Dissolved	Water	Soluble Metals	
500-104085-2 MSD	MW-07	Dissolved	Water	Soluble Metals	
500-104085-3	MW-16	Dissolved	Water	Soluble Metals	
500-104085-4	MW-02	Dissolved	Water	Soluble Metals	
500-104085-5	MW-03	Dissolved	Water	Soluble Metals	
500-104085-6	MW-04	Dissolved	Water	Soluble Metals	
500-104085-7	MW-05	Dissolved	Water	Soluble Metals	
500-104085-8	MW-06	Dissolved	Water	Soluble Metals	
500-104085-9	MW-08	Dissolved	Water	Soluble Metals	
500-104085-10	MW-09	Dissolved	Water	Soluble Metals	
500-104085-11	MW-10	Dissolved	Water	Soluble Metals	
500-104085-12	MW-14	Dissolved	Water	Soluble Metals	
500-104085-13	MW-15	Dissolved	Water	Soluble Metals	
500-104085-14	Duplicate	Dissolved	Water	Soluble Metals	
500-104085-15	MW-11	Dissolved	Water	Soluble Metals	
500-104085-16	MW-12	Dissolved	Water	Soluble Metals	
500-104085-17	MW-13	Dissolved	Water	Soluble Metals	
LCS 500-314825/2-A	Lab Control Sample	Soluble	Water	Soluble Metals	
MB 500-314825/1-A	Method Blank	Soluble	Water	Soluble Metals	

Analysis Batch: 314876

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1	MW-01	Dissolved	Water	6020A	314825
500-104085-2	MW-07	Dissolved	Water	6020A	314825
500-104085-2 DU	MW-07	Dissolved	Water	6020A	314825
500-104085-2 MS	MW-07	Dissolved	Water	6020A	314825
500-104085-2 MSD	MW-07	Dissolved	Water	6020A	314825
500-104085-3	MW-16	Dissolved	Water	6020A	314825
500-104085-4	MW-02	Dissolved	Water	6020A	314825
500-104085-5	MW-03	Dissolved	Water	6020A	314825
500-104085-6	MW-04	Dissolved	Water	6020A	314825
500-104085-7	MW-05	Dissolved	Water	6020A	314825
500-104085-8	MW-06	Dissolved	Water	6020A	314825
500-104085-9	MW-08	Dissolved	Water	6020A	314825
500-104085-10	MW-09	Dissolved	Water	6020A	314825
500-104085-11	MW-10	Dissolved	Water	6020A	314825
500-104085-12	MW-14	Dissolved	Water	6020A	314825
500-104085-13	MW-15	Dissolved	Water	6020A	314825
500-104085-14	Duplicate	Dissolved	Water	6020A	314825

Metals (Continued)

Analysis Batch: 314876 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-15	MW-11	Dissolved	Water	6020A	314825
500-104085-16	MW-12	Dissolved	Water	6020A	314825
500-104085-17	MW-13	Dissolved	Water	6020A	314825
LCS 500-314825/2-A	Lab Control Sample	Soluble	Water	6020A	314825
MB 500-314825/1-A	Method Blank	Soluble	Water	6020A	314825

Analysis Batch: 314972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1	MW-01	Dissolved	Water	6020A	314825
500-104085-2	MW-07	Dissolved	Water	6020A	314825
500-104085-2	MW-07	Dissolved	Water	6020A	314825
500-104085-2 DU	MW-07	Dissolved	Water	6020A	314825
500-104085-2 DU	MW-07	Dissolved	Water	6020A	314825
500-104085-2 MS	MW-07	Dissolved	Water	6020A	314825
500-104085-2 MS	MW-07	Dissolved	Water	6020A	314825
500-104085-2 MSD	MW-07	Dissolved	Water	6020A	314825
500-104085-2 MSD	MW-07	Dissolved	Water	6020A	314825
500-104085-3	MW-16	Dissolved	Water	6020A	314825
500-104085-4	MW-02	Dissolved	Water	6020A	314825
500-104085-5	MW-03	Dissolved	Water	6020A	314825
500-104085-6	MW-04	Dissolved	Water	6020A	314825
500-104085-7	MW-05	Dissolved	Water	6020A	314825
500-104085-8	MW-06	Dissolved	Water	6020A	314825
500-104085-9	MW-08	Dissolved	Water	6020A	314825
500-104085-10	MW-09	Dissolved	Water	6020A	314825
500-104085-11	MW-10	Dissolved	Water	6020A	314825
500-104085-12	MW-14	Dissolved	Water	6020A	314825
500-104085-13	MW-15	Dissolved	Water	6020A	314825
500-104085-14	Duplicate	Dissolved	Water	6020A	314825
500-104085-15	MW-11	Dissolved	Water	6020A	314825
500-104085-16	MW-12	Dissolved	Water	6020A	314825
500-104085-17	MW-13	Dissolved	Water	6020A	314825
LCS 500-314825/2-A	Lab Control Sample	Soluble	Water	6020A	314825
MB 500-314825/1-A	Method Blank	Soluble	Water	6020A	314825

General Chemistry

Analysis Batch: 313359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1	MW-01	Dissolved	Water	SM 4500 NO2 B	
500-104085-2	MW-07	Dissolved	Water	SM 4500 NO2 B	
500-104085-3	MW-16	Dissolved	Water	SM 4500 NO2 B	
500-104085-3 MS	MW-16	Dissolved	Water	SM 4500 NO2 B	
500-104085-3 MSD	MW-16	Dissolved	Water	SM 4500 NO2 B	
LCS 500-313359/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-313359/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 313548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1	MW-01	Dissolved	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 313548 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1 DU	MW-01	Dissolved	Water	SM 2540C	
500-104085-1 MS	MW-01	Dissolved	Water	SM 2540C	
500-104085-2	MW-07	Dissolved	Water	SM 2540C	
500-104085-3	MW-16	Dissolved	Water	SM 2540C	
500-104085-4	MW-02	Dissolved	Water	SM 2540C	
500-104085-5	MW-03	Dissolved	Water	SM 2540C	
500-104085-6	MW-04	Dissolved	Water	SM 2540C	
500-104085-7	MW-05	Dissolved	Water	SM 2540C	
500-104085-8	MW-06	Dissolved	Water	SM 2540C	
500-104085-9	MW-08	Dissolved	Water	SM 2540C	
500-104085-10	MW-09	Dissolved	Water	SM 2540C	
500-104085-11	MW-10	Dissolved	Water	SM 2540C	
500-104085-12	MW-14	Dissolved	Water	SM 2540C	
500-104085-13	MW-15	Dissolved	Water	SM 2540C	
500-104085-14	Duplicate	Dissolved	Water	SM 2540C	
500-104085-15	MW-11	Dissolved	Water	SM 2540C	
500-104085-16	MW-12	Dissolved	Water	SM 2540C	
500-104085-17	MW-13	Dissolved	Water	SM 2540C	
LCS 500-313548/2	Lab Control Sample	Total/NA	Water	SM 2540C	
MB 500-313548/1	Method Blank	Total/NA	Water	SM 2540C	

Analysis Batch: 313599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1	MW-01	Dissolved	Water	SM 4500 F C	
500-104085-1 MS	MW-01	Dissolved	Water	SM 4500 F C	
500-104085-1 MSD	MW-01	Dissolved	Water	SM 4500 F C	
500-104085-2	MW-07	Dissolved	Water	SM 4500 F C	
500-104085-3	MW-16	Dissolved	Water	SM 4500 F C	
500-104085-4	MW-02	Dissolved	Water	SM 4500 F C	
500-104085-5	MW-03	Dissolved	Water	SM 4500 F C	
500-104085-6	MW-04	Dissolved	Water	SM 4500 F C	
500-104085-7	MW-05	Dissolved	Water	SM 4500 F C	
500-104085-8	MW-06	Dissolved	Water	SM 4500 F C	
500-104085-9	MW-08	Dissolved	Water	SM 4500 F C	
500-104085-10	MW-09	Dissolved	Water	SM 4500 F C	
500-104085-11	MW-10	Dissolved	Water	SM 4500 F C	
500-104085-12	MW-14	Dissolved	Water	SM 4500 F C	
500-104085-13	MW-15	Dissolved	Water	SM 4500 F C	
500-104085-14	Duplicate	Dissolved	Water	SM 4500 F C	
500-104085-15	MW-11	Dissolved	Water	SM 4500 F C	
500-104085-16	MW-12	Dissolved	Water	SM 4500 F C	
500-104085-17	MW-13	Dissolved	Water	SM 4500 F C	
LCS 500-313599/4	Lab Control Sample	Total/NA	Water	SM 4500 F C	
MB 500-313599/3	Method Blank	Total/NA	Water	SM 4500 F C	

Analysis Batch: 313631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-9	MW-08	Dissolved	Water	SM 4500 NO2 B	
500-104085-10	MW-09	Dissolved	Water	SM 4500 NO2 B	
500-104085-11	MW-10	Dissolved	Water	SM 4500 NO2 B	
500-104085-12	MW-14	Dissolved	Water	SM 4500 NO2 B	

General Chemistry (Continued)

Analysis Batch: 313631 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-13	MW-15	Dissolved	Water	SM 4500 NO2 B	
500-104085-14	Duplicate	Dissolved	Water	SM 4500 NO2 B	
LCS 500-313631/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-313631/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 313632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-4	MW-02	Dissolved	Water	SM 4500 NO2 B	
500-104085-5	MW-03	Dissolved	Water	SM 4500 NO2 B	
500-104085-6	MW-04	Dissolved	Water	SM 4500 NO2 B	
500-104085-7	MW-05	Dissolved	Water	SM 4500 NO2 B	
500-104085-8	MW-06	Dissolved	Water	SM 4500 NO2 B	
LCS 500-313632/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-313632/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Analysis Batch: 313633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-15	MW-11	Dissolved	Water	SM 4500 NO2 B	
500-104085-15 MS	MW-11	Dissolved	Water	SM 4500 NO2 B	
500-104085-15 MSD	MW-11	Dissolved	Water	SM 4500 NO2 B	
500-104085-16	MW-12	Dissolved	Water	SM 4500 NO2 B	
500-104085-17	MW-13	Dissolved	Water	SM 4500 NO2 B	
LCS 500-313633/4	Lab Control Sample	Total/NA	Water	SM 4500 NO2 B	
MB 500-313633/3	Method Blank	Total/NA	Water	SM 4500 NO2 B	

Prep Batch: 314585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1	MW-01	Dissolved	Water	9010B	
500-104085-1 MS	MW-01	Dissolved	Water	9010B	
500-104085-1 MSD	MW-01	Dissolved	Water	9010B	
500-104085-2	MW-07	Dissolved	Water	9010B	
500-104085-3	MW-16	Dissolved	Water	9010B	
500-104085-4	MW-02	Dissolved	Water	9010B	
500-104085-5	MW-03	Dissolved	Water	9010B	
500-104085-6	MW-04	Dissolved	Water	9010B	
500-104085-7	MW-05	Dissolved	Water	9010B	
500-104085-8	MW-06	Dissolved	Water	9010B	
500-104085-9	MW-08	Dissolved	Water	9010B	
500-104085-10	MW-09	Dissolved	Water	9010B	
500-104085-11	MW-10	Dissolved	Water	9010B	
500-104085-12	MW-14	Dissolved	Water	9010B	
500-104085-13	MW-15	Dissolved	Water	9010B	
500-104085-14	Duplicate	Dissolved	Water	9010B	
500-104085-15	MW-11	Dissolved	Water	9010B	
500-104085-16	MW-12	Dissolved	Water	9010B	
500-104085-17	MW-13	Dissolved	Water	9010B	
LCS 500-314585/2-A	Lab Control Sample	Total/NA	Water	9010B	
MB 500-314585/1-A	Method Blank	Total/NA	Water	9010B	

General Chemistry (Continued)

Analysis Batch: 314591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1	MW-01	Dissolved	Water	9014	314585
500-104085-1 MS	MW-01	Dissolved	Water	9014	314585
500-104085-1 MSD	MW-01	Dissolved	Water	9014	314585
500-104085-2	MW-07	Dissolved	Water	9014	314585
500-104085-3	MW-16	Dissolved	Water	9014	314585
500-104085-4	MW-02	Dissolved	Water	9014	314585
500-104085-5	MW-03	Dissolved	Water	9014	314585
500-104085-6	MW-04	Dissolved	Water	9014	314585
500-104085-7	MW-05	Dissolved	Water	9014	314585
500-104085-8	MW-06	Dissolved	Water	9014	314585
500-104085-9	MW-08	Dissolved	Water	9014	314585
500-104085-10	MW-09	Dissolved	Water	9014	314585
500-104085-11	MW-10	Dissolved	Water	9014	314585
500-104085-12	MW-14	Dissolved	Water	9014	314585
500-104085-13	MW-15	Dissolved	Water	9014	314585
500-104085-14	Duplicate	Dissolved	Water	9014	314585
500-104085-15	MW-11	Dissolved	Water	9014	314585
500-104085-16	MW-12	Dissolved	Water	9014	314585
500-104085-17	MW-13	Dissolved	Water	9014	314585
LCS 500-314585/2-A	Lab Control Sample	Total/NA	Water	9014	314585
MB 500-314585/1-A	Method Blank	Total/NA	Water	9014	314585

Analysis Batch: 314629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1	MW-01	Dissolved	Water	9251	
500-104085-2	MW-07	Dissolved	Water	9251	
500-104085-3	MW-16	Dissolved	Water	9251	
500-104085-4	MW-02	Dissolved	Water	9251	
500-104085-5	MW-03	Dissolved	Water	9251	
500-104085-6	MW-04	Dissolved	Water	9251	
500-104085-7	MW-05	Dissolved	Water	9251	
500-104085-8	MW-06	Dissolved	Water	9251	
500-104085-9	MW-08	Dissolved	Water	9251	
500-104085-10	MW-09	Dissolved	Water	9251	
500-104085-10 MS	MW-09	Dissolved	Water	9251	
500-104085-10 MSD	MW-09	Dissolved	Water	9251	
500-104085-11	MW-10	Dissolved	Water	9251	
500-104085-12	MW-14	Dissolved	Water	9251	
LCS 500-314629/5	Lab Control Sample	Total/NA	Water	9251	
MB 500-314629/4	Method Blank	Total/NA	Water	9251	

Analysis Batch: 314671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-13	MW-15	Dissolved	Water	9251	
500-104085-13 MS	MW-15	Dissolved	Water	9251	
500-104085-13 MSD	MW-15	Dissolved	Water	9251	
LCS 500-314671/13	Lab Control Sample	Total/NA	Water	9251	
MB 500-314671/12	Method Blank	Total/NA	Water	9251	

General Chemistry (Continued)

Analysis Batch: 314701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-14	Duplicate	Dissolved	Water	9251	
500-104085-15	MW-11	Dissolved	Water	9251	
500-104085-16	MW-12	Dissolved	Water	9251	
500-104085-17	MW-13	Dissolved	Water	9251	
500-104085-17 MS	MW-13	Dissolved	Water	9251	
500-104085-17 MSD	MW-13	Dissolved	Water	9251	
LCS 500-314701/5	Lab Control Sample	Total/NA	Water	9251	
MB 500-314701/4	Method Blank	Total/NA	Water	9251	

Analysis Batch: 314790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1	MW-01	Dissolved	Water	9038	
500-104085-2	MW-07	Dissolved	Water	9038	
500-104085-3	MW-16	Dissolved	Water	9038	
500-104085-4	MW-02	Dissolved	Water	9038	
500-104085-5	MW-03	Dissolved	Water	9038	
500-104085-6	MW-04	Dissolved	Water	9038	
500-104085-7	MW-05	Dissolved	Water	9038	
500-104085-8	MW-06	Dissolved	Water	9038	
LCS 500-314790/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-314790/3	Method Blank	Total/NA	Water	9038	

Analysis Batch: 314999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1	MW-01	Dissolved	Water	Nitrate by calc	
500-104085-2	MW-07	Dissolved	Water	Nitrate by calc	
500-104085-3	MW-16	Dissolved	Water	Nitrate by calc	
500-104085-4	MW-02	Dissolved	Water	Nitrate by calc	
500-104085-5	MW-03	Dissolved	Water	Nitrate by calc	
500-104085-6	MW-04	Dissolved	Water	Nitrate by calc	
500-104085-7	MW-05	Dissolved	Water	Nitrate by calc	
500-104085-8	MW-06	Dissolved	Water	Nitrate by calc	
500-104085-9	MW-08	Dissolved	Water	Nitrate by calc	
500-104085-10	MW-09	Dissolved	Water	Nitrate by calc	
500-104085-11	MW-10	Dissolved	Water	Nitrate by calc	
500-104085-12	MW-14	Dissolved	Water	Nitrate by calc	
500-104085-13	MW-15	Dissolved	Water	Nitrate by calc	
500-104085-14	Duplicate	Dissolved	Water	Nitrate by calc	
500-104085-15	MW-11	Dissolved	Water	Nitrate by calc	
500-104085-16	MW-12	Dissolved	Water	Nitrate by calc	
500-104085-17	MW-13	Dissolved	Water	Nitrate by calc	

Analysis Batch: 315154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-1	MW-01	Dissolved	Water	SM 4500 NO3 F	
500-104085-2	MW-07	Dissolved	Water	SM 4500 NO3 F	
500-104085-3	MW-16	Dissolved	Water	SM 4500 NO3 F	
500-104085-4	MW-02	Dissolved	Water	SM 4500 NO3 F	
500-104085-5	MW-03	Dissolved	Water	SM 4500 NO3 F	
500-104085-5 MS	MW-03	Dissolved	Water	SM 4500 NO3 F	
500-104085-5 MSD	MW-03	Dissolved	Water	SM 4500 NO3 F	

General Chemistry (Continued)

Analysis Batch: 315154 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-6	MW-04	Dissolved	Water	SM 4500 NO3 F	
500-104085-7	MW-05	Dissolved	Water	SM 4500 NO3 F	
500-104085-8	MW-06	Dissolved	Water	SM 4500 NO3 F	
500-104085-9	MW-08	Dissolved	Water	SM 4500 NO3 F	
500-104085-10	MW-09	Dissolved	Water	SM 4500 NO3 F	
500-104085-11	MW-10	Dissolved	Water	SM 4500 NO3 F	
500-104085-12	MW-14	Dissolved	Water	SM 4500 NO3 F	
500-104085-13	MW-15	Dissolved	Water	SM 4500 NO3 F	
500-104085-14	Duplicate	Dissolved	Water	SM 4500 NO3 F	
500-104085-15	MW-11	Dissolved	Water	SM 4500 NO3 F	
500-104085-16	MW-12	Dissolved	Water	SM 4500 NO3 F	
500-104085-17	MW-13	Dissolved	Water	SM 4500 NO3 F	
LCS 500-315154/5	Lab Control Sample	Total/NA	Water	SM 4500 NO3 F	
MB 500-315154/4	Method Blank	Total/NA	Water	SM 4500 NO3 F	

Analysis Batch: 315164

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-104085-9	MW-08	Dissolved	Water	9038	
500-104085-10	MW-09	Dissolved	Water	9038	
500-104085-10 MS	MW-09	Dissolved	Water	9038	
500-104085-10 MSD	MW-09	Dissolved	Water	9038	
500-104085-11	MW-10	Dissolved	Water	9038	
500-104085-12	MW-14	Dissolved	Water	9038	
500-104085-13	MW-15	Dissolved	Water	9038	
500-104085-14	Duplicate	Dissolved	Water	9038	
500-104085-15	MW-11	Dissolved	Water	9038	
500-104085-16	MW-12	Dissolved	Water	9038	
500-104085-17	MW-13	Dissolved	Water	9038	
LCS 500-315164/4	Lab Control Sample	Total/NA	Water	9038	
MB 500-315164/3	Method Blank	Total/NA	Water	9038	

Surrogate Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-104085-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	12DCE (75-125)	TOL (75-120)	BFB (75-120)	DBFM (75-120)
500-104085-1	MW-01	102	93	91	105
500-104085-2	MW-07	100	93	94	104
500-104085-3	MW-16	101	93	95	102
500-104085-4	MW-02	102	93	94	106
500-104085-5	MW-03	99	93	91	104
500-104085-6	MW-04	100	92	91	102
500-104085-7	MW-05	101	91	91	105
500-104085-8	MW-06	104	92	94	108
500-104085-8 MS	MW-06	97	98	91	103
500-104085-8 MSD	MW-06	95	99	92	102
500-104085-9	MW-08	103	94	90	106
500-104085-10	MW-09	101	93	92	104
500-104085-11	MW-10	102	92	90	105
500-104085-12	MW-14	104	92	93	103
500-104085-13	MW-15	104	93	92	107
500-104085-14	Duplicate	106	93	92	103
500-104085-15	MW-11	104	93	91	105
500-104085-16	MW-12	105	92	91	107
500-104085-17	MW-13	108	93	94	106
500-104085-18	Trip Blank	102	93	92	105
LCS 500-314390/7	Lab Control Sample	92	100	91	100
LCS 500-314442/4	Lab Control Sample	96	98	90	101
MB 500-314390/6	Method Blank	97	94	94	101
MB 500-314442/6	Method Blank	102	93	93	104

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-314390/6
Matrix: Water
Analysis Batch: 314390

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/28/15 13:14	1
Toluene	<0.00050		0.00050		mg/L			11/28/15 13:14	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/28/15 13:14	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/28/15 13:14	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 125*		*11/28/15 13:14*	*1*
Toluene-d8 (Surr)	*94*		*75 - 120*		*11/28/15 13:14*	*1*
4-Bromofluorobenzene (Surr)	*94*		*75 - 120*		*11/28/15 13:14*	*1*
Dibromofluoromethane	*101*		*75 - 120*		*11/28/15 13:14*	*1*

Lab Sample ID: LCS 500-314390/7
Matrix: Water
Analysis Batch: 314390

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0463		mg/L		93	70 - 120
Toluene	0.0500	0.0467		mg/L		93	70 - 120
Ethylbenzene	0.0500	0.0476		mg/L		95	70 - 125
Xylenes, Total	0.100	0.0959		mg/L		96	70 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*92*		*75 - 125*
Toluene-d8 (Surr)	*100*		*75 - 120*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*
Dibromofluoromethane	*100*		*75 - 120*

Lab Sample ID: 500-104085-8 MS
Matrix: Water
Analysis Batch: 314390

Client Sample ID: MW-06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<0.00050		0.0500	0.0442		mg/L		88	70 - 120
Toluene	0.0013		0.0500	0.0449		mg/L		87	70 - 120
Ethylbenzene	<0.00050		0.0500	0.0449		mg/L		90	70 - 125
Xylenes, Total	<0.0010		0.100	0.0896		mg/L		89	70 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 125*
Toluene-d8 (Surr)	*98*		*75 - 120*
4-Bromofluorobenzene (Surr)	*91*		*75 - 120*
Dibromofluoromethane	*103*		*75 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-104085-8 MSD
Matrix: Water
Analysis Batch: 314390

Client Sample ID: MW-06
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<0.00050		0.0500	0.0448		mg/L		90	70 - 120	1	20
Toluene	0.0013		0.0500	0.0459		mg/L		89	70 - 120	2	20
Ethylbenzene	<0.00050		0.0500	0.0463		mg/L		93	70 - 125	3	20
Xylenes, Total	<0.0010		0.100	0.0917		mg/L		91	70 - 120	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 125*
Toluene-d8 (Surr)	*99*		*75 - 120*
4-Bromofluorobenzene (Surr)	*92*		*75 - 120*
Dibromofluoromethane	*102*		*75 - 120*

Lab Sample ID: MB 500-314442/6
Matrix: Water
Analysis Batch: 314442

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.00050		0.00050		mg/L			11/30/15 10:41	1
Toluene	<0.00050		0.00050		mg/L			11/30/15 10:41	1
Ethylbenzene	<0.00050		0.00050		mg/L			11/30/15 10:41	1
Xylenes, Total	<0.0010		0.0010		mg/L			11/30/15 10:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 125*		*11/30/15 10:41*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*11/30/15 10:41*	*1*
4-Bromofluorobenzene (Surr)	*93*		*75 - 120*		*11/30/15 10:41*	*1*
Dibromofluoromethane	*104*		*75 - 120*		*11/30/15 10:41*	*1*

Lab Sample ID: LCS 500-314442/4
Matrix: Water
Analysis Batch: 314442

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene			0.0500	0.0483		mg/L		97	70 - 120		
Toluene			0.0500	0.0479		mg/L		96	70 - 120		
Ethylbenzene			0.0500	0.0491		mg/L		98	70 - 125		
Xylenes, Total			0.100	0.0983		mg/L		98	70 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 125*
Toluene-d8 (Surr)	*98*		*75 - 120*
4-Bromofluorobenzene (Surr)	*90*		*75 - 120*
Dibromofluoromethane	*101*		*75 - 120*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-94679/6
Matrix: Water
Analysis Batch: 94679

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	<0.0040		0.0040		mg/L			12/04/15 18:22	1

Lab Sample ID: LCS 320-94679/7
Matrix: Water
Analysis Batch: 94679

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	0.0500	0.0522		mg/L		104	85 - 115

Lab Sample ID: MRL 320-94679/5
Matrix: Water
Analysis Batch: 94679

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.10		ug/L		102	75 - 125

Lab Sample ID: 500-104085-1 MS
Matrix: Water
Analysis Batch: 94679

Client Sample ID: MW-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	<0.0040		0.0500	0.0415		mg/L		83	80 - 120

Lab Sample ID: 500-104085-1 MSD
Matrix: Water
Analysis Batch: 94679

Client Sample ID: MW-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	<0.0040		0.0500	0.0429		mg/L		86	80 - 120	3	20

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: 500-104085-2 MS
Matrix: Water
Analysis Batch: 314876

Client Sample ID: MW-07
Prep Type: Dissolved
Prep Batch: 314825

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	<0.0030		0.500	0.520		mg/L		104	75 - 125
Arsenic	0.13		0.100	0.234		mg/L		105	75 - 125
Barium	0.43		0.500	0.916		mg/L		96	75 - 125
Boron	0.36		1.00	1.31		mg/L		95	75 - 125
Cadmium	<0.00050		0.0500	0.0506		mg/L		101	75 - 125
Chromium	<0.0050		0.200	0.198		mg/L		99	75 - 125
Cobalt	0.0062		0.500	0.492		mg/L		97	75 - 125
Copper	<0.0020		0.250	0.253		mg/L		101	75 - 125
Iron	12		1.00	13.0	4	mg/L		80	75 - 125
Lead	<0.00050		0.100	0.106		mg/L		106	75 - 125
Nickel	0.0064		0.500	0.490		mg/L		97	75 - 125
Selenium	<0.0025		0.100	0.118		mg/L		118	75 - 125

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-104085-2 MS
Matrix: Water
Analysis Batch: 314876

Client Sample ID: MW-07
Prep Type: Dissolved
Prep Batch: 314825

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	<0.00050		0.0500	0.0426		mg/L		85	75 - 125
Thallium	<0.0020		0.100	0.109		mg/L		109	75 - 125
Zinc	<0.020		0.500	0.498		mg/L		100	75 - 125

Lab Sample ID: 500-104085-2 MS
Matrix: Water
Analysis Batch: 314972

Client Sample ID: MW-07
Prep Type: Dissolved
Prep Batch: 314825

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	<0.0010		0.0500	0.0530		mg/L		106	75 - 125
Vanadium	<0.0050		0.500	0.478		mg/L		96	75 - 125

Lab Sample ID: 500-104085-2 MS
Matrix: Water
Analysis Batch: 314972

Client Sample ID: MW-07
Prep Type: Dissolved
Prep Batch: 314825

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	6.2		5.50	11.6		mg/L		98	75 - 125

Lab Sample ID: 500-104085-2 MSD
Matrix: Water
Analysis Batch: 314876

Client Sample ID: MW-07
Prep Type: Dissolved
Prep Batch: 314825

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	<0.0030		0.500	0.524		mg/L		105	75 - 125	1	20
Arsenic	0.13		0.100	0.234		mg/L		104	75 - 125	0	20
Barium	0.43		0.500	0.919		mg/L		97	75 - 125	0	20
Boron	0.36		1.00	1.33		mg/L		97	75 - 125	1	20
Cadmium	<0.00050		0.0500	0.0512		mg/L		102	75 - 125	1	20
Chromium	<0.0050		0.200	0.200		mg/L		100	75 - 125	1	20
Cobalt	0.0062		0.500	0.496		mg/L		98	75 - 125	1	20
Copper	<0.0020		0.250	0.255		mg/L		102	75 - 125	1	20
Iron	12		1.00	12.9	4	mg/L		69	75 - 125	1	20
Lead	<0.00050		0.100	0.108		mg/L		108	75 - 125	1	20
Nickel	0.0064		0.500	0.489		mg/L		97	75 - 125	0	20
Selenium	<0.0025		0.100	0.118		mg/L		118	75 - 125	0	20
Silver	<0.00050		0.0500	0.0436		mg/L		87	75 - 125	2	20
Thallium	<0.0020		0.100	0.112		mg/L		112	75 - 125	3	20
Zinc	<0.020		0.500	0.506		mg/L		101	75 - 125	2	20

Lab Sample ID: 500-104085-2 MSD
Matrix: Water
Analysis Batch: 314972

Client Sample ID: MW-07
Prep Type: Dissolved
Prep Batch: 314825

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	<0.0010		0.0500	0.0515		mg/L		103	75 - 125	3	20
Vanadium	<0.0050		0.500	0.469		mg/L		94	75 - 125	2	20

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: 500-104085-2 MSD — **Client Sample ID: MW-07**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 314972 — **Prep Batch: 314825**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	6.2		5.50	11.7		mg/L		100	75 - 125	1	20

Lab Sample ID: 500-104085-2 DU — **Client Sample ID: MW-07**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 314876 — **Prep Batch: 314825**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Antimony	<0.0030		<0.0030		mg/L		NC	20
Arsenic	0.13		0.131		mg/L		1	20
Barium	0.43		0.436		mg/L		0.4	20
Boron	0.36		0.357		mg/L		1	20
Cadmium	<0.00050		<0.00050		mg/L		NC	20
Chromium	<0.0050		<0.0050		mg/L		NC	20
Cobalt	0.0062		0.00637		mg/L		2	20
Copper	<0.0020		<0.0020		mg/L		NC	20
Iron	12		12.4		mg/L		2	20
Lead	<0.00050		<0.00050		mg/L		NC	20
Nickel	0.0064		0.00644		mg/L		0.09	20
Selenium	<0.0025		<0.0025		mg/L		NC	20
Silver	<0.00050		<0.00050		mg/L		NC	20
Thallium	<0.0020		<0.0020		mg/L		NC	20
Zinc	<0.020		<0.020		mg/L		NC	20

Lab Sample ID: 500-104085-2 DU — **Client Sample ID: MW-07**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 314972 — **Prep Batch: 314825**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Beryllium	<0.0010		<0.0010		mg/L		NC	20
Vanadium	<0.0050		<0.0050		mg/L		NC	20

Lab Sample ID: 500-104085-2 DU — **Client Sample ID: MW-07**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 314972 — **Prep Batch: 314825**

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Manganese	6.2		6.33		mg/L		2	20

Lab Sample ID: MB 500-314825/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Soluble**
Analysis Batch: 314876 — **Prep Batch: 314825**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	<0.0030		0.0030		mg/L		12/02/15 10:56	12/02/15 11:50	1
Arsenic	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 11:50	1
Barium	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 11:50	1
Boron	<0.050		0.050		mg/L		12/02/15 10:56	12/02/15 11:50	1
Cadmium	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 11:50	1
Chromium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 11:50	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 500-314825/1-A
Matrix: Water
Analysis Batch: 314876

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 314825

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 11:50	1
Copper	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 11:50	1
Iron	<0.10		0.10		mg/L		12/02/15 10:56	12/02/15 11:50	1
Lead	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 11:50	1
Manganese	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 11:50	1
Nickel	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 11:50	1
Selenium	<0.0025		0.0025		mg/L		12/02/15 10:56	12/02/15 11:50	1
Silver	<0.00050		0.00050		mg/L		12/02/15 10:56	12/02/15 11:50	1
Thallium	<0.0020		0.0020		mg/L		12/02/15 10:56	12/02/15 11:50	1
Zinc	<0.020		0.020		mg/L		12/02/15 10:56	12/02/15 11:50	1

Lab Sample ID: MB 500-314825/1-A
Matrix: Water
Analysis Batch: 314972

Client Sample ID: Method Blank
Prep Type: Soluble
Prep Batch: 314825

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	<0.0010		0.0010		mg/L		12/02/15 10:56	12/02/15 14:16	1
Vanadium	<0.0050		0.0050		mg/L		12/02/15 10:56	12/02/15 14:16	1

Lab Sample ID: LCS 500-314825/2-A
Matrix: Water
Analysis Batch: 314876

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 314825

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.500	0.498		mg/L		100	80 - 120
Arsenic	0.100	0.0970		mg/L		97	80 - 120
Barium	0.500	0.502		mg/L		100	80 - 120
Boron	1.00	0.978		mg/L		98	80 - 120
Cadmium	0.0500	0.0493		mg/L		99	80 - 120
Chromium	0.200	0.204		mg/L		102	80 - 120
Cobalt	0.500	0.512		mg/L		102	80 - 120
Copper	0.250	0.252		mg/L		101	80 - 120
Iron	1.00	1.04		mg/L		104	80 - 120
Lead	0.100	0.107		mg/L		107	80 - 120
Manganese	0.500	0.511		mg/L		102	80 - 120
Nickel	0.500	0.513		mg/L		103	80 - 120
Selenium	0.100	0.0971		mg/L		97	80 - 120
Silver	0.0500	0.0489		mg/L		98	80 - 120
Thallium	0.100	0.110		mg/L		110	80 - 120
Zinc	0.500	0.495		mg/L		99	80 - 120

Lab Sample ID: LCS 500-314825/2-A
Matrix: Water
Analysis Batch: 314972

Client Sample ID: Lab Control Sample
Prep Type: Soluble
Prep Batch: 314825

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.0500	0.0478		mg/L		96	80 - 120
Vanadium	0.500	0.474		mg/L		95	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-314492/12-A
Matrix: Water
Analysis Batch: 314697

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 314492

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00020		0.00020		mg/L		11/30/15 14:15	12/01/15 12:09	1

Lab Sample ID: LCS 500-314492/13-A
Matrix: Water
Analysis Batch: 314697

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 314492

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00200	0.00229		mg/L		115	80 - 120		

Lab Sample ID: 500-104085-1 MS
Matrix: Water
Analysis Batch: 314697

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 314492

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury	<0.00020		0.00100	0.000958		mg/L		96	75 - 125		

Lab Sample ID: 500-104085-1 MSD
Matrix: Water
Analysis Batch: 314697

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 314492

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.00020		0.00100	0.00102		mg/L		102	75 - 125	7	20

Lab Sample ID: 500-104085-1 DU
Matrix: Water
Analysis Batch: 314697

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 314492

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Mercury	<0.00020			<0.00020		mg/L				NC	20

Method: 9014 - Cyanide

Lab Sample ID: MB 500-314585/1-A
Matrix: Water
Analysis Batch: 314591

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 314585

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	<0.010		0.010		mg/L		11/30/15 21:05	11/30/15 23:25	1

Lab Sample ID: LCS 500-314585/2-A
Matrix: Water
Analysis Batch: 314591

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 314585

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cyanide, Total			0.100	0.107		mg/L		107	80 - 120		

Method: 9014 - Cyanide (Continued)

Lab Sample ID: 500-104085-1 MS
Matrix: Water
Analysis Batch: 314591

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 314585

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	<0.010		0.0400	0.0422		mg/L		106	75 - 125

Lab Sample ID: 500-104085-1 MSD
Matrix: Water
Analysis Batch: 314591

Client Sample ID: MW-01
Prep Type: Dissolved
Prep Batch: 314585

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	<0.010		0.0400	0.0429		mg/L		107	75 - 125	2	20

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 500-314790/3
Matrix: Water
Analysis Batch: 314790

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			12/02/15 07:56	1

Lab Sample ID: LCS 500-314790/4
Matrix: Water
Analysis Batch: 314790

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.3		mg/L		97	80 - 120

Lab Sample ID: MB 500-315164/3
Matrix: Water
Analysis Batch: 315164

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	<5.0		5.0		mg/L			12/04/15 05:11	1

Lab Sample ID: LCS 500-315164/4
Matrix: Water
Analysis Batch: 315164

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	18.6		mg/L		93	80 - 120

Lab Sample ID: 500-104085-10 MS
Matrix: Water
Analysis Batch: 315164

Client Sample ID: MW-09
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	130		200	320		mg/L		94	75 - 125

Method: 9038 - Sulfate, Turbidimetric (Continued)

Lab Sample ID: 500-104085-10 MSD — **Client Sample ID: MW-09**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 315164

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	130		200	330		mg/L		99	75 - 125	3	20

Method: 9251 - Chloride

Lab Sample ID: MB 500-314629/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 314629

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			11/30/15 19:12	1

Lab Sample ID: LCS 500-314629/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 314629

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.2		mg/L		98	80 - 120

Lab Sample ID: MB 500-314671/12 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 314671

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			12/01/15 11:57	1

Lab Sample ID: LCS 500-314671/13 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 314671

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.2		mg/L		102	80 - 120

Lab Sample ID: MB 500-314701/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 314701

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	<2.0		2.0		mg/L			12/01/15 13:14	1

Lab Sample ID: LCS 500-314701/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 314701

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	51.1		mg/L		102	80 - 120

Method: 9251 - Chloride (Continued)

Lab Sample ID: 500-104085-10 MS
Matrix: Water
Analysis Batch: 314629

Client Sample ID: MW-09
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	30		50.0	73.4		mg/L		87	75 - 125

Lab Sample ID: 500-104085-10 MSD
Matrix: Water
Analysis Batch: 314629

Client Sample ID: MW-09
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	30		50.0	73.4		mg/L		87	75 - 125	0	20

Lab Sample ID: 500-104085-13 MS
Matrix: Water
Analysis Batch: 314671

Client Sample ID: MW-15
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	200		50.0	236	4	mg/L		72	75 - 125

Lab Sample ID: 500-104085-13 MSD
Matrix: Water
Analysis Batch: 314671

Client Sample ID: MW-15
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	200		50.0	238	4	mg/L		75	75 - 125	1	20

Lab Sample ID: 500-104085-17 MS
Matrix: Water
Analysis Batch: 314701

Client Sample ID: MW-13
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	170	F1	50.0	208	F1	mg/L		68	75 - 125

Lab Sample ID: 500-104085-17 MSD
Matrix: Water
Analysis Batch: 314701

Client Sample ID: MW-13
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	170	F1	50.0	211	F1	mg/L		73	75 - 125	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 500-313548/1
Matrix: Water
Analysis Batch: 313548

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	<10		10		mg/L			11/21/15 06:30	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 500-313548/2
Matrix: Water
Analysis Batch: 313548

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			250	296		mg/L		118	80 - 120		

Lab Sample ID: 500-104085-1 MS
Matrix: Water
Analysis Batch: 313548

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids	510		250	822		mg/L		123	75 - 125		

Lab Sample ID: 500-104085-1 DU
Matrix: Water
Analysis Batch: 313548

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	510			522		mg/L				2	5

Method: SM 4500 F C - Fluoride

Lab Sample ID: MB 500-313599/3
Matrix: Water
Analysis Batch: 313599

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	<0.10		0.10		mg/L			11/21/15 17:01	1

Lab Sample ID: LCS 500-313599/4
Matrix: Water
Analysis Batch: 313599

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			10.0	9.98		mg/L		100	80 - 120		

Lab Sample ID: 500-104085-1 MS
Matrix: Water
Analysis Batch: 313599

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.18		5.00	5.20		mg/L		100	75 - 125		

Lab Sample ID: 500-104085-1 MSD
Matrix: Water
Analysis Batch: 313599

Client Sample ID: MW-01
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.18		5.00	5.25		mg/L		101	75 - 125	1	20

Method: SM 4500 NO2 B - Nitrogen, Nitrite

Lab Sample ID: MB 500-313359/3
Matrix: Water
Analysis Batch: 313359

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/17/15 16:31	1

Lab Sample ID: LCS 500-313359/4
Matrix: Water
Analysis Batch: 313359

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.104		mg/L		104	80 - 120

Lab Sample ID: MB 500-313631/3
Matrix: Water
Analysis Batch: 313631

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/19/15 14:40	1

Lab Sample ID: LCS 500-313631/4
Matrix: Water
Analysis Batch: 313631

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.105		mg/L		105	80 - 120

Lab Sample ID: MB 500-313632/3
Matrix: Water
Analysis Batch: 313632

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/18/15 18:51	1

Lab Sample ID: LCS 500-313632/4
Matrix: Water
Analysis Batch: 313632

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.104		mg/L		104	80 - 120

Lab Sample ID: MB 500-313633/3
Matrix: Water
Analysis Batch: 313633

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrite	<0.020		0.020		mg/L			11/21/15 09:00	1

Lab Sample ID: LCS 500-313633/4
Matrix: Water
Analysis Batch: 313633

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrogen, Nitrite	0.100	0.0990		mg/L		99	80 - 120

Lab Sample ID: 500-104085-3 MS
Matrix: Water
Analysis Batch: 313359

Client Sample ID: MW-16
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Nitrite	<0.020		0.100	0.100		mg/L		100	75 - 125		

Lab Sample ID: 500-104085-3 MSD
Matrix: Water
Analysis Batch: 313359

Client Sample ID: MW-16
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	<0.020		0.100	0.102		mg/L		102	75 - 125	2	20

Lab Sample ID: 500-104085-15 MS
Matrix: Water
Analysis Batch: 313633

Client Sample ID: MW-11
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Nitrite	<0.020		0.100	0.0946		mg/L		95	75 - 125		

Lab Sample ID: 500-104085-15 MSD
Matrix: Water
Analysis Batch: 313633

Client Sample ID: MW-11
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrite	<0.020		0.100	0.0967		mg/L		97	75 - 125	2	20

Method: SM 4500 NO3 F - Nitrogen, Nitrate

Lab Sample ID: MB 500-315154/4
Matrix: Water
Analysis Batch: 315154

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrogen, Nitrate Nitrite	<0.10		0.10		mg/L			12/03/15 17:11	1

Lab Sample ID: LCS 500-315154/5
Matrix: Water
Analysis Batch: 315154

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Nitrate Nitrite	1.00	1.04		mg/L		104	80 - 120		

Lab Sample ID: 500-104085-5 MS
Matrix: Water
Analysis Batch: 315154

Client Sample ID: MW-03
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrogen, Nitrate Nitrite	0.19		1.00	1.20		mg/L		101	75 - 125		

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-104085-1

Method: SM 4500 NO3 F - Nitrogen, Nitrate (Continued)

Lab Sample ID: 500-104085-5 MSD
Matrix: Water
Analysis Batch: 315154

Client Sample ID: MW-03
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrogen, Nitrate Nitrite	0.19		1.00	1.22		mg/L		103	75 - 125	1	20

Client Sample ID: MW-01

Lab Sample ID: 500-104085-1

Date Collected: 11/16/15 14:45

Matrix: Water

Date Received: 11/17/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314390	11/28/15 18:40	PMF	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/04/15 19:40	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 14:24	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 11:58	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:13	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:26		
					(End)	11/30/15 23:27		
Dissolved	Analysis	9038		4	314790		CLB	TAL CHI
					(Start)	12/02/15 08:05		
					(End)	12/02/15 08:06		
Dissolved	Analysis	9251		1	314629	11/30/15 19:26	HMW	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 06:37	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 17:06	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313359		EAT	TAL CHI
					(Start)	11/17/15 16:34		
					(End)	11/17/15 16:35		
Dissolved	Analysis	SM 4500 NO3 F		5	315154	12/03/15 18:33	CCK	TAL CHI

Client Sample ID: MW-07

Lab Sample ID: 500-104085-2

Date Collected: 11/16/15 13:40

Matrix: Water

Date Received: 11/17/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314390	11/28/15 19:30	PMF	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/04/15 20:26	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 14:27	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		10	314972	12/02/15 16:05	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 12:02	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:25	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:28		
					(End)	11/30/15 23:28		

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-104085-1

Client Sample ID: MW-07

Date Collected: 11/16/15 13:40
Date Received: 11/17/15 09:45

Lab Sample ID: 500-104085-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9038		4	314790		CLB	TAL CHI
					(Start)	12/02/15 08:08		
					(End)	12/02/15 08:09		
Dissolved	Analysis	9251		5	314629	11/30/15 19:51	HMW	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 06:45	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 17:13	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313359		EAT	TAL CHI
					(Start)	11/17/15 16:34		
					(End)	11/17/15 16:35		
Dissolved	Analysis	SM 4500 NO3 F		1	315154	12/03/15 17:19	CCK	TAL CHI

Client Sample ID: MW-16

Date Collected: 11/16/15 12:00
Date Received: 11/17/15 09:45

Lab Sample ID: 500-104085-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314390	11/28/15 19:55	PMF	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/04/15 20:41	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 14:47	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 12:20	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:27	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:28		
					(End)	11/30/15 23:28		
Dissolved	Analysis	9038		5	314790		CLB	TAL CHI
					(Start)	12/02/15 08:09		
					(End)	12/02/15 08:10		
Dissolved	Analysis	9251		1	314629	11/30/15 19:27	HMW	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 06:47	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 17:16	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313359		EAT	TAL CHI
					(Start)	11/17/15 16:35		
					(End)	11/17/15 16:36		
Dissolved	Analysis	SM 4500 NO3 F		10	315154	12/03/15 18:34	CCK	TAL CHI

Client Sample ID: MW-02

Lab Sample ID: 500-104085-4

Date Collected: 11/17/15 09:00

Matrix: Water

Date Received: 11/18/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314390	11/28/15 20:20	PMF	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/04/15 21:27	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 14:51	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 12:24	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:29	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:28		
					(End)	11/30/15 23:29		
Dissolved	Analysis	9038		4	314790		CLB	TAL CHI
					(Start)	12/02/15 08:10		
					(End)	12/02/15 08:11		
Dissolved	Analysis	9251		1	314629	11/30/15 19:28	HMW	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 06:50	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 17:19	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313632		EAT	TAL CHI
					(Start)	11/18/15 18:53		
					(End)	11/18/15 18:53		
Dissolved	Analysis	SM 4500 NO3 F		2	315154	12/03/15 18:34	CCK	TAL CHI

Client Sample ID: MW-03

Lab Sample ID: 500-104085-5

Date Collected: 11/17/15 11:25

Matrix: Water

Date Received: 11/18/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314390	11/28/15 20:45	PMF	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/04/15 21:43	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 15:03	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 12:41	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:31	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:29		
					(End)	11/30/15 23:29		

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-104085-1

Client Sample ID: MW-03

Date Collected: 11/17/15 11:25
Date Received: 11/18/15 09:45

Lab Sample ID: 500-104085-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9038		4	314790		CLB	TAL CHI
					(Start)	12/02/15 08:11		
					(End)	12/02/15 08:12		
Dissolved	Analysis	9251		1	314629	11/30/15 19:28	HMW	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 06:52	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 17:22	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313632		EAT	TAL CHI
					(Start)	11/18/15 18:53		
					(End)	11/18/15 18:54		
Dissolved	Analysis	SM 4500 NO3 F		1	315154	12/03/15 17:26	CCK	TAL CHI

Client Sample ID: MW-04

Date Collected: 11/17/15 12:50
Date Received: 11/18/15 09:45

Lab Sample ID: 500-104085-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314390	11/28/15 21:10	PMF	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/04/15 21:58	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 15:07	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 12:45	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:33	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:29		
					(End)	11/30/15 23:30		
Dissolved	Analysis	9038		5	314790		CLB	TAL CHI
					(Start)	12/02/15 08:12		
					(End)	12/02/15 08:13		
Dissolved	Analysis	9251		1	314629	11/30/15 19:30	HMW	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 06:55	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 17:24	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313632		EAT	TAL CHI
					(Start)	11/18/15 18:54		
					(End)	11/18/15 18:55		
Dissolved	Analysis	SM 4500 NO3 F		1	315154	12/03/15 17:37	CCK	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-104085-1

Client Sample ID: MW-05

Lab Sample ID: 500-104085-7

Date Collected: 11/17/15 14:45

Matrix: Water

Date Received: 11/18/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314390	11/28/15 21:35	PMF	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/04/15 22:14	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 15:10	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 12:49	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:35	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:31		
					(End)	11/30/15 23:31		
Dissolved	Analysis	9038		10	314790		CLB	TAL CHI
					(Start)	12/02/15 08:13		
					(End)	12/02/15 08:14		
Dissolved	Analysis	9251		5	314629	11/30/15 19:51	HMW	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 06:57	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 17:35	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313632		EAT	TAL CHI
					(Start)	11/18/15 18:55		
					(End)	11/18/15 18:56		
Dissolved	Analysis	SM 4500 NO3 F		1	315154	12/03/15 17:39	CCK	TAL CHI

Client Sample ID: MW-06

Lab Sample ID: 500-104085-8

Date Collected: 11/17/15 16:05

Matrix: Water

Date Received: 11/18/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314390	11/28/15 22:00	PMF	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/04/15 22:29	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 15:14	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 12:52	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:37	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:31		
					(End)	11/30/15 23:32		

Client Sample ID: MW-06

Lab Sample ID: 500-104085-8

Date Collected: 11/17/15 16:05

Matrix: Water

Date Received: 11/18/15 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9038		20	314790		CLB	TAL CHI
					(Start)	12/02/15 08:14		
					(End)	12/02/15 08:15		
Dissolved	Analysis	9251		5	314629	11/30/15 19:52	HMW	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 07:00	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 17:38	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313632		EAT	TAL CHI
					(Start)	11/18/15 18:56		
					(End)	11/18/15 18:57		
Dissolved	Analysis	SM 4500 NO3 F		1	315154	12/03/15 17:41	CCK	TAL CHI

Client Sample ID: MW-08

Lab Sample ID: 500-104085-9

Date Collected: 11/18/15 09:58

Matrix: Water

Date Received: 11/19/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314442	11/30/15 14:27	JMP	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/04/15 22:45	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 15:18	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 12:56	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:39	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:32		
					(End)	11/30/15 23:32		
Dissolved	Analysis	9038		20	315164		CLB	TAL CHI
					(Start)	12/04/15 05:13		
					(End)	12/04/15 05:14		
Dissolved	Analysis	9251		5	314629	11/30/15 19:52	HMW	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 07:02	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 17:40	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313631		EAT	TAL CHI
					(Start)	11/19/15 14:42		
					(End)	11/19/15 14:42		
Dissolved	Analysis	SM 4500 NO3 F		1	315154	12/03/15 17:43	CCK	TAL CHI

Client Sample ID: MW-09

Date Collected: 11/18/15 11:25
Date Received: 11/19/15 10:20

Lab Sample ID: 500-104085-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314442	11/30/15 14:52	JMP	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/04/15 23:00	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 15:22	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 13:00	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:41	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:32		
					(End)	11/30/15 23:32		
Dissolved	Analysis	9038		5	315164		CLB	TAL CHI
					(Start)	12/04/15 05:14		
					(End)	12/04/15 05:15		
Dissolved	Analysis	9251		1	314629	11/30/15 19:32	HMW	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 07:05	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 17:43	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313631		EAT	TAL CHI
					(Start)	11/19/15 14:42		
					(End)	11/19/15 14:42		
Dissolved	Analysis	SM 4500 NO3 F		1	315154	12/03/15 17:45	CCK	TAL CHI

Client Sample ID: MW-10

Date Collected: 11/18/15 13:40
Date Received: 11/19/15 10:20

Lab Sample ID: 500-104085-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314442	11/30/15 15:18	JMP	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/04/15 23:15	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 15:26	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 13:04	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:43	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:32		
					(End)	11/30/15 23:33		

Client Sample ID: MW-10

Lab Sample ID: 500-104085-11

Date Collected: 11/18/15 13:40

Matrix: Water

Date Received: 11/19/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9038		4	315164		CLB	TAL CHI
					(Start)	12/04/15 05:17		
					(End)	12/04/15 05:18		
Dissolved	Analysis	9251		1	314629	11/30/15 19:34	HMW	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 07:07	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 17:46	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313631		EAT	TAL CHI
					(Start)	11/19/15 14:42		
					(End)	11/19/15 14:43		
Dissolved	Analysis	SM 4500 NO3 F		1	315154	12/03/15 17:47	CCK	TAL CHI

Client Sample ID: MW-14

Lab Sample ID: 500-104085-12

Date Collected: 11/18/15 15:20

Matrix: Water

Date Received: 11/19/15 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314442	11/30/15 15:43	JMP	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/04/15 23:31	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 15:30	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 13:07	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:49	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:33		
					(End)	11/30/15 23:33		
Dissolved	Analysis	9038		100	315164		CLB	TAL CHI
					(Start)	12/04/15 05:18		
					(End)	12/04/15 05:19		
Dissolved	Analysis	9251		5	314629	11/30/15 19:53	HMW	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 07:10	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 17:48	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313631		EAT	TAL CHI
					(Start)	11/19/15 14:43		
					(End)	11/19/15 14:43		
Dissolved	Analysis	SM 4500 NO3 F		1	315154	12/03/15 17:49	CCK	TAL CHI

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-104085-1

Client Sample ID: MW-15

Date Collected: 11/18/15 16:10
Date Received: 11/19/15 10:20

Lab Sample ID: 500-104085-13

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314442	11/30/15 16:08	JMP	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/04/15 23:46	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 15:34	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 13:11	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:50	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:33		
					(End)	11/30/15 23:34		
Dissolved	Analysis	9038		50	315164		CLB	TAL CHI
					(Start)	12/04/15 05:19		
					(End)	12/04/15 05:20		
Dissolved	Analysis	9251		5	314671	12/01/15 12:43	CCK	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 07:12	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 17:50	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313631		EAT	TAL CHI
					(Start)	11/19/15 14:43		
					(End)	11/19/15 14:43		
Dissolved	Analysis	SM 4500 NO3 F		1	315154	12/03/15 17:51	CCK	TAL CHI

Client Sample ID: Duplicate

Date Collected: 11/18/15 00:00
Date Received: 11/19/15 10:20

Lab Sample ID: 500-104085-14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314442	11/30/15 16:33	JMP	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/05/15 00:33	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 15:46	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 13:15	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:52	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:34		
					(End)	11/30/15 23:34		

Client Sample ID: Duplicate

Lab Sample ID: 500-104085-14

Date Collected: 11/18/15 00:00
Date Received: 11/19/15 10:20

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9038		4	315164		CLB	TAL CHI
					(Start)	12/04/15 05:20		
					(End)	12/04/15 05:21		
Dissolved	Analysis	9251		1	314701	12/01/15 13:16	CCK	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 07:15	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 17:53	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313631		EAT	TAL CHI
					(Start)	11/19/15 14:44		
					(End)	11/19/15 14:44		
Dissolved	Analysis	SM 4500 NO3 F		1	315154	12/03/15 17:54	CCK	TAL CHI

Client Sample ID: MW-11

Lab Sample ID: 500-104085-15

Date Collected: 11/19/15 16:30
Date Received: 11/20/15 14:45

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314442	11/30/15 16:58	JMP	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/05/15 00:48	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 15:50	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 13:26	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:54	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:34		
					(End)	11/30/15 23:35		
Dissolved	Analysis	9038		10	315164		CLB	TAL CHI
					(Start)	12/04/15 05:23		
					(End)	12/04/15 05:24		
Dissolved	Analysis	9251		1	314701	12/01/15 13:17	CCK	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 07:17	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 17:55	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313633		EAT	TAL CHI
					(Start)	11/21/15 09:02		
					(End)	11/21/15 09:03		
Dissolved	Analysis	SM 4500 NO3 F		1	315154	12/03/15 17:56	CCK	TAL CHI

Client Sample ID: MW-12

Lab Sample ID: 500-104085-16

Date Collected: 11/19/15 13:45

Matrix: Water

Date Received: 11/20/15 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314442	11/30/15 17:23	JMP	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/05/15 01:04	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 15:53	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 13:30	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:56	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:35		
					(End)	11/30/15 23:35		
Dissolved	Analysis	9038		20	315164		CLB	TAL CHI
					(Start)	12/04/15 05:24		
					(End)	12/04/15 05:25		
Dissolved	Analysis	9251		5	314701	12/01/15 14:00	CCK	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 07:20	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 17:58	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313633		EAT	TAL CHI
					(Start)	11/21/15 09:02		
					(End)	11/21/15 09:02		
Dissolved	Analysis	SM 4500 NO3 F		1	315154	12/03/15 17:58	CCK	TAL CHI

Client Sample ID: MW-13

Lab Sample ID: 500-104085-17

Date Collected: 11/19/15 09:10

Matrix: Water

Date Received: 11/20/15 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314442	11/30/15 17:48	JMP	TAL CHI
Total/NA	Analysis	314.0		1	94679	12/05/15 01:19	JCB	TAL SAC
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314972	12/02/15 15:57	BJH	TAL CHI
Dissolved	Prep	Soluble Metals			314825	12/02/15 10:56	FXG	TAL CHI
Dissolved	Analysis	6020A		1	314876	12/02/15 13:33	BJH	TAL CHI
Dissolved	Prep	7470A			314492	11/30/15 14:15	MJD	TAL CHI
Dissolved	Analysis	7470A		1	314697	12/01/15 12:58	MJD	TAL CHI
Dissolved	Prep	9010B			314585	11/30/15 21:05	EAT	TAL CHI
Dissolved	Analysis	9014		1	314591		EAT	TAL CHI
					(Start)	11/30/15 23:36		
					(End)	11/30/15 23:36		

Lab Chronicle

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-104085-1

Client Sample ID: MW-13

Lab Sample ID: 500-104085-17

Date Collected: 11/19/15 09:10

Matrix: Water

Date Received: 11/20/15 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	9038		50	315164		CLB	TAL CHI
					(Start)	12/04/15 05:25		
					(End)	12/04/15 05:26		
Dissolved	Analysis	9251		5	314701	12/01/15 14:01	CCK	TAL CHI
Dissolved	Analysis	Nitrate by calc		1	314999	12/04/15 10:03	CCK	TAL CHI
Dissolved	Analysis	SM 2540C		1	313548	11/21/15 07:22	CLB	TAL CHI
Dissolved	Analysis	SM 4500 F C		1	313599	11/21/15 18:08	EAT	TAL CHI
Dissolved	Analysis	SM 4500 NO2 B		1	313633		EAT	TAL CHI
					(Start)	11/21/15 09:01		
					(End)	11/21/15 09:02		
Dissolved	Analysis	SM 4500 NO3 F		1	315154	12/03/15 17:59	CCK	TAL CHI

Client Sample ID: Trip Blank

Lab Sample ID: 500-104085-18

Date Collected: 11/16/15 00:00

Matrix: Water

Date Received: 11/20/15 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314390	11/28/15 19:05	PMF	TAL CHI

Laboratory References:

TAL CHI = TestAmerica Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Certification Summary

Client: KPRG and Associates, Inc.
Project/Site: Powerton Station Ash Ponds

TestAmerica Job ID: 500-104085-1

Laboratory: TestAmerica Chicago

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Illinois	NELAP	5	100201	04-30-16

Laboratory: TestAmerica Sacramento

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
A2LA	DoD ELAP		2928-01	01-31-16
Alaska (UST)	State Program	10	UST-055	12-18-16
Arizona	State Program	9	AZ0708	08-11-16
Arkansas DEQ	State Program	6	88-0691	06-17-16
California	State Program	9	2897	01-31-16
Colorado	State Program	8	N/A	08-31-16
Connecticut	State Program	1	PH-0691	06-30-17
Florida	NELAP	4	E87570	06-30-16
Hawaii	State Program	9	N/A	01-29-16
Illinois	NELAP	5	200060	03-17-16
Kansas	NELAP	7	E-10375	01-31-16
Louisiana	NELAP	6	30612	06-30-16
Michigan	State Program	5	9947	01-31-16
Nevada	State Program	9	CA44	07-31-16
New Jersey	NELAP	2	CA005	06-30-16
New York	NELAP	2	11666	04-01-16
Oregon	NELAP	10	CA200005	01-29-16
Pennsylvania	NELAP	3	9947	03-31-16
Texas	NELAP	6	T104704399-15-9	05-31-16
US Fish & Wildlife	Federal		LE148388-0	02-28-16
USDA	Federal		P330-11-00436	12-30-17
USEPA UCMR	Federal	1	CA00044	11-06-16
Utah	NELAP	8	QUAN1	02-28-16
Virginia	NELAP Secondary AB	3	460278	03-14-16
Washington	State Program	10	C581	05-04-16
West Virginia (DW)	State Program	3	9930C	12-31-15
Wyoming	State Program	8	8TMS-Q	01-29-16

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Rich Gnat	Contact:	
Company:	KPRG & Associates Inc.	Company:	
Address:	14665 W. Llisbon Rd. Suite 2B	Address:	
	Brookfield, WI		
Phone:	262-781-0475	Phone:	
Fax:		Fax:	
Email:		PO #:	

500-104085 COC

Lab Lot # 500- 104085

Package Sealed: Yes (No)	Samples Sealed: Yes (No)
Received on Ice: (Yes) No	Samples Intact: (Yes) No N/A
Temperature °C of Cooler: 8.7 °C	
Within Hold Time: (Yes) No	Preserv. Indicated: Yes No (N/A)
pH Check OK: (Yes) No	Res CL_2 Check OK: Yes No (N/A)
Sample Labels and COC Agree: (Yes) No COC not present	

Sampler Name: Ian John Howieson	**Client Project #** 12313.1	**Refrg #**	
		# / Cont.	
Project Name: Powerton Station Ash Ponds	**TestAmerica Project Number:** 50008027	**Volume**	
		Preserv.	
Project Location: Pekin, IL	**Date Required** Hard Copy: ____/____/____		
Lab PM: Bonnie Stadelmann	Fax: ____/____/____		

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Containers	NO2	Additional Analyses / Remarks
1		MW-01	11-16-15	14:45	W	1	X	
2		MW-07	11-16-15	13:40	W	1	X	
3		MW-16	11-16-15	12:00	W	1	X	
					W			
					W			
					W			
					W			
					W			
					W			
					W			
					W			

RELINQUISHED BY: ISH	COMPANY: KPRG	DATE: 11-16-15	TIME: 16:00	RECEIVED BY: FEDEX	COMPANY:	DATE:	TIME: 0745
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY: TA	DATE: 11/17/15	TIME: 0945

Matrix Key
WW = Wastewater, SE = Sediment
W = Water, SO = Solid
S = Soil, DL = Drum Liquid
SL = Sludge, DS = Drum Solid
MS = Miscellaneous, L = Leachate
OL = Oil, W = Wipe
A = Air, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other
_____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS: 8.7

Date Received ____/____/____
Courier:
Hand Delivered ☐
Bill of Lading:

PAGE ____of____

STL-8208 (0600)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

500-104085 COC

Report To:		Bill To:	
Contact:	Rich Gnat	Contact:	
Company:	KPRG & Associates Inc.	Company:	
Address:	14665 W. Llisbon Rd. Suite 2B	Address:	
	Brookfield, WI		
Phone:	262-781-0475	Phone:	
Fax:		Fax:	
Email:		PO #:	

Lab Lot # 500-104085

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No N/A

Temperature °C of Cooler: 0.3

Within Hold Time	Preserv. Indicated
Yes No	Yes No N/A
pH Check OK	**Res Cl_2 Check OK**
Yes No	Yes No N/A

Sample Labels and COC Agree: Yes No COC not present

Sampler Name:	Client Project #	Project Name:	TestAmerica Project Number:
Ian John Howieson	12313.1	Powerton Station Ash Ponds	50008027

Project Location: Pekin, IL
Lab PM: Bonnie Stadelmann
Date Required — Hard Copy: ____/____/____ Fax: ____/____/____

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Containers	NO2	Additional Analyses / Remarks
4		MW-02	11-17-15	09:00	W	1	X	
5		MW-03	11-17-15	11:25	W	1	X	
6		MW-04	11-17-15	12:50	W	1	X	
7		MW-05	11-17-15	14:45	W	1	X	
8		MW-06	11-17-15	16:05	W	1	X	
					W			
					W			
					W			
					W			
					W			
					W			

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	11-17-15	17:55	FEDEX			
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
					TA	11-18-15	09:45

Matrix Key
WW = Wastewater, W = Water, S = Soil, SL = Sludge, MS = Miscellaneous, OL = Oil, A = Air, SE = Sediment, SO = Solid, DL = Drum Liquid, DS = Drum Solid, L = Leachate, W = Wipe, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other
_____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ____/____/____
Courier:
Hand Delivered ☐
Bill of Lading:

PAGE ____of____

STL-8208 (0600)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Rich Gnat	Contact:	
Company:	KPRG & Associates Inc.	Company:	
Address:	14665 W. Llisbon Rd. Suite 2B	Address:	
	Brookfield, WI		
Phone:	262-781-0475	Phone:	
Fax:		Fax:	
Email:		PO #:	

500-104085 COC

Lab Lot # 500-104085

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No N/A
Temperature °C of Cooler	0.5
Within Hold Time	**Preserv. Indicated**
Yes No	Yes No N/A
pH Check OK	**Res CL_2 Check OK**
Yes No	Yes No N/A
Sample Labels and COC Agree	
Yes No	COC not present

Sampler Name:	Client Project #	Refrg #
Ian John Howieson	12313.1	# / Cont.
Project Name:	**TestAmerica Project Number:**	Volume
Powerton Station Ash Ponds	50008027	Preserv.
Project Location:	**Date Required**	
Pekin, IL	Hard Copy: ____/____/____	
Lab PM: Bonnie Stadelmann	Fax: ____/____/____	

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# of Containers	NO2	Additional Analyses / Remarks
9		MW-08	11-18-15	09:58	W	1	X	
10		MW-09	11-18-15	11:25	W	1	X	
11		MW-10	11-18-15	13:40	W	1	X	
12		MW-14	11-18-15	15:20	W	1	X	
13		MW-15	11-18-15	16:10	W	1	X	
14		DUPLICATE	11-18-15	—	W	1	X	
					W			
					W			
					W			
					W			
					W			

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
IJH	KPRG	11-18-15	17:55	FEDEX			
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
					TAL	11/19/15	1020

Matrix Key
WW = Wastewater, SE = Sediment
W = Water, SO = Solid
S = Soil, DL = Drum Liquid
SL = Sludge, DS = Drum Solid
MS = Miscellaneous, L = Leachate
OL = Oil, W = Wipe
A = Air, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other _____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received 11, 19, 15
Courier: FX
Hand Delivered ☐
Bill of Lading:

PAGE 1 of 1

STL-8208 (0600)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicag
2417 Bond St.
University Park, IL 60
708-534-5200
Fax. 708-534-5211

500-104085 COC

Report To:		Bill To:	
Contact:	Rich Gnat	Contact:	
Company:	KPRG & Associates Inc.	Company:	
Address:	14665 W. Llisbon Rd. Suite 2B	Address:	
	Brookfield, WI		
Phone:	262-781-0475	Phone:	
Fax:		Fax:	
Email:		PO #:	

Lab Lot # 500-104085

Package Sealed: Yes (No)	Samples Sealed: Yes (No)
Received on Ice: (Yes) No	Samples Intact: (Yes) No N/A
Temperature °C of Cooler: 2.1, 1.8, 1.4, 1.1	
Within Hold Time: (Yes) No	Preserv. Indicated: (Yes) No N/A
pH Check OK: (Yes) No	Res CL_2 Check OK: Yes No (N/A)
Sample Labels and COC Agree: (Yes) No COC not present	

Sampler Name: Ian John Howieson	**Client Project #** 12313.1	**Refrg #**	
		# / Cont.	
Project Name: Powerton Station Ash Ponds	**TestAmerica Project Number:** 50008027	**Volume**	
		Preserv.	
Project Location: Pekin, IL	**Date Required** Hard Copy: ____/____/____		
Lab PM: Bonnie Stadelmann	Fax: ____/____/____		

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	# Containers	Metals dissolved	Cl, TDS, SO4, Fl, dissolved	NO2, dissolved	NO3+NO2, dissolved	Cyanide, dissolved	BTEX	Perchlorate	RADIUM 226	RADIUM 228	Additional Analyses / Remarks
1		MW-01	11-16-15	14:45	W	8	X	X	—	X	X	X	X	1	1	
4		MW-02	11-17-15	09:00	W	8	X	X	—	X	X	X	X	1	1	
5		MW-03	11-17-15	11:25	W	8	X	X	—	X	X	X	X	1	1	
6		MW-04	11-17-15	12:50	W	8	X	X	—	X	X	X	X	1	1	
7		MW-05	11-17-15	14:45	W	8	X	X	—	X	X	X	X	1	1	
8		MW-06	11-17-15	16:05	W	8	X	X	—	X	X	X	X	1	1	
9		MW-07	11-16-15	13:40	W	8	X	X	—	X	X	X	X	1	1	
9		MW-08	11-18-15	09:58	W	8	X	X	—	X	X	X	X	1	1	
10		MW-09	11-18-15	11:25	W	10	X	X	[redacted]	X	X	X	X	X	X	
11		MW-10	11-18-15	13:40	W	8	X	X	[redacted]	X	X	X	X	1	1	
15		MW-11	11-19-15	16:30	W	11	X	X	X	X	X	X	X	X	X	

RELINQUISHED BY: Ish	COMPANY: KPRG	DATE: 11-20-15	TIME: 14:48	RECEIVED BY:	COMPANY: TA-CHI	DATE: 11/20/15	TIME: 1445
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key

WW = Wastewater	SE = Sediment
W = Water	SO = Solid
S = Soil	DL = Drum Liquid
SL = Sludge	DS = Drum Solid
MS = Miscellaneous	L = Leachate
OL = Oil	W = Wipe
A = Air	O = _____

Container Key

1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other

_____

Preservative Key

1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ____/____/____
Courier:
Hand Delivered ☐
Bill of Lading:

PAGE 1 of 2

STL-8208 (0600)

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Chicago
2417 Bond St.
University Park, IL 60484
708-534-5200
Fax. 708-534-5211

Report To:		Bill To:	
Contact:	Rich Gnat	Contact:	
Company:	KPRG & Associates Inc.	Company:	
Address:	14665 W. Llisbon Rd. Suite 2B	Address:	
	Brookfield, WI		
Phone:	262-781-0475	Phone:	
Fax:		Fax:	
Email:		PO #:	

Lab Lot # 500-104085

Package Sealed	Samples Sealed
Yes No	Yes No
Received on Ice	**Samples Intact**
Yes No	Yes No N/A

Temperature °C of Cooler

Sampler Name:	Client Project #	Refrg #													Within Hold Time	Preserv. Indicated
Ian John Howieson	12313.1	# / Cont.													Yes No	Yes No N/A
Project Name:	**TestAmerica Project Number:**	Volume													pH Check OK	Res CL_2 Check OK
Powerton Station Ash Ponds	50008027	Preserv.													Yes No	Yes No N/A

Project Location: Pekin, IL
Lab PM: Bonnie Stadelmann
Date Required
Hard Copy: ____/____/____
Fax: ____/____/____

Sample Labels and COC Agree
Yes No COC not present

Laboratory ID	MS-MSD	Client Sample ID	Sampling Date	Sampling Time	Matrix	~~Comp/Grab~~ #	Metals dissolved	Cl, TDS, SO4, Fl, dissolved	NO2, dissolved	NO3+NO2, dissolved	Cyanide, dissolved	BTEX	Perchlorate	Radium 226	Radium 228		Additional Analyses / Remarks
16		MW-12	11-19-15	13:45	W	11	X	X	X	X	X	X	X	X	X		
17		MW-13	11-19-15	09:10	W	9	X	X	X	X	X	X	X	1	1		
12		MW-14	11-18-15	15:20	W	8	X	X	[redacted]	X	X	X	X	1	1		
13		MW-15	11-18-15	16:10	W	8	X	X	[redacted]	X	X	X	X	1	1		
3		MW-16	11-16-15	12:00	W	8	X	X	[redacted]	X	X	X	X	1	1		
14		[redacted] DUPLICATE	11-18-15	—	W	8	X	X	[redacted]	X	X	X	X	1	1		
18		X-TRIP BLANK	—	—	W	2											
					W												
					W												
					W												
					W												

RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:
ISH	KPRG	11-20-15	14:45	[redacted] Scott	TA-CHI	11/20/15	1445
RELINQUISHED BY:	COMPANY:	DATE:	TIME:	RECEIVED BY:	COMPANY:	DATE:	TIME:

Matrix Key
WW = Wastewater, SE = Sediment
W = Water, SO = Solid
S = Soil, DL = Drum Liquid
SL = Sludge, DS = Drum Solid
MS = Miscellaneous, L = Leachate
OL = Oil, W = Wipe
A = Air, O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other
_____

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:

Date Received ____/____/____
Courier:
Hand Delivered ☐
Bill of Lading:

PAGE 2 of 2

STL-8208 (0600)

FedEx Express **NEW Package US Airbill**

FedEx Tracking Number 8030 3293 6024

Form ID No. 0200

1 From

Date

Sender's Name

Phone

Company

Address

Dept./Floor/Suite/Room

City

State

ZIP

2 Your Internal Billing Reference

3 To

Recipient's Name

Phone

Company

Address

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Dept./Floor/Suite/Room

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City

State

ZIP

HOLD Weekday
FedEx location address REQUIRED. **NOT available for** FedEx First Overnight.

HOLD Saturday
FedEx location address **REQUIRED. Available ONLY for** FedEx Priority Overnight and FedEx 2Day to select locations.

8030 3293 6024

4 Express Package Service * To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs.
For packages over 150 lbs., use the new FedEx Express Freight US Airbill.

Next Business Day

- FedEx First Overnight — Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- FedEx Priority Overnight — Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
- [X] FedEx Standard Overnight — Next business afternoon.* Saturday Delivery NOT available.

2 or 3 Business Days

- FedEx 2Day — Second business afternoon. Saturday Delivery available.
- FedEx Express Saver — Third business day.* Saturday Delivery available.

1500-104085 Waybill

5 Packaging * Declared value limit $500.

FedEx Envelope* | FedEx Pak* | FedEx Box | FedEx Tube | [X] Other

6 Special Handling and Delivery Signature Options

SATURDAY Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

- No Signature Required — Package may be left without obtaining a signature for delivery.
- Direct Signature — Someone at recipient's address may sign for delivery. ***Fee applies.***
- Indirect Signature — If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. ***Fee applies.***

Does this shipment contain dangerous goods?

One box must be checked.

[X] No | Yes As per attached Shipper's Declaration. | Yes Shipper's Declaration not required. | Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

Cargo Aircraft Only

7 Payment ***Bill to:***

Enter FedEx Acct. No. or Credit Card No. below.

Obtain recip. Acct. No.

Sender Acct. No. in Section 1 will be billed. | Recipient | Third Party | Credit Card | Cash/Check

Total Packages

Total Weight ____ lbs.

Credit Card Auth.

†Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

644

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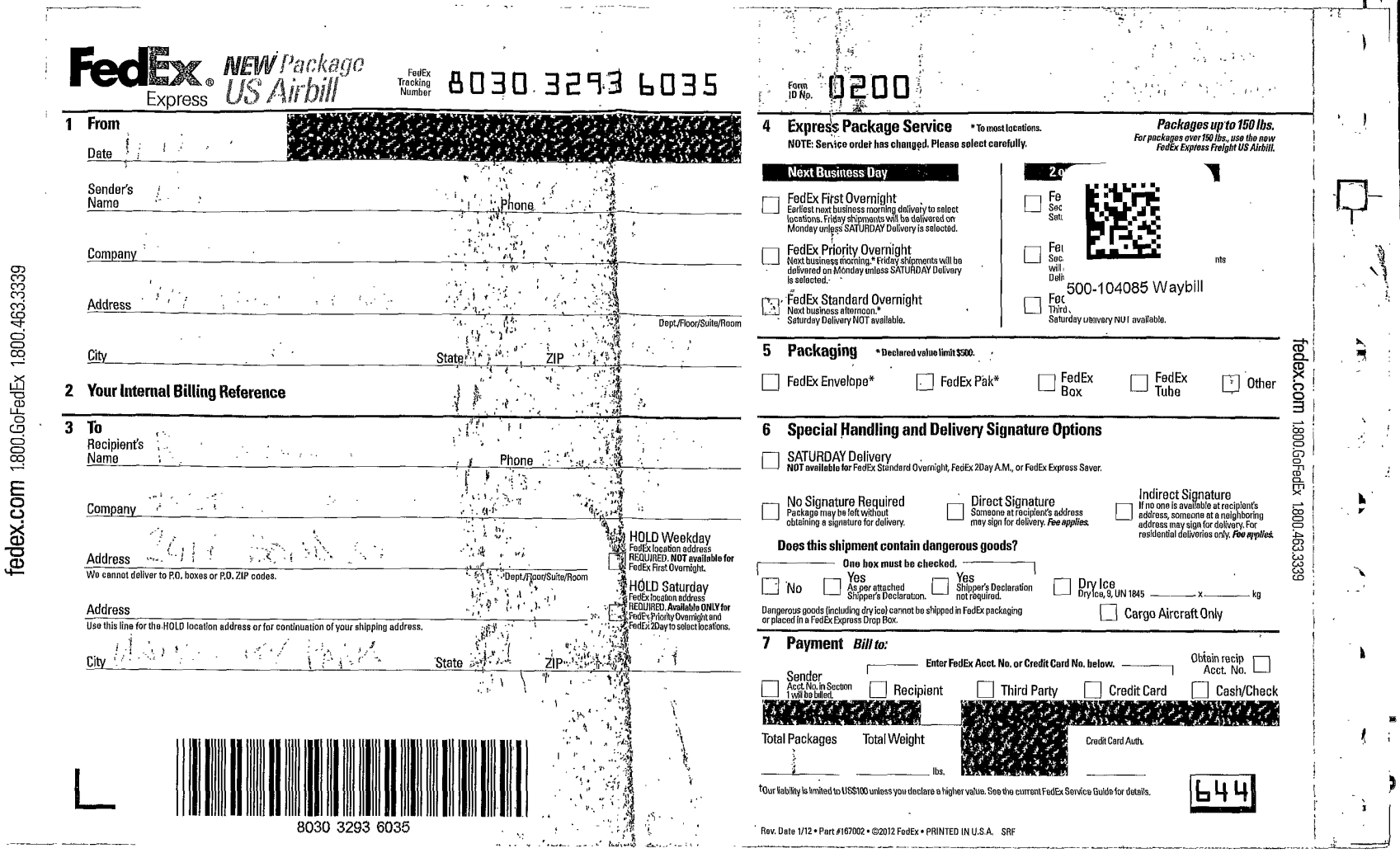

FedEx Express NEW Package US Airbill

FedEx Tracking Number 8030 3293 6035

Form ID No. 0200

1 From

Date [redacted]

Sender's Name [redacted] Phone

Company

Address [redacted] Dept./Floor/Suite/Room

City State ZIP

2 Your Internal Billing Reference

3 To

Recipient's Name [redacted] Phone

Company [redacted]

Address [redacted] Dept./Floor/Suite/Room

We cannot deliver to P.O. boxes or P.O. ZIP codes.

Address

Use this line for the HOLD location address or for continuation of your shipping address.

City [redacted] State ZIP

☐ HOLD Weekday FedEx location address REQUIRED. NOT available for FedEx First Overnight.

☐ HOLD Saturday FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

8030 3293 6035

4 Express Package Service * To most locations.

NOTE: Service order has changed. Please select carefully.

Packages up to 150 lbs.
For packages over 150 lbs., use the new FedEx Express Freight US Airbill.

Next Business Day

☐ FedEx First Overnight
Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐ FedEx Priority Overnight
Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.

☐ FedEx Standard Overnight
Next business afternoon.* Saturday Delivery NOT available.

2 o

☐ Fe Sec Sat

☐ Fe Sec will Deli

☐ Fe Third Saturday Delivery NOT available.

500-104085 Waybill

5 Packaging * Declared value limit $500.

☐ FedEx Envelope* ☐ FedEx Pak* ☐ FedEx Box ☐ FedEx Tube ☐ Other

6 Special Handling and Delivery Signature Options

☐ SATURDAY Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.

☐ No Signature Required
Package may be left without obtaining a signature for delivery.

☐ Direct Signature
Someone at recipient's address may sign for delivery. *Fee applies.*

☐ Indirect Signature
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. *Fee applies.*

Does this shipment contain dangerous goods?

One box must be checked.

☐ No ☐ Yes As per attached Shipper's Declaration. ☐ Yes Shipper's Declaration not required. ☐ Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg

Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.

☐ Cargo Aircraft Only

7 Payment *Bill to:*

Enter FedEx Acct. No. or Credit Card No. below.

Obtain recip Acct. No. ☐

☐ Sender Acct. No. in Section 1 will be billed. ☐ Recipient ☐ Third Party ☐ Credit Card ☐ Cash/Check

[redacted]

Total Packages Total Weight [redacted] Credit Card Auth.

____ ____ lbs. ____

†Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

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36q

MWG13-15_56302
12/8/2015

Align Open End of FedEx Pouch Here

500-104085 Waybill

XH JOTA

TRK# 0200 8030 3293 5760

THU – 19 NOV 3:00P
STANDARD OVERNIGHT

60484
IL-US ORD

FedEx Express

J1530150910O1uv

UNIVERSITY PARK IL 60484
(708) 534-5200
REF:
DEPT:

TO B STADELMAN
TEST AMERICA CHICAGO
2417 BOND ST

FedEx Express NEW Package US Airbill

FedEx Tracking Number 8030 329

1 From
Date 11-18-15
Sender's Name IAN JOHN HUNNESON Phone 630-[illegible]
Company KPRG & ASSOCIATES INC
Address 614 PLAZA DR Dept/Floor/Suite/Room
City WESTMONT State IL ZIP 60559

2 Your Internal Billing Reference

3 To
Recipient's Name B. STADELMANN Phone 708 534 5200
Company TEST AMERICA CHICAGO
Address 2417 BOND STREET
We cannot deliver to P.O. boxes or P.O. ZIP codes. Dept/Floor/Suite/Room
Address
Use this line for the HOLD location address or for additional shipping information.
City UNIVERSITY PARK State IL ZIP 60484

HOLD Weekday
FedEx location address REQUIRED. NOT available for FedEx First Overnight.
HOLD Saturday
FedEx location address REQUIRED. Available ONLY for FedEx Priority Overnight and FedEx 2Day to select locations.

Earliest next business morning delivery to select locations. Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
FedEx Priority Overnight
Next business morning.* Friday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
X FedEx Standard Overnight
Next business afternoon.* Saturday Delivery NOT available.
Second business morning.* Saturday Delivery NOT available.
FedEx 2Day
Second business afternoon.* Thursday shipments will be delivered on Monday unless SATURDAY Delivery is selected.
FedEx Express Saver
Third business day.* Saturday Delivery NOT available.

5 Packaging * Declared value limit $500.
FedEx Envelope* FedEx Pak* FedEx Box FedEx Tube X Other

6 Special Handling and Delivery Signature Options
SATURDAY Delivery
NOT available for FedEx Standard Overnight, FedEx 2Day A.M., or FedEx Express Saver.
X No Signature Required
Package may be left without obtaining a signature for delivery.
Direct Signature
Someone at recipient's address may sign for delivery. Fee applies.
Indirect Signature
If no one is available at recipient's address, someone at a neighboring address may sign for delivery. For residential deliveries only. Fee applies.

Does this shipment contain dangerous goods?
One box must be checked.
No
Yes As per attached Shipper's Declaration.
Yes Shipper's Declaration not required.
Dry Ice Dry Ice, 9, UN 1845 ____ x ____ kg
Dangerous goods (including dry ice) cannot be shipped in FedEx packaging or placed in a FedEx Express Drop Box.
Cargo Aircraft Only

7 Payment Bill to:
Enter FedEx Acct. No. or Credit Card No. below.
Obtain recip. Acct. No
X Sender Acct. No. in Section 1 will be billed.
Recipient Third Party Credit Card Cash/Check

Total Packages Total Weight lbs.
Credit Card Auth.

†Our liability is limited to US$100 unless you declare a higher value. See the current FedEx Service Guide for details.

#784577 11/18 [illegible]

fedex.com 1.800.GoFedEx 1.800.463.3339

644

MWG13-15_56303

12/8/2015

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sampler	Lab PM: Stadelmann, Bonnie M	Carrier Tracking No(s)	COC No: 500-67592.1
Client Contact: Shipping/Receiving	Phone	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Analysis Requested		Job #: 500-104085-1
Address: 880 Riverside Parkway,	Due Date Requested: 11/30/2015			Preservation Codes:
City: West Sacramento	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2SO3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - ph 4-5, Z - other (specify)
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: Powerton Station Ash Ponds	Project #: 50008027			
Site: Ian John Howieson	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-01 (500-104085-1)	11/16/15	14.45 Central		Water			X	1	
MW-07 (500-104085-2)	11/16/15	13:40 Central		Water			X	1	
MW-16 (500-104085-3)	11/16/15	12.00 Central		Water			X	1	
MW-02 (500-104085-4)	11/17/15	09.00 Central		Water			X	1	
MW-03 (500-104085-5)	11/17/15	11.25 Central		Water			X	1	
MW-04 (500-104085-6)	11/17/15	12:50 Central		Water			X	1	
MW-05 (500-104085-7)	11/17/15	14 45 Central		Water			X	1	
MW-06 (500-104085-8)	11/17/15	16 05 Central		Water			X	1	
MW-08 (500-104085-9)	11/18/15	09 58 Central		Water			X	1	
MW-09 (500-104085-10)	11/18/15	11.25 Central		Water			X	1	
MW-10 (500-104085-11)	11/18/15	13.40 Central		Water			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date	Time:	Method of Shipment

Relinquished by: Glenn Scott	Date/Time: 11/20/15 1630	Company: TA-CHI	Received by:	Date/Time: 11-21-15 900	Company: TA-DWS
Relinquished by	Date/Time:	Company	Received by	Date/Time:	Company
Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No:	Cooler Temperature(s) °C and Other Remarks: 1-8

MWG13-15_56304
12/8/2015

TestAmerica Chicago
2417 Bond Street
University Park, IL 60484
Phone (708) 534-5200 Fax (708) 534-5211

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information (Sub Contract Lab)	Sample:	Lab PM: Stadelmann, Bonnie M	Carrier Tracking No(s):	COC No: 500-67592.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: bonnie.stadelmann@testamericainc.com		Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.				Job #: 500-104085-1
Address: 880 Riverside Parkway,	Due Date Requested: 11/30/2015			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Powerton Station Ash Ponds	Project #: 50008027			
Site: Ian John Howieson	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2SO3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - ph 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	314.0/ Perchlorate	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-14 (500-104085-12)	11/18/15	15:20 Central		Water			X	1	
MW-15 (500-104085-13)	11/18/15	16:10 Central		Water			X	1	
Duplicate (500-104085-14)	11/18/15	Central		Water			X	1	
MW-11 (500-104085-15)	11/19/15	16:30 Central		Water			X	1	
MW-12 (500-104085-16)	11/19/15	13:45 Central		Water			X	1	
MW-13 (500-104085-17)	11/19/15	09:10 Central		Water			X	1	

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by	Date:	Time:	Method of Shipment

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	11/20/15 1630	TA-LHT	[signature]	11-21-15 900	[signature]

Custody Seals Intact: Δ Yes Δ No	Custody Seal No :	Cooler Temperature(s) °C and Other Remarks: 1.8

MWG13-15_56305
12/8/2015

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-104085-1

Login Number: 104085
List Number: 1
Creator: James, Jeff A

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	8.7, 0.3, 0.5,2.1,1.8,1.4,1.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-104085-1

Login Number: 104085
List Number: 2
Creator: James, Jeff A

List Source: TestAmerica Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.3
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

Login Sample Receipt Checklist

Client: KPRG and Associates, Inc.

Job Number: 500-104085-1

Login Number: 104085
List Number: 3
Creator: Hytrek, Cheryl

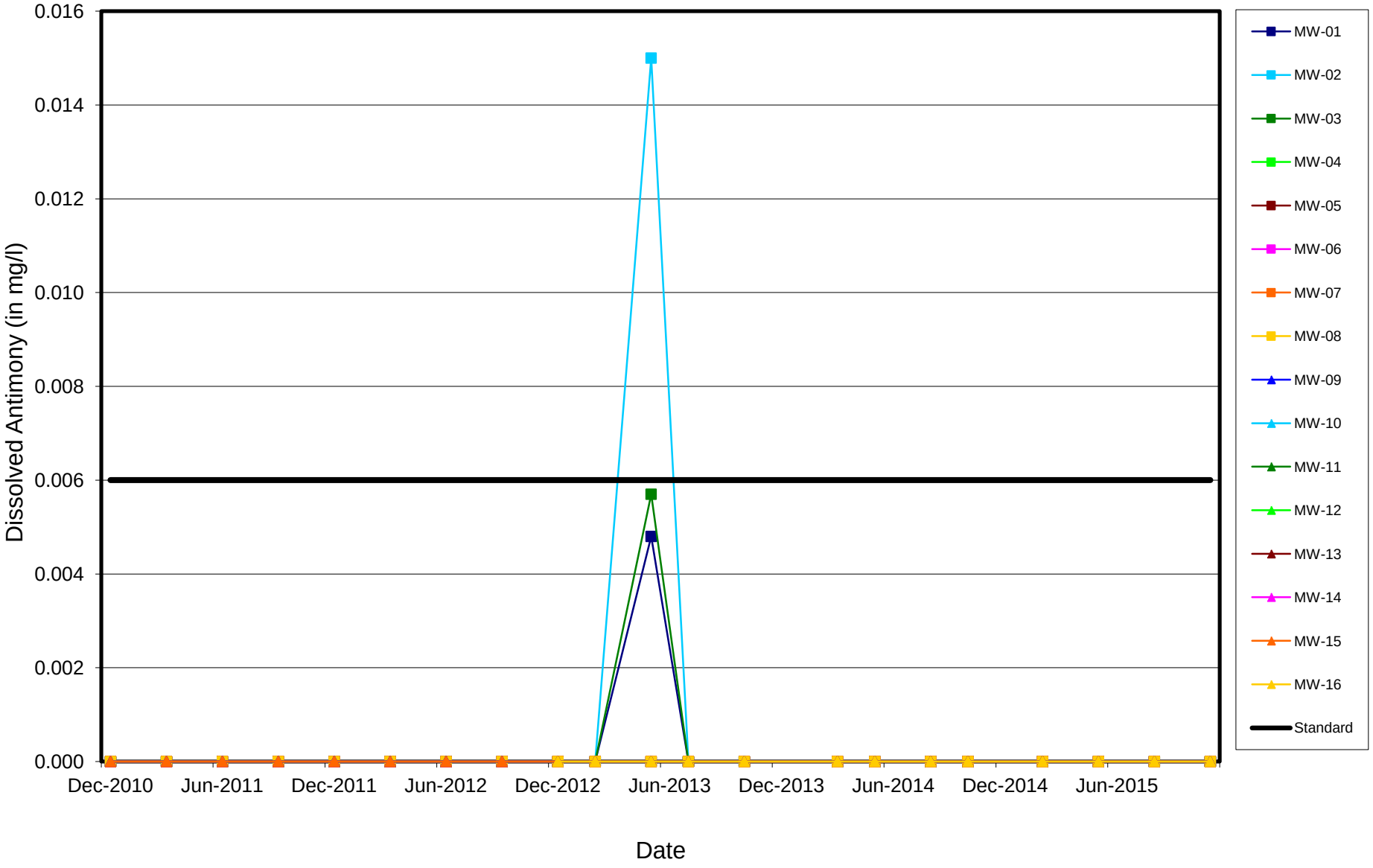
List Source: TestAmerica Sacramento
List Creation: 11/21/15 11:12 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	no headspace in 314
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

ATTACHMENT 3
Time Vs. Concentration Curves

Midwest Generation Powerton Station, Pekin, IL

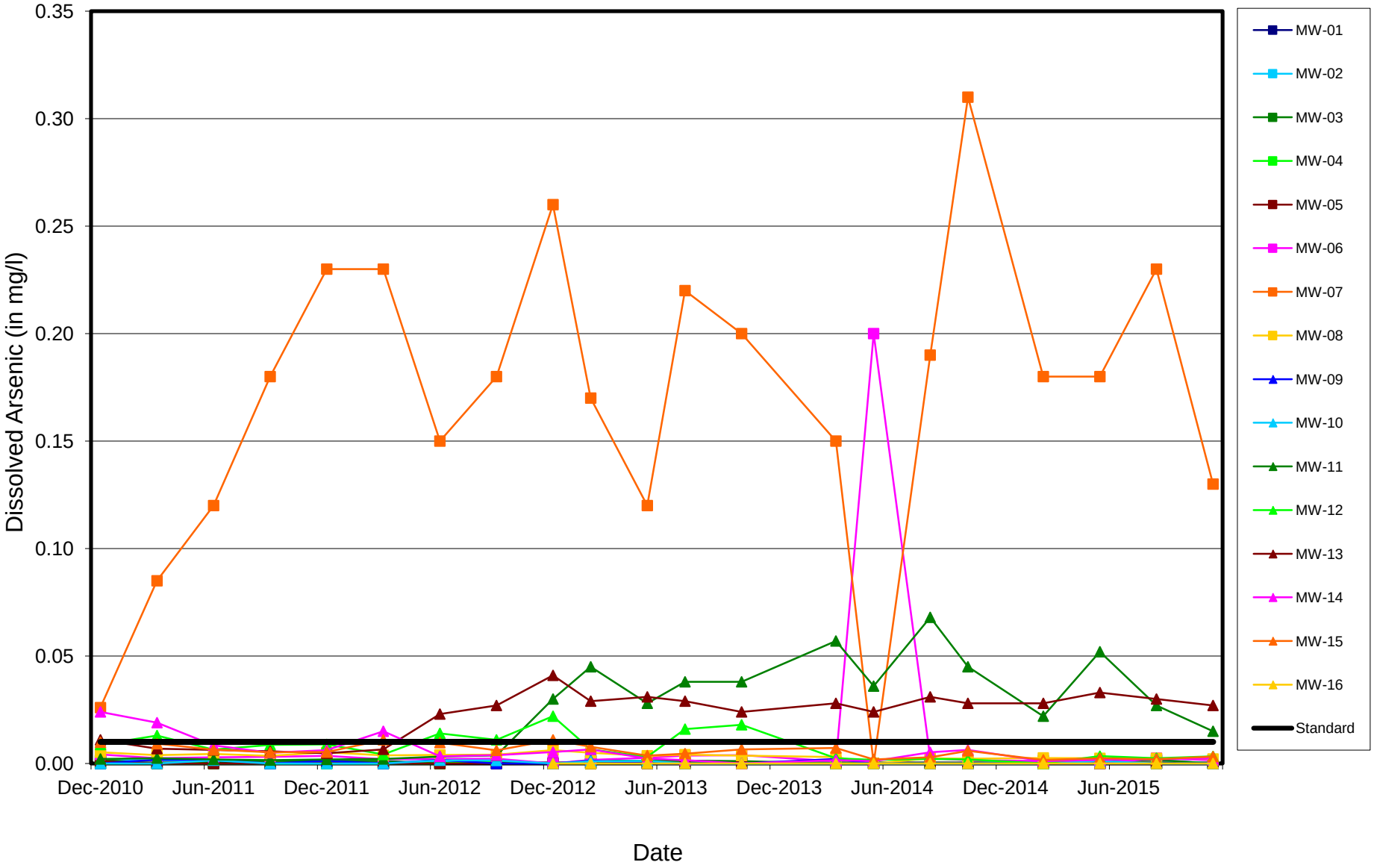
Dissolved Antimony vs. Time



MWG13-15_56310

Midwest Generation Powerton Station, Pekin, IL

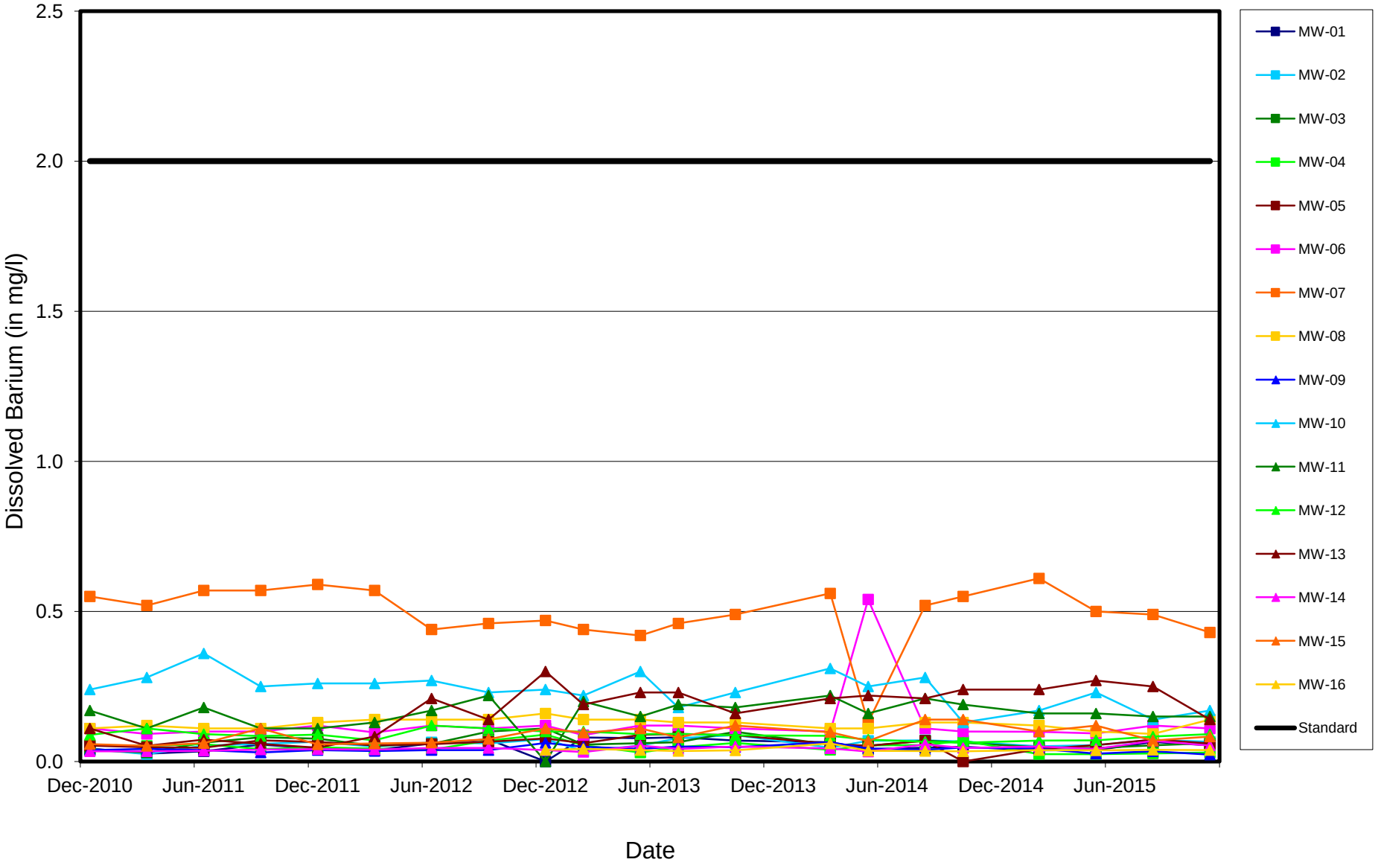
Dissolved Arsenic vs. Time



MWG13-15_56311

Midwest Generation Powerton Station, Pekin, IL

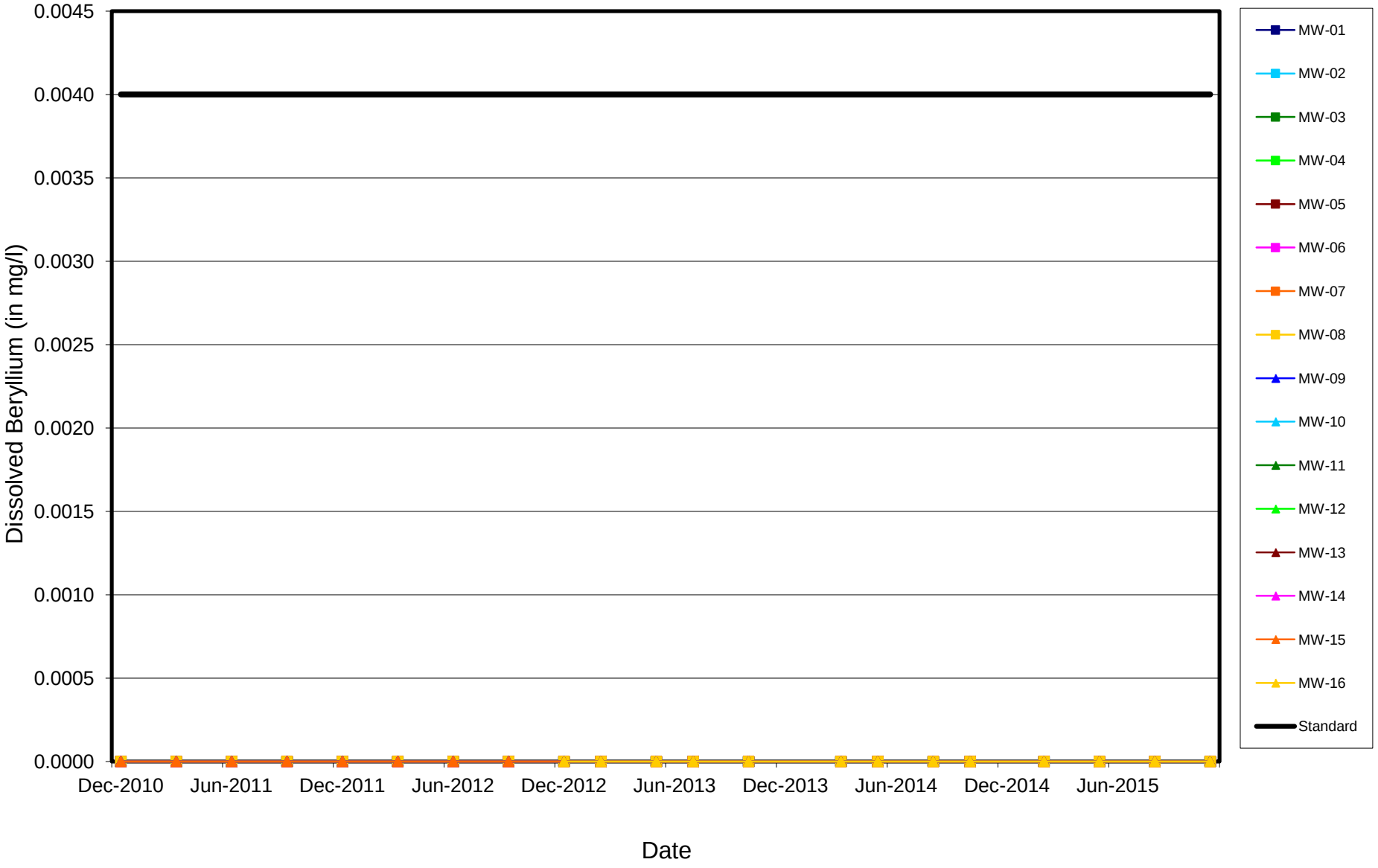
Dissolved Barium vs. Time



MWG13-15_56312

Midwest Generation Powerton Station, Pekin, IL

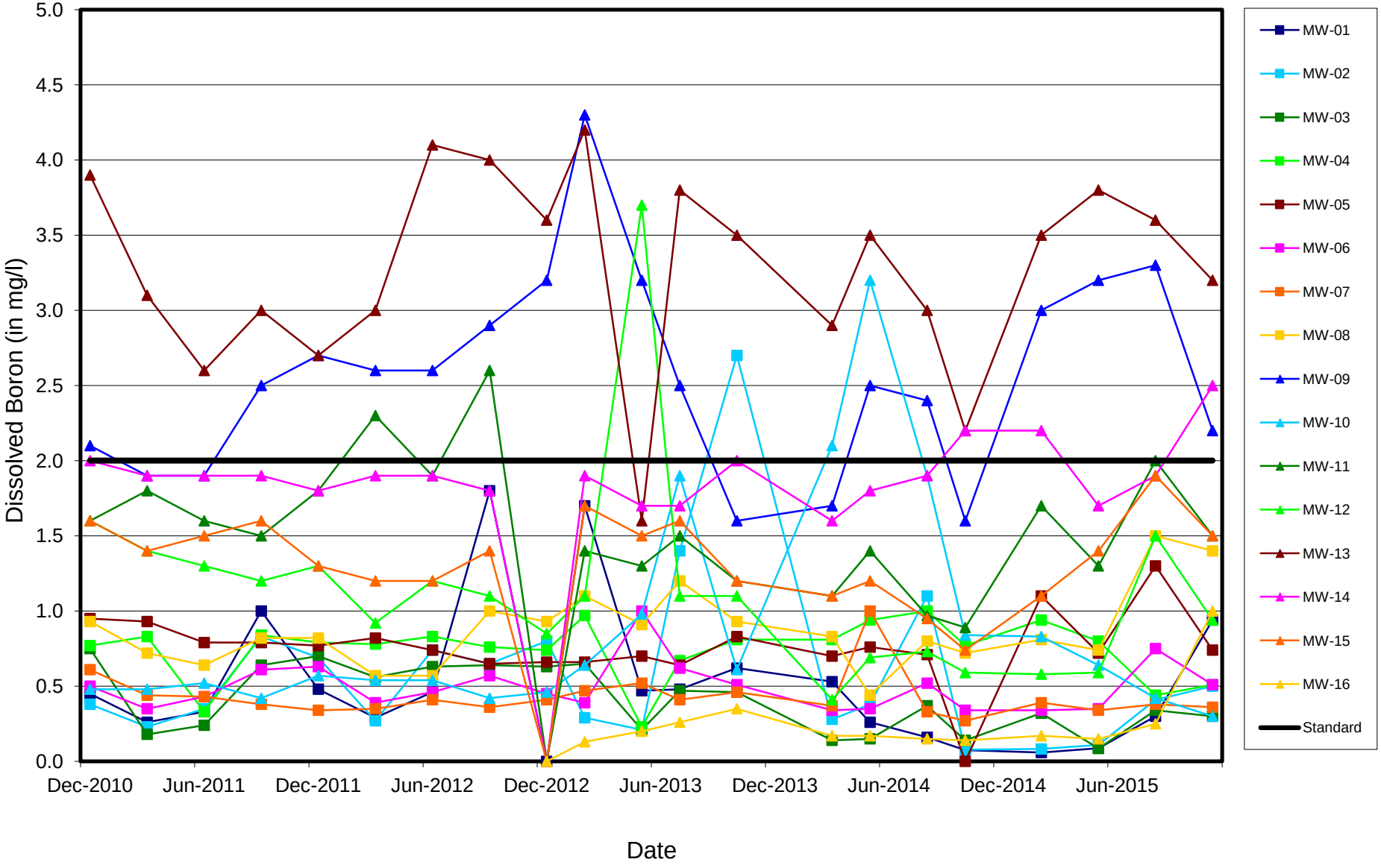
Dissolved Beryllium vs. Time



MWG13-15_56313

Midwest Generation Powerton Station, Pekin, IL

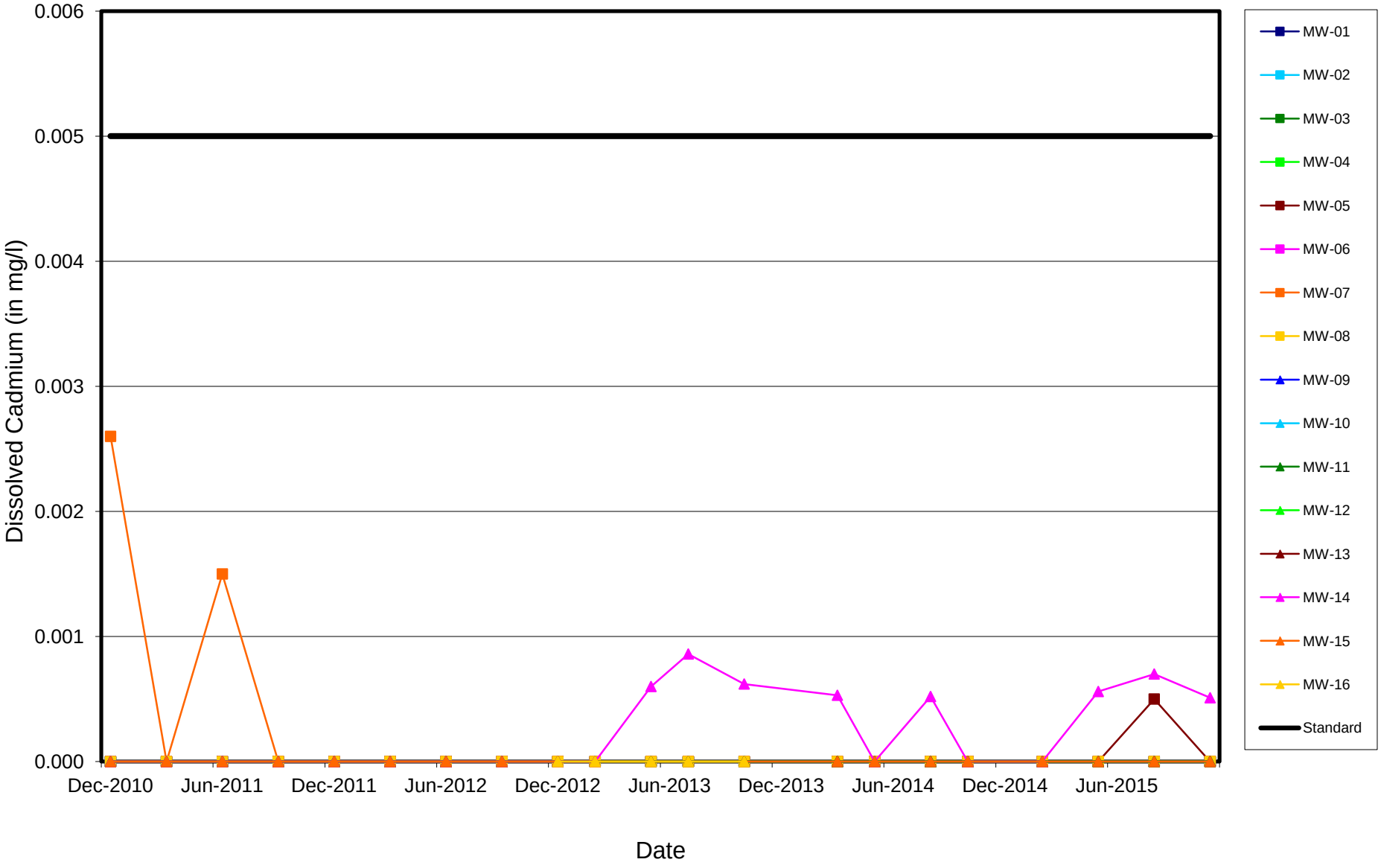
Dissolved Boron vs. Time



MWG13-15_56314

Midwest Generation Powerton Station, Pekin, IL

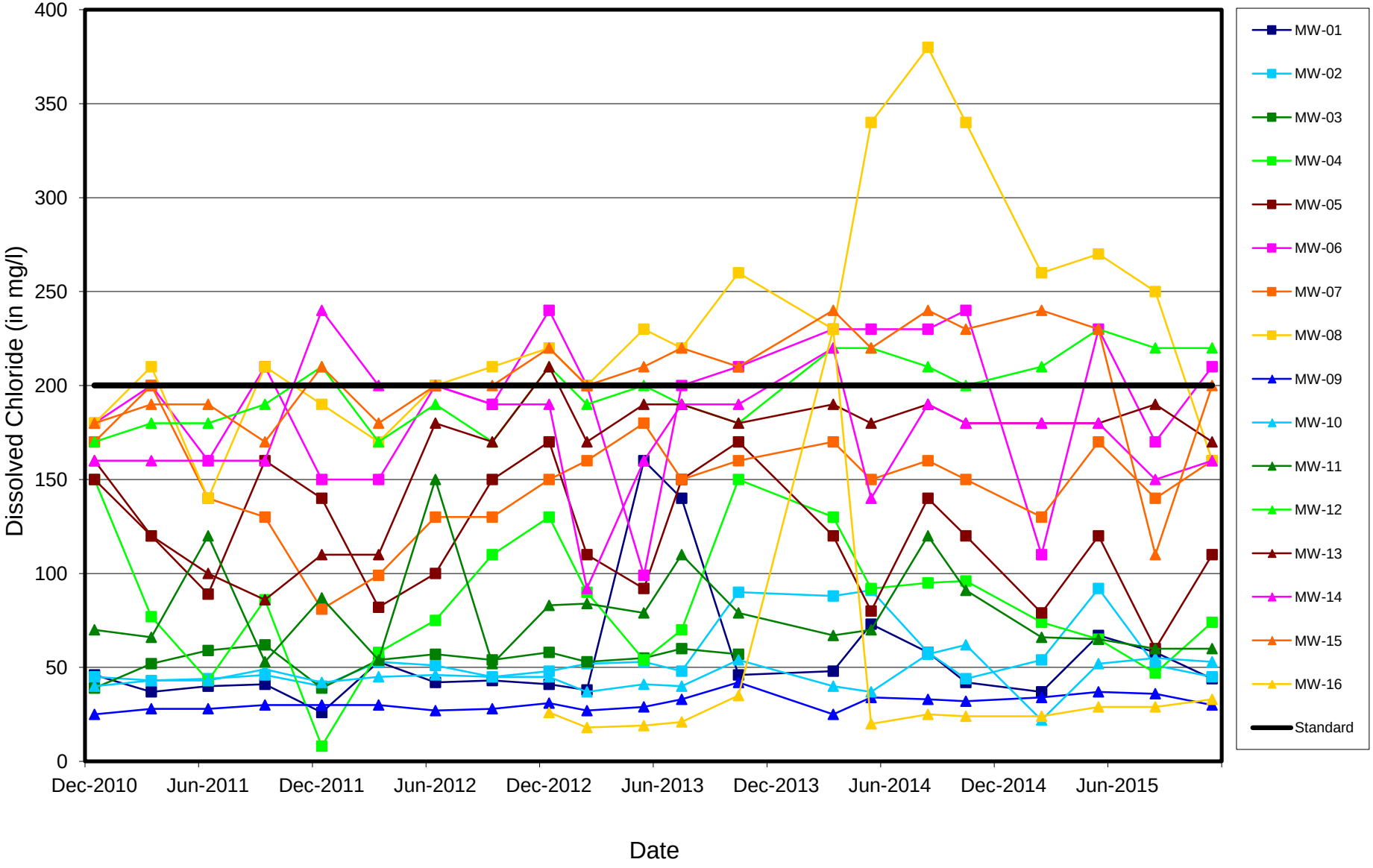
Dissolved Cadmium vs. Time



MWG13-15_56315

Midwest Generation Powerton Station, Pekin, IL

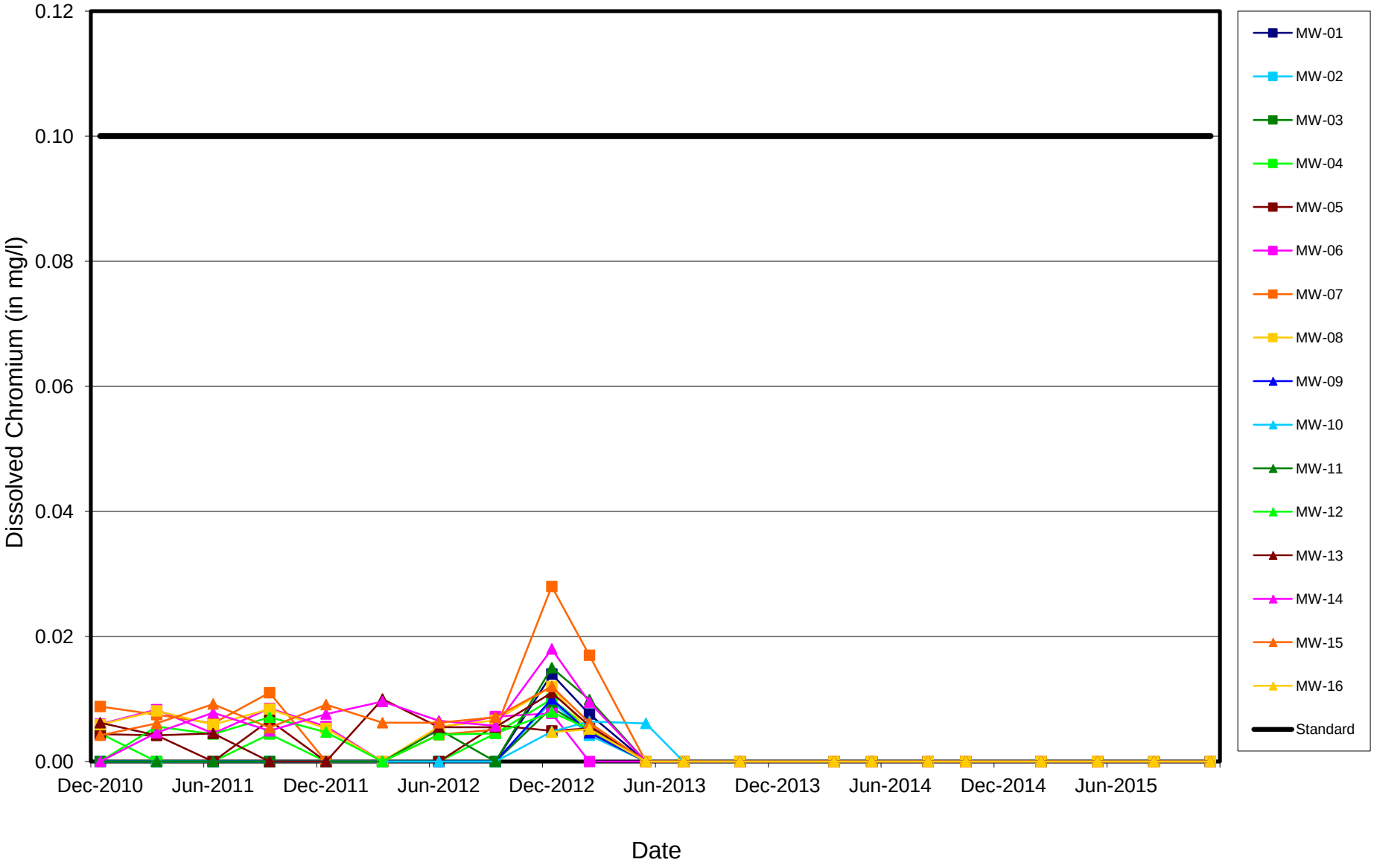
Dissolved Chloride vs. Time



MWG13-15_56316

Midwest Generation Powerton Station, Pekin, IL

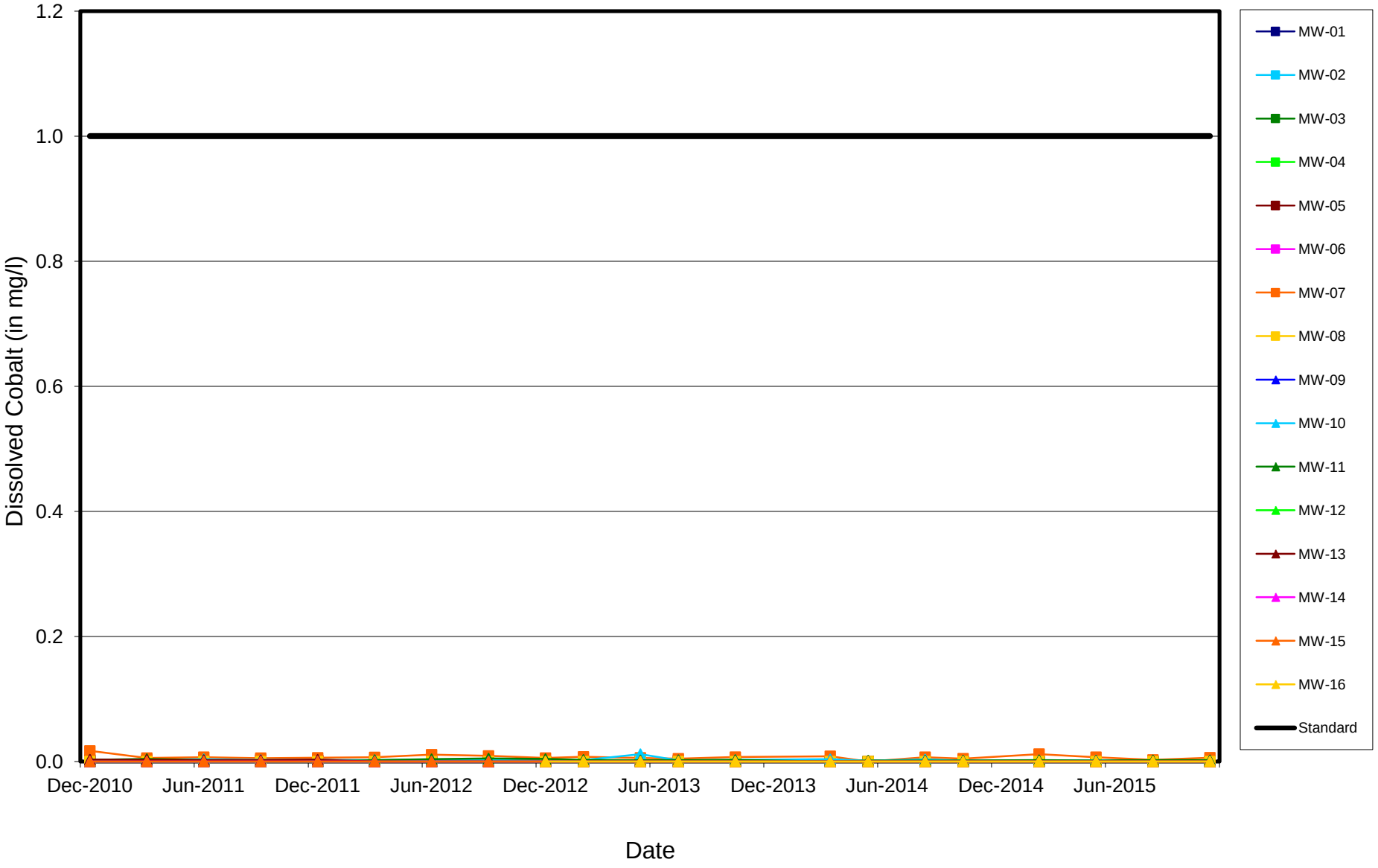
Dissolved Chromium vs. Time



MWG13-15_56317

Midwest Generation Powerton Station, Pekin, IL

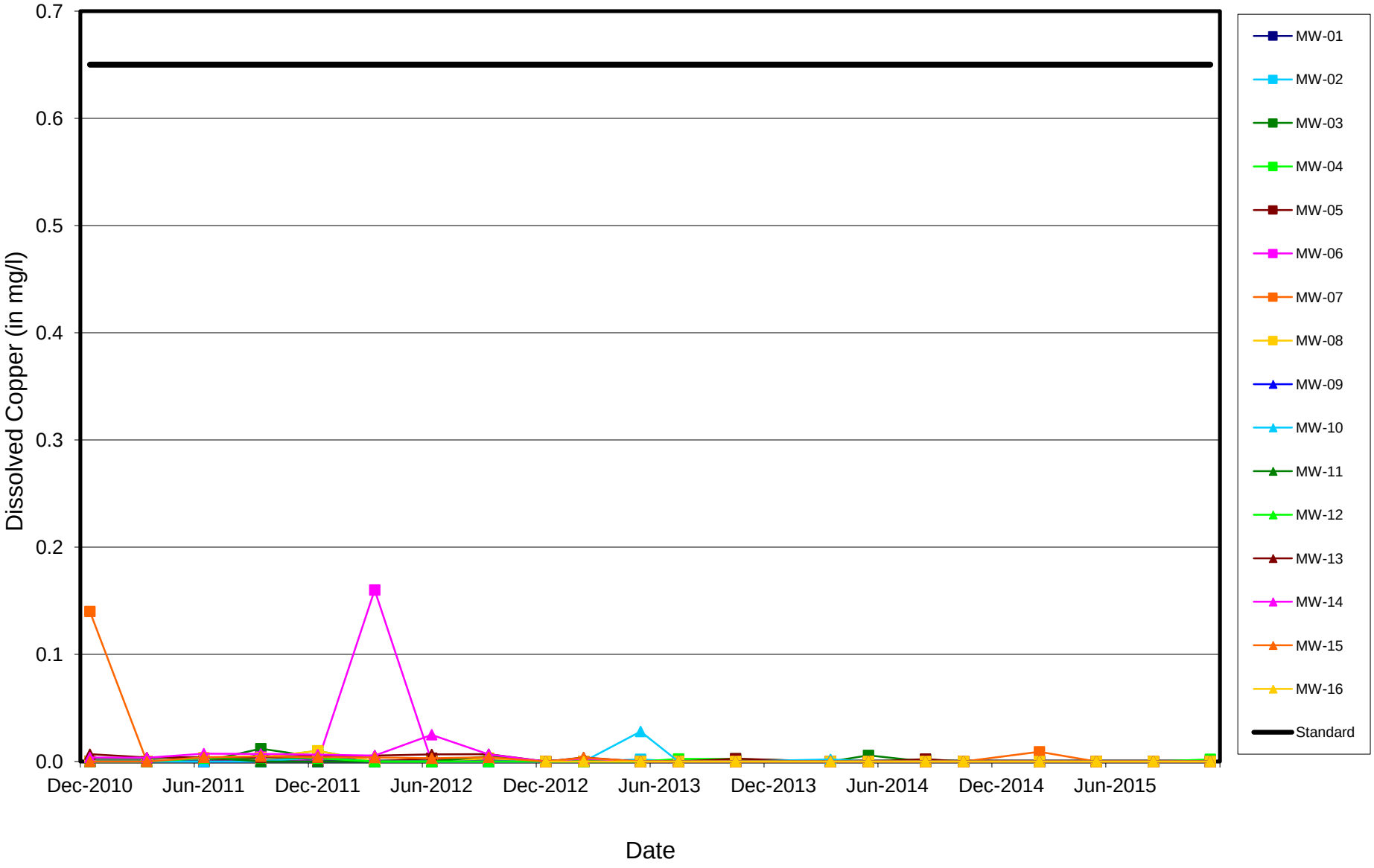
Dissolved Cobalt vs. Time



MWG13-15_56318

Midwest Generation Powerton Station, Pekin, IL

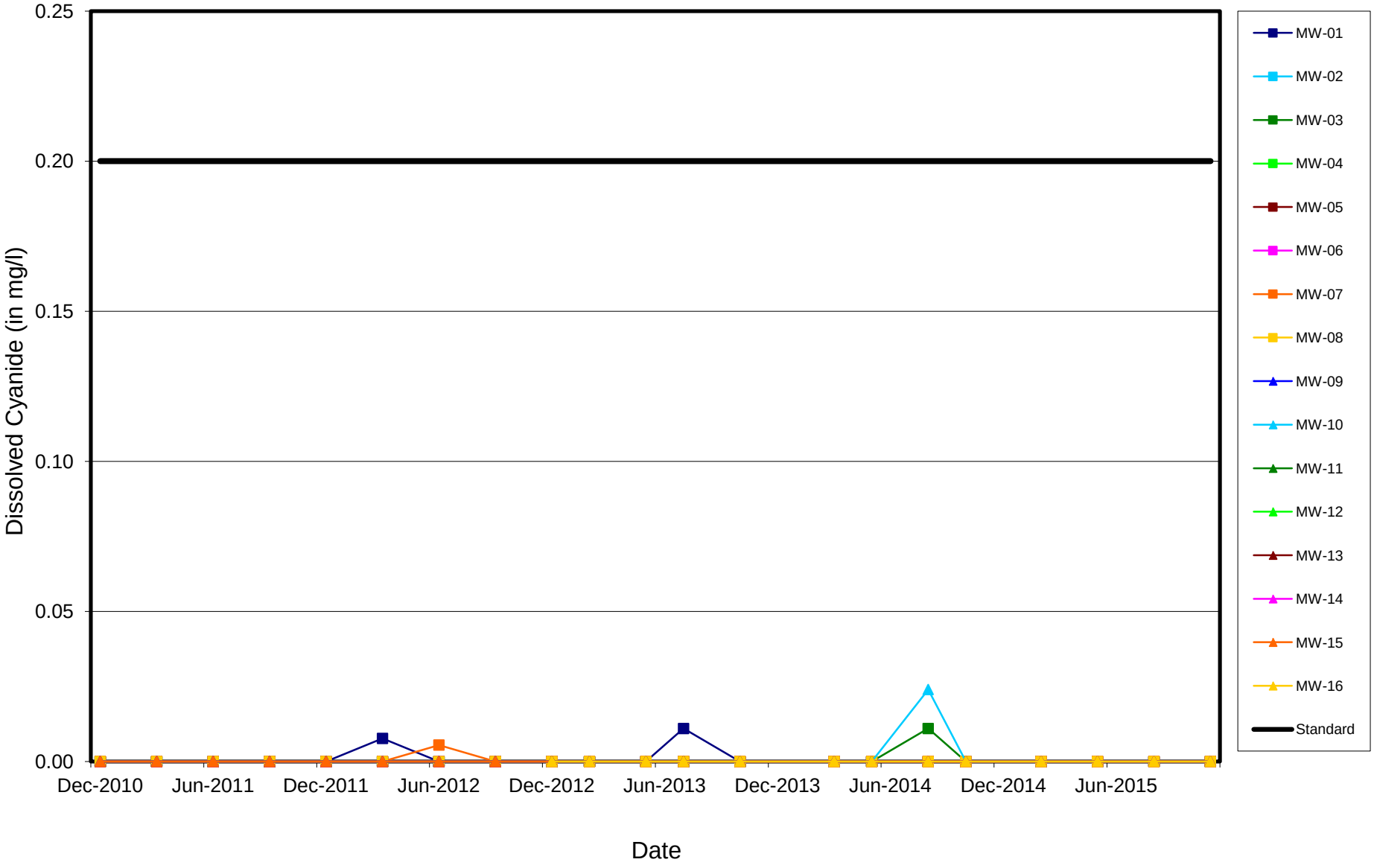
Dissolved Copper vs. Time



MWG13-15_56319

Midwest Generation Powerton Station, Pekin, IL

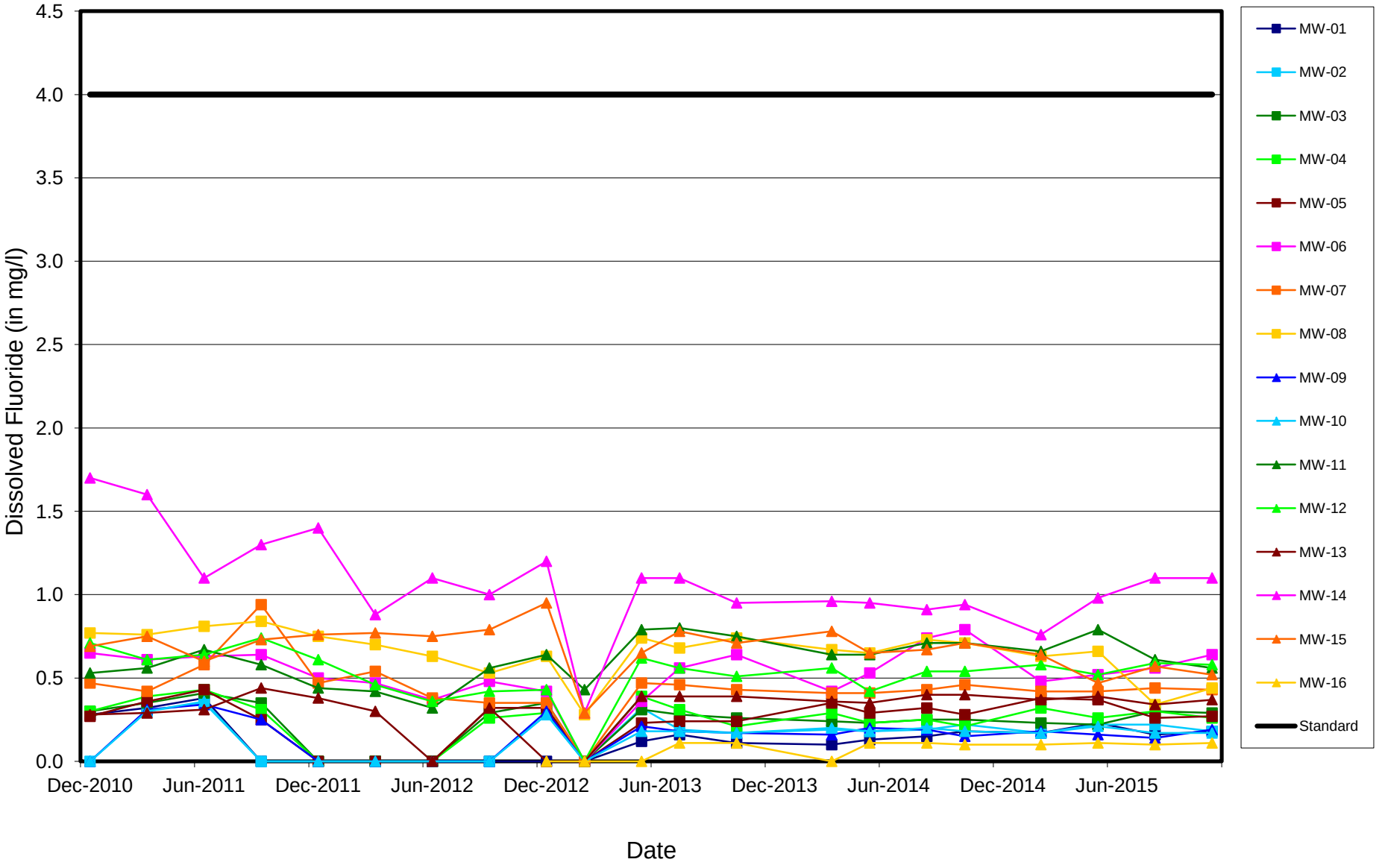
Dissolved Cyanide vs. Time



MWG13-15_56320

Midwest Generation Powerton Station, Pekin, IL

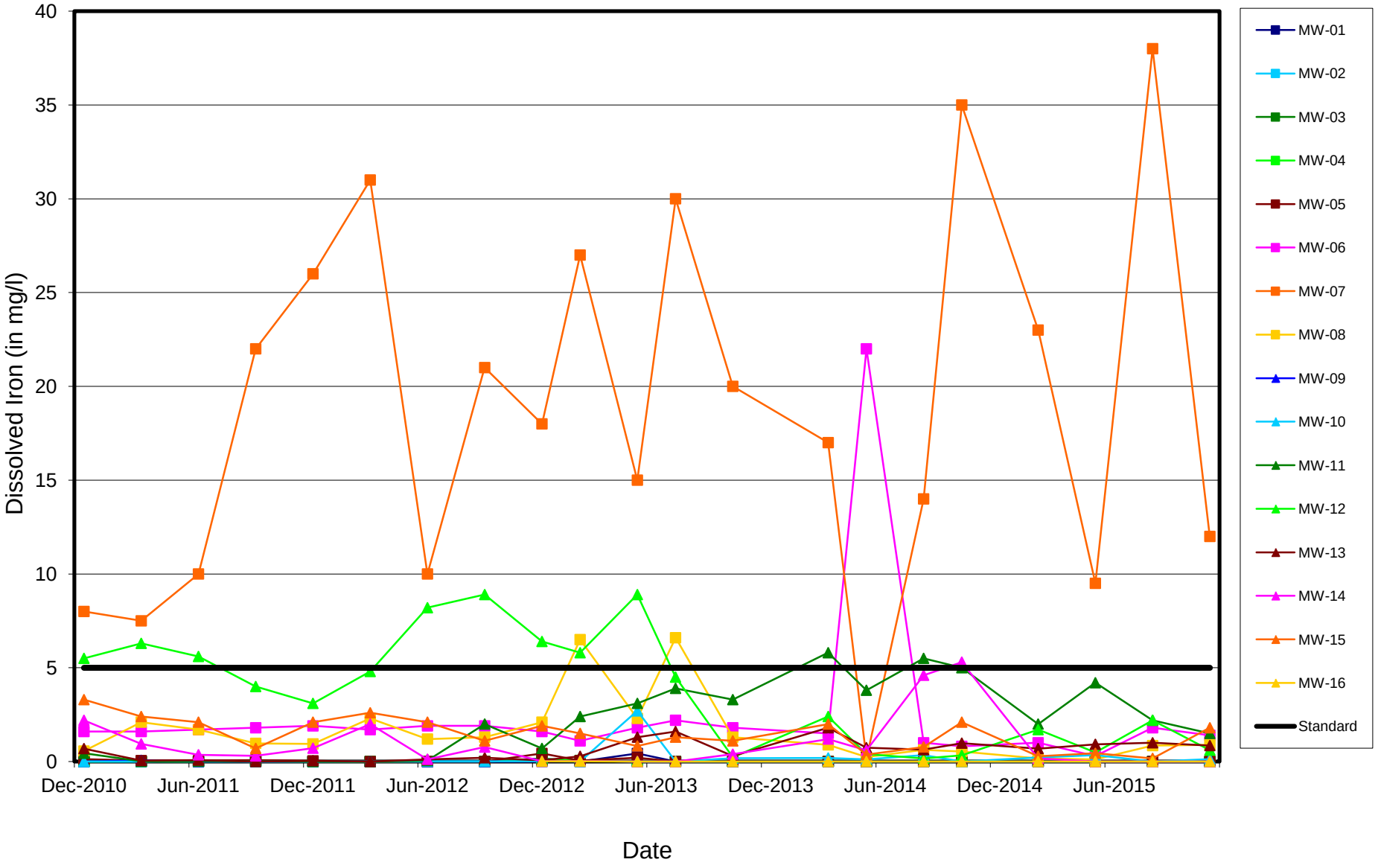
Dissolved Fluoride vs. Time



MWG13-15_56321

Midwest Generation Powerton Station, Pekin, IL

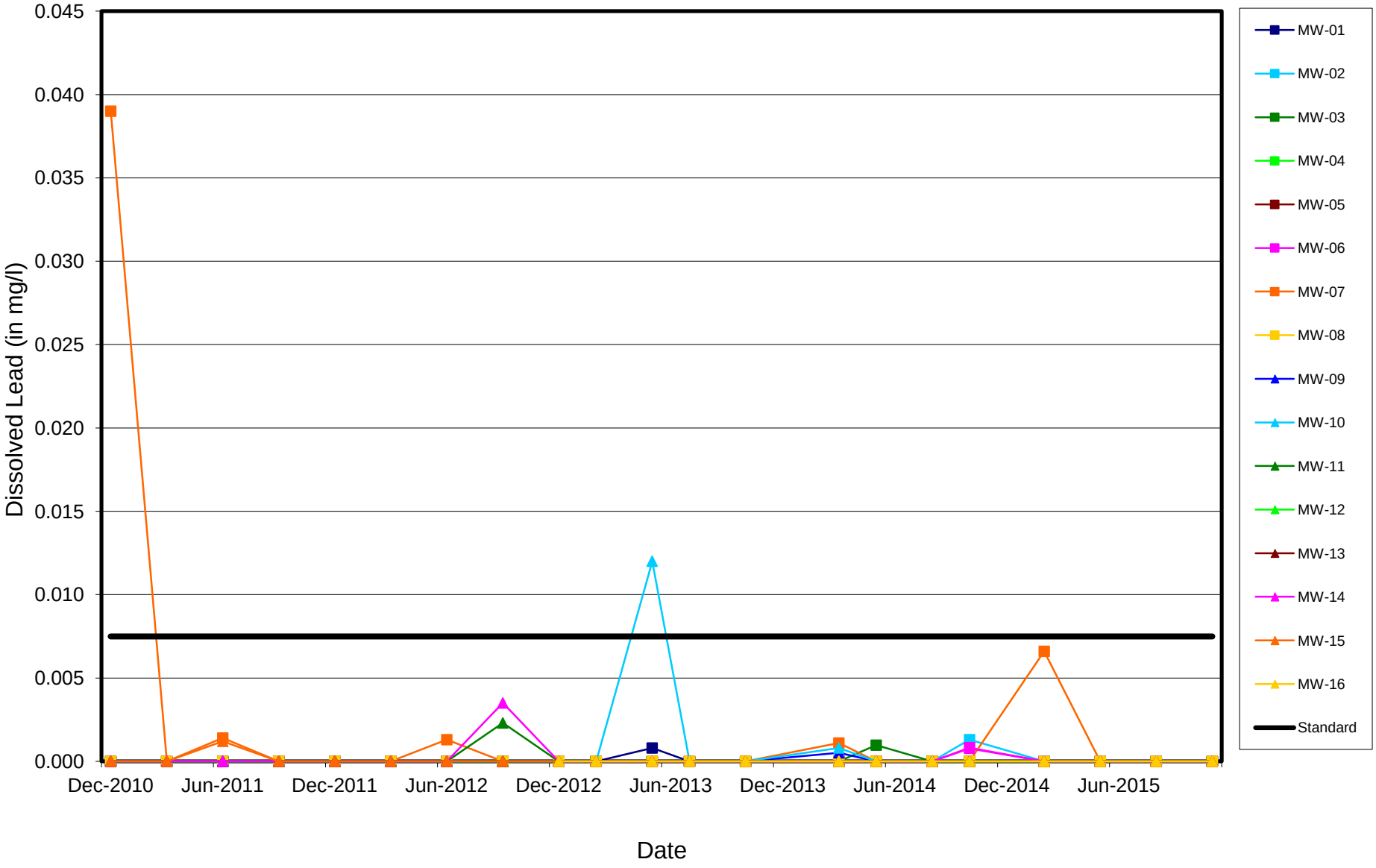
Dissolved Iron vs. Time



MWG13-15_56322

Midwest Generation Powerton Station, Pekin, IL

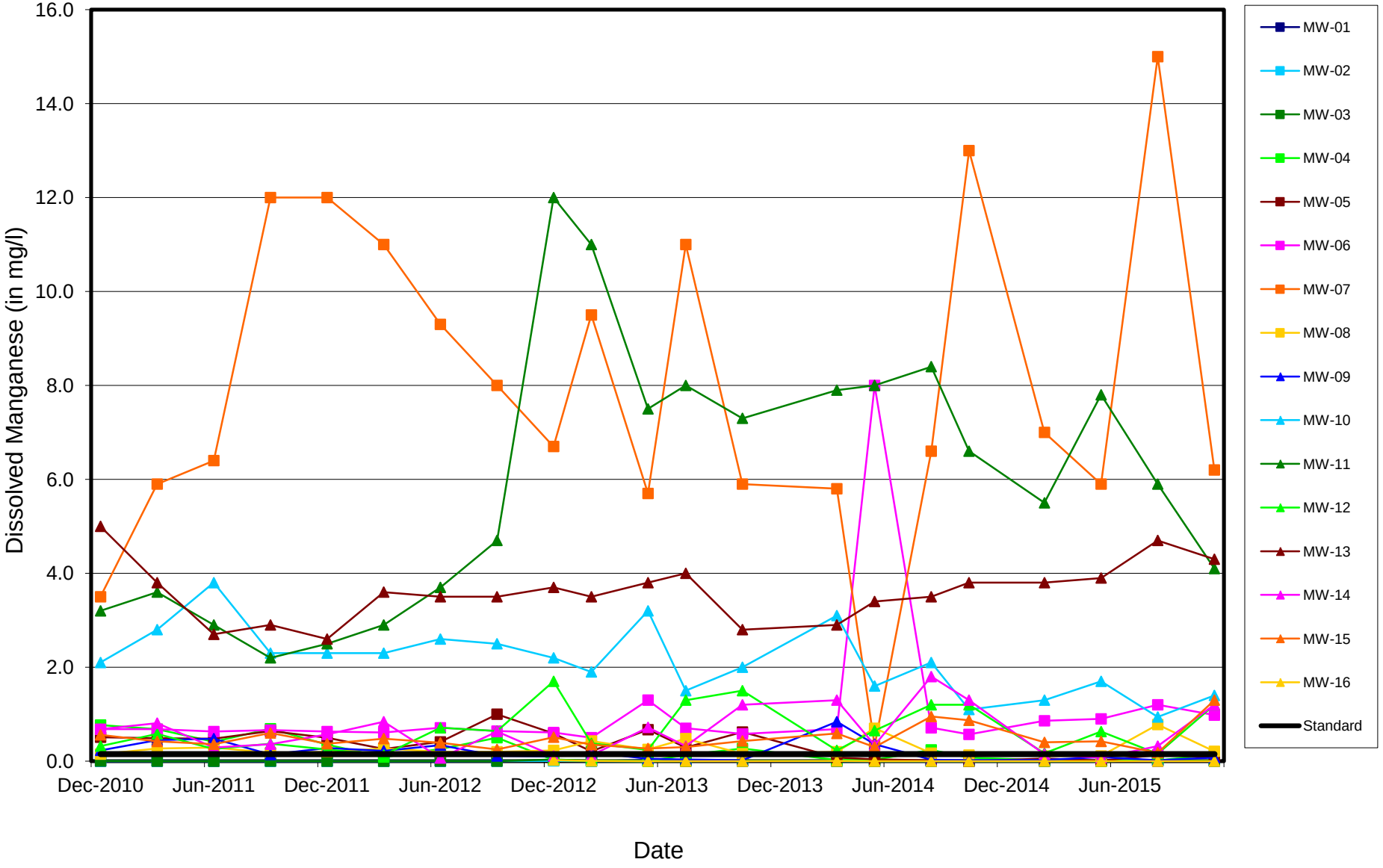
Dissolved Lead vs. Time



MWG13-15_56323

Midwest Generation Powerton Station, Pekin, IL

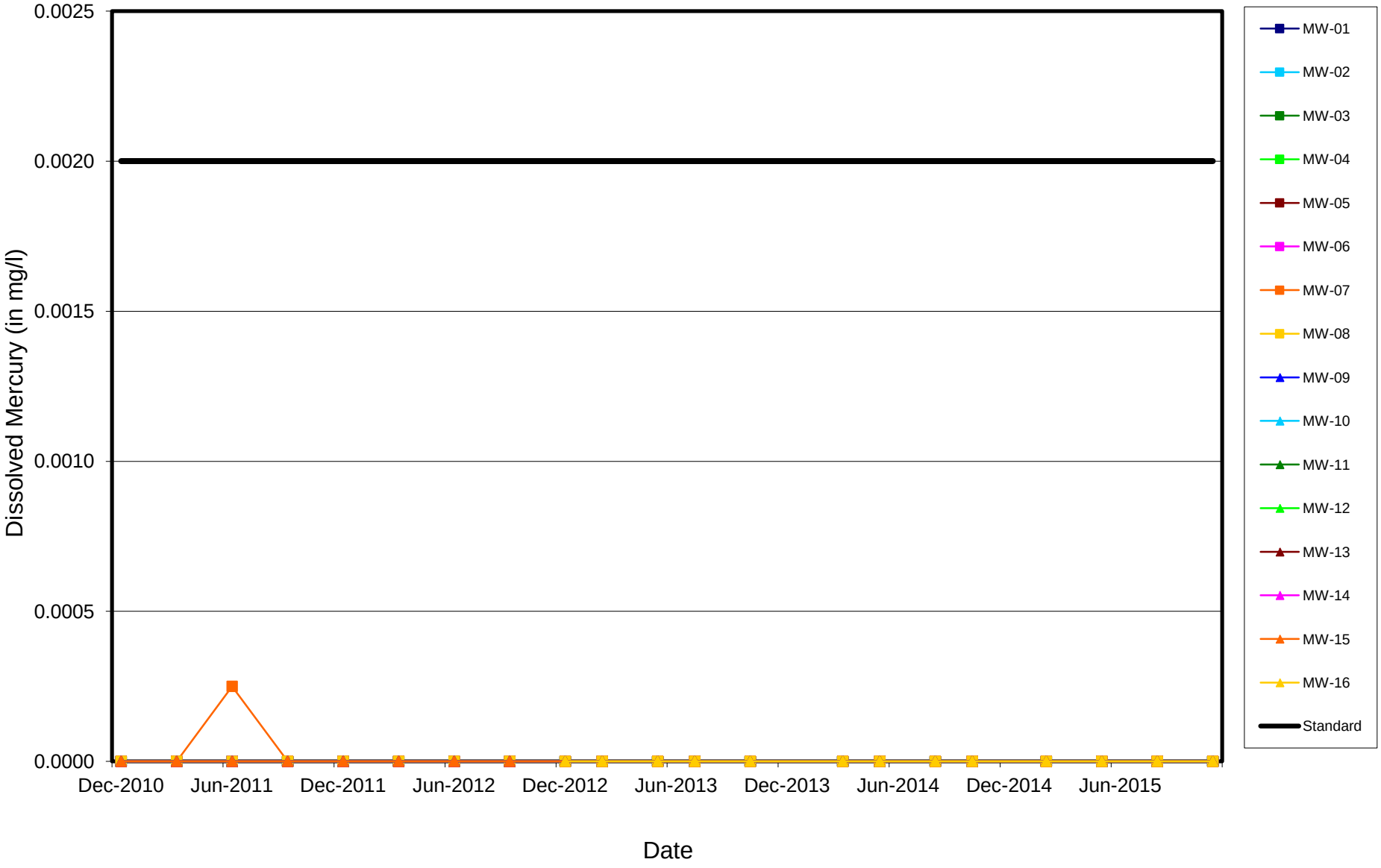
Dissolved Manganese vs. Time



MWG13-15_56324

Midwest Generation Powerton Station, Pekin, IL

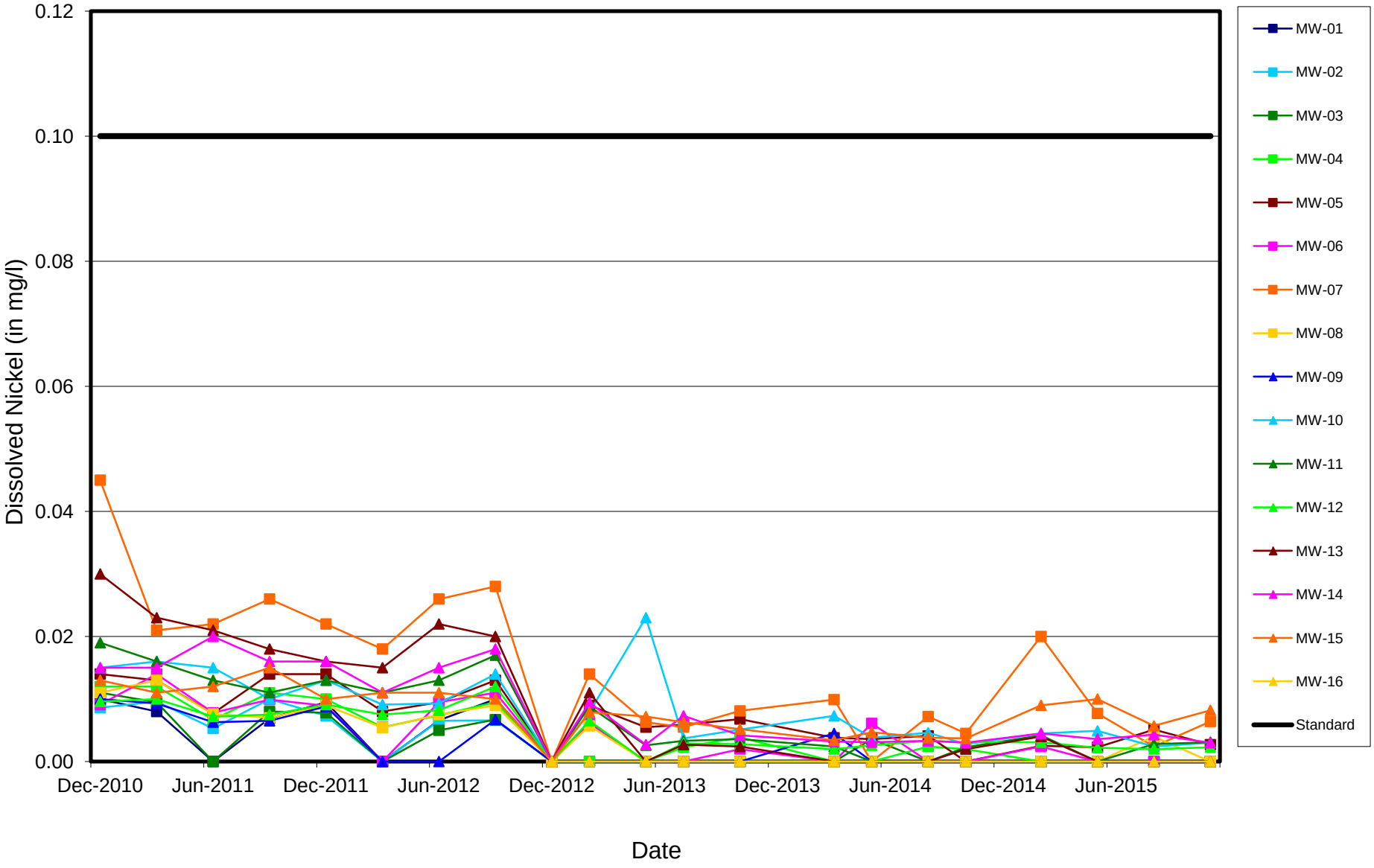
Dissolved Mercury vs. Time



MWG13-15_56325

Midwest Generation Powerton Station, Pekin, IL

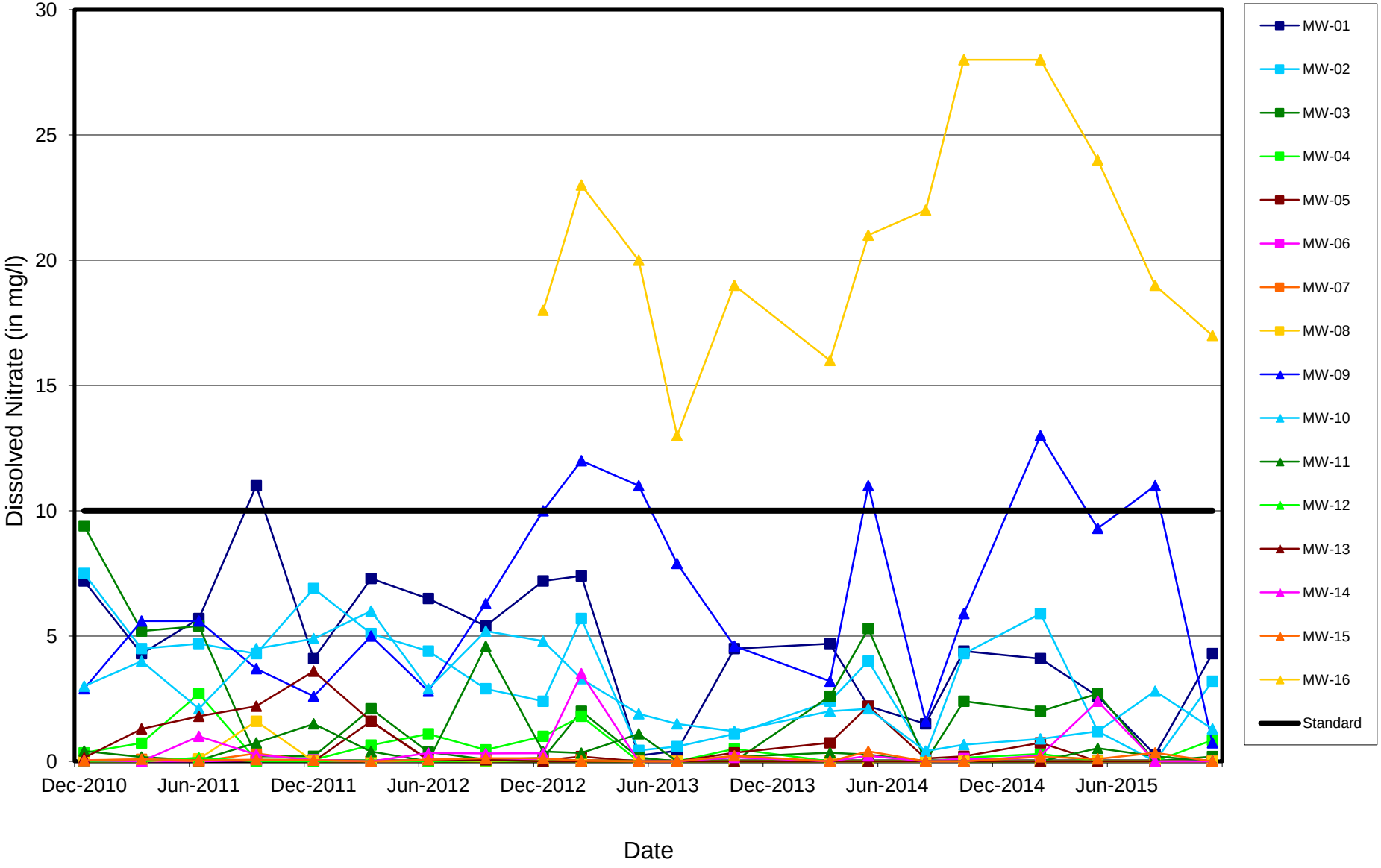
Dissolved Nickel vs. Time



MWG13-15_56326

Midwest Generation Powerton Station, Pekin, IL

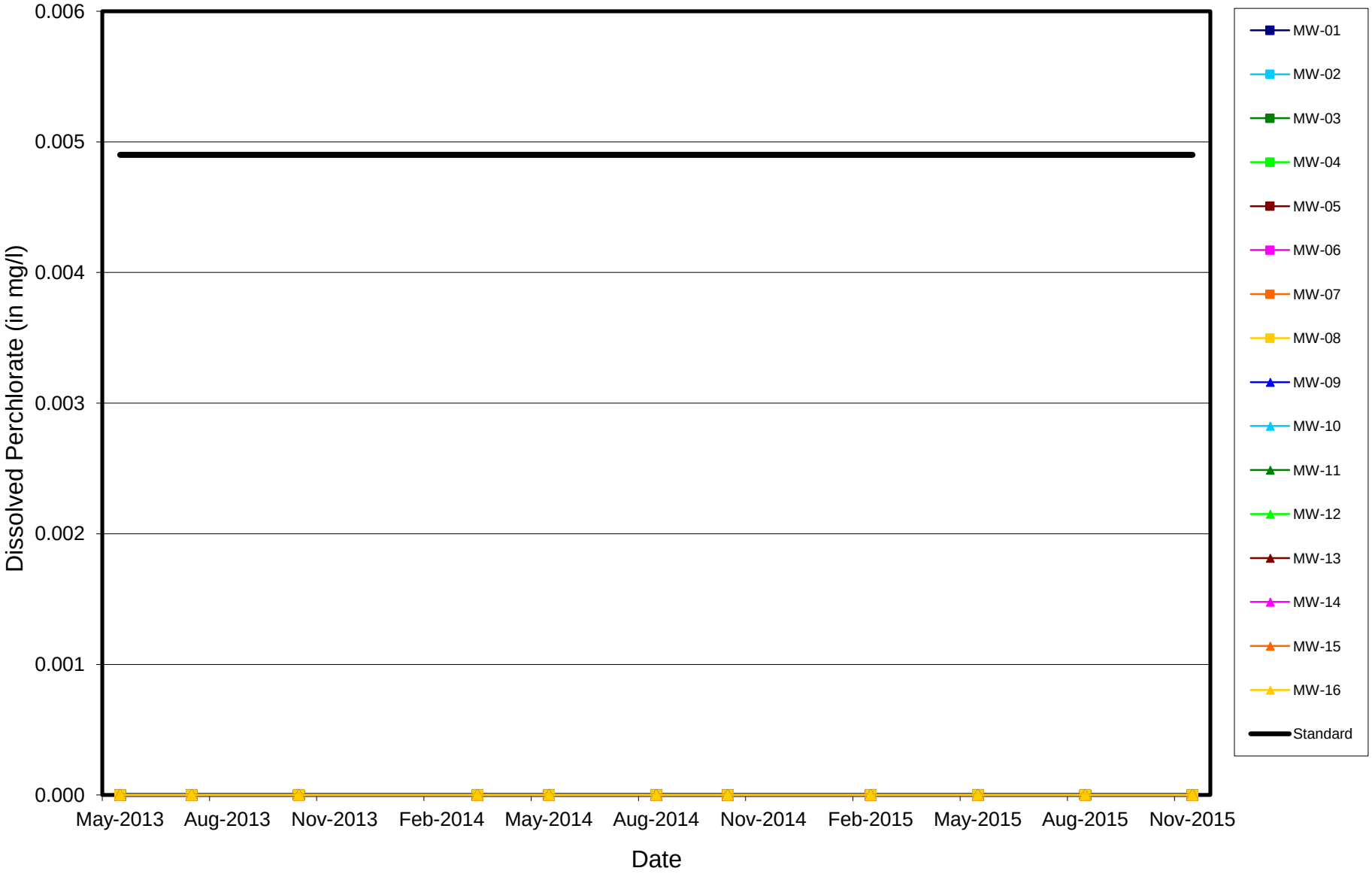
Dissolved Nitrate vs. Time



MWG13-15_56327

Midwest Generation Powerton Station, Pekin, IL

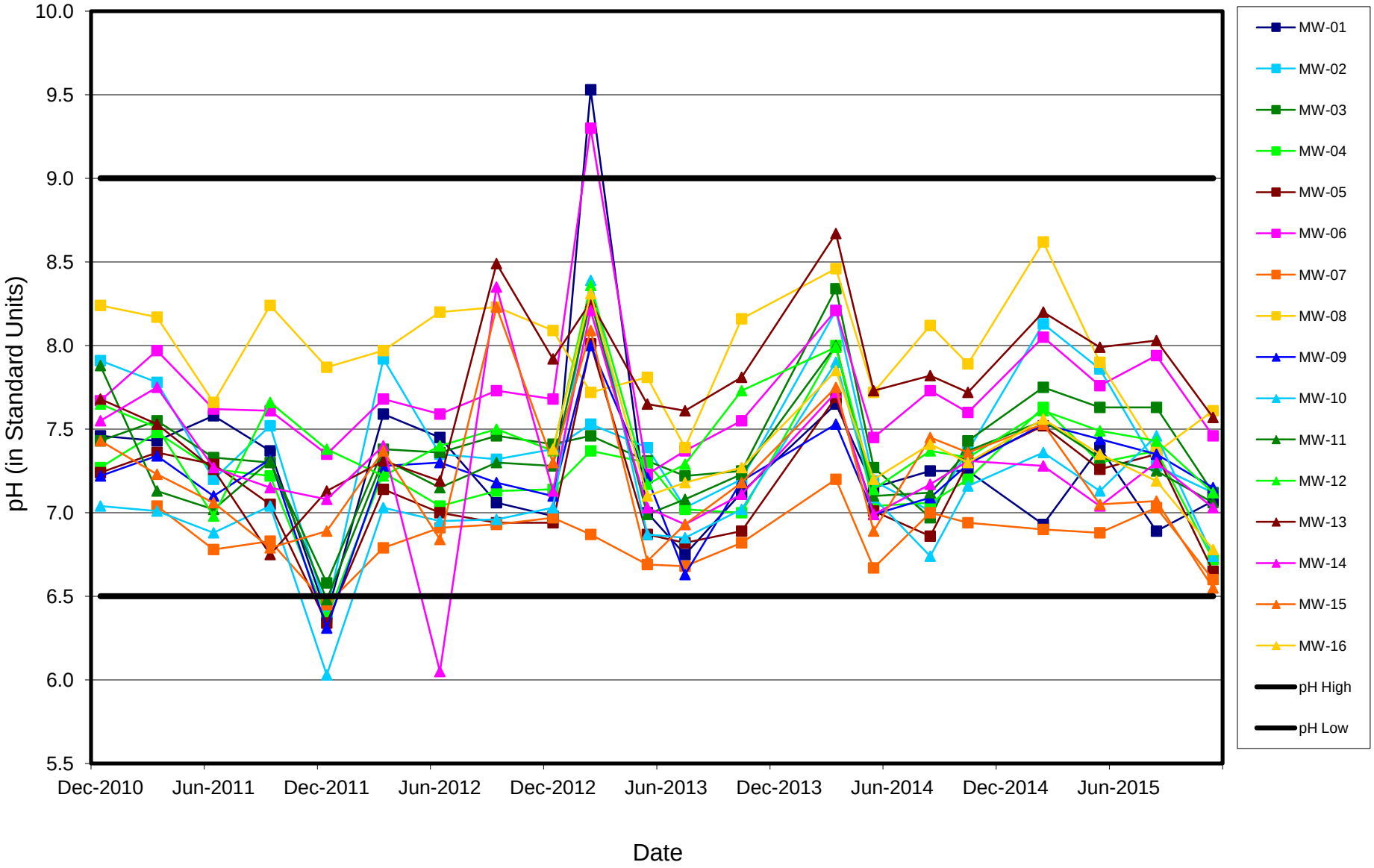
Dissolved Perchlorate vs. Time



MWG13-15_56328

Midwest Generation Powerton Station, Pekin, IL

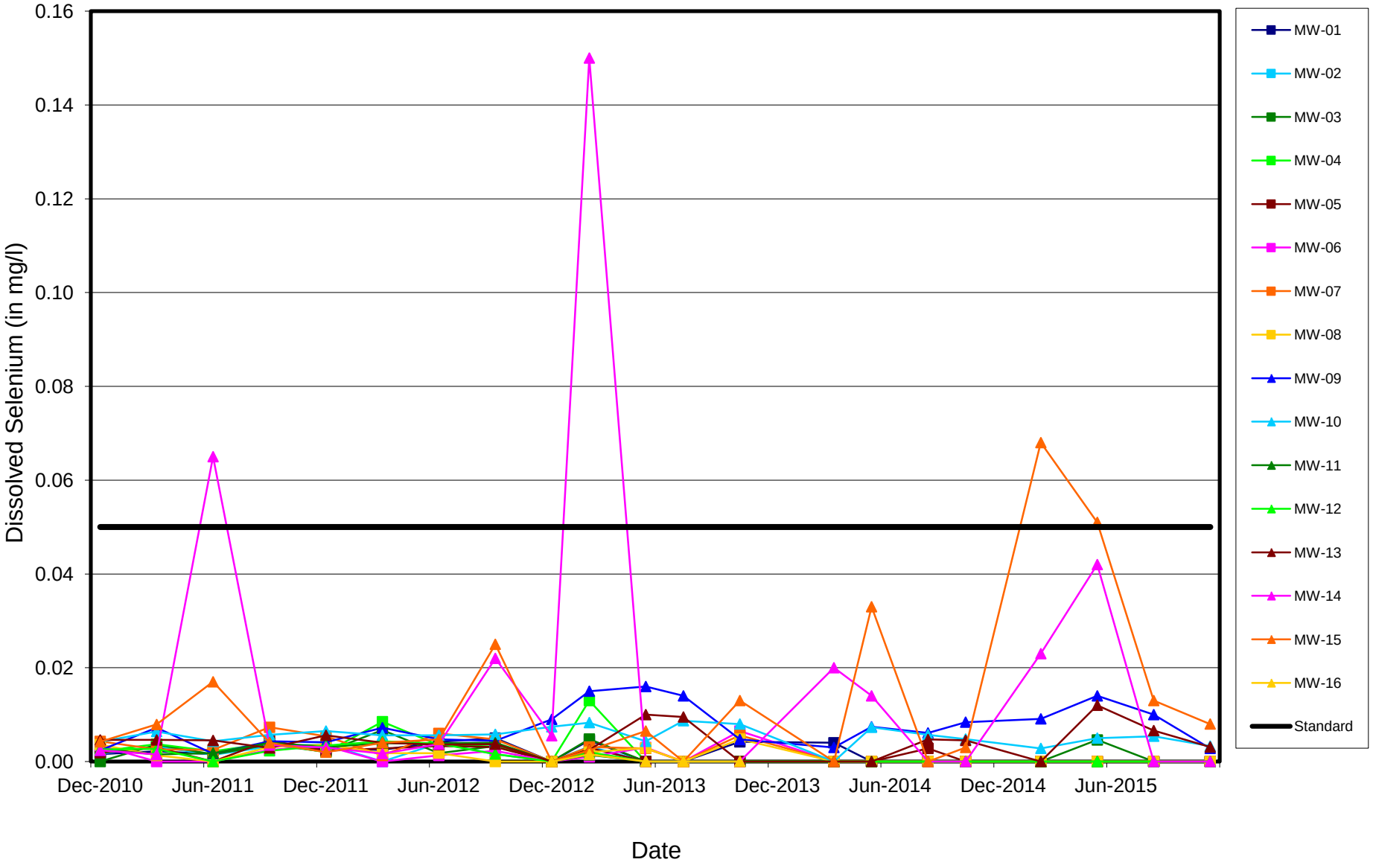
pH vs. Time



MWG13-15_56329

Midwest Generation Powerton Station, Pekin, IL

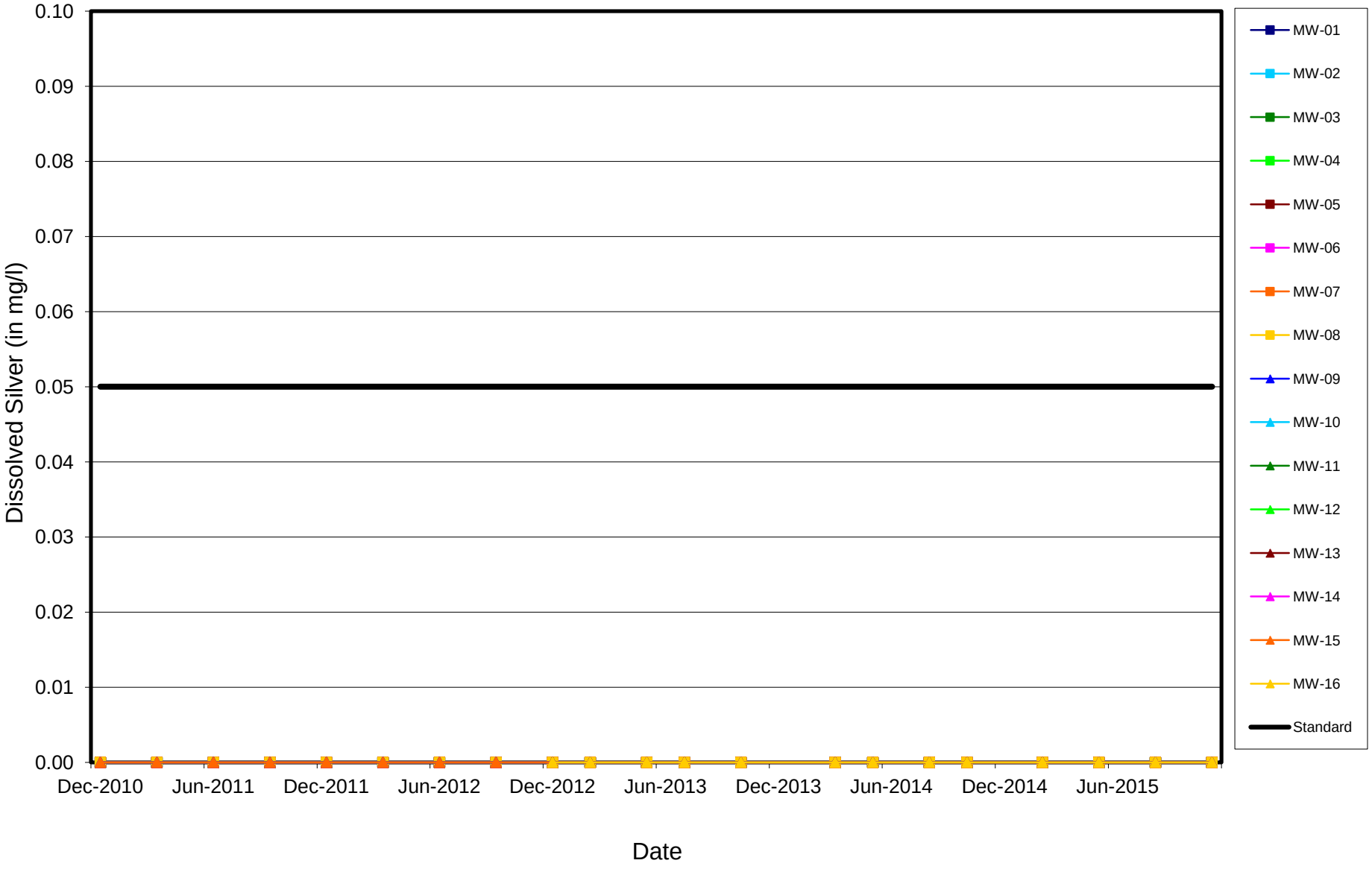
Dissolved Selenium vs. Time



MWG13-15_56330

Midwest Generation Powerton Station, Pekin, IL

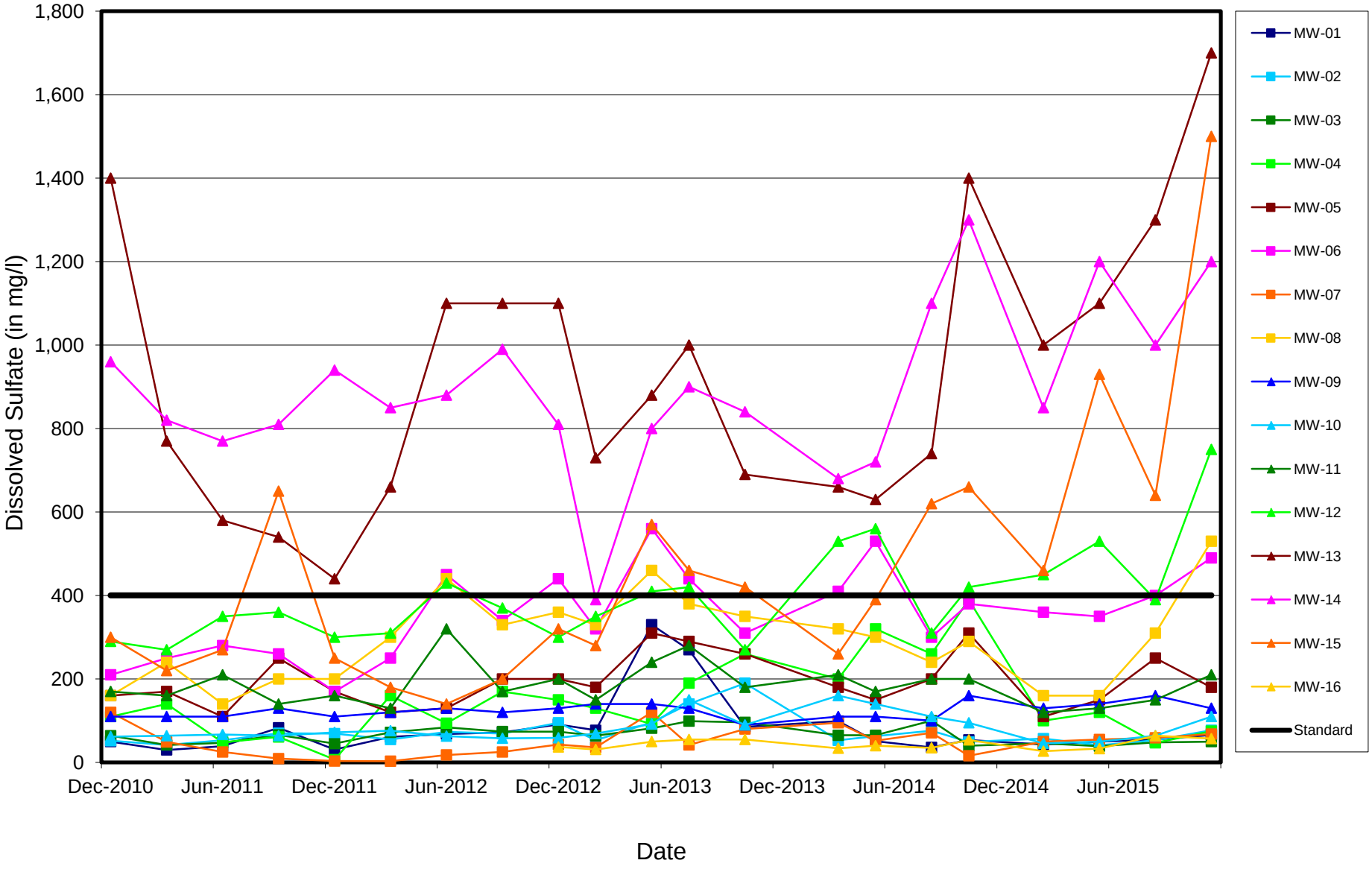
Dissolved Silver vs. Time



MWG13-15_56331

Midwest Generation Powerton Station, Pekin, IL

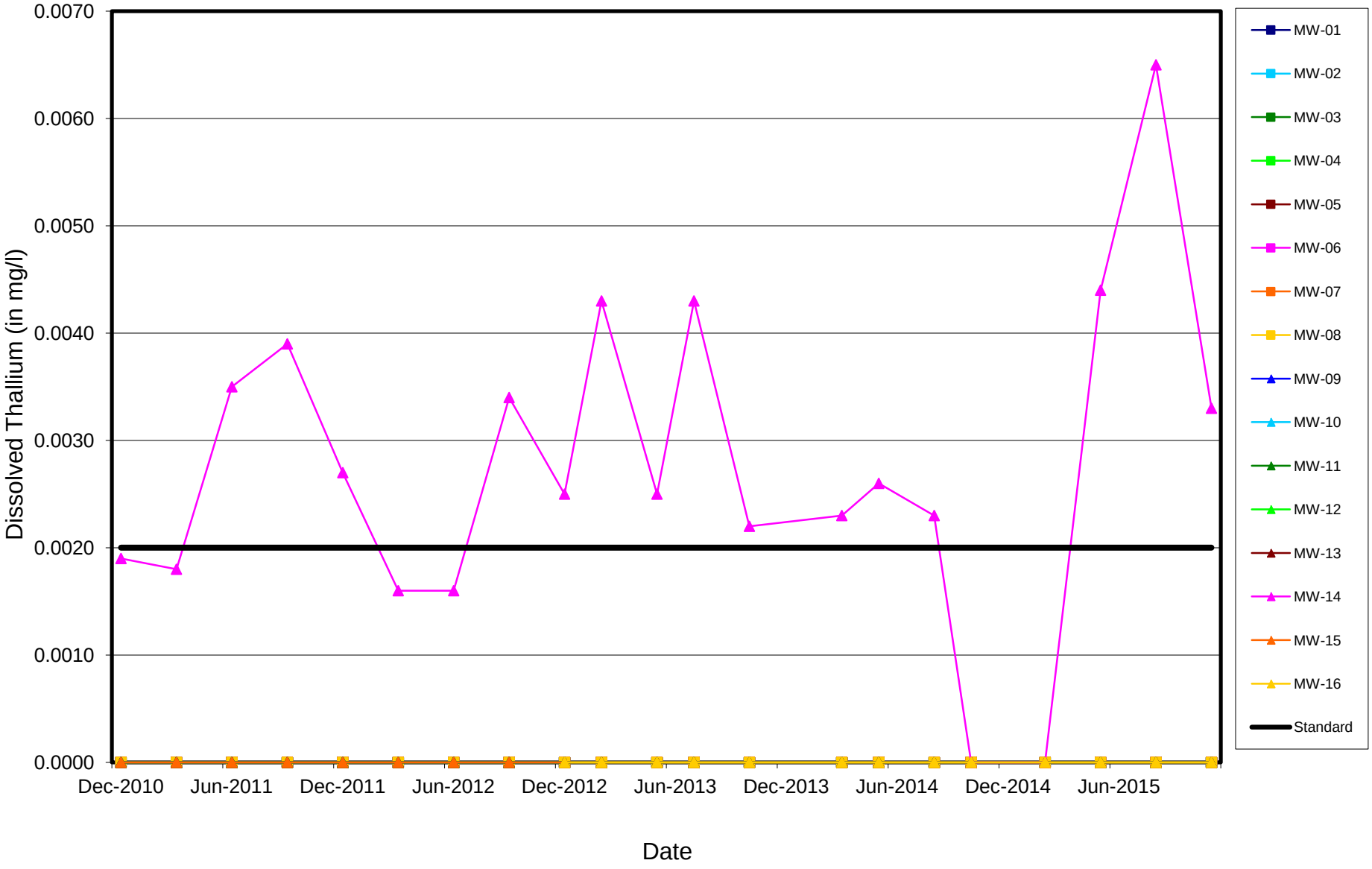
Dissolved Sulfate vs. Time



MWG13-15_56332

Midwest Generation Powerton Station, Pekin, IL

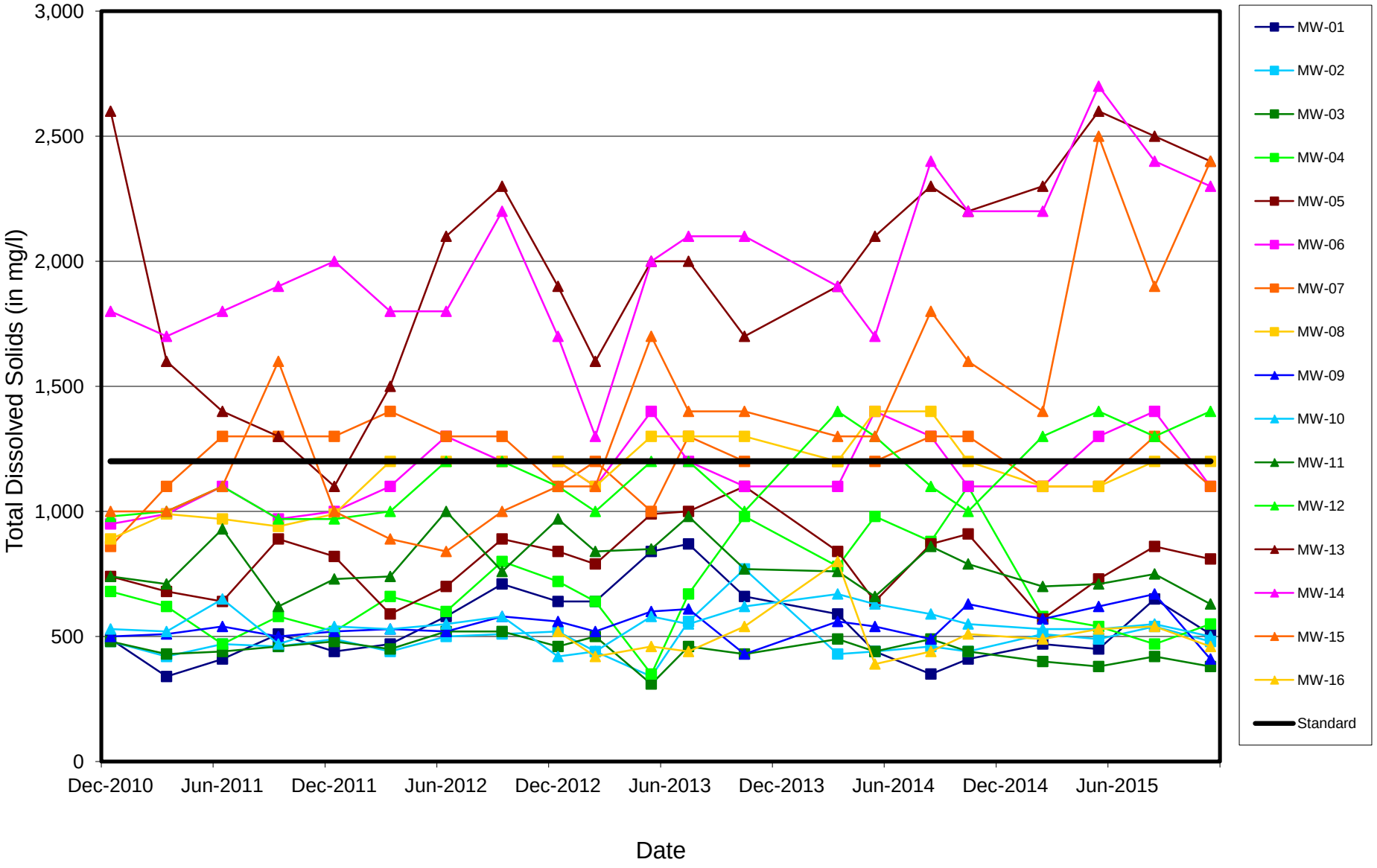
Dissolved Thallium vs. Time



MWG13-15_56333

Midwest Generation Powerton Station, Pekin, IL

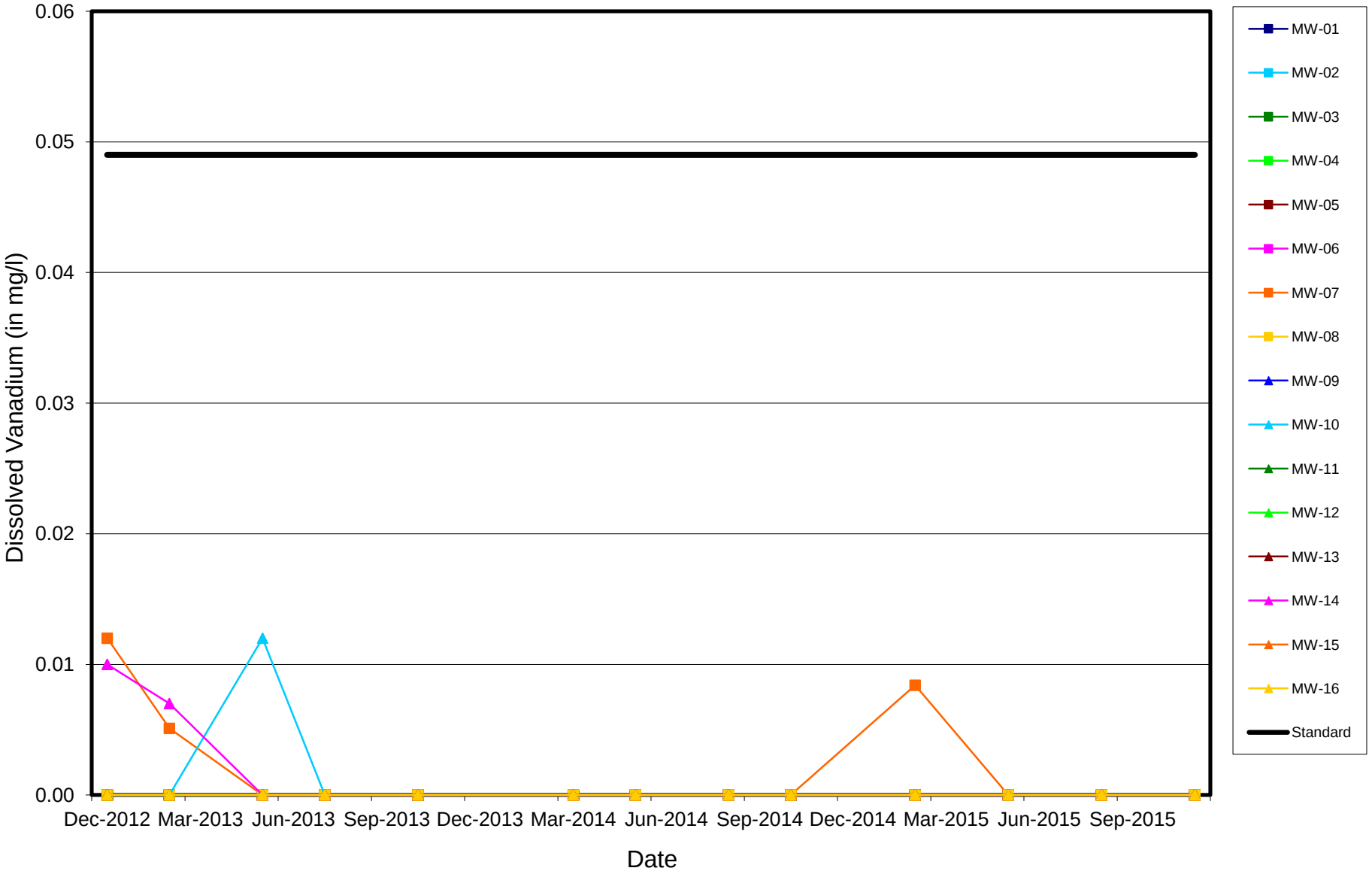
Total Dissolved Solids vs. Time



MWG13-15_56334

Midwest Generation Powerton Station, Pekin, IL

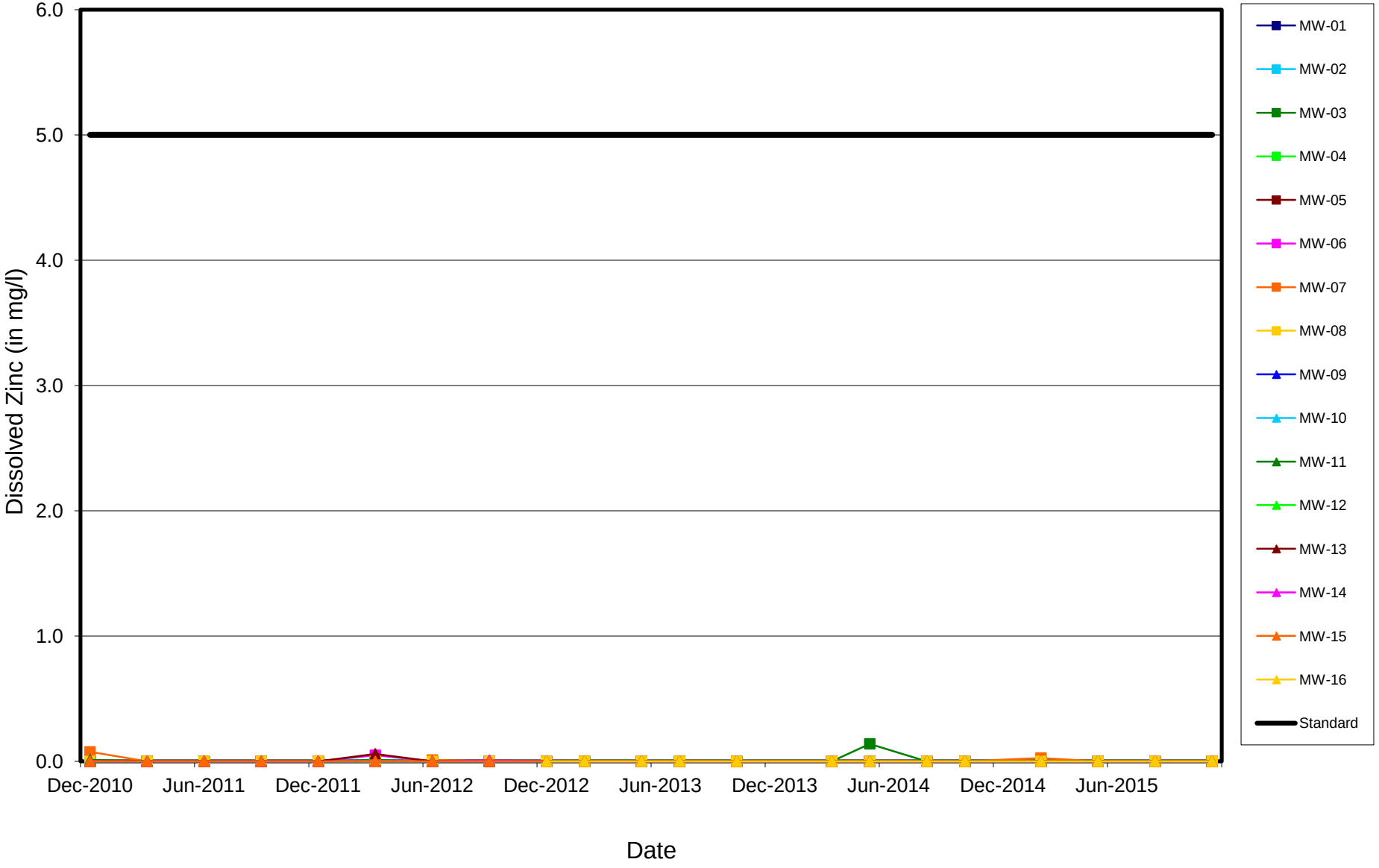
Dissolved Vanadium vs. Time



MWG13-15_56335

Midwest Generation Powerton Station, Pekin, IL

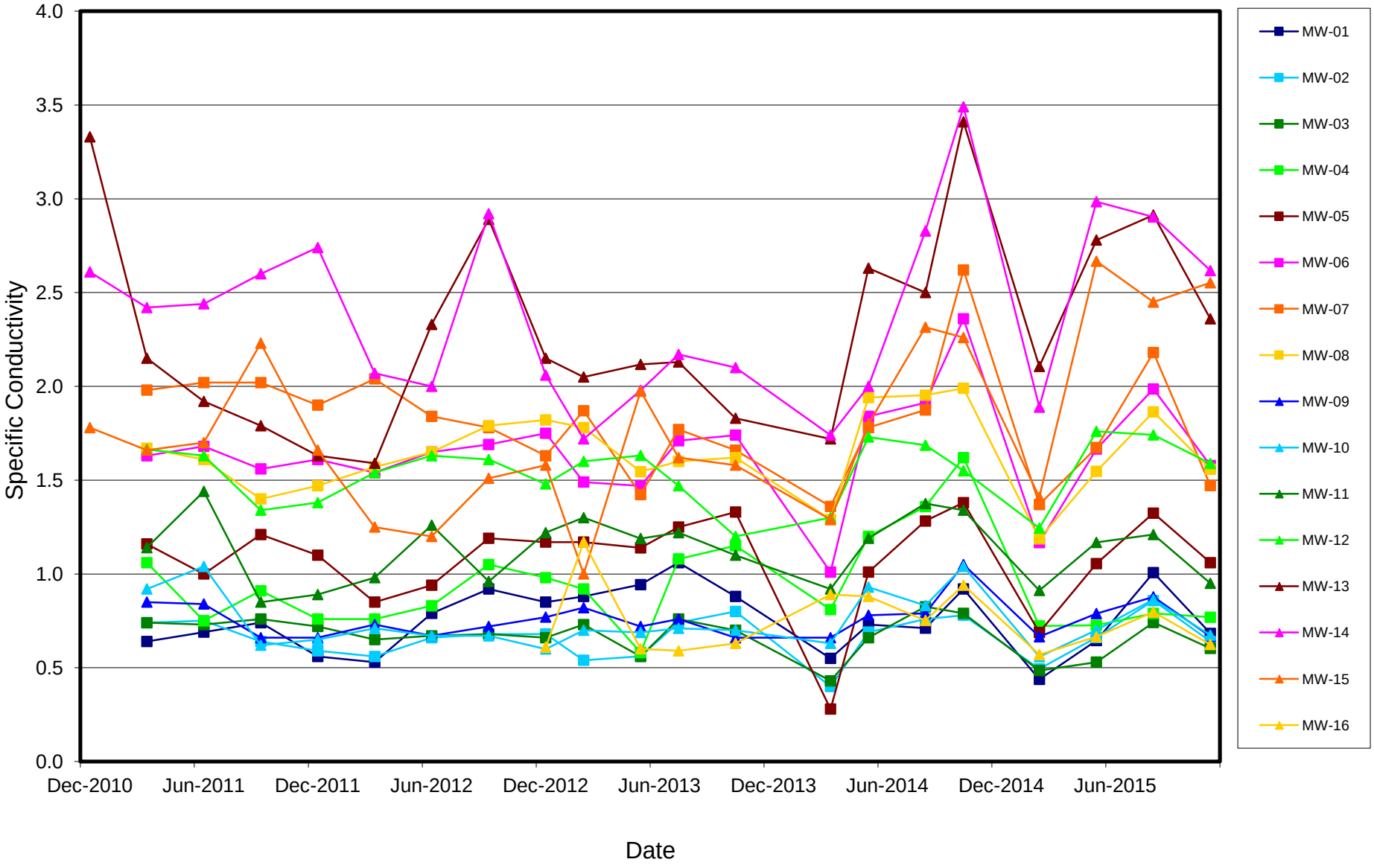
Dissolved Zinc vs. Time



MWG13-15_56336

Midwest Generation Powerton Station, Pekin, IL

Specific Conductivity vs. Time



MWG13-15_56337

Exhibit D19

TRANSMITTAL LETTER

September 11, 2013

Mr. Lynn Dunaway
Illinois Environmental Protection Agency
Bureau of Water, PWS#13
1021 North Grand Avenue East
Springfield, IL 62794-9276

VIA FEDERAL EXPRESS

Re: Midwest Generation, LLC, Powerton Generating Station; ID No. 6282
Compliance Commitment Agreement – ELUC/GMZ

Dear Mr. Dunaway:

On January 18, 2013, as part of fulfillment of an executed Compliance Commitment Agreement (CCA) dated October 24, 2012, Midwest Generation, LLC Powerton Station submitted to Illinois Environmental Protection Agency (IEPA) a proposed Groundwater Management Zone (GMZ) and a proposed Environmental Land Use Control (ELUC). The proposed ELUC was approved by IEPA in a letter dated August 26, 2013, however, IEPA did request one amendment to the proposed GMZ. Specifically, the IEPA requests that monitoring wells MW-1, MW-9 and MW-10 not be identified as "upgradient" monitoring points in the GMZ document. Even though these points may be up gradient of specific ash basins, they are not believed to be reliable up gradient monitoring points for historical ash related activities that may be impacting groundwater quality proximate to these wells. IEPA would prefer to identify the wells as either "side gradient" or "intermediate".

KPRG and Associates, Inc. (KPRG), on behalf of Midwest Generation, is providing this response to the IEPA letter dated August 26, 2013. The following amendment to the GMZ Application, Part II, Item 5 dated January 18, 2013 is proposed:

5. Describe the groundwater monitoring network and groundwater and soil sampling protocols in place at the facility.

The existing IEPA approved groundwater monitoring network at the site consists of sixteen monitoring wells (MW-1 through MW-16) located around the three existing

MWG13-15_9644

ash basin (see Figure 3 in Attachment 2A). Wells MW-1, MW-9, and MW-10 are considered intermediate monitoring wells, being generally up gradient of the ash basins but still within an area of impacted groundwater from historical ash-related handling activities. Well MW-16 is considered an upgradient monitoring well, outside the area of groundwater impacts associated with historical ash-related handling activities. The remaining wells are considered downgradient monitoring points. The well borings were advanced using hollow-stem augers to depths ranging from approximately 30 to 45 feet below ground surface (bgs). The depth of a specific boring was terminated approximately 10 feet below the encountered water table. The wells were subsequently constructed using standard, 2-inch diameter PVC casing with 10-feet of 0.010 slot PVC screens. The wells were completed approximately three feet above grade with locking protective steel casings and bumper posts. The boring logs and well construction summaries are included in the above referenced Hydrogeologic Assessment Report (see discussion for item 2 above). The monitoring wells are sampled on a quarterly basis using low-flow sampling with a peristaltic pump. Field measurements of pH, specific conductivity, temperature, dissolved oxygen (DO) and oxidation-reduction potential (ORP) are recorded. Once collected, the samples are placed on ice and transported under a completed chain-of-custody to PDC Laboratories, Inc. which is an Illinois accredited analytical laboratory. The samples are analyzed for the inorganic compounds listed in 35 IAC 620.410(a) and (d), excluding radium 226/228.

There is no soil sampling that is performed as part of the approved site monitoring program.

Based on the IEPA letter dated August 26, 2013, it is understood that upon IEPA approval of the above amended wording, the GMZ will be approved as amended without the need for resubmitting the entire application document. If there are any questions, please contact me at 262-781-0475 or Ms. Maria Race of Midwest Generation at 630-771-7862.

Sincerely,
KPRG and Associates, Inc.

Richard R Gnat

Richard R. Gnat, P.G.
Principal

cc: Ms. Maria Race, Midwest Generation EME, LLC
Mr. Basil Constantelos, Midwest Generation EME, LLC
Mr. William Gaynor, Midwest Generation, LLC
Mr. Christopher Foley, Midwest Generation EME, LLC
Ms. Susan Franzetti, Nijman Franzetti, LLP
Mr. William E. Buscher, IEPA

MWG13-15_9645

Exhibit D20

PATRICK ENGINEERING

4970 Varsity Drive
Lisle, IL 60532
Tel: (630) 795-7200
Fax: (630) 724-1681

TRANSMITTAL LETTER

Date: October 20, 2010
Project Name: Ash Pond Assessments (Powerton)
Project No: 21053.070

To: Joseph A. Heredia
Environmental Specialist
Midwest Generation
13082 E. Manito Road
Pekin, IL 61554-8587

Subject: Monitoring Well Completion Reports

WE ARE SENDING YOU ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Plans ☐ Copy of letter ☐ Request for proposal
☐ Specifications ☐ Report ☐ Change order
☐ Shop Drawings ☐ Samples ☐ Payment request
☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	10/20/10		Water Well Completion Reports (15)

THESE ARE TRANSMITTED ☒ As requested ☐ For review and comment - please take the following action:
☐ For your use
☐ For approval ☐ FOR BIDS DUE _____ 20 _____

REMARKS: Attached are the completion reports and cover letters that were sent to both the state and county health departments. If you have any questions please contact me at 630-795-7245.

COPY TO _____

SIGNED: _____
Steven E. Kroll,
TITLE: Geologist

WATER-
M4

MWG13-15_10640

PATRICK ENGINEERING

4970 Varsity Drive
Lisle, IL 60532
Tel: (630) 795-7200
Fax: (630) 724-1681

TRANSMITTAL LETTER

Date: October 20, 2010
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REMARKS: Attached are the completion reports and cover letters that were sent to both the state and county health departments. If you have any questions please contact me at 630-795-7245.

COPY TO _____

SIGNED: _____
Steven E. Kroll, P.G.
TITLE: Geologist

MWG13-15_10641

PATRICK
ENGINEERING

October 20, 2010

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, Illinois 62761

Reference: Monitoring Well Construction Reports

To Whom it may Concern:

Enclosed are fifteen (15) Water Well Construction Reports for monitoring wells that were recently installed at the Midwest Generation LLC facility located at 13082 East Manito Road in Pekin, Illinois.

If you have any questions, please contact me at 630-795-7245.

Sincerely,

PATRICK ENGINEERING INC.

Steven E. Kroll, P.G.
Geologist

Enclosure: Water Well Construction Reports (15)

P:\Lisle\Midwest Generation\21053.070 Ash Pond Assessments\Powerton\Boring Logs\Well Completion Reports IDPH Cover 102010.docx

MWG13-15_10642

PATRICK
ENGINEERING

October 20, 2010

Tazewell County Health Department
Environmental Health
21306 Illinois Route 9
Tremont, Illinois 61568

Reference: Monitoring Well Construction Reports

To Whom it may Concern:

Enclosed are fifteen (15) Water Well Construction Reports for monitoring wells that were recently installed at the Midwest Generation LLC facility located at 13082 East Manito Road in Pekin, Illinois.

If you have any questions, please contact me at 630-795-7245.

Sincerely,

PATRICK ENGINEERING INC.

Steven E. Kroll, P.G.
Geologist

Enclosure: Water Well Construction Reports (15)

P:\Lisle\Midwest Generation\21053.070 Ash Pond Assessments\Powerton\Boring Logs\Well Completion Reports Cover 102010.docx

MWG13-15_10643

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 30.5

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 30.5 ; (in.) ___ to (ft.) _____ ; (in.) ___ to (ft.) _____

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	8		3	18	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	18	30.5

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Oct 4, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ **9.** Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____

Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-01

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation **16.** Permit Number: _____

Date Issued: _____ **17.** Date Drilling Started Oct 4, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NW Quarter of the NW Quarter of the SE Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 44.1 N

Lon: Degrees 89 Minutes 40 Seconds 23.9 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	20.5

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	20.5	30.5

24. Water from sand and gravel at a depth of (ft.) 18.5 To (ft.) 30.5

a. Static water level (ft.) below top of casing 22 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
sand, gravel fill material	0	18.5
coarse sand and fine gravel	18.5	30.5

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____

Licensed Water Well Contractor Signature

MWG13-15_10644

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 33.5

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 33.5 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	7		3	20	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	20	33.5

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Oct 5, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-02

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Oct 5, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. SW Quarter of the SW Quarter of the NE Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 51.3 N

Lon: Degrees 89 Minutes 40 Seconds 22.5 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	23.5

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	23.5	33.5

24. Water from gravel at a depth of (ft.) 23.5 To (ft.) 33.5

a. Static water level (ft.) below top of casing 24 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
topsoil	0	1.5
sand	1.5	23.5
gravel	23.5	33.5

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_10645

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 34

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 34 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	11		3	20	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	20	34

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Oct 5, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-03

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Oct 5, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NW Quarter of the SW Quarter of the NE Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 56.7 N

Lon: Degrees 89 Minutes 40 Seconds 25.7 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	24

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	24	34

24. Water from gravel at a depth of (ft.) 23 To (ft.) 34

a. Static water level (ft.) below top of casing 23 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
topsoil	0	0.5
sand	0.5	34

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_10646

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 34

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 34 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	5		3	20	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	20	34

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Oct 6, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-04

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Oct 6, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NE Quarter of the SE Quarter of the NW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 56.0 N

Lon: Degrees 89 Minutes 40 Seconds 32.6 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	24

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	24	34

24. Water from gravel at a depth of (ft.) 20 To (ft.) 34

a. Static water level (ft.) below top of casing 24 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
topsoil	0	0.5
clay and silt	0.5	16
sand	16	20
gravel	20	34

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_10647

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 31

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 31 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	5		3	19	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	19	31

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Oct 6, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

IL 482-0126
Revised 6/09

13. Property Owner: Midwest Generation LLC Well # PEI-MW-05

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Oct 6, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NW Quarter of the SE Quarter of the NW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 52.4 N

Lon: Degrees 89 Minutes 40 Seconds 36.7 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	21

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	21	31

24. Water from gravel at a depth of (ft.) 20 To (ft.) 31

a. Static water level (ft.) below top of casing 20.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
topsoil	0	1.5
clay and silt with gravel	1.5	17
sand and gravel	17	31

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_10648

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 31

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 28 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	5		3	18	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	18	28

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Oct 6, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-06

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Oct 6, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NW Quarter of the SE Quarter of the NW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 49.7 N

Lon: Degrees 89 Minutes 40 Seconds 39.6 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	18

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	18	28

24. Water from organic silt and clay at a depth of (ft.) 18 To (ft.) 28

a. Static water level (ft.) below top of casing 17 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
clay and gravel	0	10
clayey silt	10	14
cinders	14	18
organic silt and clay	18	28

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_10649

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 45

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 45 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	5		3	32	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	32	45

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Oct 5, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-07

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Oct 4, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NW Quarter of the SE Quarter of the NW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 48.8 N

Lon: Degrees 89 Minutes 40 Seconds 41.5 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	35

23. Is the well screened?	If yes	Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
Yes		2	10	0.01	35	45

24. Water from gravel at a depth of (ft.) 34 To (ft.) 45

a. Static water level (ft.) below top of casing 36 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
sand, gravel, cinders	0	10
sand, gravel, clay	10	13.5
organic clay	13.5	26
organic silt	26	33.5
sand and gravel	33.5	45

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_10650

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 30

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 30 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	5		3	18	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	18	30

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 30, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-08

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 30, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. SW Quarter of the SE Quarter of the NW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 44.0 N
Lon: Degrees 89 Minutes 40 Seconds 38.2 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	20

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	20	30

24. Water from fill at a depth of (ft.) 21 To (ft.) 24.5

a. Static water level (ft.) below top of casing 19.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
gravel, sand, silt, clay fill	0	10
cinders	10	24.5
organic clay	24.5	27.5
organic silt	27.5	30

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_10651

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 32

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 32 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	9		3	20	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	20	32

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 28, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-09

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 28, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NE Quarter of the SE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 32.3 N

Lon: Degrees 89 Minutes 40 Seconds 34.4 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	22

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	22	32

24. Water from sand at a depth of (ft.) 19 To (ft.) 32

a. Static water level (ft.) below top of casing 21.6 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
gravel, crushed rock, cinders	0	10
cinders, sand, brick	10	17
clayey silt	17	19
sand	19	32

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_10652

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 29

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 29 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	7		3	17	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	17	29

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Oct 4, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-10

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Oct 4, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NE Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 39.1 N

Lon: Degrees 89 Minutes 40 Seconds 29.10 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	19

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	19	29

24. Water from sand and gravel at a depth of (ft.) 21 To (ft.) 29

a. Static water level (ft.) below top of casing 21.6 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
silty clay	0	10
organic silt	10	13.5
organic clay	13.5	16.5
silty clay	16.5	21
sand and gravel	21	29

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_10653

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 40

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 40 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	12		3	28	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	28	40

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 28, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-11

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 28, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. SW Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 35.2 N

Lon: Degrees 89 Minutes 40 Seconds 33.2 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	30

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	30	40

24. Water from sand and gravel at a depth of (ft.) 32.5 To (ft.) 40

a. Static water level (ft.) below top of casing 26.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
gravel, sand, cinders	0	10
clay and gravel	10	16
silt and clay	16	20
organic silt	20	26
silty clay	26	32.5
sand and gravel	32.5	40

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_10654

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 29

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 29 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	6		3	18	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	18	29

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 29, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ **9.** Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____

Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

IL 482-0126
Revised 6/09

13. Property Owner: Midwest Generation LLC Well # PEI-MW-12

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation **16.** Permit Number: _____

Date Issued: _____ **17.** Date Drilling Started Sep 29, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. SE Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 34.2 N

Lon: Degrees 89 Minutes 40 Seconds 35.7 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	19

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	19	29

24. Water from silt and sand at a depth of (ft.) 20 To (ft.) 26

a. Static water level (ft.) below top of casing 19.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
cinders, gravel, clay	0	10
cinders	10	18.5
silt and sand	18.5	26
clayey silt	26	29

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____

Licensed Water Well Contractor Signature

MWG13-15_10655

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 40

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 40 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	10		3	28	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	28	40

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 29, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ **9.** Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-13

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation **16.** Permit Number: _____

Date Issued: _____ **17.** Date Drilling Started Sep 29, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. SW Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 35.6 N

Lon: Degrees 89 Minutes 40 Seconds 39.7 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	30

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	30	40

24. Water from gravel at a depth of (ft.) 34 To (ft.) 40

a. Static water level (ft.) below top of casing 29.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
cinders, gravel, clay	0	10
cinders and sand	10	17.5
organic silt	17.5	31.5
silty clay, sand	31.5	34
gravel	34	40

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_10656

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 30

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 30 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	8		3	18	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	18	30

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 30, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ **9.** Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

IL 482-0126
Revised 6/09

13. Property Owner: Midwest Generation LLC Well # PEI-MW-14

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation **16.** Permit Number: _____

Date Issued: _____ **17.** Date Drilling Started Sep 30, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NW Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 39.7 N

Lon: Degrees 89 Minutes 40 Seconds 41.2 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	20

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	20	30

24. Water from organic silt and sand at a depth of (ft.) 19.5 To (ft.) 25

a. Static water level (ft.) below top of casing 20.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
cinders, gravel, clay	0	10
gravel and clay	10	19.5
organic silt	19.5	30

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_10657

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 30

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 30 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	9		3	18	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	18	30

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 30, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-15

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 30, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NW Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 40.6 N

Lon: Degrees 89 Minutes 40 Seconds 38.7 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	20

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	20	30

23. Is the well screened? Yes If yes

24. Water from fine sand at a depth of (ft.) 19.5 To (ft.) 23.5

a. Static water level (ft.) below top of casing 19.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
cinders, gravel, clay	0	10
cinders, gravel, sand	10	19.5
fine sand	19.5	23.5
silt	23.5	28
silty clay	28	30

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_10658

Exhibit D21

Geosyntec consultants

10875 Rancho Bernardo Road, Suite 200
San Diego, CA 92127
Phone: 858.716-2909
Fax: 858.674.6586
www.geosyntec.com

NOTIFICATION OF INTENT TO INITIATE CLOSURE OF THE FORMER ASH BASIN

Pursuant to 40 CFR 257.100(c)(1), Midwest Generation LLC is making the following notification on 17 December 2015, of intent to initiate closure of the Former Ash Basin at the Powerton Station in Pekin, IL.

1) ***Inactive CCR Impoundment***. The Former Ash Basin is an inactive CCR surface impoundment closing under the requirements of paragraph (b) of 40 CFR §257.100.

2) ***Narrative Description of Closure***. The closure approach consists of consolidating the existing ash from both North and South Ponds into the South Pond and then capping the South Pond to meet the standard of §257.100(b)(1) & (2). CCR will be moved from the North to the South Pond by dredging and sluicing. After the CCR in the North pond is removed by dredge, the pond will be dewatered and any remaining CCR will be removed to meet the standard of §257.100(b)(5). The cover system will be designed to meet the performance and material property requirements of §257.100(b)(3) and will include an 18-inch thick (minimum) infiltration layer overlain by 6-inch (minimum) thick erosion layer. The infiltration layer will have a permeability of $1x10^{-5}$ cm/sec or less.

3) ***Proposed Schedule for Completing Closure Activities***.
   a. The permitting process is anticipated to take approximately 150 calendar days beginning in late March 2016, after conceptual design is completed.
   b. Preparation of detailed design and construction documents and contractor procurement are anticipated to take approximately 100 calendar days starting in October 2016.
   c. Construction of the proposed closure construction is anticipated to begin in late March 2017 and end in late February 2018.

4) ***Certifications***. As required by §257.100(b)(4) I, Jane W. Soule, P.E., that the design of the proposed final cover system meets the requirements of §257.100(b)(3). Also, as required by §257.100(b)(6), I, Jane W. Soule, P.E., certify that the closure design described in this letter is technically feasible and can be completed within the timeframe specified in §257.100(b).



Exhibit D22

PATRICK
ENGINEERING

May 17, 2012

Illinois Environmental Protection Agency
Division of Water Pollution Control
Compliance Assurance Section
1021 North Grand Avenue East
P.O. Box 19276
Springfield, Illinois 62794-9276

Subject: Quarterly Groundwater Monitoring Results –First Quarter 2012
Powerton Generating Station – Bypass Cleaning Basin
Water Pollution Control Permit No. 2010-EB-0664

Reference: Patrick Project No. 21253.022

To Whom It May Concern:

Patrick Engineering Inc. (Patrick) has prepared this letter report, on behalf of Midwest Generation, LLC, to provide groundwater monitoring results associated with the Powerton Generating Facility located at 13082 East Manito Road in Pekin, Illinois. Groundwater is monitored quarterly in the vicinity of the bypass cleaning basin at this facility in three monitoring wells in accordance with requirements of Illinois Environmental Protection Agency (Illinois EPA) Water Pollution Control Permit No. 2010-EB-0664.

MONITORING WELL INSTALLATION

In accordance with the permit referenced above, three monitoring wells (MW-9, MW-11, and MW-12) have been installed in the vicinity of the bypass cleaning basin. The locations of these wells were selected so that at least one of the monitoring wells (MW-09) was installed downgradient of the basin, based upon available data regarding the expected groundwater flow direction. Figure 1 shows the location of the three monitoring wells. Drilling logs and well completion reports have been included as Attachment A.

GROUNDWATER SAMPLING

Prior to collecting groundwater samples from the three wells noted above, a number of field measurements were collected from each well location, including groundwater elevation, temperature, conductivity, and pH. Groundwater elevation data is summarized in Table 1. Other field parameter data is provided in Table 2.

On March 19, 2012, groundwater samples were collected from each of the three on-site monitoring wells, by the direct use of a peristaltic pump. Each well was purged until at least three well volumes had been extracted, or until the groundwater was observed to be clear. Groundwater was pumped or bailed into a decontaminated, stainless steel container and thereafter transferred to sample containers via peristaltic pump. All groundwater samples were filtered in the field using a disposable, 0.45µm, in-line filter to allow for the analytical testing of

dissolved compounds. The samples were immediately placed on ice in a cooler and kept at a temperature no higher than 4° F. The samples were transported to PDC Laboratories, an Illinois-EPA accredited analytical laboratory, in accordance with chain-of-custody procedures to maintain sample integrity.

ANALYTICAL RESULTS

The groundwater samples were analyzed for all of the inorganic compounds listed in 35 Illinois Administrative Code (IAC) 620.410(a) and 620.410(d), including radium 226/228. Analytical results (both current and historical) are summarized in Table 3. Laboratory analytical reports provided by PDC Laboratories are provided as Attachment B.

In accordance with Water Pollution Control Permit No. 2010-EB-0664, these three wells will continue to be sampled and reported on a quarterly basis for at least one year to establish a statistically valid representation of existing background conditions.

If you have any questions, please contact me at 630-795-7464.

Sincerely,

PATRICK ENGINEERING INC.

Richard M. Frendt, P.E
Senior Project Manager

RMF/DCM
Enclosures: Figure 1: Monitoring Well Location Map
Table 1: Groundwater Elevation Data
Table 2: Field Parameter Data
Table 3: Groundwater Analytical Results
Attachment A: Boring Logs/Well Completion Reports
Attachment B: Laboratory Analytical Results

FIGURE 1

MONITORING WELL LOCATION MAP



LEGEND

MW-12 Monitoring Well Location

N

AERIAL IMAGE SOURCE:
2005 ORTHOPHOTO TAKEN FROM THE ILLINOIS NATURAL RESOURCES CLEARINGHOUSE

1" = 600'

Date: MARCH 2012	FIGURE 1 MONITORING WELL LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21153.022	POWERTON STATION PEKIN, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_4047

TABLE 1

GROUNDWATER ELEVATION DATA

Table 1
BYPASS BASIN
GROUNDWATER ELEVATION DATA
Powerton Station, Pekin, Illinois
Midwest Generation
21153.018

PATRICK ENGINEERING	Groundwater Elevation Data							
Monitoring Well	**Date**	**Water Elevation (Feet)**	**Depth to Water Pre-Sampling (Feet bmp)**	**Depth to Water Post Sampling (Feet bmp)**	**Water Elevation Post Sampling (bmp)**	**Depth to Bottom of Well (Feet)**	**Ground Elevation (Feet)**	**Top of Riser Elevation (Feet)**
MW-09	2/15/2011	443.416	25.77	25.80	443.386	35.13	466.214	469.186
	6/16/2011	449.306	19.88	19.89	449.296	35.13	466.214	469.186
	9/19/2011	443.636	25.55	25.55	443.636	35.13	466.214	469.186
	12/12/2011	443.076	26.11	26.11	443.076	35.13	466.214	469.186
	3/19/2021	443.776	25.41	25.41	443.776	35.13	466.214	469.186
MW-11	2/15/2011	440.779	30.81	30.82	440.769	43.65	468.074	471.589
	6/16/2011	448.199	23.39	23.40	448.189	43.65	468.074	471.589
	9/19/2011	440.489	31.10	31.10	440.489	43.65	468.074	471.589
	12/12/2011	440.509	31.08	31.09	440.499	43.65	468.074	471.589
	3/19/2012	441.629	29.96	29.99	441.599	43.65	468.074	471.589
MW-12	2/15/2011	450.390	22.99	23.01	450.370	32.57	469.999	473.380
	6/16/2011	451.180	22.20	22.20	451.180	32.57	469.999	473.380
	9/19/2011	449.880	23.50	23.50	449.880	32.57	469.999	473.380
	12/12/2011	450.030	23.35	23.35	450.030	32.57	469.999	473.380
	3/19/2012	451.180	22.20	22.20	451.180	32.57	466.999	473.380

Notes:
- Elevations are leveled from site control points per Drawing "Control Network, IL State Plane (West Zone) Powerton Station" revised 10/22/2010

-Elevations are shown in feet

bmp -below monitoring point

TABLE 2

FIELD PARAMETER DATA

Table 2
BYPASS BASIN
FIELD PARAMETER DATA
Powerton Station, Pekin, Illinois
Midwest Generation
21153.018

PATRICK ENGINEERING	Groundwater Field Paramter Data - Powerton Station				
Monitoring Well	**Date**	**Time**	**Conductance (S/cm)***	**Temperature °C**	**pH**
MW-09	2/15/2011	11:20	0.782	12.71	7.62
		11:22	0.777	12.82	7.42
		11:24	0.774	13.04	7.43
		11:26	0.771	13.21	7.36
		11:28	0.774	13.29	7.29
		11:30	0.776	13.47	7.24
MW-09	6/16/2011	13:30	0.85	16.28	7.63
		13:32	0.85	14.96	7.34
		13:34	0.84	14.78	7.24
		13:36	0.84	14.73	7.16
		13:38	0.84	14.61	7.11
		13:40	0.84	14.51	7.10
MW-09	9/19/2011	13:30	0.66	14.46	7.41
		13:32	0.66	14.38	7.35
		13:34	0.66	14.23	7.34
		13:36	0.66	14.12	7.33
		13:38	0.66	14.11	7.32
		13:40	0.66	14.08	7.32
MW-09	12/12/2011	13:14	0.66	14.11	6.53
		13:16	0.66	14.35	6.39
		13:18	0.66	14.46	6.33
		13:20	0.66	14.52	6.32
		13:22	0.66	14.52	6.3
		13:24	0.66	14.56	6.31
MW-09	3/19/2012	15:48	0.76	19.60	7.40
		15:50	0.75	18.94	7.32
		15:52	0.74	18.40	7.29
		15:54	0.73	18.16	7.32
		15:56	0.73	18.17	7.30
		15:58	0.73	18.14	7.28
MW-11	2/15/2011	9:42	1.14	13.66	7.13
MW-11	6/16/2011	14:32	1.46	17.97	7.32
		14:34	1.45	17.75	7.14
		14:36	1.45	17.67	7.08
		14:38	1.44	17.66	7.04
		14:40	1.44	17.48	7.03
		14:42	1.44	17.58	7.02
MW-11	9/19/2011	16:14	0.85	14.67	7.31
MW-11	12/12/2011	15:50	0.89	13.85	6.48
MW-11	3/19/2012	16:30	0.98	16.31	7.32
MW-12	2/15/2011	10:24	1.66	13.88	7.49
		10:26	1.66	16.33	7.51
		10:28	1.66	16.44	7.51
		10:30	1.67	16.70	7.51
		10:23	1.66	16.73	7.51
		10:34	1.66	16.77	7.51
MW-12	6/16/2011	15:14	1.65	19.33	7.41
		15:16	1.65	18.94	7.28
		15:18	1.63	18.70	7.04
		15:20	1.62	18.79	6.94
		15:22	1.63	18.66	6.95
		15:24	1.63	18.77	6.98
MW-12	9/19/2011	16:48	1.35	18.02	7.71
		16:50	1.34	17.87	7.67
		16:52	1.34	17.71	7.65
		16:54	1.34	17.73	7.65
		16:56	1.34	17.75	7.66
		16:58	1.34	17.75	7.66
MW-12	12/12/2011	16:20	1.37	17.04	7.50
		16:22	1.37	17.45	7.39
		16:24	1.37	17.59	7.37
		16:26	1.37	17.65	7.38
		16:28	1.37	17.71	7.38
		16:30	1.38	17.78	7.38
MW-12	3/19/2012	17:04	1.56	20.29	7.31
		17:06	1.56	19.87	7.24
		17:08	1.54	19.69	7.24
		17:10	1.54	19.67	7.22
		17:12	1.54	19.63	7.22
		17:14	1.54	19.62	7.22

Notes:

* (S/cm) - specific conductivity measured in Siemens/Centimeters

°C - degrees Celcius

TABLE 3

GROUNDWATER ANALYTICAL RESULTS

Table 3
BYPASS BASIN
GROUNDWATER ANALYTICAL RESULTS
Powerton Station, Illinois
Midwest Generation
21153.018

Chemical Name	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-9 (mg/L)	MW-9 (mg/L)	MW-9 (mg/L)	MW-9 (mg/L)	MW-9 (mg/L)	MW-9 (mg/L)	MW-11 (mg/L)	MW-11 (mg/L)	MW-11 (mg/L)	MW-11 (mg/L)	MW-11 (mg/L)	MW-11 (mg/L)
		Class I*	12/15/10	2/15/11	9/19/11	6/16/11	12/12/11	3/19/12	12/16/10	2/15/11	9/19/11	6/16/11	12/12/11	3/19/12
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	ND	ND	ND	0.0017	0.0012	ND	0.0021	0.0025	0.0016	0.0019	0.0019	0.0021
Barium	Metals 6020	2.0	0.038	0.042	0.03	0.038	0.038	0.035	0.17	0.11	0.11	0.18	0.11	0.13
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND	ND	0.0028	0.0041	ND	0.0024	ND	0.0024
Copper	Metals 6020	0.65	ND	ND	ND	ND	ND	ND	0.0032	0.0032	ND	0.0043	ND	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	ND	0.19	ND	ND	ND	0.014	0.44	0.01	0.018	0.029	ND	ND
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**0.19**	**0.43**	**0.14**	**0.48**	**0.28**	**0.22**	**3.2**	**3.6**	**2.2**	**2.9**	**2.5**	**2.9**
Mercury	Mercury 7470A	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.001	0.011	0.0065	0.0063	0.0088	ND	0.019	0.016	0.011	0.013	0.013	0.011
Selenium	Metals 6020	0.05	0.005	ND	0.0043	0.0017	0.0041	0.0072	0.0026	0.0015	0.004	0.0018	0.0031	0.0039
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	0.0082	ND	ND	ND	ND	ND	0.012	ND	ND	ND	ND	ND
Boron	Metals 6020	2	**2.2**	1.9	**2.5**	1.9	**2.7**	**2.6**	1.6	1.8	1.5	1.6	1.8	2.3
Sulfate	Dissolved 9038	400	110	99	130	110	110	120	170	160	140	210	160	130
Chloride	Dissolved 9251	200	25	33	30	28	30	30	70	66	53	120	87	54
Nitrate as N	Nitrogen By calc	10	2.7	3.7	3.7	5.6	2.6	5	0.41	0.17	0.78	0.04	1.5	0.39
Total Dissolved Solids	Dissolved 2540C	1,200	510	470	500	540	520	530	740	710	620	930	730	740
Fluoride	Dissolved 4500 FC	4	ND	0.32	0.25	0.34	ND	ND	0.53	0.56	0.58	0.67	0.44	0.42
Radium 226 (pCi/L)	EPA 903.1	20	0.673	0.728	0.117	0.955	0.621	0.25	0.445	0.174	0.332	0.929	0.733	0.277
Radium 228 (pCi/L)	EPA 904.0	20	0.941	0.983	0.553	0.974	0.966	0.999	0.915	0.967	0.355	0.914	1.03	0.319

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
mg/L- milligrams per Liter

Table 3
BYPASS BASIN
GROUNDWATER ANALYTICAL RESULTS
Powerton Station, Illinois
Midwest Generation
21153.018

PATRICK ENGINEERING	Sample Analysis Method	Groundwater Quality Standard (mg/L)	MW-12 (mg/L)	MW-12 (mg/L)	MW-12 (mg/L)	MW-12 (mg/L)	MW-12 (mg/L)	MW-12 (mg/L)
		Class I*	12/15/10	2/15/11	6/16/11	9/19/11	12/12/11	3/19/12
Chemical Name								
Antimony	Metals 6020	0.006	ND	ND	ND	ND	ND	ND
Arsenic	Metals 6020	0.05	0.0088	0.013	0.0064	0.0087	0.0089	0.0042
Barium	Metals 6020	2.0	0.089	0.11	0.091	0.085	0.09	0.071
Beryllium	Metals 6020	0.004	ND	ND	ND	ND	ND	ND
Cadmium	Metals 6020	0.005	ND	ND	ND	ND	ND	ND
Chromium	Metals 6020	0.1	ND	0.0056	0.0044	0.0071	0.0047	ND
Cobalt	Metals 6020	1.0	ND	ND	ND	ND	ND	ND
Copper	Metals 6020	0.65	ND	ND	0.0032	0.0036	0.0031	ND
Cyanide	Dissolved 9014	0.2	ND	ND	ND	ND	ND	ND
Iron	Metals 6020	5.0	**5.5**	**6.3**	**5.6**	4	3.1	4.8
Lead	Metals 6020	0.0075	ND	ND	ND	ND	ND	ND
Manganese	Metals 6020	0.15	**0.32**	**0.58**	**0.26**	**0.37**	**0.25**	0.13
Mercury	Mercury 7470A	0.002	**0.0096**	ND	ND	ND	ND	ND
Nickel	Metals 6020	0.1	0.0026	0.01	0.0072	0.0075	0.0091	0.0075
Selenium	Metals 6020	0.05	ND	0.0027	ND	0.0023	0.0034	0.0043
Silver	Metals 6020	0.05	ND	ND	ND	ND	ND	ND
Thallium	Metals 6020	0.002	ND	ND	ND	ND	ND	ND
Zinc	Metals 6020	5.0	ND	ND	ND	ND	ND	ND
Boron	Metals 6020	2	1.6	1.4	1.3	1.2	1.3	0.92
Sulfate	Dissolved 9038	400	290	270	350	360	300	310
Chloride	Dissolved 9251	200	170	180	180	190	210	170
Nitrate as N	Nitrogen By calc	10	ND	ND	0.14	ND	ND	0.04
Total Dissolved Solids	Dissolved 2540C	1,200	980	1,000	1,100	970	970	1,000
Fluoride	Dissolved 4500 FC	4	0.71	0.61	0.64	0.74	0.61	0.46
Radium 226 (pCi/L)	EPA 903.1	20	0.617	0.207	0.893	0.373	0.923	0.248
Radium 228 (pCi/L)	EPA 904.0	20	0.97	0.973	0.956	0.859	0.952	0.318

Notes:
*Class I Groundwater Standards from 35 IAC Part 620
Bold values show exceedences of 35 IAC Part 620
ND-non detect
mg/L- milligrams per Liter

ATTACHMENT A

BORING LOGS / WELL COMPLETION REPORTS

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well**: Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well**: Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well**: PVC Casing Formation Packer Set at Depth of (ft.) 40

d. **Drilled Well**: Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 40 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	10		3	28	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	28	40

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 29, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____

Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-13

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 29, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. SW Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 35.6 N

Lon: Degrees 89 Minutes 40 Seconds 39.7 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	30

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	30	40

24. Water from gravel at a depth of (ft.) 34 To (ft.) 40

a. Static water level (ft.) below top of casing 29.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
cinders, gravel, clay	0	10
cinders and sand	10	17.5
organic silt	17.5	31.5
silty clay, sand	31.5	34
gravel	34	40

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____

Licensed Water Well Contractor Signature

MWG13-15_4056

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well:** Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well:** Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well:** PVC Casing Formation Packer Set at Depth of (ft.) 30

d. **Drilled Well:** Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 30 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	8		3	18	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	18	30

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 30, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____

Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-14

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 30, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NW Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 39.7 N

Lon: Degrees 89 Minutes 40 Seconds 41.2 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	20

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	20	30

24. Water from organic silt and sand at a depth of (ft.) 19.5 To (ft.) 25

a. Static water level (ft.) below top of casing 20.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
cinders, gravel, clay	0	10
gravel and clay	10	19.5
organic silt	19.5	30

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____

Licensed Water Well Contractor Signature

MWG13-15_4057

State of Illinois
Department of Public Health

WATER WELL CONSTRUCTION REPORT

Complete within 30 days of well completion and send to the appropriate Health Department

Print Form

1. Type of Well

a. **Driven Well:** Casing Diameter (in.) _____ Depth (ft.) _____

b. **Bored Well:** Casing Diameter (in.) _____ Buried Slab? _____

c. **Drilled Well:** PVC Casing Formation Packer Set at Depth of (ft.) 30

d. **Drilled Well:** Steel Casing Mechanically Driven _____

e. Hole Diameter (in.) 8.5 to (ft.) 30 ; (in.) ___ to (ft.) ___ ; (in.) ___ to (ft.) ___

f.

Type of Grout	# of bags	Grout Weight	From (ft.)	To (ft.)	Tremie Depth (ft.)
Bentonite	9		3	18	

g. Well Finished within Unconsolidated Materials

h.

Kind of Gravel/Sand Pack	Grain Size/Supplier #	From (ft.)	To (ft.)
Washed quartz sand	#5	18	30

2. Well Use: Monitoring Well Disinfected? No

3. Date Well Completed: Sep 30, 2010 Driller's Estimated Well Yield (gpm): _____

4. Date Permanent Pump Installed: _____ Set at Depth (ft.): _____

5. Pump Capacity (gpm): _____

6. Pitless Adapter Model and Manufacturer: _____ Attachment to Casing: _____

7. Well Cap Type & Manufacturer: _____

8. Pressure Tank Working Cycle (gals.): _____ Captive Air? _____ 9. Pump System Disinfected: _____

10. Name of Pump Company _____

11. Pump Installer: _____ License # _____

12. _____ Date _____
Licensed Pump Installation Contractor Signature

Illinois Department of Public Health
Division of Environmental Health
525 West Jefferson Street
Springfield, IL 62761

IL 482-0126
Revised 6/09

IMPORTANCE NOTICE: This state agency is requesting disclosure of information that is necessary to accomplish the statutory purpose as outlined under Public Act-0863. Disclosure of this information is Mandatory. This form has been approved by the Forms Management Center.

13. Property Owner: Midwest Generation LLC Well # PEI-MW-15

14. Driller: _____ License # _____

15. Name of Drilling Company : Groff Testing Corporation 16. Permit Number: _____

Date Issued: _____ 17. Date Drilling Started Sep 30, 2010

18. Well Site Address: 13082 E. Manito Road, Pekin, IL 61554

19. Township Name: Cincinnati Land I.D. # _____

20. Subdivision Name: _____ Lot # _____

21. Location: a. County Tazewell b. Site Elevation 470 ft. (above msl)

c. Township: 24N Range: 5W Section: 9

d. NW Quarter of the NE Quarter of the SW Quarter

e. GPS: Lat: Degrees 40 Minutes 32 Seconds 40.6 N

Lon: Degrees 89 Minutes 40 Seconds 38.7 W

Survey use only

22. Casing and Liner Information

Diameter (in.)	Material, Joint Type	From (ft.)	To (ft.)
2	PVC, threaded	0	20

23. Is the well screened? Yes If yes

Diameter (in.)	Length (ft.)	Slot Size (in.)	From (ft.)	To (ft.)
2	10	0.01	20	30

24. Water from fine sand at a depth of (ft.) 19.5 To (ft.) 23.5

a. Static water level (ft.) below top of casing 19.5 which is (in.) above ground 3

b. pumping level is (ft.) _____ pumping (gpm) _____ for (hours) _____

25.

Earth Materials Passed Through	From (ft.)	To (ft.)
cinders, gravel, clay	0	10
cinders, gravel, sand	10	19.5
fine sand	19.5	23.5
silt	23.5	28
silty clay	28	30

(Attach 2nd page, if necessary) (If DRY HOLE, fill out log & indicate how hole was sealed)

_____ License # _____
Licensed Water Well Contractor Signature

MWG13-15_4058

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-13-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **467.7**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) * (1 2 3 4 5)	NOTES & TEST RESULTS
467.7	0.0		Black cinders, sand, rock, dry FILL				
				SS-1 1.0-2.5			
				SS-2 2.5-4.0			Bentonite seal 3.0'-28.0'. Stickup protective cover installed.
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
457.7	10.0		Black cinders, medium sand FILL				
				SS-5 11.0-12.5 14"R	5 9 7		qu=NT
				SS-6 13.5-15.0 15"R	3 3 2		qu=NT
			Some organic silt, moist	SS-7 16.0-17.5 18"R	WOH 1 1		qu=NT
450.2	17.5		Gray/olive gray organic silt, very soft OL				
				SS-8 18.5-20.0 18"R	1 0 0		qu=0.0**tsf
447.7	20.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/29/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.5**
▼ **29.5**
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-13-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **467.7**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL–LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) * (1 2 3 4 5)	NOTES & TEST RESULTS
447.7	20.0		Dark gray and black organic clay, very soft, moist OH				
				SS-9 21.0-22.5 18"R	WOH WOH 2		qu=0.25**tsf
445.2	22.5		Dark gray and black organic silt, very soft, moist OL				
				SS-10 23.5-25.0 18"R	WOH 1 1		qu=0.25**tsf
441.7	26.0		Dark gray and black organic clay, soft, dry OH	SS-11 26.0-27.5 18"R	WOH 1 2		qu=1.0**tsf
			Medium stiff	SS-12 28.5-30.0 18"R	0 2 3		Sand pack 28.0'-40.0' qu=1.5**tsf
438.2	29.5	▼					
437.2	30.5		Gray silty clay, some coarse to fine sand, trace fine gravel, wet CL				Set screen (slot 0.010") 30.0'-40.0'
436.2	31.5	▽		SS-13 31.0-32.5 18"R	2 4 5		qu=2.0**tsf
433.7	34.0		Stiff Brown coarse to fine gravel, trace coarse to medium sand, silt, medium dense, saturated GP	SS-14 33.5-35.0 6"R	2 3 2		qu=2.0**tsf
				SS-15 36.0-37.5 8"R	4 6 6		qu=NT
				SS-16 38.5-40.0 8"R	5 8 8		qu=NT
427.7	40.0		End of Boring at 40.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/29/10** ENDED **9/29/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **31.5**
▼ **29.5**

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-14-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **467.7**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
467.7	0.0		Cinders, gravel, sand, silt, dry FILL				
				SS-1 1.0-2.5			
				SS-2 3.5-5.0			Bentonite seal 3.0'-18.0'. Stickup protective cover installed.
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
457.7	10.0		Brown fine gravel, some silty clay and coarse sand, dry FILL				
				SS-5 11.0-12.5 18"R	4 4 4		
				SS-6 13.5-15.0 16"R	4 3 4		
			Black cinders	SS-7 16.0-17.5 16"R	2 3 3		
				SS-8 18.5-20.0 18"R	3 3 1		Sand pack 18.0'-30.0'
448.2	19.5		▽ Gray organic silt, some fine sand,				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/30/10** ENDED **9/30/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **19.5**
▼ **20.5**
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-14-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **467.7**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
447.7	20.0		▼ very loose, low plasticity, saturated OL				Set screen (slot 0.010") 20.0'-30.0'
447.2	20.5			SS-9 21.0-22.5 18"R	1 0 0		qu=NT
				SS-10 23.5-25.0 18"R	1 1 2		qu=0.25**tsf
442.7	25.0		Gray and mottled black organic silt, trace fine sand, soft, low plasticity, moist OL				
				SS-11 26.0-27.5 18"R	0 0 1		qu=0.25**tsf
438.7	29.0			SS-12 28.5-30.0 18"R	2 3 4		qu=1.25**tsf
437.7	30.0		Gray and black organic clay, medium stiff, moist OH				
			End of Boring at 30.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/30/10** ENDED **9/30/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **19.5**
▼ **20.5**
▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-15-Po** SHEET **1** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **468.3**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL 10 20 30 40 LL 50 / Unconfined Compressive Strength (TSF) * 1 2 3 4 5	NOTES & TEST RESULTS
468.3	0.0		Black cinders, fine gravel, sand, silt, dry FILL	SS-1 1.0-2.5			
				SS-2 3.5-5.0			Bentonite seal 3.0'-17.0'. Stickup protective cover installed.
				SS-3 6.0-7.5			
				SS-4 8.5-10.0			
458.3	10.0		Black cinders, fine gravel, coarse sand, silt, dry FILL	SS-5 11.0-12.5 14"R	6 13 12		
				SS-6 13.5-15.0 0"R	50/1"		
				SS-7 16.0-17.5 14"R	7 7 5		Sand pack 17.0'-30.0'
				SS-8 18.5-20.0 18"R	2 1 1		
448.8	19.5	▽					
448.3	20.0						

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/30/10** ENDED **9/30/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **20.0'**
▽ **19.5**
▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-15-Po** SHEET **2** OF **2**
CLIENT **Midwest Generation**
PROJECT & NO. **21053.070**
LOCATION **Powerton**

LOGGED BY **MPG**
GROUND ELEVATION **468.3**

ELEV.	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
448.3	20.0		Gray fine sand, trace medium sand, loose, saturated SM				Set screen (slot 0.010") 20.0'-30.0'
				SS-9 21.0-22.5 18"R	1 1 1		qu=NT
444.8	23.5		Gray silt, mottled black, some organics, soft, moist to wet OL	SS-10 23.5-25.0 18"R	1 2 2		qu=0.75**tsf
				SS-11 26.0-27.5 18"R	1 2 2		qu=1.0**tsf
440.3	28.0		Gray silty clay, some organics, soft, medium stiff, dry CL	SS-12 28.5-30.0 18"R	1 3 2		qu=1.0**tsf
438.3	30.0		End of Boring at 30.0'				

DRILLING CONTRACTOR **Groff Testing**
DRILLING METHOD **4.25" I.D. HSA**
DRILLING EQUIPMENT **CME 550 ATV**
DRILLING STARTED **9/30/10** ENDED **9/30/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
▽ **20.0'**
▼ **19.5**
▼

MWG13-15_4064

ATTACHMENT B

LABORATORY ANALYTICAL RESULTS

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 03/20/12 8:00
Report Date: 04/10/12
Customer #: 233203
PO#: 4500092946

Laboratory Results

Sample No: **2032097-09**
Sample Description: MW #9

Collect Date: **03/19/12 16:00**
Matrix: **Ground Water**

Parameters	Result		Qual	Prep Date	Analysis Date	Analyst	Method
General Chemistry - PIA							
Cyanide	< 0.0050	mg/L		03/21/12 10:47	03/22/12 16:46	lgtth	335.4
Solids - total dissolved solids (TDS)	530	mg/L		03/23/12 09:35	03/23/12 10:48	BNS	SM 2540C 18Ed
Miscellaneous - PACE Analytical - Greensburg							
Radium 226 - subcontracted	0.00+-.250	pCi/L			04/06/12 12:27	Sub	904.0 903.1
Radium 228 - subcontracted	0.396+-.999	pCi/L			04/05/12 11:25	Sub	904.0 903.1
Soluble Anions - PIA							
Chloride	30	mg/L		03/20/12 16:20	03/20/12 16:20	PLI	EPA 300.0 R2.1
Fluoride	< 0.25	mg/L		03/20/12 16:05	03/20/12 16:05	PLI	EPA 300.0 R2.1
Nitrate-N	5.0	mg/L		03/20/12 16:20	03/20/12 16:20	PLI	EPA 300.0 R2.1
Sulfate	120	mg/L		03/21/12 16:12	03/21/12 16:12	PLI	EPA 300.0 R2.1
Soluble Metals - PIA							
Antimony	< 3.0	ug/L		03/27/12 10:34	03/28/12 11:32	JMW	SW 6020
Arsenic	< 1.0	ug/L		03/27/12 10:34	03/28/12 11:32	JMW	SW 6020
Barium	35	ug/L		03/27/12 10:34	03/28/12 11:32	JMW	SW 6020
Beryllium	< 1.0	ug/L		03/27/12 10:34	03/28/12 14:29	JMW	SW 6020
Boron	2600	ug/L		03/27/12 10:34	03/29/12 09:12	JMW	SW 6020
Cadmium	< 1.0	ug/L		03/27/12 10:34	03/28/12 11:32	JMW	SW 6020
Chromium	< 4.0	ug/L		03/27/12 10:34	03/28/12 11:32	JMW	SW 6020
Cobalt	< 2.0	ug/L		03/27/12 10:34	03/28/12 11:32	JMW	SW 6020
Copper	< 3.0	ug/L		03/27/12 10:34	03/28/12 11:32	JMW	SW 6020
Iron	0.014	mg/L		03/29/12 10:03	03/29/12 12:56	KJP	SW 6010B
Lead	< 1.0	ug/L		03/27/12 10:34	03/28/12 11:32	JMW	SW 6020
Manganese	220	ug/L		03/27/12 10:34	03/28/12 11:32	JMW	SW 6020
Mercury	< 0.20	ug/L		03/27/12 10:34	03/28/12 11:32	JMW	SW 6020
Nickel	< 5.0	ug/L		03/27/12 10:34	03/28/12 11:32	JMW	SW 6020
Selenium	7.2	ug/L		03/27/12 10:34	03/28/12 11:32	JMW	SW 6020
Silver	< 5.0	ug/L		03/27/12 10:34	03/28/12 11:32	JMW	SW 6020
Thallium	< 1.0	ug/L		03/27/12 10:34	03/28/12 11:32	JMW	SW 6020
Zinc	< 6.0	ug/L		03/27/12 10:34	03/28/12 11:32	JMW	SW 6020

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

ACCREDITED IN ACCORDANCE WITH nelac

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 03/20/12 8:00
Report Date: 04/10/12
Customer #: 233203
PO#: 4500092946

Laboratory Results

Sample No: **2032097-11**
Sample Description: MW-11

Collect Date: **03/19/12 16:30**
Matrix: **Ground Water**

Parameters	Result	Qual	Prep Date	Analysis Date	Analyst	Method
General Chemistry - PIA						
Cyanide	< 0.0050 mg/L		03/21/12 10:47	03/22/12 16:20	lgtth	335.4
Solids - total dissolved solids (TDS)	740 mg/L		03/23/12 09:35	03/23/12 10:48	BNS	SM 2540C 18Ed
Miscellaneous - PACE Analytical - Greensburg						
Radium 226 - subcontracted	0.00+-.277 pCi/L			04/06/12 12:40	Sub	904.0 903.1
Radium 228 - subcontracted	0.288+-.319 pCi/L			04/05/12 11:23	Sub	904.0 903.1
Soluble Anions - PIA						
Chloride	54 mg/L		03/20/12 19:10	03/20/12 19:10	PLI	EPA 300.0 R2.1
Fluoride	0.42 mg/L		03/20/12 18:54	03/20/12 18:54	PLI	EPA 300.0 R2.1
Nitrate-N	0.39 mg/L		03/20/12 18:54	03/20/12 18:54	PLI	EPA 300.0 R2.1
Sulfate	130 mg/L		03/26/12 20:16	03/26/12 20:16	n.a.	EPA 300.0 R2.1
Soluble Metals - PIA						
Antimony	< 3.0 ug/L		03/27/12 10:34	03/28/12 11:44	JMW	SW 6020
Arsenic	2.1 ug/L		03/27/12 10:34	03/28/12 11:44	JMW	SW 6020
Barium	130 ug/L		03/27/12 10:34	03/28/12 11:44	JMW	SW 6020
Beryllium	< 1.0 ug/L		03/27/12 10:34	03/28/12 14:34	JMW	SW 6020
Boron	2300 ug/L		03/27/12 10:34	03/29/12 09:18	JMW	SW 6020
Cadmium	< 1.0 ug/L		03/27/12 10:34	03/28/12 11:44	JMW	SW 6020
Chromium	< 4.0 ug/L		03/27/12 10:34	03/28/12 11:44	JMW	SW 6020
Cobalt	2.4 ug/L		03/27/12 10:34	03/28/12 11:44	JMW	SW 6020
Copper	< 3.0 ug/L		03/27/12 10:34	03/28/12 11:44	JMW	SW 6020
Iron	< 0.010 mg/L		03/29/12 10:03	03/29/12 13:02	KJP	SW 6010B
Lead	< 1.0 ug/L		03/27/12 10:34	03/28/12 11:44	JMW	SW 6020
Manganese	2900 ug/L		03/27/12 10:34	03/28/12 11:44	JMW	SW 6020
Mercury	< 0.20 ug/L		03/27/12 10:34	03/28/12 11:44	JMW	SW 6020
Nickel	11 ug/L		03/27/12 10:34	03/28/12 11:44	JMW	SW 6020
Selenium	3.9 ug/L		03/27/12 10:34	03/28/12 11:44	JMW	SW 6020
Silver	< 5.0 ug/L		03/27/12 10:34	03/28/12 11:44	JMW	SW 6020
Thallium	< 1.0 ug/L		03/27/12 10:34	03/28/12 11:44	JMW	SW 6020
Zinc	< 6.0 ug/L		03/27/12 10:34	03/28/12 11:44	JMW	SW 6020

PDC Laboratories, Inc.
P.O. Box 9071 • Peoria, IL 61612-9071
(309) 692-9688 • (800) 752-6651 • FAX (309) 692-9689

Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 03/20/12 8:00
Report Date: 04/10/12
Customer #: 233203
PO#: 4500092946

Laboratory Results

Sample No: **2032097-12**
Sample Description: MW-12

Collect Date: **03/19/12 17:15**
Matrix: **Ground Water**

Parameters	Result	Qual	Prep Date	Analysis Date	Analyst	Method
General Chemistry - PIA						
Cyanide	< 0.0050 mg/L		03/21/12 10:47	03/22/12 16:21	lgtth	335.4
Solids - total dissolved solids (TDS)	1000 mg/L		03/23/12 09:35	03/23/12 10:48	BNS	SM 2540C 18Ed
Miscellaneous - PACE Analytical - Greensburg						
Radium 226 - subcontracted	0.144+-.248 pCi/L			04/06/12 12:27	Sub	904.0 903.1
Radium 228 - subcontracted	0.768+-.318 pCi/L			04/05/12 11:20	Sub	904.0 903.1
Soluble Anions - PIA						
Chloride	170 mg/L		03/22/12 08:37	03/22/12 08:37	SJW	EPA 300.0 R2.1
Fluoride	0.46 mg/L		03/20/12 19:25	03/20/12 19:25	PLI	EPA 300.0 R2.1
Nitrate-N	0.04 mg/L		03/20/12 19:25	03/20/12 19:25	PLI	EPA 300.0 R2.1
Sulfate	310 mg/L		03/22/12 08:37	03/22/12 08:37	SJW	EPA 300.0 R2.1
Soluble Metals - PIA						
Antimony	< 3.0 ug/L		03/27/12 10:34	03/28/12 11:50	JMW	SW 6020
Arsenic	4.2 ug/L		03/27/12 10:34	03/28/12 11:50	JMW	SW 6020
Barium	71 ug/L		03/27/12 10:34	03/28/12 11:50	JMW	SW 6020
Beryllium	< 1.0 ug/L		03/27/12 10:34	03/28/12 14:37	JMW	SW 6020
Boron	920 ug/L		03/27/12 10:34	03/29/12 09:20	JMW	SW 6020
Cadmium	< 1.0 ug/L		03/27/12 10:34	03/28/12 11:50	JMW	SW 6020
Chromium	< 4.0 ug/L		03/27/12 10:34	03/28/12 11:50	JMW	SW 6020
Cobalt	< 2.0 ug/L		03/27/12 10:34	03/28/12 11:50	JMW	SW 6020
Copper	< 3.0 ug/L		03/27/12 10:34	03/28/12 11:50	JMW	SW 6020
Iron	4.8 mg/L		03/29/12 10:03	03/29/12 13:04	KJP	SW 6010B
Lead	< 1.0 ug/L		03/27/12 10:34	03/28/12 11:50	JMW	SW 6020
Manganese	130 ug/L		03/27/12 10:34	03/28/12 11:50	JMW	SW 6020
Mercury	< 0.20 ug/L		03/27/12 10:34	03/28/12 11:50	JMW	SW 6020
Nickel	7.5 ug/L		03/27/12 10:34	03/28/12 11:50	JMW	SW 6020
Selenium	4.3 ug/L		03/27/12 10:34	03/28/12 11:50	JMW	SW 6020
Silver	< 5.0 ug/L		03/27/12 10:34	03/28/12 11:50	JMW	SW 6020
Thallium	< 1.0 ug/L		03/27/12 10:34	03/28/12 11:50	JMW	SW 6020
Zinc	< 6.0 ug/L		03/27/12 10:34	03/28/12 11:50	JMW	SW 6020

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Midwest Generation - Powerton Facility
13082 E Manito Rd
Pekin, IL 61554
Attn: Mark Kelly

Date Received: 03/20/12 8:00
Report Date: 04/10/12
Customer #: 233203
PO#: 4500092946

Laboratory Results

Notes

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PDC Laboratories participates in the following accreditation/certification and proficiency programs at the following locations. Endorsement by Federal or State Governments or their agencies is not implied.

PIA PDC Laboratories - Peoria, IL
NELAC Accreditation for Drinking Water, Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100230
Illinois Department of Public Health Bacteriological Analysis in Drinking Water Approved Laboratory Registry No. 17553
Drinking Water Certifications: Kansas (E-10338); Missouri (870); Wisconsin (998284430); Indiana (C-IL-040); Iowa (240)
Wastewater Certifications: Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
Hazardous/Solid Waste Certifications; Arkansas (88-0677); Wisconsin (998284430); Iowa (240); Kansas (E-10335)
UST Certification; Iowa (240)
SPM PDC Laboratories - Springfield, MO
EPA DMR-QA Program
STL PDC Laboratories - St. Louis, MO
NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through KS EPA Lab No. E-10389

Subcontract report attached for Rad 226/228

Janet L. Clutters

Certified by: Janet L. Clutters, Project Manager

PDC LABORATORIES, INC.
2231 WEST ALTORFER DRIVE
PEORIA, IL 61615

PHONE # 800-752-6651
FAX # 309-692-9689

CHAIN OF CUSTODY RECORD

State where samples collected IL

ALL HIGHLIGHTED AREAS MUST BE COMPLETED BY CLIENT (PLEASE PRINT) - (SAMPLE ACCEPTANCE POLICY ON REVERSE)

1 CLIENT: Patrick Engineering
ADDRESS: 4985 Varsity Dr.
CITY STATE ZIP: Lisle, IL 60532
CONTACT PERSON: Dave McCoy

PROJECT NUMBER:
P.O. NUMBER:
MEANS SHIPPED:
PHONE NUMBER:
FAX NUMBER:
DATE SHIPPED:
SAMPLER (PLEASE PRINT): Justin Jersogne
SAMPLER'S SIGNATURE: [signature]

MATRIX TYPES: WW-WASTEWATER, DW-DRINKING WATER, GW-GROUND WATER, WWSL-SLUDGE, NAS-SOLID, LCHT-LEACHATE, OTHER:

3 ANALYSIS REQUESTED

4 (FOR LAB USE ONLY)
LOGIN # 203 2097-12
LOGGED BY: [initials]
LAB PROJ. #:
TEMPLATE:
PROJ. MGR.: Midwest Gen Power Facility

2 SAMPLE DESCRIPTION AS YOU WANT ON REPORT	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE GRAB	SAMPLE TYPE COMP	MATRIX TYPE	BOTTLE COUNT	Dissolved Metals	Cyanide	Cl, F, NO3, SO4 Diss.	Total Diss. Solids	Radium 226/228			REMARKS
MW-1	3/19/12	0920			GW	4	X	X	X	X				
MW-2		1005				4								
MW-3		1105				4								
MW-4		1150				4								
MW-5		1240				4								
MW-6		1410				4								
MW-7		1325				4								
MW-8		1810				4								
MW-9		1600				5					X			
MW-10		1520				4								
MW-11		1630				5					X			
MW-12		1715				5					X			

5 TURNAROUND TIME REQUESTED (PLEASE CIRCLE) NORMAL RUSH
(RUSH TAT IS SUBJECT TO PDC LABS APPROVAL AND SURCHARGE)
RUSH RESULTS VIA (PLEASE CIRCLE) FAX PHONE E-MAIL
FAX # PHONE # EMAIL ADDRESS
DATE RESULTS NEEDED

6 *The sample temperature will be measured upon receipt at the lab. By initialing this area you request that the lab notify you, before proceeding with analysis, if the sample temperature is outside of the range of 0.1-6.0°C. By not initialing this area you allow the lab to proceed with analytical testing regardless of the sample temperature.*

7 RELINQUISHED BY: (SIGNATURE) [signature] DATE 3/20/12 TIME 0611
RECEIVED BY: (SIGNATURE) DATE TIME
RELINQUISHED BY: (SIGNATURE) [signature] DATE 3/20/12 TIME 0611
RECEIVED BY: (SIGNATURE) DATE TIME
RELINQUISHED BY: (SIGNATURE) DATE TIME
RECEIVED AT LAB BY: (SIGNATURE) [signature] DATE 3/20/12 TIME 8:00 am

8 COMMENTS: (FOR LAB USE ONLY) 6
SAMPLE TEMPERATURE UPON RECEIPT 6 °C
CHILL PROCESS STARTED PRIOR TO RECEIPT Y OR N
SAMPLE(S) RECEIVED ON ICE Y OR N
PROPER BOTTLES RECEIVED IN GOOD CONDITION Y OR N
BOTTLES FILLED WITH ADEQUATE VOLUME Y OR N
SAMPLES RECEIVED WITHIN HOLD TIME(S) Y OR N
(EXCLUDES TYPICAL FIELD PARAMETERS)
DATE AND TIME TAKEN FROM SAMPLE BOTTLE

PAGE 1 OF 1

Copies: white should accompany samples to PDC Labs. Yellow copy to be retained by the client.

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

April 09, 2012

Ms. Janet Clutters
PDC Laboratories
2231 W. Altorfer Drive
Peoria, IL 61615

RE: Project: 2032097
Pace Project No.: 3065785

Dear Ms. Clutters:
Enclosed are the analytical results for sample(s) received by the laboratory on March 23, 2012. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Carin A. Ferris

Carin Ferris

carin.ferris@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: 2032097
Pace Project No.: 3065785

Pennsylvania Certification IDs

1638 Roseytown Rd Suites 2,3&4 Greensburg, PA 15601
ACLASS DOD-ELAP Accreditation #: ADE-1544
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/TNI Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH 0694
Delaware Certification
Florida/TNI Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/TNI Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/TNI Certification #: LA080002
Louisiana/TNI Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/TNI Certification #: 2976
New Jersey/TNI Certification #: PA 051
New Mexico Certification
New York/TNI Certification #: 10888
North Carolina Certification #: 42706
Oregon/TNI Certification #: PA200002
Pennsylvania/TNI Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/TNI Certification #: T104704188
Utah/TNI Certification #: ANTE
Virgin Island/PADEP Certification
Virginia Certification #: 00112
Virginia VELAP (Cert # 460198)
Washington Certification #: C868
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

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SAMPLE SUMMARY

Project: 2032097
Pace Project No.: 3065785

Lab ID	Sample ID	Matrix	Date Collected	Date Received
3065785001	**2032097-09**	Drinking Water	03/19/12 16:00	03/23/12 08:50
3065785002	**2032097-11**	Drinking Water	03/19/12 16:30	03/23/12 08:50
3065785003	**2032097-12**	Drinking Water	03/19/12 17:15	03/23/12 08:50

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SAMPLE ANALYTE COUNT

Project: 2032097
Pace Project No.: 3065785

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
3065785001	**2032097-09**	EPA 903.1	SLA	1	PASI-PA
		EPA 904.0	WRR	1	PASI-PA
3065785002	**2032097-11**	EPA 903.1	SLA	1	PASI-PA
		EPA 904.0	WRR	1	PASI-PA
3065785003	**2032097-12**	EPA 903.1	SLA	1	PASI-PA
		EPA 904.0	WRR	1	PASI-PA

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PROJECT NARRATIVE

Project: 2032097
Pace Project No.: 3065785

Method: **EPA 903.1**
Description: 903.1 Radium 226
Client: PDC Laboratories, Inc.
Date: April 09, 2012

General Information:
3 samples were analyzed for EPA 903.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: 2032097
Pace Project No.: 3065785

Method: **EPA 904.0**
Description: 904.0 Radium 228
Client: PDC Laboratories, Inc.
Date: April 09, 2012

General Information:
3 samples were analyzed for EPA 904.0. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 2032097
Pace Project No.: 3065785

Sample: 2032097-09 **Lab ID: 3065785001** Collected: 03/19/12 16:00 Received: 03/23/12 08:50 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.000 ± 0.250 (0.592)**	pCi/L	04/06/12 12:27	13982-63-3	
Radium-228	EPA 904.0	**0.396 ± 0.399 (0.831)**	pCi/L	04/05/12 11:23	15262-20-1	

Sample: 2032097-11 **Lab ID: 3065785002** Collected: 03/19/12 16:30 Received: 03/23/12 08:50 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.000 ± 0.277 (0.621)**	pCi/L	04/06/12 12:40	13982-63-3	
Radium-228	EPA 904.0	**0.228 ± 0.319 (0.683)**	pCi/L	04/05/12 11:23	15262-20-1	

Sample: 2032097-12 **Lab ID: 3065785003** Collected: 03/19/12 17:15 Received: 03/23/12 08:50 Matrix: Drinking Water
PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Radium-226	EPA 903.1	**0.144 ± 0.248 (0.445)**	pCi/L	04/06/12 12:27	13982-63-3	
Radium-228	EPA 904.0	**0.0768 ± 0.318 (0.713)**	pCi/L	04/05/12 11:22	15262-20-1	

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QUALITY CONTROL DATA

Project: 2032097
Pace Project No.: 3065785

QC Batch: RADC/11495 Analysis Method: EPA 903.1
QC Batch Method: EPA 903.1 Analysis Description: 903.1 Radium-226
Associated Lab Samples: 3065785001, 3065785002, 3065785003

METHOD BLANK: 421621 Matrix: Water
Associated Lab Samples: 3065785001, 3065785002, 3065785003

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-226	0.102 ± 0.375 (0.721)	pCi/L	04/06/12 10:54	

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Greensburg, PA 15601
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QUALITY CONTROL DATA

Project: 2032097
Pace Project No.: 3065785

QC Batch: RADC/11517 Analysis Method: EPA 904.0
QC Batch Method: EPA 904.0 Analysis Description: 904.0 Radium 228
Associated Lab Samples: 3065785001, 3065785002, 3065785003

METHOD BLANK: 422365 Matrix: Water
Associated Lab Samples: 3065785001, 3065785002, 3065785003

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-228	0.821 ± 0.440 (0.808)	pCi/L	04/05/12 11:21	

REPORT OF LABORATORY ANALYSIS

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Greensburg, PA 15601
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QUALIFIERS

Project: 2032097
Pace Project No.: 3065785

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

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SUBCONTRACT ORDER

PDC Laboratories, Inc.

2032097

SENDING LABORATORY:

✓ PDC Laboratories, Inc, 2231 W Altorfer Peoria, IL 61615

___ PDC Laboratories, Inc, 1805 W Sunset, Springfield, MO 65807

___ PDC Laboratories, Inc, 3278 N Highway 67, Florissant, MO 63033

Project Manager: Janet L. Clutters jclutters@pdclab.com Phone: 309-683-1743

Date Shipped 3-21-12

RECEIVING LABORATORY:

PACE Analytical - Greensburg
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
Phone :(724) 850-5600

Sample Origin (State) IL

PO# L40790

Total # of Containers 3

30105785

Analysis	Due	Expires	Comments
Sample ID: 2032097-09	**Water**	**Sampled:03/19/12 16:00**	
01-Radium 226/228	03/30/12 16:00	09/15/12 16:00	001
Sample ID: 2032097-11	**Water**	**Sampled:03/19/12 16:30**	002
01-Radium 226/228	03/30/12 16:00	09/15/12 16:30	
Sample ID: 2032097-12	**Water**	**Sampled:03/19/12 17:15**	003
01-Radium 226/228	03/30/12 16:00	09/15/12 17:15	

Turn-Around Time Requested (circle one): (NORMAL) RUSH Date Results Needed: _____

Relinquished By	Date/Time	Received By	Date/Time
Alan J. Hogan	3-21-12 10:15		3-23-12 0850

Sample Temperature Upon Receipt	____ C
Sample(s) Received on Ice	Y or N
Proper Bottles Received in Good Condition	Y or N
Bottles Filled with Adequate Volume	Y or N
Samples Received Within Hold Time	Y or N
Date/Time Taken From Sample Bottle	Y or N

Sample Condition Upon Receipt

Pace Analytical

Client Name: PDC Project # 30057785

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 231794215008 22

Optional	
Proj. Due Date:	
Proj. Name:	

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____

Thermometer Used 3 5 6 Type of Ice: Wet Blue (None) ☐ Samples on ice, cooling process has begun

Cooler Temperature NA Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: 3/23/12

Temp should be above freezing to 6°C Comments:

Chain of Custody Present:	☑Yes	☐No	☐N/A	1.
Chain of Custody Filled Out:	☑Yes	☐No	☐N/A	2.
Chain of Custody Relinquished:	☑Yes	☐No	☐N/A	3.
Sampler Name & Signature on COC:	☐Yes	☑No	☐N/A	4.
Samples Arrived within Hold Time:	☑Yes	☐No	☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes	☑No	☐N/A	6.
Rush Turn Around Time Requested:	☐Yes	☑No	☐N/A	7.
Sufficient Volume:	☑Yes	☐No	☐N/A	8.
Correct Containers Used:	☑Yes	☐No	☐N/A	9.
-Pace Containers Used:	☐Yes	☑No	☐N/A	
Containers Intact:	☑Yes	☐No	☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes	☐No	☐N/A	11.
Sample Labels match COC:	☑Yes	☐No	☐N/A	12.
-Includes date/time/ID/Analysis Matrix: WT				
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	13. pH<2
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☐No	☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes	☐No		Initial when completed: JN Lot # of added preservative:
Samples checked for dechlorination:	☐Yes	☐No	☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☑N/A	15.
Trip Blank Present:	☐Yes	☐No	☑N/A	16.
Trip Blank Custody Seals Present	☐Yes	☐No	☐N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Carrie Dorris **Date:** 3/23/12

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALLC003-4 23Feb2010

MWG13-15_1082

Exhibit D23

SIERRA CLUB, ET AL. V. MIDWEST GENERATION, LLC PCB 13-15

RESPONDENT'S MOTION AND MEMORANDUM TO STAY PROCEEDINGS

EXHIBIT H

ILLINOIS EPA AUGUST 26, 2013 LETTER REGARDING THE POWERTON GMZ AND ELUC

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217)782-2829
PAT QUINN, GOVERNOR LISA BONNETT, DIRECTOR

217-785-0561

August 26, 2013

John Kennedy
Senior Vice President, Generation
235 Remington, Suite A
Bolingbrook, IL 60440

Re: Groundwater Management Zone Application
Proposed CCA Amendment
Violation Notice: W-2012-00057
Midwest Generation, LLC, Powerton Generating Station; ID Number: 6282

Dear Mr. Kennedy:

The Illinois Environmental Protection Agency ("Illinois EPA") has reviewed the Groundwater Management Zone ("GMZ") application submitted as required by the approved Compliance Commitment Agreement ("CCA"), in response to the Violation Notice dated June 11, 2012.

The Illinois EPA has the following comment on the GMZ application that was submitted in response to Item 5(g) of the approved CCA for your consideration and appropriate action.

1) Part II, Item 5 of the GMZ application: Monitoring wells MW-1, MW-9, MW-10 and MW-16 are all described as "generally up gradient monitoring wells". The Illinois EPA agrees that MW-16 is an up gradient monitoring well. The Illinois EPA does not agree that MW-1, MW-9 and MW-10 are reliably up gradient of historical ash related activities that may impact groundwater quality proximate to these wells. The Illinois EPA would characterize MW-1, MW-9 and MW-10 as side gradient or intermediate wells. An amended response to Item 5 designating wells MW-1, MW-9 and MW-10 as side gradient or intermediate wells should be submitted to the Illinois EPA. The amended response may be submitted without resubmitting the entire GMZ application.

The Illinois EPA has reviewed the draft environmental land use control ("ELUC") submitted in response to Item 5(h) of the approved CCA. The Illinois EPA has no further comment on the ELUC as drafted. Midwest Generation should proceed with the ELUC as proposed. Please submit a copy of the filed ELUC to the Illinois EPA.

cc: Basil G. Constantelos
Midwest Generation EME, LLC
235 Remington Blvd, Suite A
Bolingbrook, IL 60440

Amy Hanrahan
Midwest Generation EME, LLC
235 Remington Blvd, Suite A
Bolingbrook, IL 60440

Maria Race
Midwest Generation EME, LLC
2535 Remington Blvd, Suite A
Bolingbrook, IL 60440

Susan M. Franzetti
10 South LaSalle St.
Suite 3600
Chicago, IL 60603

Exhibit E1
(REDACTED)

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:

SIERRA CLUB, ENVIRONMENTAL LAW AND POLICY CENTER, PRAIRIE RIVERS NETWORK, and CITIZENS AGAINST RUINING THE ENVIRONMENT	)	
Complainants,	)	**PCB No-2013-015 (Enforcement - Water)**
v.	)	
MIDWEST GENERATION, LLC,	)	
Respondents.	)	

The discovery deposition of MARK S. KELLY, taken under oath on the 23rd day of January 2015, at 10 South LaSalle Street, Suite 3600, Chicago, Illinois, pursuant to the Rules of the Supreme Court of Illinois and the Code of Civil Procedure, before Brad Benjamin, a certified shorthand reporter in and for the State of Illinois, pursuant to notice.

APPEARANCES:

ENVIRONMENTAL INTEGRITY PROJECT, by
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Washington, DC 20005
(202) 296-8800
aruss@environmentalintegrity.org

- AND -

ENVIRONMENTAL LAW & POLICY CENTER OF THE MIDWEST, by
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Appearing on behalf of the Complainants;

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Appearing on behalf of the Respondents.

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CONFIDENTIAL PAGES: PAGE 68, THROUGH PAGE 71, AND PAGE 108, THROUGH PAGE 110, ARE UNDER SEAL.

EXHIBITS

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Kelly Deposition Exhibit No. 37	Commonwealth Edison Co. Phase I Site Assessment of the ComEd Powerton Generating Station	6
Kelly Deposition Exhibit No. 250	Mark S. Kelly Curriculum Vitae	6
Kelly Deposition Exhibit No. 251	Illinois EPA Compliance Commitment Acceptance - Violation Notice	6
Kelly Deposition Exhibit No. 252	(Not introduced and retained by counsel for Complainants.)	6
Kelly Deposition Exhibit No. 253	(Not introduced and retained by counsel for Complainants.)	6
Kelly Deposition Exhibit No. 254	KRPG Fourth Quarter and Annual Groundwater Monitoring Report	6
Kelly Deposition Exhibit No. 255	(Not introduced and retained by counsel for Complainants.)	6

EXHIBITS CONT.

NUMBER		PAGE MARKED
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Kelly Deposition Exhibit No. 257	NRT Proposal	6
Kelly Deposition Exhibit No. 258	DRAFT letter Application for Permit or Construction Approval Secondary Ash Settling Basin Liner Replacement	6
Kelly Deposition Exhibit No. 259	(Not introduced and retained by counsel for Complainants.)	6
Kelly Deposition Exhibit No. 260	(Not introduced and retained by counsel for Complainants.)	6
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EXHIBITS CONT.

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Kelly Deposition Exhibit No. 268	(Not introduced and retained by counsel for Complainants.)	6
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Kelly Deposition Exhibit No. 270	(Not introduced and retained by counsel for Complainants.)	6
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(Kelly Deposition Exhibit
Nos. 37 and 250 through 275
were marked for
identification.)
(Witness sworn.)

MARK S. KELLY

called as a witness, having been first duly sworn, was examined and testified as follows:

EXAMINATION

BY

MR. RUSS:

Q Okay. Thank you for coming in. We're going to just go through some background stuff before I get to the questions.

First, have you ever given a deposition before?

A No.

Q Okay. It's like other legal proceedings and you have a legal obligation to answer truthfully.

Could you give your name, place of employment, and work address for the record.

A My name is Mark Kelly. I work for NRG Powerton Station in Pekin, Illinois.

Q My name is Abel Russ. I work for the

Environmental Integrity Project in Washington, D.C. Just a couple of housekeeping things. For the benefit of the court reporter, please answer verbally. I have this problem. I always nod. That doesn't get transcribed. So you have to answer verbally and not nod or shrug or things like that. If you could do that, that would be great.

If you don't understand a question, don't answer it, just ask me to clarify. Make sure you understand a question, before you answer it. And if you do answer a question, we're going to assume that you understand it.

If you need to take a break at any time, we can take a break whenever you want.

And you'll have an opportunity to read over the transcript when it's done, and if you potentially look for errors and see if anything looks wrong, correct it. Okay?

A Okay.

Q Okay. So did you prepare for this deposition at all?

A Yes, I have.

Q And what did you do to prepare?

A I talked to the attorneys here.

Q And as part of your preparation did you speak with anyone other than the attorneys about coal ash impoundments at Powerton?

A No.

Q And did you specifically talk to anybody about -- I guess the answer will be no, but -- or did you review any documents about removal of coal ash from the impoundment or inspection of liners --

A Yes.

Q -- in preparation for this deposition?

A Yes.

Q Okay. And did you review documents about the identification and repair of liner damage?

A Yes.

Q Okay. Did you review documents about relining of the impoundments?

A Review documents? No.

Q And did you review any documents about changes in operations, coal ash -- handling operations since you started working in preparation for this deposition?

MS. NIJMAN: Objection. Vague.

You can understand it, if you -- or answer, if you understand it.

THE WITNESS: No.

Could you rephrase that or however you --

MR. RUSS: Sure. That's fine.

BY MR. RUSS:

Q Did you review any documents about coal ash handling at all in preparation for this deposition?

Dredging ash from the impoundments for example?

MS. NIJMAN: Asked and answered.

BY MR. RUSS:

Q You can answer anyway.

Did you review any documents about ash disposal at Powerton?

MS. NIJMAN: Ash disposal?

BY MR. RUSS:

Q Ash storage; ash management.

A Documents? No.

Q Okay. Thank you.

And just so we're clear, if there're objections you can still answer the question. The objection is preserved for the record.

MS. NIJMAN: Unless his counsel instructs him otherwise.

BY MR. RUSS:
Q It might get struck later unless it's, like, privileged.
Okay. So before we get into the meat of this, I just want to go over some background vocabulary and concepts that I don't necessarily understand. So I want to clarify before we get into the questioning.
So can you describe "boiler slag"?
A Boiler slag is the unburned -- or it's like lava rock that falls to the bottom of the boiler and drains down, and then it gets quenched with water and then it gets grounded up into little rocks, you know, that's slag particles.
Q Okay.
A So it's just another form of bottom ash.
Q And so have you ever used the terms "boiler slag" and "bottom ash" interchangeably?
A It can be, yes.
Q And what does the term "coal cinders" mean?
A Coal cinders is bottom ash also.
Q And what is Hypalon?
A Hypalon is a rubber liner. It's a liner material that's rubbery -- rubber material.

Q And how long and thick is Hypalon?
A You can get that in various sizes.
Q And what about Poz-O-Pac? What's Poz-O-Pac?
A Poz-O-Pac is a mixture of materials to form a base layer. It's like a -- almost like a concrete substance.
Q Okay. Thanks.
That's it for vocabulary, actually, and so I'm just going to go into your personal background. And the first exhibit, which is your C.V. --
MR. RUSS: So which one are we going to --
MS. NIJMAN: Can we get this out of the ring, do you think?
MR. RUSS: Yes. Actually, why don't I take that whole thing out of the back.
BY MR. RUSS:
Q Does this appear to be an accurate copy of your C.V.?
A Yes.
Q Could you describe your educational background.
A I went to Purdue University. I started as a degree in chemistry. I wanted to transfer to engineering. I -- at the time it was full, so I completed my degree. I stayed and worked, declared in-state residency, and went part-time to get my engineering degree. And later on, I went and got my M.B.A. at Bradley.
Q And how long have you worked at Powerton?
A Since January of '92.
Q And have you worked there consistently since then?
A Yes.
Q Can you describe what your job duties were when you were first hired.
A Could you clarify that.
Q Sure.
What were you hired to do? What was the job description they gave you when they hired you?
A Are you asking when I initially started with the company or when I started at Powerton?
Q Oh -- I'm sorry -- thank you for clarifying.
Where did you work for the company before Powerton?

A I worked for the company; but it was in a field service group where I went to various stations and worked for periods of time, basically as a training period.
Q Okay.
MS. NIJMAN: And I'm just going to object to the term "company" because I think that's unclear here. That was not NRG nor Midwest Gen
BY MR. RUSS:
Q At the time you were hired, were you working for the same company that bought --
A No.
Q -- Powerton? Okay.
When you started working -- am I correct in assuming that you were working with Commonwealth Edison when you were first hired in 1992?
A Yes.
Q On your CV it states that you were working at Powerton in 1992, but that's not accurate?
A No, that is accurate.
Q Okay. So when you started working at Powerton, what was your job description?
A I was a lab supervisor. I had -- there

were four other people in the lab. I was the supervisor for them.
Q And what did the lab do?
A We were responsible for boiler water chemistry and the overseeing of the wastewater systems.
Q Did that involve coal ash wastewater?
A Yes.
Q So were you responsible for monitoring that water? Sampling that water?
A The NPDES? Yes.
Q Were you responsible for any solid waste permitting issues at that time?
A No.
Q Did your job description change over the years?
A Slightly, yes.
Q How did it change?
A I became -- well, the Operating Department took over more of the day-to-day and I oversaw that, the other responsibilities of the boiler water chemistry. We went to continuous analyzers, but I had somebody doing daily water -- daily boiler water chemistry. So I became more of a -- looking at that,

you know, instead of overseeing people. I became more project-oriented and helping more troubleshooting for operators, but as -- essentially the same things, as responsibilities.
Q Were you ever responsible for coal ash storage as part of your job?
A No.
Q I don't have any more questions about your personal background, so I just want to move on to some questions about your involvement with particular documents.
Are you familiar with the Environmental Site Assessment that was done in 1998?
A I was involved with that, yes.
Q And who was the consultant that did that assessment?
A I couldn't remember that.
Q What was your role in the process?
A I went around with the consultants and answered questions on basins and general questions that they had about the site.
Q Did you review that Environmental Site Assessment before it was finalized?
A I don't recall if I ever did that or not.

Q Okay. Let me just take a look. We may not need to go into this, but let me just take a look. Yeah, why don't we do it. Just take a look at that.
That is the Phase I Environmental Site Assessment. Could you please turn to page 8514 -- the Bates number -- the number in the lower left-hand corner, 8514.
MS. NIJMAN: Lower right.
MR. RUSS: Sorry. Lower right.
BY MR. RUSS:
Q I just want to draw your attention to the last -- and this is Exhibit No. 37 that we introduced in the past deposition.
The bottom paragraph is describing two settling basins, right?
A Okay.
Q And it says, "The unlined basin north of the service water basin is no longer used in the wastewater treatment process."
Correct?
A Correct.
Q And then -- it says, "According to Mr. Kelly, dredged material from intake flume has been placed in this basin in the past."

Right?
A Correct.
Q And that's you, correct?
A That is me.
Q So could you just -- do you remember what that dredged material would have consisted of?
A River spoils from that canal that comes in from the river. That basin was no longer used -- it was never used --
Q Okay.
A -- and so we were -- we needed to fill that in for a later project. So they were just use -- they were trying to find fill just to fill that basin in. So when we dredged that canal, they used that as fill.
Q So were you responsible for deciding where -- what kind of fill was used and where it was used?
A Not that I recall; although, I was responsible now.
Q Were you aware of it happening when it happened?
A Yes, I was aware that it happened. Yes.
Q I think that's all we're going to do with

this for now. We may want to use it again soon -- so just keep that in mind -- because there's a good map in there.

Are you familiar with the Steam Electric Questionnaire for EPA that Midwest Generation completed in 2010?

A I participated in that, yes.

Q Okay. We won't introduce it because that creates a whole confidentiality problem, but what were the specific areas that you were responsible for answering on that questionnaire?

A The wastewater and the basins, the questions relating to that.

Q Were you responsible for answering questions about the physical characteristics of the basins?

A Yes.

Q And does that include the depth of the basins?

A Not that I recall.

Q Did you have a chance to review the final response before it was submitted?

A I did not ever review the final response, no.

Q Do you know if you were listed as a technical contact on it?

A I did not know that until recently.

Q So were you ever -- I've heard that before, I've heard that before.

Were you ever contacted in your capacity as a technical contact?

A In relation to the report? No.

Q Okay. I expected that. Thank you.

And are you familiar with the Compliance Commitment Agreement that Midwest Generation entered into with the Illinois EPA in 2013?

A Yes.

Q Did you have any role in developing the terms of the Compliance Commitment Agreement?

A No.

Q Were you ever consulted on steps that Midwest Generation could take to address the violations at issue in the Compliance Agreement?

MS. NIJMAN: I'm going to object to the extent that calls for privileged conversation or direction from counsel. Other than --

BY MR. RUSS:

Q Okay. You don't have to answer that.

MS. NIJMAN: -- direction from Counsel.

BY MR. RUSS:

Q Did you review the final Compliance Commitment Agreement?

A I read the cover letter and recently I reviewed the whole thing.

Q Were you ever involved -- did you ever have any role in complying with the terms of the Compliance Commitment Agreement?

A Yes.

Q And what was your role?

A I helped put together the specifications for relining the basins, and then together the specs with the consultant, and helping as a station contact when the project was going on.

Q And -- okay. Why don't I do that.

I'm just going to introduce this into the record now. We're going to come back to it later. This is the Compliance Commitment Agreement, if you can just take a look. Oh -- I'm sorry -- I gave you the wrong copy.

Does that look like an accurate copy

of the Compliance Commitment Agreement as you recall it?

A Yes, as I recall. Yes.

Q Okay, great. Thank you. We'll come back to that later.

And one more background question: Are you familiar with the Groundwater Monitoring Well Network at Powerton?

A Yes.

Q Do you know where the wells are located?

A General, yes. I don't know the exact location; but, yes.

Q Did you have any role in planning where those wells would be placed?

A Just a general rule. All I did was when a consultant went around picking out spots, if he was near a basin, I would go back and look at prints where I would make sure there was no underground utilities in that area.

Q Okay.

A That's all I really did.

Q And do you receive the Groundwater Monitoring Reports?

A I am cc'd on the report, yes.

Q Do you have to send them to anybody else as part of your job?
A No. They're cc'd to the consultant and corporate people.
Q Okay. And do you ever provide an interpretation of those reports to anybody?
A I have not interpreted the reports, no.
Q Do you ever provide feedback to the authors of the reports?
A I have not done that, no.
Q Thanks.
So now I want to go over some details about the specific -- we'll skip the next one -- disposal or storage areas at Powerton, and I know there're a lot.
So now I want to bring back one of the exhibits we already introduced and introduce another one so that we have two maps in front of you that we can refer to?
The first one is the --
MR. RUSS: Actually, you know what? Did I do this wrong? I think we have two new documents from that. This is what I have.
Does that right to you? I'm not sure

about --
MS. DUBIN: This is the same.
MR. RUSS: What are the next two exhibits?
MS. DUBIN: The contract.
MR. RUSS: I'll skip that one. Wait a second. We may have these out of order. Where's the Groundwater Monitoring Report? That one. Okay. Yeah. Thank you.
BY MR. RUSS:
Q So does that look like an accurate copy of one of the quarterly groundwater monitoring reports that we were just discussing?
MS. NIJMAN: I'm going to object to the extent that it does not appear to be complete. It goes to page --
MR. RUSS: That's the copy we got from your files.
MS. NIJMAN: Page 3 doesn't have a --
MR. RUSS: Yeah, that's the copy we got from your files.
MS. NIJMAN: -- continued.
MR. RUSS: The Bates numbers are all in order. So...
MS. NIJMAN: Understood. But it's not a true

and correct copy of the original then. I mean, that's what was in this particular file.
BY MR. RUSS:
Q There may be a page missing.
Otherwise, does it looks like an accurate copy of the --
A As far as I know.
Q Thanks.
And can you just turn to the map on page 10320?
A Okay.
Q I just want to have that available in case we need to refer to it. And then one other exhibit I want to introduce is --
MR. RUSS: We can just skip those two now --
BY MR. RUSS:
Q Have you seen this before, this document?
A No, I have not.
Q This is Exhibit -- the Groundwater -- just for the record, the Groundwater Monitoring Report was Exhibit No. 254, and this -- I just handed you the Phase II Environmental Site Assessment for the Powerton site, and that's Exhibit 256.
And could you just turn to page 3294.

There's a map of the site there.
Does that appear to be an accurate representation of the site as it existed in 1998?
MS. NIJMAN: I'm only going to object -- it's the same objection I've raised in other depositions as to the property boundaries, that it's not -- this is when ComEd owned it. So it's not clear that the property boundaries are what Midwest Gen purchased at a later date.
MR. RUSS: Okay. That's fine. We're not going to talk about anything near the property boundaries.
THE WITNESS: So what was the question?
I'm sorry.
BY MR. RUSS:
Q Does this look like an accurate representation of how the plant was laid out in 1998?
A As far as I can tell, yes.
Q Okay. Great. And I'm not going to ask you to verify the accuracy of anything here, I just want to use it as a reference point --
A Okay.
Q -- so we can identify specific areas that we're talking about.
Now, looking at the more recent map,

the Groundwater Report Map, I'd like to start with the ash settling basin.
A Okay.
Q Do you see that on the map?
A Yes.
Q And have you ever described that by another name?
A Yes.
Q What was it called other than ash settling basin?
A It could be called the ash surge basin.
Q I'm sorry. I am looking at the ash settling basin north of what's described as the ash surge basin here.
A Okay. That could be called the secondary ash settling basin.
Q Okay. Great. Thank you.
And in 2010 was this basin lined?
A Yes.
Q And what was it lined with?
A A hype- -- HEDP -- or -- I'm sorry. A Hypalon. It was a rubber lining.
Q And did the Hypalon extend across the bottom of the pond or was it only on the sides?

A It went across the bottom.
Q And what was in the basin in 2010?
A There was ash material.
Q Was there boiler slag in the basin?
A No.
Q Was there bottom ash in the basin?
A It could be bottom ash, yes.
Q Was there any fly ash?
A There is no fly ash, no.
Q And as of 2010, was that basin being cleaned out periodically?
A To my recollection, that basin had never been cleaned, up until recently.
Q And was the basin relined?
A Yes.
Q And when was that?
A 2013.
Q And what was it relined with?
A HDPE.
Q And did you observe the condition of the basin before it was relined after it was cleaned out?
A Yes.
Q And can you describe the condition of the old liner before it was relined?

A It was intact.
Q Did you see any damage at all?
A There were rips and tears around the top part of the basin above the water line, yes.
Q Was it possible to -- did you know how long those had been there?
A There were various rips by -- but we repaired them. I mean...
Q Had you seen those rips before the basin was cleaned out for relining?
A Yes, because I said -- as I said, they were above the water line. Yes.
Q And do you recall when those rips occurred?
A No. I don't have any dates for anything -- when they occurred, no.
Q And when the ash settling basin was relined, how was the ground beneath where the liner was to be placed prepared?
A How do you mean? I mean --
Q Was there any soil excavated from the basin before it was relined?
A (No response.)
Q Was there any material excavated from the basin at all before it was relined?

A There was material taken out to help facilitate the liner, yes.
Q And what was that material?
A It would have been just dirt. I don't know the exact composition of whatever was down there, no.
Q And was the underlying soil compacted at all before the liner was placed?
A It was, yes.
Q Do you know how thick the compacted layer of soil is?
A No, I do not.
Q So, right now, what material is beneath the HDPE?
A There is rock, there is sand, there is rock, there is drainage tiles, and that's what's below the liner right now.
Q Is there any coal ash under the HDPE?
A No.
Q Does the HDPE liner have a protective covering?
A There is a -- yes.
Q And what does that consist of?
A I -- right now I cannot -- I don't know what the consistency -- what makes that up; But there

is a hard cover on it, yes. It's just a -- it is another rubber, maybe. Maybe? I don't really know.

Q Is there a warning layer over the HDPE layer?

A Yes, there is a sand layer on the bottom. Yes.

Q Okay.

A Sand gravel.

Q And what materials are kept in the ash settling basin now?

A Just any slight carrier that's considered bottom ash that comes over from the ash basin maybe.

Q And how often does ash enter the settling basin -- the ash settling basin?

A I can't give you a how often. No, I don't really know that.

Q Does it occur daily?

A I can't -- I don't really know.

Q Could you describe how ash enters the ash settling basin?

A There are pumps at the ash basin that pump the water over to that basin. So it is possible that something could carry over, but I cannot tell you how much or how often.

Q And do you know -- that's pumping from the ash surge basin, correct?

A Yes.

Q And how high in the ash surge basin is the water pumped from?

A Various levels.

Q Okay. Thank you.

How often are the materials in the ash settling basin removed now, between 2010 and 2015?

A We removed them one time.

Q Just for the relining?

A Just for the relining.

Q And are -- is the Powerton plant on a schedule for cleaning that basin out periodically?

A We have cleaned that basin periodically, yes.

Q How often?

A We have been doing it every six to eight years.

Q Before it was relined.

And going -- is that right?

A Yes.

Q And going forward, do you have a schedule for cleaning it out?

A We have not discussed a cleaning schedule yet, no.

Q Okay. Thank you.

I think -- we will move on to the next exhibit which is going to be Exhibit No. 257. We're still going to be referring to those maps from time to time.

Have you seen this letter before?

A It's a letter to me?

Q It looks like you sent it, so -- or it was to you maybe -- I'm sorry. It looks like it's to you.

A It was to me.

Q Do you remember this letter?

A As I'm sitting here, I'm reviewing it; but as to the exact letter, no, I don't remember.

Q That's fine. I just want to draw your attention to something so you know what I'm talking about.

A Okay.

Q And just take a quick skim of the "Background" section on the front page there.

A Okay.

Q And I'll let you read it. Just let me know

when you're finished.

A Okay.

Q So do you remember the conditions described there?

MS. NIJMAN: Objection. Vague.

Can you specify?

BY MR. RUSS:

Q Do you remember working with NRT to plan the relining of the secondary ash settling basin?

A Yes, I remember working with them. Yes.

Q And they say that repairs to the liner are needed along the side slopes, correct?

A Okay.

MS. NIJMAN: I'm sorry. Where are you?

MR. RUSS: That's the bottom of the first paragraph under Background.

MS. NIJMAN: Okay.

BY MR. RUSS:

Q Did you accompany NRT on that October 20th site visit?

A To the best of my knowledge, I probably did.

Q And do you know what repairs they were describing there?

A We had made repairs to that liner before, yes.
Q Are these the same tears that you referred to earlier?
A Well, it's a different basin.
Q Oh, it is? I'm sorry. I thought this was the --
A I think you're talking about -- oh, the second ash settling -- yes.
Q Those would be the same tears you were talking about earlier?
A Yes.
Q And where it says "numerous previous repairs," those were the same tears above the water line that you were describing?
A Yes, we had repaired them before. Yes.
Q Okay. Thank you.
And turn to the next page of the letter. The first two lines say that the new liner will be placed over the existing liner, right?
MS. NIJMAN: Objection. Misstates the statement. Misstates the text.
BY MR. RUSS:
Q Can you -- it says, "the replacement liners

will be constructed over the existing liners."
Correct?
MS. NIJMAN: It says "we assume the existing liner." It doesn't say it happened.
BY MR. RUSS:
Q Okay. It says, "we assume that...."
Is that correct?
A That's what it says.
Q And is that, in fact, what happened?
A No.
Q The Hypalon liner was removed?
A Yes.
Q Do you know why the plan changed between?
A I mean, I don't know why it changed; but it did.
Q Okay. Thank you. And one more question about the base of the -- the base of this basin as it was being relined.
Do you recall groundwater infiltrating the basin at any point?
A Yes.
Q And when did that occur?
A During the relining process, the river was at an all-time high. We had -- I don't know how much

rain, but it was at an all-time high. And this basin is along the canal which is connected to the river, and when we had everything excavated, getting ready to put the liner down, the water from the river and the canal was seeping through. And so we had to wait -- we waited, thinking it was going to stop and it just kept on coming, so then we had to devise another plan.
Q And what was that plan?
A We put a drain tile in the basins with the rock so that if it ever came high again, we'd drain -- I mean, we would put a sump in so that if the water did come in, it would drain over to a sump where we could pump the water out.
Q And is that sump and drain system still in place?
A Yes.
Q And are you aware of groundwater infiltrating the basin at any other point in time?
A No.
Q Did you discuss with anyone how that groundwater infiltration might affect the liner?
A With the contractor, yes.
Q And what was that conversation about? I'm

sorry. Let me rephrase that.
Do you recall what the problem would be with groundwater infiltration and the liner?
A There could be a possibility it could push the liner.
Q And why would that be a problem?
A Why -- you know why, I mean, if you push the liner you don't want to have it -- you know, come up anywhere. You want to lay it flat and keep it flat. You don't want to have any kind of, you know, seams fall apart or anything like that.
Q So if groundwater infiltrated underneath the liner, it could damage the liner?
A It's possible.
Q Okay. One more question about this.
Is it possible that groundwater infiltration could affect the liner in such a way that the liner might be damaged during the cleaning of the pump?
MS. NIJMAN: I'm going to object to the extent that he is not the consultant, nor the expert.
To the extent it's a factual question that you know and you were told, you can answer.
THE WITNESS: Say that again.

BY MR. RUSS:
Q Sure. Let me introduce an exhibit so you know what I'm talking about. This is going to be 69 from a prior -- yeah. We may -- okay. Why don't I just -- we're not sure if we're going to use this, are we?
(Kelly Deposition Exhibit No. 69 was marked for identification.)
BY MR. RUSS:
Q So can you just look at the e-mail on the bottom half of the page, please.
Do you recall receiving that e-mail?
A I don't recall, but, I mean, I've read it here.
Q Do you remember the circumstances described in that? Do you remember the conversation -- having a conversation related to that e-mail with the contractor?
A With the contractor?
MS. NIJMAN: This isn't from him.
THE WITNESS: No.
MR. RUSS: No, it's to him.
MS. NIJMAN: No, it's not.

THE WITNESS: No.
MR. RUSS: He was cc'd.
THE WITNESS: No. But I didn't discuss this e-mail with the contractor. No.
BY MR. RUSS:
Q Okay. Have you ever talked with anyone at Powerton about liners being damaged during cleaning because of groundwater infiltration?
A No.
Q Okay. Thanks.
I'm going to move on to the new basin, and now I would like to ask some questions about the ash surge basin.
Are you familiar with the ash surge basin?
A Okay.
Q Have you ever described it by any other name?
A Ash basin.
Q And do you consider that to be the primary ash basin at Powerton?
A Yes.
Q In 2010, was that basin lined?
A Yes.

Q And what was it lined with?
A The HDPE and the Poz-O-Pac bottom.
Q In 2010?
A Yes.
Q Okay.
MS. NIJMAN: Just clarifying, do you mean Hypalon or HDPE?
THE WITNESS: I'm sorry. Yes.
BY MR. RUSS:
Q Okay. Thanks. That conforms with my notes.
A In 2010, it was the HDP- -- no -- Hypalon, rubber. It was the rubber-lined, which is the Hypalon.
Q And did the Hypalon extend across the bottom or was that only on the sides?
A No, only on the sides.
Q And the bottom you said was Poz-O-Pac?
A Yes.
Q And in 2010, what was in the basin?
A Bottom ash.
Q Was there any fly ash?
A No.
Q And as of 2010, how often was that basin

being cleaned out?
A In 2010, as needed -- I mean, between six and eight years --
Q Okay.
A -- is what we were doing.
Q And how was it cleaned out?
A Are you asking about the process?
Q Yes.
A We would dewater the basin, take all the water out. And then we would put large end loaders to push the material to one side and let more water drain out to dry it and pump that off. And then once that was sufficiently dry enough, we would load up trucks and they would take it off -- off-site removal.
Q And where was the water pumped to?
A It was pumped over to the secondary ash basin.
Q Okay. And was the ash in the ash surge basin ever stacked outside of the basin prior to removal off-site?
A No.
Q And was this basin relined?
A Yes.

Q And when did that happen?
A In 2013.
Q These questions are going to get redundant. Simply the same ones for every basin.
Did you observe the condition of the basin after it was emptied out before it was relined?
A Yes.
Q And can you describe the condition of the base of the basin at that time?
A It was a Poz-O-Pac. It was very hard. I mean...
Q Had the Poz-O-Pac been damaged at all?
A Not that I could tell.
Q And was any of that pre-existing Poz-O-Pac removed prior to relining?
A A very small layer was probably scraped off to level.
Q And was some Poz-O-Pac left in place?
A Very much so.
Q How much Poz-O-Pac is still there?
A I do not know the depth; but it is mostly all there, yes, except for the -- like I said, that little part there that's scraped on. And I know it's very deep. I don't know the exact dimension.

Q And you don't know how deep it was before it was scraped and relined?
A No.
Q Is there anything under the HDPE aside from Poz-O-Pac and the soil beneath the Poz-O-Pac?
A Sand. I believe there is sand, but I don't recall what the -- was put on that.
Q Is there any --
A But there is no fly ash, no.
Q Is there any coal ash at all on there?
A No.
Q And do you know what's on top of the HDPE liner?
A Yes. There is sand and rock.
Q And is that a protective layer?
A Yes, warning layers. Yes.
Q And what materials are kept in the ash basin now?
A Bottom ash.
Q And how often is that bottom ash removed nowadays?
MS. NIJMAN: Asked and answered.
MR. RUSS: No.
THE WITNESS: We have not -- there's

about -- we have not -- as I've said before, we have not had a schedule yet set up for that.
BY MR. RUSS:
Q Okay. So that -- when I was asking about the secondary ash settling basin, is that true for the whole plant?
I can just simplify the question if that's the case?
A No, it's not. That is not true.
Q So are there some basins on site that have a schedule for cleaning, others that don't?
A Right now, yes.
Q Okay. Thanks. I'll ask about those other ponds when I get to them.
When bottom ash is removed from the ash surge basin, how is that done?
I'm sorry. That, I have actually --
A I just answered that.
Q I just asked that question.
Has the process changed since the pond was relined?
A It would be probably -- it would probably be the same process if we -- next time we do it.
Q Okay. And it --

A I can't say that for certain because I don't know if we will be given --
Q Okay.
A I don't know.
Q Has it been cleaned out since it was relined?
A No.
MS. NIJMAN: Asked and answered.
THE WITNESS: I don't think so.
BY MR. RUSS:
Q Would the same equipment be used in the future for ash removal?
MS. NIJMAN: Asked and answered.
THE WITNESS: I can't answer that right now. I mean, I don't know.
BY MR. RUSS:
Q Okay. That's fine.
And has groundwater ever infiltrated this basin?
A No.
Q I guess I should be clear.
Would you know if groundwater had infiltrated the basin when it was full of ash?
MS. NIJMAN: You mean beneath the liner?

Object to vague.
BY MR. RUSS:
Q Before it was lined with HDPE, if groundwater had infiltrated the basin, would you have known?
MS. NIJMAN: Calls for speculation. Objection.
BY MR. RUSS:
Q You can answer.
A I can't answer that right now.
Q And if groundwater infiltrated beneath the HDPE liner that's there now, would you know about it?
MS. NIJMAN: Same objection. Vague. Calls for speculation.
BY MR. RUSS:
Q You can still answer.
A I can't answer that right now.
Q Okay. I'm going to skip the next exhibit.
And why can't you answer now -- that question?
A I don't know enough about the groundwater --
Q Okay.
A -- to answer any kind of questions pertaining to that, where it's coming from or

anything like that.
Q Okay. And I'm going to turn now to another basin. And this is the -- I don't remember what it's called on the colored map there -- the former ash basin. It appears on the map to be two basins.
A Okay.
Q Has it always been that way?
A No.
Q Did it used to be one basin?
A Yes.
Q And when did it -- when was it divided?
A I can't remember the exact dates we put that rail rock. It's been within the past five years. I don't know exact dates. I don't remember.
Q And that's -- it's a rail --
A It's a rail line.
Q -- that went through the former ash?
A Yeah, we built a loop track.
Q And so now on this map where there're two areas both named Former Ash Basin, is there coal ash in the northern portion?
A I can't ans- -- I don't know.
Q And do you know if there's coal ash in the lower -- in the southern portion?

A I can't answer that. I don't know.
Q Do you know if that former ash basin is lined?
A To my knowledge, it is not.
Q In 2010, when you were working on the Steam Electric Questionnaire for EPA, did you have to answer any questions about the former ash basin?
MS. NIJMAN: If you recall.
THE WITNESS: In 2010?
BY MR. RUSS:
Q Yeah. We talked about earlier that EPA Questionnaire.
A Oh. I don't recall answering questions about the former ash basin.
Q Have you been involved in cleaning out that ash basin -- removing ash from that ash basin?
MS. NIJMAN: Objection. Misstates prior testimony as to ash.
MR. RUSS: Well, I'm just -- it's called the former ash basin. So I'm just --
BY MR. RUSS:
Q Have you ever --
MS. NIJMAN: Yes. But he already testified that it didn't contain ash.

BY MR. RUSS:
Q Have you ever been involved in removing any materials from the former ash basin?
A I have not been involved with the cleaning out of any materials from that basin, no.
Q Are you aware of that basin ever being relined in the past ten years or lined in the past ten years?
MS. NIJMAN: In the past ten years?
MR. RUSS: I'm making up a number. It doesn't really matter.
Q Has it been in the past five years?
A No.
BY MR. RUSS:
Q Are you aware of any material being removed, even if you're not working on it, from that basin?
A Not that I'm aware of.
Q Okay. And I'm going to introduce an exhibit, which will be No. 2- -- oh -- I'm sorry -- this isn't the right one. Yeah, did I -- did I make a mistake on that? Did we already do that one? We don't have it?
MS. DUBIN: I don't know. It might be -- it's

261.
BY MR. RUSS:
Q Okay. Sorry. I'm jumping ahead here. So this is going to be Exhibit 261 for the record. There it is. It's short.
Do you recall a recycle line being added for the old ash basin -- first of all -- I'm sorry -- let me back up.
This describes the old ash basin, correct, in the subject line?
A "Adding a Recycle line to the Old Ash Basin."
Yes.
Q And is this old ash basin the same as the former ash basin we have just been talking about?
MS. NIJMAN: If you know.
THE WITNESS: I don't know. I don't know. I have never seen this.
BY MR. RUSS:
Q Okay. Were you cc'd on this?
A Yes.
MS. NIJMAN: But I'm going to note for the record that it's not signed, so it's not clear that it ever went out or he ever received it.

MR. RUSS: Okay.
BY MR. RUSS:
Q Are you aware of a recycle line ever being sent to the former ash basin?
A Ask the question again.
Q Let me -- or I'll ask it a different way.
Has water ever been pumped from the old ash basin to the ash surge basin?
MS. NIJMAN: Which is the old ash basin?
MR. RUSS: Well, I'll say the former ash basin.
BY MR. RUSS:
Q Has water ever been pumped in the former ash basin to the ash surge basin?
A We have not done that, no.
Q Has water ever been pumped the other way, from the ash surge basin to the former ash basin?
A Pumped? No.
MS. NIJMAN: I'm sorry.
You're talking about this area here?
MR. RUSS: Yes.
MS. NIJMAN: Water?
MR. RUSS: Uh-huh.
BY MR. RUSS:
Q Has -- hasn't been pumped.

Has water ever been drained from the ash surge basin to the former ash basin?
A No.
Q Has water ever gotten to the former ash basin from the ash surge basin by any conveyance at all?
A Yes.
Q And how did that happen?
A There's an overflow.
Q And when the ash surge basin's too full, it would flow to the former ash basin?
A Yes, it has.
Q And how often does that happen?
A Not very often.
Q Is that overflow still in place?
A Yes.
Q Do you remember the last time it might have happened?
A Recently. The past couple weeks it happened once.
Q And before that, do you remember when?
A No, it's been -- no.
Q Now we'll move on to another basin. This is going to be the metal cleaning basin.

Are you familiar with the metal cleaning basin?
A Yes.
Q And have you ever known it by another name?
A No.
MS. NIJMAN: Hold on a second. Can you wait for a second, please.
Sorry. Go ahead.
MR. RUSS: No problem.
BY MR. RUSS:
Q In 2010, was the metal cleaning basin lined?
A Yes.
Q And what was the liner? What did the liner consist of at that time?
A The Hypalon and a Poz-O-Pac bottom.
Q And was there Hypalon on the bottom or just the sides?
A No, just the sides.
Q And in 2010, what were the contents of that basin -- metal cleaning basin?
A It had fly ash material.
Q And did it have other material?
A No.

Q Just fly ash?
A Just fly ash at the time.
Q And as of 2010, was that basin being cleaned out on a periodic basis?
A Yes.
Q And how often?
A Yearly.
Q And how was it cleaned out?
A Same method as before.
Q Did you say a front-end loader?
A Yeah. They would push the material to drain it -- to get the water -- to dry it out, and then it would be loaded onto trucks.
Q And was this basin relined?
A Yes.
Q And when did that happen?
A 2010.
Q And what was it relined with?
A The HDPE.
Q And did you observe the condition of the basin after it was emptied, but before it was relined?
A Yes.
Q And can you describe the condition of the

base of the basin at the time?
A Same as before. The Poz-O-Pac was very durable and very sturdy.
Q And was any Poz-O-Pac removed?
A Not that I recall on this one.
Q Is there anything beneath the HDPE liner other than Poz-O-Pac and soil at this point?
A At which point?
Q Now. After it was relined.
A There may be a sand layer, but I'm not a hundred percent sure. I don't remember exactly, but that would be it. If there is, that's all there would be.
Q Is there any coal ash under the HDPE?
A No.
Q And is there a protective layer on top --
A Yes.
Q -- of the HDPE?
And what materials are kept in the metal cleaning basin now?
A Fly ash material.
Q And how does the fly ash get to the metal cleaning basin?
A During outages we have a contractor come in

for a high-pressure blasting on the external part of tubes. And then that fly ash is what gets put out into the basin.
Q And is it conveyed with water or dry?
A Water.
Q Is it still being cleaned out yearly?
A Yes.
Q And have -- has the method of cleaning out that pond changed since it was relined?
A No.
Q Is it the same company doing the removal that was doing it before it was relined?
A Our employees do the work.
Q Oh, okay. I'm sorry. I didn't realize that.
Has there ever been any damage to the new liner --
A No.
Q -- of that basin?
And has groundwater ever infiltrated the metal cleaning basin to your knowledge?
A To my knowledge, no.
Q I just need to take a look at that. Sorry. Bear with me for just a second here.

MR. RUSS: I may not need to go over this. I think we just covered it. Okay. We've gone over that. Fine. We don't have to do that.
MS. DUBIN: Okay.
BY MR. RUSS:
Q So now I'm going to turn to the ash bypass basin.
Do you see it on the map in front of you?
A Yes.
Q Are you familiar with the ash bypass basin from your --
A Okay. Yes.
Q Have you ever known the ash bypass basin by any other name?
A No.
Q And could you describe how the ash bypass basin is used.
A It is only used when we clean out the larger ash basin because that is the path the material would go to while we clean out the larger basin.
Q So is ash removed from the ash surge basin and placed in the ash bypass basin?

A Not mechanically, I mean...
Q Okay. Is ash routed to the ash bypass basin --
A Yes.
Q -- while you're using the ash surge basin?
A Yes.
Q And when you're not doing work on the ash surge basin, is the ash bypass basin used at all?
A No.
Q And in 2010 was the ash bypass basin lined?
A Yes.
Q And what was it lined with?
A The Hypalon liner.
Q And was there any Poz-O-Pac?
A I don't recall if that one had the Poz-O-Pac bottom or not, or if it was lined all the way through.
Q Do you recall if the Hypalon extended across the bottom?
A At the time I don't remember. I don't remember.
Q Okay. And in 2010, what was in that basin?
A It would be bottom ash material.
Q And as of 2010 -- leading up to 2010, how

A I believe it was lined similar to the other ones where you have -- as I said, I can't recall if that had a Poz-O-Pac bottom; but if it -- you know, if it did, it would have that, and we'd put sand and gravel on the bottom of the liner -- gravel and sand -- and then put it one layer on top of that.
Q Okay. And -- this may sound redundant -- is the ash bypass basin still used in the same way it was used before it was relined?
A Yes.
Q And is it cleaned out only when you're about to clean the ash surge basin so that you can reroute the ash?
MS. NIJMAN: Misstates prior testimony.
You can answer, if you understand what he said.
THE WITNESS: Could you clarify again.
BY MR. RUSS:
Q Sure.
Do you reroute ash to the ash bypass basin when you're about to clean the ash surge basin?
A Yes.
Q And before you do that, do you clean the ash bypass basin?

often was that basin cleaned out?
A Just whenever we got ready to clean the larger basin, we would clean that out so we could use that basin.
Q And was it cleaned out in the same way as the other basins on this site are cleaned out?
A Yes.
Q And was it relined?
A Yes.
Q When did that happen?
A 2010.
Q And what was it relined with?
A The HDPE.
Q Before it was relined, did you notice any damage to the base of the basin?
A To the base? No.
Q Did you notice any damage to the sides of the basin?
A There was stuff, for instance some rips and tears, that had been repaired in the past, yes.
Q Were any of those below the water line?
A No.
Q And now, today, what's beneath the HDPE liner in the ash bypass basin?

A Yes.
Q Is it cleaned any other time?
A No.
Q Okay. Thank you.
And I think I know the answer to this, but I have to ask it anyway.
Is it Powerton's staff that clean this basin out or do you have outside contractors do that work?
A We would clean it out and outside contractors drive the trucks, but we do it.
Q And has groundwater ever infiltrated the ash bypass basin to your knowledge?
A Not to my knowledge.
Q Okay.
MR. RUSS: I'll introduce an exhibit that we already introduced, which is the Bates page 9733.
MS. DUBIN: What number?
MR. RUSS: I don't remember what number it is.
MS. DUBIN: What's the document title?
MR. RUSS: It's a letter from NRT to...
MS. DUBIN: 257.
MR. RUSS: 257?
MS. DUBIN: Uh-huh.

MR. RUSS: Exhibit 257.
MS. BUGEL: The November 4th letter?
MR. RUSS: Yeah. Exhibit 257.
MS. NIJMAN: Do we have it already?
MR. RUSS: Yes.
BY MR. RUSS:
Q And can you just take a look at the very bottom paragraph on the first page there.
A Okay.
Q Do you see where it says that the base of the basin may be in a deteriorated condition?
A Yes.
Q Do you know why NRT said that?
A Because at the time they could not see the bottom of the basin, but it was just speculation on their part. But it was not.
Q Okay. Thank you. So done with that exhibit.
Now, I'm going to -- just to be exhaustive, I'm going to introduce Exhibit 264, which is a Specification Data Sheet for the bypass basin liner replacement.
MR. RUSS: Yeah, it's yours.

BY MR. RUSS:
Q Do you remember seeing this? Have you ever seen this before?
A I don't recall it -- maybe -- but, yeah, probably.
Q And is this bypass basin the same ash bypass basin we've just been talking about?
A Yes.
Q And do you see where it says that site activities will consist of removal of existing Poz-O-Pac?
Under the --
A Yes.
Q -- description where it's -- all right.
Do you remember why the plan was to remove the Poz-O-Pac?
A I do not recall why, but it was not removed.
Q And do you know why the plan changed?
A I don't recall specifics; but I know we were thinking about extending that basin, but we did not do that. We kept it the same size and everything, so -- and I don't know why we would've.
Q Okay.

A We didn't change anything.
Q Okay. Thanks. I'm done with that exhibit. I'm going to now turn to Exhibit 265, which is an e-mail from you to -- I think it's this one -- Dale Green (phonetic).
I don't know why it's multiple pages, but if you can just look at the e-mail.
MS. NIJMAN: Which one?
MR. RUSS: The first page that has an e-mail on it.
MS. NIJMAN: Yeah, there's several e-mails in a row.
MR. RUSS: Right, the first e-mail on the first page. The August 23rd e-mail -- July 23rd e-mail.
BY MR. RUSS:
Q I just want to ask you about where it says, "we did not take any ash and cinders off site when we did the liner."
Do you remember writing this e-mail?
You probably write a lot of e-mails.
Is this an accurate reflection of what happened? Did you take a hundred tons of material out and place them in the big basin?
A We might have. I don't recall; but, yeah.

Q And is that something that happens regularly?
A No.
Q It was an unusual occurrence?
A Yes.
Q And do you know why it might have happened that way this time?
A No, I do not know.
Q Okay.
A I can't recall. I don't know.
Q And that 100 tons of material that was placed in the big basin --
MS. NIJMAN: Just objection to the misreading of the document. It says, "the estimate was about 100 tons."
BY MR. RUSS:
Q The material that was placed in the big basin, is that still there? Was that ultimately --
A No, it's all gone.
Q Was it removed from the big basin off site?
A I can't answer that, but -- I mean, there's nothing there now.
Q Okay. Thank you.
Now, I want to turn to another basin,

the east yard runoff basin.

Are you familiar with the east yard runoff basin?

A Yes.

Q And have you ever known that basin by another name?

A No.

Q In 2010, was this basin lined?

A It is not lined.

Q It's still not lined?

A It's still not lined.

Q In 2010, what was in this basin?

A Water.

Q Was there anything other than water in the basin?

A There may be sludge material on the bottom. I mean, it does -- that just takes rainwater from the east half of the property.

Q Okay.

MR. RUSS: I'm going to have to introduce an exhibit that's nondisclosable, so this is going to be -- how do we characterize it?

MS. NIJMAN: Confidential.

MR RUSS: Yeah. This is going to be a

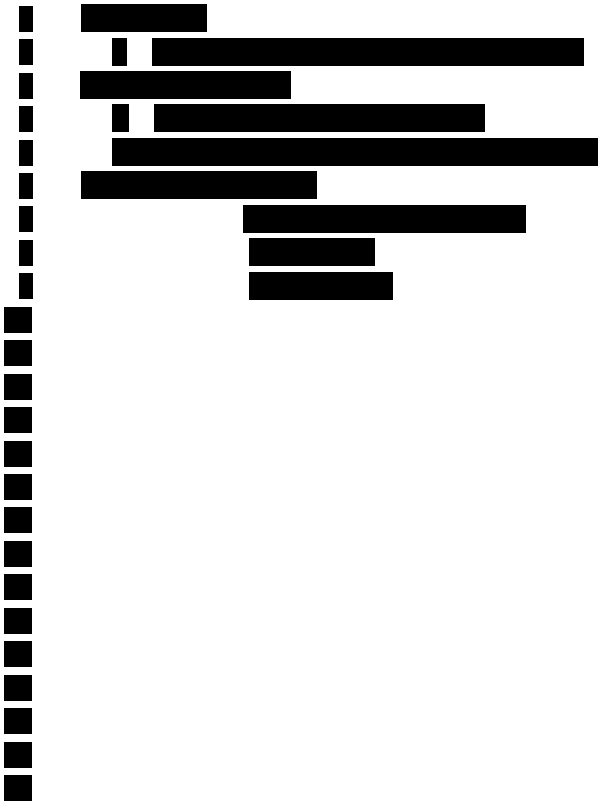
confidential part.

MS. NIJMAN: So what we've been doing is you mark it "confidential" on the record, and when we stop we'll tell you we've stopped with the confidential so that we can remove it from the pages of the transcript if we need to.

(Whereupon the following is confidential.)







(whereupon the following is no longer confidential.)

BY MR. RUSS:

Q Have you ever known fly ash to be placed in the east yard runoff basin?

A No.

Q Has fly ash ever inadvertently ended up in the east yard runoff basin?

A It's possible.

Q And how would that have happened?

A Wind could have blown some in. I mean --

Q Okay. Thank you.

Has that basin ever been relined? You said no --

A No.

Q I'm sorry. It's not lined now.

And how often is that basin cleaned out, if ever?

A I don't recall it being cleaned out.

Q Let me turn to the Compliance Commitment Agreement.

MR. RUSS: I don't know if we entered that already.

MS. DUBIN: It should be one of the first ones.

MR. RUSS: 251. Can I get a time check?

MS. BUGEL: It's 10:40.

MR. RUSS: Oh, great. I'm going to be done soon with direct. I'll improvise.

MS. NIJMAN: There's no harm in finishing early.

MR. RUSS: Yeah, right.

MS. NIJMAN: We all have things to do on a Friday.

MR. RUSS: Yeah.

BY MR. RUSS:

Q We've already looked at this. Can you turn to page 554. I'm sorry. 555.

Item L there. It says, "Midwest Generation shall not allow the East Yard Run-off Basin to be part of ash sluicing flow system."

Right?

A Correct.

Q Do you know why that provision was added to the Compliance Commitment Agreement?

MS. NIJMAN: Again, objection to the extent it's a discussion or negotiation with Counsel.

BY MR. RUSS:

Q Has ash -- you stated that ash has never been sluiced to the east yard runoff basin, correct?

A (Nonverbal response.)

MS. NIJMAN: You can answer.

THE WITNESS: No.

BY MR. RUSS:

Q And do you see where it says, "Midwest Generation shall submit monitoring results from water contained in the East Yard Run-off Basin"?

A Yes.

Q Were you responsible for doing that monitoring?

A I am not, no. That's a consultant.

Q Oh, okay.

Do you oversee the consultant's monitoring work?

A Yes. Well, I'm a station contact when he comes on site to be sampl- -- to do the sampling.

Q And has that monitoring stopped?

A No.

Q It's ongoing?

A Yes.

Q And has that monitoring revealed anything

you didn't expect?
MS. NIJMAN: Object to foundation.
BY MR. RUSS:
Q You can answer anyway.
A I'm not -- I don't know. I don't do -- I don't read the analysis.
Q You don't read the results. Okay. Okay. That's fine.
And do you know why this is included in the CCA?
MS. NIJMAN: Same objection to privilege.
THE WITNESS: I don't know.
BY MR. RUSS:
Q I think that's it for the east yard runoff basin for now.
Now, I want to turn to the limestone runoff basin. This -- if you look at the older map from the Environmental Site Assessment from 1998, there's an area described as the slag overflow basin next to the ash surge basin.
A Yes.
Q Is that the same area that has since been called the limestone runoff basin?
A Yes.

Q And can you describe the history of that basin since you started working at Powerton.
A Since I started working, that basin was never used.
Q That basin hasn't been used at all since you started working?
A As part of a process? No.
Q Has it been used for anything?
A It has been used to store -- they did store temporarily some fly ash there to be -- when they were cleaning out duct workers' soap in the boiler, and then it would be scooped up and placed with other fly ash for disposal.
Q And when did that happen?
A I can't tell you the specific dates. I don't know.
Q Did it happen more than once?
A It has happened, yes.
Q Do you remember the last time it happened?
A It's been many years ago, no.
Q And do you know why it would have been called the slag overflow basin in 1998?
A I don't know.
Q Do you know why it's called the limestone

runoff basin subsequently?
A Because we had a scrubber back in the early 80s, and that basin was used to treat the material from the scrubber. It was basically lime.
Q And when you say, It was used to treat that material, how was it treated?
A I don't know. I was -- it stopped long before I got there.
Q Okay.
A I just know that it was associated with that scrubber.
Q Okay. And was there any of that lime material in the limestone runoff basin when you started working at Powerton?
A Say that again. What was --
Q When you started working at Powerton in 1992, I believe --
A Okay.
Q -- was there any lime in that limestone runoff basin?
A No.
Q Was there anything in there?
A Not that I recall. I mean --
Q Do you remember if it was overgrown at the

time?
A I couldn't tell you. I mean, the liner was still -- I mean, what do you mean by "overgrown"?
Q Was there grass growing?
A Around the basin, yes.
Q In the basin?
A Only -- well, there was dirt in the bottom, but there -- that basin was similar to the others where it had a Poz-O-Pac.
Q Oh, okay.
A So, I mean, if there was anything growing, it was just because there was dirt that had blown in there and grass that started growing in the dirt; but there is a Poz-O-Pac bottom in that, just like all of the other basins.
Q And did that basin have Hypalon sides too?
A Yes.
Q Was that basin ever relined?
A No.
Q So does it still have a Poz-O-Pac bottom and Hypalon sides?
A Yes.
Q And I'm trying to figure out how to ask this question.

Does it still look like a basin or has it been filled in?
A No.
Q It hasn't been filled in. Okay. You said it wasn't used to store fly ash right now.
Is it used to store anything?
A No.
Q And have you ever known groundwater to infiltrate the limestone runoff basin?
A No.
Q Now, I want to turn back to the Phase II ESA, which I believe --
MR. RUSS: Oh. That's the one we're using for the map?
MS. NIJMAN: Uh-huh.
MR. RUSS: Okay. Great. Perfect. Thanks.
BY MR. RUSS:
Q So that's Exhibit 256. And if you turn to page 3236 of this document -- there is no 3236 on this document. What am I talking about here? 3263. I was reading it wrong. Just so that you know about what I'm asking you about.
See Item 8 where it says two ash/slag disposal areas at the facility?

Were you familiar with these two areas in 1998?
A Okay. Okay. Yes.
Q Did you know about it?
A Well, it's kind of vague, but I'm going to assume that I know that. I'm not -- I'll wait until your next question.
Q Okay. Were you aware of any ash or slag disposal areas on the Powerton property in 1998 other than the ash -- other than the basins?
A No.
Q And so when you're reading this here and it talks about two ash/slag disposal areas --
A Okay.
Q -- do you know where they might have been?
MS. NIJMAN: Calls for speculation.
You can try to answer.
THE WITNESS: I'm assuming what they are talking about is the ash basin and the metal cleaning basin. That's my interpretation of that -- that's what that is.
BY MR. RUSS:
Q Okay. So if you look at -- we're going to have to look at a map of where soil boring B-12 is.

On page -- there's a soil boring map.
First of all, I'll ask you, were you -- did you see the soil boring results when they did them?
A I have not seen them, no.
Q On page 3297 -- I have to apologize in advance. There's very small print here. B-12 is located off to the northeast corner of the ash surge basin.
Do you see it there?
MS. NIJMAN: I don't see any B's on here. I see S's.
MR. RUSS: On 3297, page 3297.
THE WITNESS: I can't read that.
MS. NIJMAN: I can't read that.
MR. RUSS: Everything's small print, yeah.
THE WITNESS: No, we're on the wrong page. Okay.
BY MR. RUSS:
Q That soil boring is located outside of the ash basin, correct?
A Okay.
Q Do you remember there ever being ash and slag stored in that area where boring B-12 is

located?
A No.
Q And if we flip back to 3263, the other area is described as being south of the wastewater treatment plant with soil boring B-23. Aside from the fact that I think ENSR had their directions wrong, B-23 is, I think, north of the former wastewater treatment plant near the rail line, Vesper.
A Okay.
Q Do you see the B-23?
A Okay.
Q Have you ever known ash or slag to be stored in that area?
A No.
Q Okay. Thanks. And now I want to ask about something sort of different.
Has coal ash ever been used as structural fill since you started working at Powerton?
MS. NIJMAN: Objection to vagueness.
Do you understand --
BY MR. RUSS:
Q Do you understand the question?

A As structural fill?
Q As fill of any kind?
A Fly ash on site or off site?
Q On site.
A Not that I'm aware of.
Q And has bottom ash been used as fill?
A Not that I'm aware of.
Q And are you aware of any areas where any kind of coal ash might have been used as structural -- as fill in the past?
A On site?
Q On site.
A No.
Q I want to ask about another -- one more basin, and this is Exhibit 267. I'm just showing this to you so you know what I'm asking you about.
What is the service water basin?
A That is the secondary ash basin.
Q Okay. Great.
A I'm sorry -- yes. I guess I do know it by another name as service water basin.
Q Okay. That's fine. Thank you. And that's it. I don't have any questions about that because we already talked about the service water

basin -- the secondary ash settling basin.
So now I want to ask you a few questions about groundwater monitoring.
How many groundwater wells are currently being monitored at Powerton?
A I believe there are 17.
Q 17. Okay.
And are those all part of the groundwater monitoring reports?
A Yes.
Q And aside from wells that Midwest Generation reports on to the Illinois EPA, are there any other wells on the property being monitored?
A How -- what -- for what purpose do you mean?
Q For groundwater quality.
A No. Those are the only ones that I'm aware of.
Q And have there been other groundwater quality monitoring wells on site in the past since you started working?
A I don't recall if there were or not.
Q And do you know which of the groundwater monitoring wells at Powerton are considered

upgradient?
A I do not know. I don't interpret that.
Q Were any groundwater monitoring wells added to the current network between 2010 and today?
A I know -- I seem to recall they added -- 17 was not the original number because I think they came back and added some, but I couldn't tell you when that happened or where they were placed --
Q Okay.
A -- the second time around.
Q Do you know why they added wells?
A No, I do not.
Q Okay.
A Well, I know that there were two decrees. I mean, initially there was only three wells put in.
Q Three wells.
A Three wells on the first construction permit, and then there were others added later.
Q And do you remember where the three wells were located?
A They were placed around the metal cleaning basin.
Q And when did that happen?
A That was in 2010.

Q And when were other wells added?
A I don't know the dates, I just know they were added at different times.
Q Okay. Now I want to just pull back an exhibit from --
MR. RUSS: Oh. Maybe we didn't introduce this Exhibit 38 yet.
Is that the one that Rob caught?
MS. DUBIN: I don't see 38.
MR. RUSS: We may have numbered it --
MS. DUBIN: Yeah, we numbered it differently. It's 269.
BY MR. RUSS:
Q Just take a look at that.
Have you ever seen this letter?
MS. NIJMAN: This is a duplicate page. Yeah, that's a duplicate.
Just for the record, 11234 Bates number is a duplicate of 11235.
MR. RUSS: Right.
THE WITNESS: I have not seen this. I'm not copied on it. I don't -- I don't recall seeing this ever.

BY MR. RUSS:
Q Okay. I just want to draw your attention to some -- where it says -- in the first paragraph of the front of the page of the letter it says, "Even though these points may be upgradient to specific ash basins --" and I believe it's referring to wells MW-1, MW-9, and MW-10 in that sentence above; "they are not believed to be reliable up gradient monitoring points for historical ash related activities that may be impacting groundwater quality proximate to these wells."
Is that right?
MS. NIJMAN: Objection.
Is what right? Is that what it says?
BY MR. RUSS:
Q Is that what it says? Is that how you read it?
MS. NIJMAN: Are those the words on the page?
BY MR. RUSS:
Q Yeah.
Are those the words on the page?
A Those are the words on the page.
Q Okay. Thanks.
Do you know what historical ash

related activities --
A No, I do not know.
Q All right. Thank you.
Now, I just want to turn back to the Compliance Commitment Agreement, which is Exhibit 251. I just want to go over the compliance activities listed that start on page 554 -- Bates page 554.
And 5(b) says, "The ash treatment ponds shall be maintained and operated in a manner which protects the integrity of the existing liners."
Can you describe how the ash ponds are operated in a way to protect the integrity of the liners?
A The operators go out and review on a daily basis the liners. And if anything is amiss or anything -- they are to notify the shift supervisor and Work Orders are written to repair.
Q And have any of the new liners installed since 2010 been damaged since 2010?
A No, not that I can recall.
Q And then turning to 5(c), it says, "During the ash removal process, visual inspections of the ponds shall be conducted."

Does that occur every time ash is removed from the ponds?
A Yes. The operators in the -- that are doing the work would say something if it's something -- if they notice something or saw something.
Q And are there -- do the people conducting the visual inspections generate reports if nothing is wrong?
MS. NIJMAN: I'm going to object only to the extent I'm not sure there's been a removal process since the CCAs.
Has there? Did we talk about that?
THE WITNESS: No, I don't think so.
MS. NIJMAN: Okay.
THE WITNESS: Do they generate reports? No.
BY MR. RUSS:
Q If they do find a problem, would they generate a report?
A They would notify and work orders would be written, yes.
Q And so when the metal cleaning basin is being cleaned, is the entire liner visible for visual inspection or only part of the liner?

A When it is being cleaned, the entire basin would be visible.
Q Would the liner beneath the warning layer be visible?
A Yes.
Q How would you see the liner beneath the warning layer?
A You said -- I'm sorry. I thought you said water.
Q No.
A I was thinking there would be no water in the basin.
Q Right.
A So repeat your question again.
Q Is the entire -- is the -- let me see if I can -- I'll ask this in two ways.
Is HDPE under the warning layer ever visible?
MS. NIJMAN: Any of it?
MR. RUSS: Any of it.
THE WITNESS: No, not unless there is a breach in the warning layers.
BY MR. RUSS:
Q And have there been any breaches of the

warning layers?
A None. Not that I'm aware of.
Q And when the ash is being removed from the metal cleaning basin, is all of the HDPE that's above the warning layer visible?
A We have instructed them not to get the liners on the side. We have not gotten to base liner.
Q Okay.
A There is probably a foot of material on the sides in some areas because I didn't want to get them very close to the liner --
Q Okay.
A -- but the bottom is totally visible and is in shape -- is in good shape.
Q And so what did you see on the bottom when ash is removed?
A There's rock. That's the warning layer.
Q And how much of the HDPE liner is actually visible for visible inspection?
A I'd say probably -- it varies around the basin. It can go all the way from 20 percent to -- down to over 75 percent all the way down; you can see in various spots.

Q Okay. I covered that one. I'm going to now look at 5(f), which is at the bottom of page 554. I know we just talked about this, but I'm going to ask a slightly different question.
Do you know where that new well was placed?
A Specifically, no, I do not know right now without looking at a map.
Q Was it placed south of Monitoring Well 9?
A If that's what it says, yes.
Q Okay. All right. And then 5(m), the very last one, "Midwest Generation shall not use any unlined areas for permanent or temporary ash storage or ash handling."
Has Midwest Generation or Energy used any unlined areas?
A No.
Q Okay.
MR. RUSS: So can we take a short break, and we'll talk and then come back.
MS. NIJMAN: Sure.
(After a short recess, the deposition resumed as follows:)

BY MR. RUSS:
Q I just had a few follow-up questions.
Do you remember when we were talking about the secondary ash settling basin, there were tears above the water line.
A Okay.
Q And do you know how those tears were caused?
A Just probably -- I mean, that's the exposed liner. On top it's weather-beaten. It gets brittle. It can crack easily.
Q From natural conditions?
A Yes.
Q Could it have been torn during removal of ash from the basin?
MS. NIJMAN: Objection. Speculation.
If you know.
THE WITNESS: Well, only because we've never cleaned that basin out --
BY MR. RUSS:
Q That's good.
A -- up to that point when we relined it.
Q Were there any other -- were there ever machines of any kind in the basin for any reason

other than cleaning it out? Was ash ever moved around within the basin?
A During the removal process, maybe from one side to another; but, I mean, I wasn't there for that process.
Q Okay. And it wasn't moved around prior to the removal process within the basin?
A I don't recall if it was or not. I wasn't there for that removal process. I was off site. I had medical issues.
Q Okay. We were just talking about Hypalon, right?
If it's exposed to the elements, it gets cracked and brittle?
A Okay.
Q Is that what you said?
A It can be, yeah.
Q And is that true of HDPE as well?
A Not right now, that's not in it. Plus, that has got a -- it's like that -- it's got -- the liner has got like a hardcore, very dense material over it, so it's very stable.
Q And is that material over the HDPE over the entire liner?

A Yes.
Q And how thick is it?
A I don't recall the specs of how thick that is.
Q Is any of the HDPE visible beneath the hard cover you're describing?
A No, not that I've seen.
Q So when you do visual inspections of the liner, you're actually visually inspecting the hard cover on top of the HDPE?
A Yeah.
Q And you don't know -- do you know what that hard cover's made out of?
A I don't know what it is right now. I can't recall what that is.
Q What color is it?
A It's white.
Q And on the metal cleaning basin, I believe I asked you if there had been any damage to the new liner; but was there ever any damage to the old liner?
A Yes, there were rips and tears in that -- up high you could see that, yes.
Q Okay. And --

A Those were repaired, yes.
Q "Up high," you mean above the water line?
A Yeah.
Q Was there any damage below the water line?
A When we took it down to clean -- well, when we had cleaned in the past, you can see liners, but they were mainly all up on top.
Q Okay. Mainly.
Were there any tears at all below the water line?
A Not that I remember.
Q And in that basin, which you said is cleaned out from time to time, could any of the tears and rips above the water line have been caused by the removal process?
A It could have, but I don't know of that for a fact.
Q So you're not aware of that ever happening?
A No.
Q And if there's damage above the water line to one of these liners, how quickly do you notice it?
A Fairly quickly. I mean, the operators will write work orders and we'll get somebody out there to repair it, yes.

Q And how long between when the damage might have occurred and when you see it?
MS. NIJMAN: Calls for speculation.
If you know.
THE WITNESS: I don't know. I mean --
BY MR. RUSS:
Q Is the area where the tears are on the metal cleaning basin always visible, or does the water sometimes rise above that level?
A No. They don't go above it.
Q So it's always visible?
A Yeah.
Q And then I want to pick up on Exhibit 257 one more time. It's this letter from NRT about the liners in the secondary ash basin and the ash bypass basin.
MS. NIJMAN: 257?
MR. RUSS: 257, yeah.
BY MR. RUSS:
Q And at the very -- the lower -- the bottom paragraph on that page, I was asking you about the condition of the base of the basin, but --
A Okay.
Q -- I didn't get to the end of that

paragraph where it says that repairs are needed along the side slopes.
A Okay.
Q Were those repairs made?
A I do not recall. I mean, I can't say for sure.
Q Is it possible that the damage they noticed in 2009 is still there?
MS. NIJMAN: Objection. Calls for speculation and also misstates prior testimony. It's been relined.
THE WITNESS: It has been relined since then.
BY MR. RUSS:
Q I believe you said that the original liner is still in place beneath HDPE.
A No.
Q Oh, that one was not. Okay.
A No.
Q The entire Hypalon liner was removed from the ash bypass basin?
A Yes.
Q Is there any Hypalon left in place on site? Any of the old Hypalon liner still in place?
A If there is -- yes, the limestone base, it

was not relined.
Q Right. So any --
A So that's the only one. Everything else -- the other four have been relined.
Q And the Hypalon was removed?
A Yes.
Q The Poz-O-Pac was left in place?
A Yes.
Q Okay.
A And the Hypa- -- the HDPE was put over that Poz-O-Pac, all the way across.
Q So any damage the NRT would have observed in 2009 was to a liner that's no longer there?
A Correct.
Q All right. Can you just describe -- you described Poz-O-Pac in the beginning, but do you know what Poz-O-Pac is made of --
A The consistency? No, I do not.
Q -- the materials that go into it?
A No, it would be -- I don't know for sure.
Q Okay. And then I want to follow up on some of the questions that -- the conversation we had about overflow into the former ash pond.
A Okay.

MS. NIJMAN: I'm sorry.
The former ash what.
MR. RUSS: The former ash pond.
MS. NIJMAN: I don't think there is any former ash pond on the facility.
BY MR. RUSS:
Q When I say "former ash pond," do you know what I'm talking about?
A I would assume that it should say "the former ash basin."
Q Oh, okay. Sorry. I'll say "former ash basin."
We were talking earlier about overflow from the ash surge basin to the former ash basin, right?
A (Nonverbal response.)
Q Did you say that that happened a couple of weeks ago?
A Uh-huh.
Q And do you know why it happened? The conditions that led to that happening?
A Yes.
Q What were those conditions?
A The level controllers for the ash pumps,

some -- I mean, I don't know if they froze during a cool night. I don't know exactly what caused them to stop working. And the level came -- the pumps did not come on; the level came up and overflowed.
Q And if that had not happened, the pumps would have pumped that water to the secondary ash settling basin --
A Yes.
Q How often do those pumps malfunction like that?
A It wasn't the pumps, it was the level controller.
Q Oh, I'm sorry. How often does the level controller malfunction?
A That was a rare occurrence.
Q And are there any other conditions that might cause water to overflow the ash surge basin?
A No. Usu- -- no.
Q Has it happened before that water's overflowed the ash surge basin?
A It has happened, yes.
Q And do you remember the conditions that caused it to happen before?
A No, I don't know for sure.

Q And when it does overflow, what's the conduit that carries the water from the ash surge basin to the former ash basin?
A It is a concrete pad. I mean, the -- it just comes up -- the water comes up and flows through -- there's just two openings, and water will just flow over down into that area.
Q And --
MR. RUSS: Just going -- just so I -- are these mine?
MS. DUBIN: Yes.
BY MR. RUSS:
Q Can you indicate on the map where those are located?
A It is right in this area, right here.
Q Okay. And, for the record, you're pointing from the west --
A I was on the east -- the northeast side, I don't know, maybe a quarter of the way from the north side of the ash basin. On the east side there is -- the road goes over and there's two -- there's -- there's just a -- like I said, there's a concrete trough --
Q Okay.

A -- and the water would just come and flow underneath the road and out into that area.
Q Okay. Great.
And is there a conduit for water to flow between the two parts of the former ash basin now?
A Are you asking between here and here (indicating)?
Q Yes.
A No.
Q So is there any water getting into the northern half of the former ash basin aside from precipitation?
A No.
Q I guess it's natural runoff from the --
A Yeah. Whatever. But from here? No.
Q Okay. I want to go back to the groundwater infiltration in the secondary ash basin.
You said that happened during the -- right before the relining; is that right?
A Uh-huh.
Q And was there any material left in the basin when the groundwater was infiltrated?
A No. They were at the point to start laying

down the liner material when the water started coming through.
Q Could you see the water coming through?
A Yes, I did see it.
Q So there were specific areas where there was visible seepage?
A You could see the water, yes, coming through the side.
Q And were there more than one areas where that was happening?
A More than one? No. It was just a general, and you could just see water.
Q So --
A It wasn't spec- -- I mean, you can't --
Q So was water seeping through the entire side facing the canal?
A It's just like one area. It was just coming through.
Q And do you know how much groundwater came in that way?
MS. NIJMAN: Don't speculate.
Object to -- calls for speculation.
THE WITNESS: I couldn't give you a GPM. I don't know.

BY MR. RUSS:
Q Did you have to pump it out?
A We did pump after -- yeah, it accumulated on the bottom. We were pumping until we came up with the drain system.
Q Do you know how much you had to pump out?
A No, I do not know.
Q Do you know how thick the groundwater got at the height -- at the maximum?
MS. NIJMAN: Calls for speculation.
THE WITNESS: No, I do not know for a fact.
BY MR. RUSS:
Q Was it deeper than 2 feet?
A No.
Q Was it less than 1 foot?
A It was less than a foot. Just enough -- let's put -- the answer is it was enough water where they could not lay the liner and be successful laying liner material.
Q Once the liner's in place, the HDPE and the warning layer on top of it, that is thicker than the depth of the groundwater that infiltrated, correct?
MS. NIJMAN: Object to vagueness.

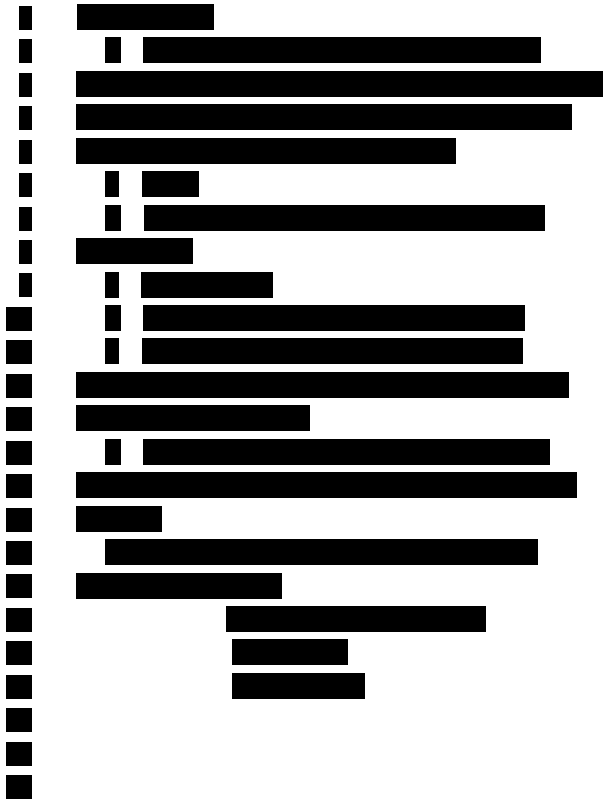
BY MR. RUSS:
Q The depth of the warning layer -- is the warning layer more than a foot thick?
A When we went back, I don't know the exact depths because we had to put rock on the bottom, and I'm sure that the level of that rock and the drain tile we put in there -- I am sure that was taller than the water that was in there. Then we put down everything on top of that, so we did lose, you know, capacity in our basin; but -- and I don't know for a fact if it was taller than the groundwater, but I'm almost certain that is was --
Q Okay.
A -- because now that this water comes in, it's going to go to that drain tunnel and we're going to -- that is going to be funneled to a sump and we pump that off.
Q And do any of the other basins at Powerton have that drain system?
A No.
Q When we talked about the material that was moved from the ash bypass basin to the ash surge basin, it was roughly a hundred tons.
That was ultimately shipped off site?

A Uh-huh.
Q How do you know that it was?
A I don't recall the date of that letter, but if it was before we took everything out of that basin, everything out of that basin was removed to reline it.
Q And that particular quantity of material was moved to the ash surge basin, correct?
A Uh-huh.
Q And was that before the ash surge basin was relined?
A Uh-huh.
Q Okay. Okay. I understand. So --
A I believe the date was 2012 on that letter, and we did the basin in 2013.
Q Okay. Let me just go make sure I have that right. Yeah, that's right. Okay.
And now back to the limestone runoff basin. I just want to go over its status.
Is it still concave? Could it still hold water?
A It could.
Q And why is it still lined?
MS. NIJMAN: If you know.

BY MR. RUSS:
Q If you know.
A I do not know, but it's there.
Q Have you and your -- has Midwest Generation ever considered using that area for something else?
A We have had talks to -- since the cc- -- the agreement, one of options we were talking about was relining that basin so we could use that to store material; but we have decided to place it all into the metal cleaning basin, so we are not going to reline that basin as of right now.
Q Okay. And -- actually, it just occurred to me.
Why is the metal cleaning basin called the metal cleaning basin?
A Because the main -- that ash is a lot of iron -- there's a lot of iron in that ash, so it's just the metal. It's just a general term. And as far as cleaning, I have no idea; but if it -- just to distinguish it maybe from the ash basin because we only use that basin when we are cleaning the boilers during outages.
Q Is there a lot of manganese in that ash?
A I do not know.

Q Okay.
MR. RUSS: I want to go back to confidential.
(Whereupon the following is confidential.)





(Whereupon the following
is no longer
confidential.)
BY MR. RUSS:
Q Now I want to ask about the visual inspections of the liners again.
Is there any way to detect liner damage other than visual inspections?
MS. NIJMAN: Objection to the extent it requests expert opinion as to inspection processes.
BY MR. RUSS:
Q Have you ever had to consider inspecting the liners in any way other than a visual inspection?
A (No response.)
Q Are you aware of other methods that might be used at other Midwest Generation plants for liner inspections?
A No.
Q And do Powerton staff conduct any inspections to the liners other than visual inspections?
A No.
Q Have they ever?
A Not that I'm aware of.

Q And are you aware of anyone observing ash being stored on the ground, in direct contact with the ground, at Powerton at any point in time since you started working there -- aside from the two areas we talked about, Environmental Site Assessment?
A Yes, there was a time -- yes, there was bottom ash on the ground.
Q And where was that?
A To an area --
Q We can look at one of the maps that --
A (Indicating.)
The area to the south of the ash bypass basin, there was a time there was bottom ash stored in that area.
Q South of the ash bypass basin, but north of the railroad tracks?
A Yes.
Q And when was that?
A I can't -- I don't know the dates, but I know there was material stored there for a period of time.
Q Do you know how long they were stored there?
A There was a few months during the winter.

Yes.
Q Was that during the past five years?
A I can't remember the dates.
Q Do you remember if it was before or after the Notices of Violation came?
A I don't.
Q Okay.
A I didn't think of it -- it had to have been before --
Q Okay.
A -- because since then -- yeah, it had to have been before because we have not dumped anything on the ground since then --
Q Okay.
A -- or placed anything on the ground.
Q Okay. And sorry this is kind of a scattershot follow-up question.
Going back to the east yard runoff basin, I asked you if there -- how ash might have gotten into it; you said it might have blown in.
Are there any other pathways from any of the ash basins to the east yard runoff basin?
A No.
Q Any hydraulic connections between any of

the ash basins and east yard --
A To the east yard? No.
Q And how does -- rough -- does the east yard runoff basin receive runoff?
A Yes.
Q And where does that runoff come from?
A From the areas on the east side of the property.
Q And by "the east side --"
A Just basically anything in this area over here.
Q South of that channel?
A And I believe some of the drains in the north of the building are here also --
Q Okay.
A -- area drains.
Q And you said there was sludge in the bottom of the east yard runoff basin?
A Yes.
Q Do you know how thick that is?
A No.
Q Is it ever visible? Is there -- there's always water above it --
A There's always water, yes.

MS. NIJMAN: I'm going to object only to the sense I think he speculated, "there might be sludge."
THE WITNESS: Yeah.
BY MR. RUSS:
Q And how does water leave the east yard runoff basin?
A It gets pumped. There's a pump; it pumps it from the east yard to the trough that leads to the ash basin.
Q And the secondary ash settling basin, how does water leave the secondary ash settling basin?
A Gravity feeds to the river or there are pumps; we can pump it and recycle back to the cooling pond.
Q And the gravity feeds to the river through a discrete channel --
A Yes.
Q -- is that correct?
A Yes. You can't see it on here; but there is tunnel that goes from here and there's a sump -- you can just barely make it out right here -- there's a sump and then from that sump, the gravity feeds to the canal.
Q And the metal cleaning basin, how does

water leave the metal cleaning basin?
A It gets pumped from here to the service water basin, which is the secondary ash basin.
Q From the metal cleaning basin --
A Oh, I'm sorry. You have to adjust from -- I thought you asked from this basin.
Q I was at first, and then -- I'm jumping around. Sorry.
A The water from the metal cleaning basin, the process is there is a pump -- we have an area right here -- we call that the flash mix area -- where we add a chemical to raise the pH. And from there it -- gravity feeds to a clarifier; from that clarifier it overflows to a sump; and then from that sump the water gets pumped, either recycled back to the metal cleaning or it gets pumped to the larger ash basin.
Q And water from the ash bypass basin, where does that go?
A That water -- there is an overflow weir and then there's pipes that lead down the side. And that comes into the side of where the ash pumps are, the ash basin, and then from there it gets pumped similar to the ash basin to the secondary ash basin.

Q So is it the case that all of the water from the active ash basins goes through the secondary ash settling basin before being discharged?
A From this basin, this basin, and this basin? Yes.
Q Right. Yes. The east yard runoff basin water --
A Oh, that one. That would go to that -- yes, similar.
Q And from the former ash ponds, where does that water go?
A It just sits there.
Q Does it seep into the groundwater?
MS. NIJMAN: Objection. Calls for speculation.
BY MR. RUSS:
Q Is there a discharge channel from the "former ash ponds"?
A No.
Q Okay.
MS. NIJMAN: Again, you're talking about the basin area marked on that? Is that what you mean by former ash ponds?
MR. RUSS: Yes.

BY MR. RUSS:
Q Has there ever been a NPDES permitted outflow from the former ash basin?
A Not that I'm aware of.
Q And do you recall sampling that took place in the former ash basin since you started working there?
MS. NIJMAN: You mean, other than noted on this map?
MR. RUSS: Yes.
BY MR. RUSS:
Q Not necessarily bad water monitoring. Sampling of the content of the former ash basin.
A There may have been sampling when they put that rail track in there, but I don't recall what that was. I don't --
Q Do you know if anyone ever measured the thickness of the ash in the former ash basin?
A No.
MS. NIJMAN: Objection. Assumes facts not in evidence.
BY MR. RUSS:
Q Is there ash in the former ash basin?
A I can't answer that.

MS. NIJMAN: Objection. Asked and answered.
BY MR. RUSS:
Q And I think you said this --
MR. RUSS: But you may object.
BY MR. RUSS:
Q Was ash ever removed from the former ash basin?
MS. NIJMAN: Objection. Asked and answered.
BY MR. RUSS:
Q You can answer.
Are you aware of ash ever being removed from the former ash basin?
A I am not aware, no.
Q And, just for the record -- I have to go back to what we were saying before -- the east -- correct me if I'm wrong, but water from the east yard runoff basin, the ash bypass basin, the metal cleaning basin, and the ash surge basin all pass through the secondary ash settling basin before being discharged; is that correct?
A Yes.
Q Okay. Thanks.
MR. RUSS: That's it.
MS. NIJMAN: Okay.

MR. RUSS: Thanks.
MS. NIJMAN: Thank you very much.
FURTHER DEPONENT SAITH NOT. . .

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD
In the Matter of:
SIERRA CLUB, ENVIRONMENTAL LAW AND POLICY CENTER, PRAIRIE RIVERS NETWORK, and CITIZENS AGAINST RUINING THE ENVIRONMENT
Complainants,
v.
MIDWEST GENERATION, LLC,
Respondents.
) PCB No-2013-015
) (Enforcement - Water)

This is to certify that I have read the transcript of my deposition taken on the 23rd day of January 2015 in the foregoing cause, and that the foregoing transcript accurately states the questions asked and the answers given by me, with the changes or corrections, if any, made on the Errata Sheet(s) attached hereto.

MARK S. KELLY

Subscribed and sworn to before me this day of 2015

Notary Public

STATE OF ILLINOIS)
) SS:
COUNTY OF COOK)

Brad Benjamin, being first duly sworn on oath, says that he is a Certified Shorthand Reporter, that he reported in shorthand the testimony given at the taking of said deposition, and that the foregoing is a true and correct transcript of his shorthand notes so taken as aforesaid and contains all the testimony given by MARK S. KELLY at said deposition. And further, that he is not connected by blood or marriage with any of the parties to this action, nor is he a relative or employee or attorney or counsel of any of the parties, or financially interested directly or indirectly in the matter in controversy.

That the preceding deposition shall be read by said deponent, and any and all corrections which the deponent desires to make shall be duly made by the deponent on the enclosed Errata Sheet(s), indicating page and line to be corrected, and that the explanation, if any, given by the deponent for said corrections, shall be thereon noted.



Brad Benjamin

Certified Shorthand Reporter

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SULLIVAN REPORTING COMPANY
Two North LaSalle Street
Suite 1615
Chicago, Illinois 60602
312-782-4705

February 10, 2015

Nijman Franzetti LLP
Ms. Jennifer T. Nijman
10 South LaSalle Street, Suite 3600
Chicago, Illinois 60601

Re: Sierra Club et al. v. Midwest Generation, LLC.

Dear Ms. Nijman:

Enclosed please find the transcript of the discovery deposition of Mark S. Kelly, taken on January 23, 2015, in the above-entitled cause.

Since signature was reserved, please ask Mr. Kelly to review his transcript from January 23, 2015, making any necessary corrections on the Errata Sheets, and sign and notarize the deponent's signature page.

Please send the original signed Errata Sheets and signed deponent's certificate to Mr. Mark S. Kelly, keep a copy for yourself, and please send a copy to me for my records.

According to Amended Rule 207(a), signature must be obtained within 28 days or the deposition may then be used as fully as though signed.

Your cooperation in this matter is greatly appreciated. Thank you.

Sincerely,

Brad Benjamin, CSR
SULLIVAN REPORTING COMPANY

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Exhibit E2
(REDACTED)

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
SIERRA CLUB, ENVIRONMENTAL LAW AND POLICY CENTER, PRAIRIE RIVERS NETWORK, and CITIZENS AGAINST RUINING THE ENVIRONMENT,	)	
	)	**PCB No-2013-015**
Complainants,	)	**(Enforcement - Water)**
	)	
v.	)	
	)	
MIDWEST GENERATION, LLC,	)	
	)	
Respondent.	)	

The discovery deposition of REBECCA MADDOX, called by the Complainants, for examination, taken pursuant to notice, taken before CARYL L. HARDY, a Notary Public within and for the County of Cook, State of Illinois, and a Certified Shorthand Reporter of said state, taken at 1235 Lakeview Drive, Conference Room 2, Romeoville, Illinois, at the hour of 10:05 a.m., on the 2nd day of December, A.D., 2014.

APPEARANCES:

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BY: MS. JENNIFER T. NIJMAN and
MS. KRISTEN LAUGHRIDGE GALE,
Appeared on behalf of the Respondent.

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(The witness was duly sworn.)

REBECCA MADDOX,

called as a witness herein, having been first duly sworn, was examined upon oral interrogatories, and testified as follows:

EXAMINATION

BY MR. RUSS:

Q. For the record, can I just get your name.

A. My name is Beckie Maddox.

Q. And place of employment?

A. I work at the Will County Station.

Q. For what company?

A. NRG/Midwest Generation.

Q. And the address of the station?

A. 529 East 135th Street in Romeoville, Illinois.

Q. Great. Thank you.

And my name is Abel Russ, and I'm an attorney with the Environmental Integrity Project and we represent the Sierra Club in this case.

Have you ever given a deposition before?

A. I have not.

Q. Okay. So this is a formal legal proceeding like in court and you're under the same

legal obligation to answer all the questions truthfully.

And for the benefit of the court reporter, I'm going to try to speak clearly and I just ask that you speak clearly, too, so that we can just get it all down the first time.

A. Okay.

Q. If you don't understand something I'm asking, please don't answer. Just ask me to repeat the question. I'm happy to do that.

A. Okay.

Q. If you do answer a question, we're going to assume that you understood the question.

And if you need a break, let us know. We'll take a break.

A. Okay.

Q. And then at the end, you will have a chance to look over the transcript and see if it matches what you remember, so...

So I'm going to start with some questions about your background. How long have you worked at Midwest Generation?

A. It will be seven years this coming February.

Q. And how long in your current position?
A. Seven years.
Q. Okay. So you've had the same position the whole --
A. I have.
Q. Okay. And what are your responsibilities?
A. I manage air compliance, waste compliance, and assist our chemistry specialists with NPDES water compliance.
Q. Okay. And do you -- in your position, do you have the responsibility of reviewing groundwater quality data?
MS. NIJMAN: Review for what purposes? Do you understand the question?
THE WITNESS: No.
BY MR. RUSS:
Q. Do you ever look at groundwater quality data as part of your job?
A. Can you -- as far as what?
Q. Let's see. Are you familiar with the quarterly groundwater monitoring that --
A. I am.
Q. -- happens at Will County?
And do you see the quarterly groundwater

monitoring reports?
A. I do.
Q. And do you -- is it part of your job to review them and make sure that they are accurate and prepared correctly?
A. What do you mean by "review?"
Q. So let me see if I can figure out a way to ask this differently. Are you -- do you receive those quarterly reports and then hand them on to somebody else as part of your job, or do they go directly from the consultant to somebody else?
MS. NIJMAN: Object to compound. You can answer it, if you understand.
BY THE WITNESS:
A. I don't...
BY MR. RUSS:
Q. Okay. So you do see them --
A. I do see them.
Q. -- as part of your job?
A. Uh-huh.
MS. NIJMAN: Well, objection. She didn't say it was part of her job. She said she sees them.
BY MR. RUSS:
Q. Is it part of your -- part of the duties

that you carry out in your position to look at the groundwater reports?
A. They are sent to me --
Q. Okay.
A. -- from the consultant.
Q. And do you have to look at the groundwater reports to address any compliance issues that are part of your job?
A. I'm not looking at that.
Q. Okay.
A. I'm not an expert.
Q. Okay. So you said you work on air compliance and NPDES compliance and not -- do you work on compliance with the Compliance Commitment Agreements?
A. I was a part of that, yes.
Q. Okay. Okay. And what exactly were your responsibilities with the Compliance Commitment Agreements?
A. I worked with our station management to ensure that all the conditions of the CCA were met.
Q. Okay. And did you help in preparing the CCAs that were proposed by Midwest Generation?
MS. NIJMAN: Objection; states facts not

in evidence.
BY MR. RUSS:
Q. Are you familiar with the Compliance Commitment Agreements that were proposed?
MS. NIJMAN: Objection; same objection.
BY MR. RUSS:
Q. Before -- are you -- do you remember working on Compliance Commitment Agreements before they were signed?
A. Yes.
Q. Okay. Thank you.
And did you have any role in drafting what the terms of the Compliance Commitment Agreement would be?
A. No.
Q. Okay. Thank you. That's what I was looking for.
Did you see the notices of violations from Illinois EPA?
A. I have seen them.
Q. Okay. Just one more background question. Do you review groundwater elevation data?
A. What do you mean by "review?"
Q. Have you seen the groundwater elevation

data that are collected with the quarterly groundwater monitoring reports?
A. I've seen the data.
Q. Okay. And have you ever been responsible for providing an interpretation of that data?
A. Never.
Q. Okay. Thanks.
So now I just have some questions about terminology. What is slag?
A. Slag is from our cyclone boiler, so it's similar to bottom ash in that it's the same type of process but it's a completely different boiler --
Q. Okay.
A. -- used -- beneficially we use it for completely different things than what bottom ash is used for.
Q. Okay. But it's similar -- you said it was similar to bottom ash?
A. It's got -- it has different characteristics. My understanding is it's a different color.
Q. Okay.
A. It's a completely different process from the type of boiler that it's generated from being a

cyclone boiler and bottom ash is from the T-fired.
Q. Okay. So you would never use the terms "slag" and "bottom ash" interchangeably?
A. I would not.
Q. Different things. Okay.
And what is a slag tank? Are you familiar with that term?
A. I am -- I've heard the term. I don't know --
Q. Okay.
A. -- what it is.
Q. That's totally fine. That's fine.
What is process water? Are you familiar with that term?
A. No.
Q. Okay. How about sluice; what is sluice? Are you familiar with that term?
A. My understanding is it's the water that goes into the bottom -- or the ash impoundments.
Q. Okay. And does sluice contain ash?
A. It could.
Q. Okay. Are you familiar with the term "inactive impoundment?"
A. Familiar...

Q. Inactive -- do you use the word "inactive" to describe some of the ponds at Will County?
A. I do.
Q. And you use the word "active" to describe other ponds?
A. I do.
Q. Could you distinguish between what those two terms, active and inactive, mean?
A. Active is a pond that is receiving bottom ash. Inactive would mean it is not in service.
Q. Okay. Thanks.
And in your work, do you distinguish between ash ponds and ash impoundments?
A. Can you rephrase that?
Q. So do you describe the ash ponds at Will County as ash ponds typically?
A. I'd say yes.
Q. And do you ever describe them as ash impoundments?
A. Sometimes.
Q. Okay. And have you ever used the term "ash basins?"
A. No.
Q. Okay. A couple more questions about

terminology, but I just realized I missed one about your responsibilities. Did you have any role in responding -- are you familiar with the questionnaire that Midwest Generation filled out for EPA for the steam electric rulemaking?
A. I'm aware of it, yes.
Q. Did you have any role in filling that questionnaire out for Will County?
A. I did not fill out the questionnaire.
Q. Okay. Did you have any role in providing information that was put into the questionnaire?
A. I may have provided some data --
Q. Okay.
A. -- but I can't --
Q. And did you review the final response?
A. No.
Q. Okay. So -- back to terminology. Sorry about that tangent. What is geomembrane? What's your understanding of geomembrane?
A. Do you have any other information on that?
Q. I do, but if you don't --
MS. NIJMAN: If you don't know --
BY THE WITNESS:
A. I don't know.

BY MR. RUSS:
Q. I can get to it later. We'll get to it later. That's fine.
How about -- are you familiar with the product HDPE liner?
A. Yes.
Q. And can you describe what that is?
A. My understanding is it's -- it's a high-density polyethylene liner that we utilize to line our two ash ponds.
Q. Okay. And what is Poz-o-Pac? Am I pronouncing that right, Poz-o-Pac?
A. Poz-o-Pac. My understanding currently is it's a -- similar to a concrete-type material.
Q. Okay. Does Poz-o-Pac contain fly ash?
A. I don't know.
Q. Okay. And what is air heater ash?
A. I don't know.
Q. Never heard of it. Okay. That's fine.
And one more terminology question. I might have to come back to Poz-o-Pac, but are you familiar with geocell?
A. Yes.
Q. Can you describe what geocell is?

A. My understanding is it's -- it's almost like a honeycomb-type substance -- or substance. It's a material that we put around the slopes of our ash pond and we fill it in with concrete.
Q. Okay.
A. So the geocell itself isn't concrete. It's the -- I don't know what the material it's made out of --
Q. Okay.
A. -- but it would hold concrete. It looks like a honeycomb.
Q. Yeah.
And roughly how wide are the honeycomb cells?
A. I don't recall.
Q. Okay. I couldn't -- I saw some pictures, but I couldn't tell.
(Exhibit No. 90 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. So I'm going to turn to an exhibit. This is going to be Exhibit 90, I think. And here's a copy for you to look at. Can you just look at the lower half of the page? Is this an email that you

were cc'd on in 2008?
A. I was cc'd on it, yes.
Q. Do you remember this email?
A. I don't recall it.
Q. Okay. Does it look like an accurate reproduction of the email?
MS. NIJMAN: Objection. She said she doesn't recall.
MR. RUSS: Okay.
BY MR. RUSS:
Q. Does it look like a typical email for your work?
A. Meaning -- "typical" meaning?
Q. Does it have right -- I mean, is this the format that you're used to seeing emails in in your day-to-day job?
A. The lower half of the email where I'm cc'd on.
Q. Okay. Great. Thank you.
And is that your -- can you just read the first number in that email, number one?
A. Describe what the Poz-o-Pac liner is?
Q. Yes.
A. What does it consist of?

Q. Yeah. And do you see where it says it's a stabilized subgrade that's comprised of lime, fly ash, and aggregate?
A. I see that.
Q. Is that your understanding of what Poz-o-Pac is compromised of?
MS. NIJMAN: Objection; asked and answered. She said she didn't know if there was fly ash in the Poz-o-Pac earlier.
BY MR. RUSS:
Q. Does this refresh your memory?
A. No.
Q. Okay. That's fine. That's fine.
So now we're out of the terminology stuff. I'm going to be asking questions specifically about Will County now.
So how many ash ponds does Will County currently have?
A. Two active.
Q. Okay. And how many inactive ponds do they have?
A. Two.
Q. Okay. And can you tell me what each of the active ponds is used for?

A. We have three south and two south and they're used for bottom ash from the operating boilers unit three and unit four.
Q. Okay. Is there anything different about the way those two ponds are used?
A. No.
Q. Are they used interchangeably?
A. No. One is in service while the other one is --
Q. In sequence?
A. -- out of service.
Q. Okay. Are -- is two south lined?
A. Can you give me a definition for lined?
Q. Does two south have a liner?
A. I need a definition of liner.
Q. Do you use the term "liner" in your work?
A. I do.
Q. And what do you understand liner to mean?
A. It could either be a Poz-o-Pac or an HDPE liner.
Q. Okay. Does pond two south have a Poz-o-Pac liner?
A. It had a Poz-o-Pac liner.
Q. Does it no longer have a Poz-o-Pac liner?

A. It had --
Q. Is there any Poz-o-Pac within the footprint of pond two south?
A. There is.
Q. Okay. And is there HDPE lining two south?
A. There is.
Q. Okay. Is there geocell in pond two south?
A. In two south, yes.
Q. Okay. And the same for three south; is there Poz-o-Pac in three south?
A. Yes, remaining.
Q. And is there HDPE in three south?
A. There is.
Q. And is there geocell in three --
A. There's no geocell for three south.
Q. Okay. And do you know how thick the Poz-o-Pac in two south is?
A. I can't recall.
Q. Okay. And three south?
A. I can't recall what's remaining.
Q. And is pond one north -- are you familiar with pond one north?
A. Uh-huh, yes.
Q. And is pond one north lined with Poz-o-Pac?

A. My understanding, it's lined with Poz-o-Pac.
Q. Is it lined with HDPE?
A. No.
Q. Okay. Geocell?
A. No.
Q. Okay. And pond two south, is it lined with Poz-o-Pac?
MS. NIJMAN: Asked and answered.
MR. RUSS: I'm sorry. I'm sorry.
BY MR. RUSS:
Q. Is pond one south inactive? Is pond one south inactive?
A. The term "inactive" meaning?
Q. You described earlier there being two inactive and two active ponds at Will County. Is pond one south one of the inactive ponds?
A. It is the inactive.
Q. Is pond one south lined with Poz-o-Pac?
A. My understanding today is it's lined with Poz-o-Pac.
Q. Okay. And is it lined with HDPE?
A. No.
Q. And geocell?

A. No.
Q. Okay. Thank you.
One more question about the liners. In pond one north, it's lined with Poz-o-Pac. Are you aware that there's fill between layers of Poz-o-Pac in pond one north?
A. I don't know for one north.
Q. Okay. Is there -- are there layers of Poz-o-Pac in pond one south?
A. I don't know the answer to that.
Q. Are there layers of Poz-o-Pac in pond two south?
A. There was.
Q. And are there still multiple layers of Poz-o-Pac in two south?
A. My understanding today is that there is not.
Q. Okay. And in pond three south, are there multiple layers of Poz-o-Pac?
A. There was.
Q. And today?
A. My understanding today that there's not.
Q. Okay. Great. Thank you.
(Pursuant to agreement, pages 22 through 47 were placed under seal.)



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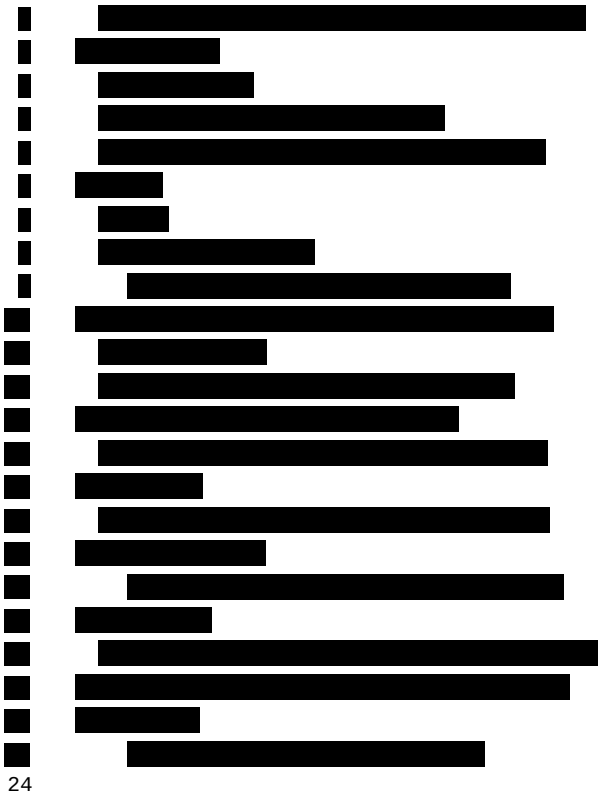

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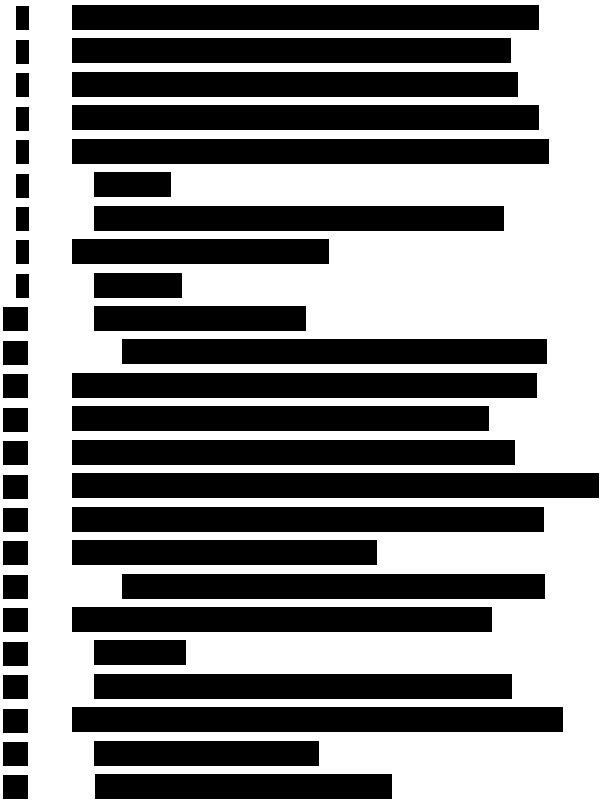

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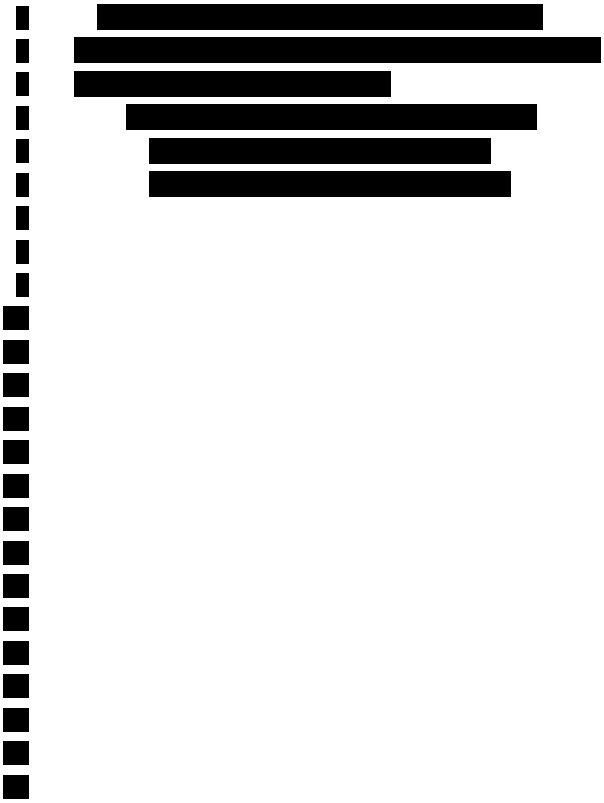

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(Pursuant to agreement, pages 22 through 47 were placed under seal.)

BY MR. RUSS:

Q. Is ash pond one north inactive?

A. It is.

Q. Would you describe it as retired?

A. I would need a definition of "retired."

Q. Have you described it in your work as decommissioned?

A. No.

Q. Are you familiar with the term "decommissioned?"

A. I'm familiar with the term.

Q. And what does it mean to you?

A. Out of service.

Q. Okay. Are there any engineering tasks as part of decommissioning that you're aware of?

A. I don't understand the question.

Q. Would the ponds have to be altered to be decommissioned?

A. I don't understand the question.

Q. If -- if the pond one north stopped receiving ash, would it be decommissioned?

A. I don't know.

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Q. Would something else have to happen for it to be decommissioned?

A. I would need a definition of "decommissioned."

Q. You're familiar with the term?

MS. NIJMAN: Asked and answered.

BY MR. RUSS:

Q. You know what decommissioned -- okay.

A. Yes.

Q. Okay. Okay. Could that pond be used again?

A. No.

Q. Why not?

A. Per the Compliance Commitment Agreement, it can no longer receive ash.

Q. Is there any physical reason that it couldn't be used again?

A. Yes.

Q. And what's that?

A. We've blocked off it receiving any -- any water.

Q. Okay.

A. Process water.

Q. Is there currently water in pond one north?

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A. Currently today, I don't believe so.
Q. Is there ash in pond one north?
A. There's slag.
Q. There's slag.
Is there any bottom ash in pond one north?
A. No.
Q. Is there any fly ash in pond one north?
A. Not that I recall.
Q. Okay. You said that the -- it can no longer receive ash because the channel has been blocked?
A. Correct.
Q. Channel is not the right word -- I'm sorry -- but was ash removed from pond one north?
A. No.
Q. Okay. So any ash that was in pond one north in 2010 is still there?
A. That's correct.
Q. And is that true of pond one south?
A. That's correct.
Q. Okay. Is there any fly ash in pond one south?
MS. NIJMAN: Asked and answered. Oh, sorry. You asked about one north. My mistake.

BY THE WITNESS:
A. To my knowledge today, no.
BY MR. RUSS:
Q. Has there ever been fly ash in one south?
A. There may have been, yes.
Q. Is there bottom ash in pond one south?
A. No.
(Exhibit No. 98 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. Okay. Now I'm going to ask you to look at another exhibit. This is an email and it's -- there it is. Thank you.
This is an email from James Sault to David Kamano, correct?
A. Yes.
Q. And it was -- you were cc'd, correct?
A. In the one email in the middle, yes.
Q. The middle. I'm sorry. Yes. That's the one email I'm talking about.
Do you remember this email?
A. I don't recall.
Q. Okay.
MS. NIJMAN: It seems to be cut off on the

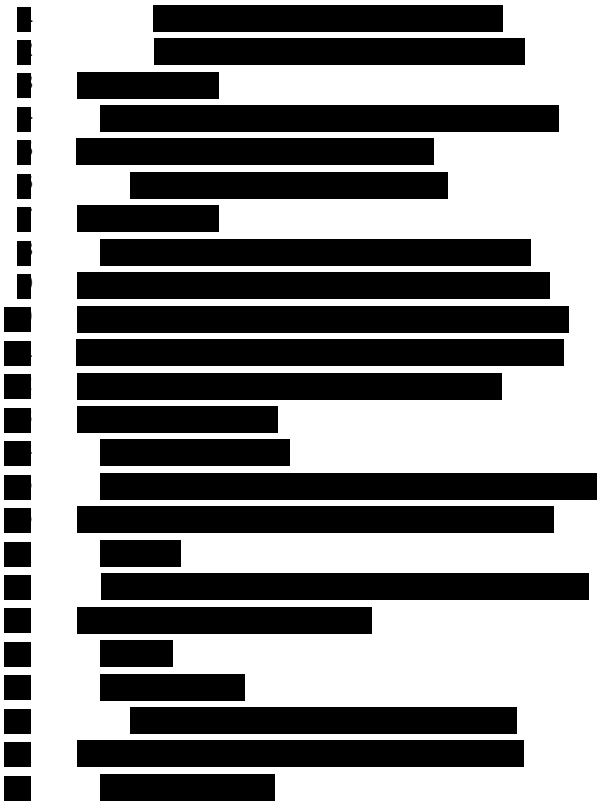
left-hand side, too.
MR. RUSS: Not my copy.
THE WITNESS: The second paragraph, does it say "hile," or does yours say "while?"
MR. RUSS: No. This one says "hile" as well. Okay. That's interesting. Just that one letter. It may be a typo because everything appears to be lined up correctly.
BY MR. RUSS:
Q. Do you see where it says: As Jeff says, we have no plans to remove material from either of these ponds given the high cost of disposal off site?
A. I do see that.
Q. Do you remember -- were you part of conversations about disposing of ash off site from those two ponds?
A. No.
Q. Okay. Are you familiar with the cost of disposal off site?
A. Yes.
Q. Do you know where it would have been disposed if it were disposed off site?
A. A landfill.

Q. And what would the -- what would the cost -- would there have been trucking costs?
A. There would have been trucking costs, yes.
Q. Would there have been tipping fees?
A. I don't recall.
Q. Okay. Okay. Fair enough.
And is it your recollection that in 200- -- in 2012 did -- were you planning to dispose of ash off site from ponds one north and one south?
MS. NIJMAN: Objection; foundation. She stated she wasn't part of those conversations.
MR. RUSS: Okay. Good point.
BY MR. RUSS:
Q. Did you ever have conversations about leaving the ash in the ponds?
MS. NIJMAN: Same objection.
MR. RUSS: You can answer.
BY THE WITNESS:
A. I don't recall.
BY MR. RUSS:
Q. Okay. All right. We already talked about the liners.
(Exhibit No. 99 marked for identification, 12-2-14.)

BY MR. RUSS:
Q. Now turning to another exhibit, this is a letter from the Illinois EPA, correct?
A. Yes.
Q. And in it the Illinois EPA is approving the Compliance Commitment Agreement for Midwest Generation for Will County, correct?
MS. NIJMAN: I'm going to object to foundation.
BY MR. RUSS:
Q. Have you seen this letter before?
A. I have seen this letter.
Q. Okay. Thank you.
If you turn to Bates page -- it's actually on 561, item 5e down near the bottom, the last sentence of 5e says: A dewatering system shall be developed and implemented which will not allow water to exceed a depth of one foot above the bottom of ponds one north and one south, correct?
A. Yes. I see that.
Q. Is there such a dewatering system in place now?
A. There is.
Q. And is there a depth of water of one foot

in ponds one north and one south?
A. Sitting here today, no.
Q. And there's no water in pond one north at all, correct?
A. There could -- there could be rainwater.
Q. Okay. Okay. Thank you. That's helpful.
On the same page where it says -- the very last part of that sentence "the bottom of ponds one north and one south," how --
MS. NIJMAN: What letter are you in?
MR. RUSS: Still 5e.
BY MR. RUSS:
Q. How do you understand the bottom of pond one north? What does that mean to you?
A. To me, the bottom is -- the bottom of the pond where -- it's the base of the pond.
Q. Okay. Is the bottom above the liners, above the Poz-o-Pac?
MS. NIJMAN: Do you mean on top of the Poz-o-Pac?
BY MR. RUSS:
Q. Is the bottom elevation higher than the Poz-o-Pac?
A. I don't know.

Q. In your understanding of the word "bottom" -- he says the bottom of the pond -- is that below the ash?
A. My understanding is the bottom is below -- below the slag, yes.
Q. But not below the Poz-o-Pac?
A. My understanding is it's the same thing. The top of the Poz-o-Pac is the bottom of the pond.
Q. Okay. Thank you. That's what I was getting at. Thank you very much.
(Pursuant to agreement, pages 57 through 58 were placed under seal.)



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(Pursuant to agreement, pages 57 through 58 were placed under seal.)
(Exhibit No. 100 marked for identification, 12-2-14.)

BY MR. RUSS:

Q. Let's see. Now I'm going to turn to another exhibit. This is not confidential. This is 100. This is another email. This is -- I'm looking at the top half of the page here on 27950. I'm sorry. Let me start at the bottom, the bottom of the pond -- bottom of the page. No. That's not it either. It's the next -- I'm sorry. So it's on the other side. It's 27951. It's part of the same email chain, I believe.

On 27591 there's an email from Jeff Beaudry to you, correct, on January 4th?

A. Yes.

Q. Do you remember this email?

A. No.

Q. Do you remember having a conversation with Jeff Beaudry about seeding the ash in the north and south ponds?

A. Very vaguely.

Q. Was -- did anyone ever plant seed in those

ponds?

A. My understanding is no.

Q. Okay. Great.

Do you see where Jeff's email states that: We may have an issue with getting a lot of slag carryover into the wet well?

A. I see that statement.

Q. What is the wet well?

A. The wet well is the area -- there's a pond, there's a weir, and on the other side of the weir is where water would go. So the weir, in theory, holds back any solids.

Q. Okay.

A. And on the other side of the weir is where the water --

Q. Okay.

A. -- would go.

Q. And has slag crossed the weir into the wet well in the past?

A. In the past it has.

Q. And where does it go once it gets into the wet well?

A. Then it would go to our recycle house where there's a series of recycle pumps.

Q. Okay.

A. And from there, it would either get recycled back into operations or sent to the wastewater plant.

Q. Is it disruptive to operations for slag to get into the wet well?

A. To get into the wet well, no, but where it goes to, yes.

Q. Okay. And is that why Jeff -- is it your understanding that Jeff Beaudry did not want slag to get into the wet well?

A. That is my understanding, yes.

Q. And is that because it causes a problem with the recycle pumps?

A. Correct, yes.

Q. Okay. Thank you.

And so you said that the ponds were not seeded. Was something else done to hold the slag in place?

A. Yes.

Q. And what was done to hold the slag in place?

A. A series of stone was placed in the -- in the pond.

Q. Was the stone placed in a way that it would block the slag from reaching the weir?
A. Yes.
Q. Okay. Thank you.
And then back on the other page of that exhibit, 27590, there's an email from Amy Hanrahan to you on January 4th, correct?
A. Correct.
Q. Do you remember that email?
A. No.
Q. Do you remember Amy Hanrahan expressing concerns over seeding to you?
A. No.
Q. And do you know what those concerns might be?
A. I don't recall.
Q. Okay. That's fine.
I'm sorry. There's one more. On page 27950, the bottom half of the page, you wrote: Maybe it could be a start to closing the ponds in place if we want to go that route in the future, correct?
A. I see that, yes.
Q. What does "closing the ponds in place"

consist of?
A. My understanding is keeping the slag in the ponds.
Q. Would closing the ponds in place include covering the ash or slag in the ponds with any other material?
A. I don't know.
Q. Okay. Have you ever had to think about closing the ponds in place beyond just leaving the ash where it is?
A. What do you mean by just "think about?"
Q. Have you -- okay. That's a fair question.
Have you looked at plans to close the ponds in place that would require more than leaving the ash there?
A. I have not, no.
Q. Are you familiar -- are you aware that there are such plans?
A. I don't know.
Q. Okay. Have you looked at closure in place at other plants in Midwest Generation's fleet?
A. No.
Q. Okay. Thank you.

(Exhibit No. 101 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. This is on page 27- -- this is Exhibit 101. Not confidential still.
A. I'm sorry. What exhibit?
Q. This is Exhibit 101.
A. Oh, okay.
Q. And it's on page 27954. I think it's just a one-page exhibit. This is an email from David Kamano to you and others, correct?
MS. NIJMAN: The bottom half are you looking at?
MR. RUSS: That's a good question. No. I think I'm looking at the top half.
BY MR. RUSS:
Q. You were cc'd on this email, correct?
A. I was cc'd on the email.
Q. Do you remember the email?
A. No.
Q. This was sent in February of 2013, right?
A. Yes.
Q. And it says in bold -- the first bold sentence: Yes, you are correct we will only be

repositioning material, right?
A. I see that statement.
Q. Is that what happened? Was material repositioned in ponds one north and one south?
A. Yes.
Q. And where was it repositioned from?
A. Remained in the pond.
Q. And was it moved from one side to another?
A. Just within the pond.
Q. Okay. Was it distributed evenly across the bottom of the pond?
A. Can we rephrase that?
Q. Before the material was repositioned, was there more ash or slag in one place than in another?
A. My recollection is yes.
Q. And was slag moved from the area where there was more of it to the area where there was less of it?
A. I don't recall.
Q. Okay. And do you see under number two, it says: I recall that we discussed that we will not be purposefully seeding the pond to avoid our work being categorized and as "pond decommissioning."
A. I see that, yes.

Q. Do you -- were you part of that discussion?
A. I don't recall.
Q. And do you understand why seeding would be characterized as pond decommissioning?
A. No.
Q. Okay. All right. Fair enough. I think we've covered that one.
(Exhibit No. 102 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. I'm going to turn to pond 2S. This is going to be Exhibit 102. This is an email from Jeff Beaudry to Aron Yakima and you are cc'd, correct?
A. Yes, I am.
Q. And this was July of 2013?
A. Correct.
Q. Are you familiar with this email? Do you remember this email?
A. I don't recall, no.
Q. Okay. Do you see where it says: NRT would like one sample to be taken in the center and another sample to be taken near the edge of the pond?

A. I see that, yes.
Q. And they're referring to core samples, correct?
A. My understanding is, yes, core sample.
Q. And were those core samples taken?
A. I don't recall.
Q. Okay. Did you ever see core samples from that pond 2S?
A. I don't recall.
(Exhibit No. 103 marked for identification, 12-2-14.)
BY MS. RUSS:
Q. Okay. So Exhibit 103 now. That is an email from Terry Anderson to a group of people, and you're among the people that are -- no, you're not. Okay. I think I understand what happened here. Do you see this email dated 7-17-2013 at the bottom half of the page?
A. I do see that.
Q. And do you see on the top of the page where it says on July 18th, 2013, it was forwarded?
A. Yes.
Q. And it was forwarded to you, correct?
A. Correct.

Q. Okay. So you did see this email at one point, correct?
A. Yes.
Q. You received it in your inbox?
A. In my inbox, yes.
Q. And looking at the email itself in the lower half of the page, do you recall this email?
A. I don't recall the email.
Q. Okay. Do you -- were you part of any discussions about what the core drilling in pond 2S found?
A. I don't recall.
Q. Okay. Do you see the description on the third line of "pit run" in quotes?
A. Okay.
Q. It says: There were two six-inch layers of Poz-o-Pac, then about 12 inches of "pit run," right?
A. Correct.
Q. Do you understand that term "pit run?"
A. No.
Q. Okay. And do you see the second paragraph where it says: After all that and the conversation with Jeff, my question is, shall we remove a total

of 12 inches of Poz-o-Pac, or do we aim to get the elevation proposed on the drawings?
A. I see that, yes.
Q. Do you know whether a total of 12 inches of Poz-o-Pac was removed?
A. I don't recall.
Q. Okay. Do you know if more material was excavated than originally planned in that process?
A. I don't recall.
(Exhibit No. 104 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. Okay. So now I'm going to turn to Exhibit 104.
MS. NIJMAN: Do you need to take a break at all?
MR. RUSS: Do you want to take a break?
THE WITNESS: Yeah. Sure.
MR. RUSS: Can we stop the clock? I have -- we started a little late. It's going to be tight.
MS. NIJMAN: Sure.
MR. RUSS: Thanks.
(A recess was taken.)

MR. RUSS: We're back on.
BY MR. RUSS:
Q. We're going to be looking at Exhibit 104. So this is e-mail in the middle of the page addressed to you, Beckie, it says, from Eric -- I don't know how to pronounce his last name. How do you pronounce his last name?
A. Tiachac.
Q. Okay. Thanks.
Do you remember this email?
A. It was sent to me. I don't recall it.
Q. Do you remember having conversations about leak detection at pond 2S?
A. I remember having conversations, yes.
Q. Okay. Looking at the first sentence, it says: It would not have been possible to even perform the survey on the bottom of the pond without leaving the top two rows of geocell empty, right?
A. I'm sorry. Where was that at?
Q. I'm sorry. It's not the first line. It's the first sentence of the first serious paragraph there. Right after it says "in the interim," it says: It is important to point out that it would

not have been possible to even perform the survey. Do you see that sentence?
A. Uh-huh.
Q. Do you remember that concern coming up about geocell and leak monitoring?
A. I really don't know.
Q. Okay. Do you know why geocell would have to be left empty in order to perform the survey?
A. No.
Q. Do you know if the geocell was empty at the time that this survey was conducted?
A. I don't recall.
Q. Actually, I should back up. Do you -- do you know if a leak location survey was conducted on this pond?
A. It was, yes.
Q. Okay. And you don't recall whether the geocell was empty.
Looking at the second paragraph, the fourth line in the second paragraph, the sentence that starts: I think that the concrete-filled geocell at Will County pond two changes things a bit, do you see that sentence?
A. I do.

Q. And do you understand pond two to mean pond 2S?
A. Correct, yes.
Q. And do you know what -- do you understand why it changes things a bit that there's -- do you understand why concrete-filled geocell at pond two would change things a bit?
A. My understanding is that the concrete is on top of the liner.
Q. Okay. And is this an electronic or electrical leak location survey that was conducted?
A. My understanding is yes.
Q. Okay. And it's your -- is it your understanding that having concrete-filled geocell interferes with the ability to do that kind of survey?
A. I don't know.
Q. Do you see on the third line from the bottom, it says: They may release that particular pond from the inspection requirement?
A. I see that, yes.
Q. And then after that it says: If not, one could still visually inspect the concrete-filled geocell following dredging for any disturbance.

A. I see that, yes.
Q. Is it part of your job responsibilities to oversee inspections of the ponds?
MS. NIJMAN: Object to foundation.
BY MR. RUSS:
Q. Have you participated in inspections of the ponds?
MS. NIJMAN: Same objection.
MR. RUSS: You can answer.
BY THE WITNESS:
A. Everyone at the station does walk-arounds of the ponds. It's just part of overall responsibilities.
BY MR. RUSS:
Q. Do you know if Midwest Generation is required to conduct visual inspections of the ponds?
A. Yes.
MS. NIJMAN: Under the CCAs, you mean?
MR. RUSS: Yes.
BY THE WITNESS:
A. Under the CCAs, yes.
BY MR. RUSS:
Q. Do you communicate the results of those

inspections to anyone?
A. Not communicate, no.
Q. Okay. Does anyone send the results of those inspections to Illinois EPA?
A. No. My understanding, it's not a requirement of the CCA.
Q. Okay. So is it the case then that the visual inspections are conducted and the results are maintained in-house?
A. Correct.
Q. Okay. And if IEPA wanted them, they would ask for you to provide them?
MS. NIJMAN: Object; speculation.
BY MR. RUSS:
Q. Has IEPA ever asked for the results of the visual inspections?
A. IEPA has never asked, no.
Q. Okay. Is it possible to visually inspect the liner in pond 2S, the bottom liner?
MS. NIJMAN: Object to foundation.
BY MR. RUSS:
Q. Is there a -- do you understand the term "bottom liner?"
A. No.

Q. Are you familiar -- let me see here. The first sentence -- the first sentence of the first full paragraph in that email: It would not have been possible to even perform the survey on the bottom of the pond, do you see that?
A. Uh-huh.
Q. And then in the next line, it says: The top of the liner needs to be electrically isolated from the bottom?
A. Okay.
Q. They're talking about a liner on the bottom of the pond, correct?
MS. NIJMAN: Objection. She said she doesn't remember this. If this helps you, you can answer it.
BY THE WITNESS:
A. I don't know.
BY MR. RUSS:
Q. You don't know where -- okay. You don't know where that liner is. Okay.
Do you see the second line of the second full paragraph: CCA references a visual inspection requirement?
A. Yes.

Q. Are you familiar with that requirement?
A. Yes.
Q. What does that requirement consist of?
A. My understanding is a visual inspection of the liner.
Q. Okay. And are there any parts of the liner in pond 2S that cannot be inspected visually at present?
A. Yes.
Q. And where are those parts of the liner?
A. Any parts that are still -- have ash on top of them and the side slopes where the geocell membrane is on top of the liner.
Q. And is there any part of the liner that can be visually inspected?
A. I believe, yes.
Q. Is it less than half?
A. Half of what?
Q. Is it less than half of the total liner that can be visually inspected?
MS. NIJMAN: Calls for speculation.
MR. RUSS: You can answer.
BY THE WITNESS:
A. My understanding would be yes.

BY MR. RUSS:
Q. Okay. Is it less than 10 percent of the liner?
A. That I don't know.
MS. NIJMAN: Same objection.
BY MR. RUSS:
Q. Okay. One more question about this. This is sort of a terminology question about this email. Do you see where it says in the fourth line of the first full paragraph: The cushion and warning layers? Do you know what the cushion and warning layers are?
A. Yes.
Q. Can you describe for me what the cushion layer is?
A. Cushion layer and the warning layer, they're both aggregate. I don't recall the actual size -- different sizes of the stone, but there's a certain amount of cushion layer which is aggregate and then another warning layer on top of it, and it's to aid in the dredging.
Q. Okay.
A. So as an operator is removing ash, as they get close to removing the bottom of that ash, they

would hit rock and know that they should stop. It's basically a protection for the liner that's below those layers of aggregate.

Q. Okay. And the liner below the aggregate, what is that?

A. That's the HDPE.

Q. HDPE.

And is -- is the geocell only on the side slopes, or is there geocell on the bottom of the pond?

A. My understanding, it's only on the side slopes.

Q. Okay. Okay. Thank you.

And on the next page of the same exhibit, the paragraph immediately under the line that says "C. Cement Lined Slopes..."

A. Uh-huh.

Q. First I should make sure that -- did you write this email?

A. If it's a continuation from the first page, then yes.

Q. Yeah. And I'm looking at your name at the bottom of the email.

A. Yes. Okay.

Q. So -- and it says there: The cement lined slopes of south ash pond two could not be surveyed, correct?

A. It says that, yes.

Q. What kind of survey was that that could not be performed?

A. My understanding, it's the leak -- leak location survey.

Q. Okay. And that's the electrical survey, correct?

A. Correct.

Q. Okay. So looking at that email, is it the case that the leak location survey was not conducted because it could not be conducted?

MS. NIJMAN: I just want to clarify something on this email. It looks to me like the section you're reading from under C. Cement Lined Slopes is a quote from some other report and is not actually written by Beckie. Is that your understanding, too? Because that --

MR. RUSS: It could be. I'm not sure. That's why I was asking who wrote the email.

MS. NIJMAN: Okay. Yeah. But she clearly didn't write that piece. I just wanted to --

MR. RUSS: Right.

MS. NIJMAN: -- make sure we're looking at this correctly.

MR. RUSS: Right.

BY MR. RUSS:

Q. Okay. So let's look at the top of the email which you did write, correct?

A. Correct.

Q. Between Eric or Joseph?

A. Yes.

Q. You say in the third line: I seem to recall discussing this topic, correct?

A. It says that, yes.

Q. And do you recall discussing this topic now?

A. Today, no.

Q. Okay. And you ask a question: Is there going to be any way to certify that there are no leaks of the membrane on the slopes?

A. I did ask that, yes.

Q. And what did you mean by "leaks?"

A. Anything that would cause -- if we would do the leak location test that would cause it to fail.

Q. And why would the leak location test fail?

A. Something within the survey that would lead itself to...

Q. And what does that indicate?

A. You know, I'm not an expert on the leak location, so I really can't -- I can't answer that.

Q. Is it your understanding that leak means something getting out of the pond through the membrane? If there's a leak in the membrane, does that suggest that something got...

A. Not necessarily.

Q. So what is your understanding of leaks?

A. In this sense, there was no -- there was no water in the pond at the time, so it's a leak of the seams of the liner and things weren't joined together.

Q. So is it your understanding that a leak could be a potential source of materials leaving the membrane even if it never happened?

MS. NIJMAN: Objection; vague. She's testified there was no water in the pond.

MR. RUSS: You can answer.

THE WITNESS: Can you rephrase it?

BY MR. RUSS:
Q. What's your understanding of the word "leak" in a general sense, not specific to Will County?
MS. NIJMAN: I'm just going to object to the extent she's already answered what it means under the circumstances of this email. Are you asking something different now?
MR. RUSS: Yes.
MS. NIJMAN: Okay.
THE WITNESS: Can you repeat the question?
BY MR. RUSS:
Q. So what's your understanding of leak in the sense of a pot of water?
A. Water is leaving the pot through a non-normal way.
Q. So in the context of Will County, leak means something different, correct?
MS. NIJMAN: As to this email?
MR. RUSS: (Nodding head.)
MS. NIJMAN: Yes?
BY THE WITNESS:
A. Yes.
MS. NIJMAN: I'm sorry. You nodded, but

you didn't say anything, so I'd like it on the record.
MR. RUSS: Yes, yes, in -- in the context of this email.
BY MR. RUSS:
Q. So it does not mean water leaving the pond. I'll just leave it at that.
The first line of the next paragraph says: Moving forward, we will need to determine that the liner has not been compromised during cleanout. What is your understanding of compromise of the liner?
A. My understanding is that there's -- any tear or a puncture of the liner.
Q. Okay. And has the liner been compromised in the past at pond 2S?
A. 2S, to my understanding, no.
Q. Have any of the liners in the ash ponds at Will County been compromised during cleanout?
MS. NIJMAN: Objection; vague.
MR. RUSS: You can answer.
BY THE WITNESS:
A. The three south pond liner.

BY MR. RUSS:
Q. Okay. Thanks. I'll actually get to that later.
In the same exhibit, the bottom of that second full paragraph says: We wouldn't be able to inspect the bottom due to; one, the warning and cushion layers; and two, any remaining ash and/or water that is at the bottom of the pond. Do you see that?
A. I do see that.
Q. So have you inspected the bottom?
A. Of which pond?
Q. Of pond 2S.
A. No.
Q. Is it required by the Compliance Commitment Agreement?
A. The CCA, my understanding, is an inspection of the ponds.
Q. Okay. And you haven't -- you already answered that question. Okay.
The same exhibit, I believe, Bates page 27133, the email at the top of the page is addressed to you, correct? You may have to flip back to the other one, but it starts with -- I think

that's your name there.
A. Yes.
Q. Do you remember this email?
A. I don't recall the email.
Q. Okay. It asks at the end: Where did you wind up with IEPA on the scope of the inspection, correct?
A. It does ask that.
Q. Did you have conversations with the IEPA about the scope of the inspections?
A. I don't recall.
Q. Did you ever provide an answer to Eric to that question?
A. It appears, in reviewing the email, there's no answer to that.
Q. Do you remember answering that question?
A. I don't recall.
Q. Okay. Do you see at the bottom of the first full paragraph there it says: Consequently, it appears that it will not be possible to certify that there are no leaks in the geomembrane on the side slopes of pond two using this approach?
A. I do see that.
Q. Okay. I'm going to leave it there. We've

already talked about leaks.
Actually, I'll ask one question about it.
Is it still the case that electrical resistivity testing is not possible on the side slopes of pond two?
A. Can you repeat the question again?
Q. So here -- it will not be possible to certify that there are no leaks using electrical resistivity testing is what that last sentence is getting at, correct?
A. It says that, yes
Q. Is that still the case? Is it possible to perform electrical resistivity testing on the side slopes of pond 2S now?
A. My understanding is no.
Q. Okay. Great. Thanks.
Let's see. How do you certify that there are no leaks of the geomembrane on the side slopes of pond two?
A. By inspecting any concrete that we can visually see. And as long as the concrete is not damaged, we make an assumption that the liner is not damaged.
Q. Okay. Thank you.

become just like concrete?
A. I see that statement.
Q. And then the last sentence says: It probably wasn't the Poz-o-Pac but just old ash.
A. It says that, yes.
Q. Do you have any recollection of that conversation with one of the guys?
A. No.
Q. Okay. And have you ever had conversations, outside of this context, about ash that has hardened to become just like concrete?
A. Not that I recall, no.
Q. Okay. Leave that there.
Do you remember -- you might want to keep this exhibit there because I'm going to ask a question that's sort of related to it. Do you remember -- this email is discussing ash pond three south, correct?
A. I don't know.
Q. Do you see the subject line that says Ash Pond Number Three?
A. Okay.
Q. Would that be pond three south?
A. I assume it is, yes.

I'll skip a couple questions here. I'll skip this question and I'm going to move to questions about pond 3S, so Exhibit 106.
(Exhibit No. 106 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. This is an email from you to Maria Race, correct?
A. Yes.
Q. And it was sent a long time ago in 2008 --
A. Uh-huh.
Q. -- correct?
Do you remember this email?
A. No.
Q. Okay. Do you remember what the email is describing where it says: KPRG hit today with the hand auger?
A. No, I don't.
Q. Okay. Do you see the second sentence says: He did indicate -- "he" being one of the guys from the first sentence, I assume?
A. Uh-huh.
Q. He did indicate that if the ash is not dug out of the ponds, over time it will harden and

Q. Okay. What was KPRG doing with an auger in pond three south?
A. I don't recall.
Q. Do you know if KPRG removed any material from pond three south in 2008?
A. What do you mean by "material?"
Q. Anything at all.
A. They did do a core sample.
Q. Okay. Okay. Do you know if they removed any coal ash from the pond in 2008, KPRG?
A. I don't believe KPRG did, no.
Q. Okay. And was the Poz-o-Pac in pond three south removed, in part or in whole, in 2008?
A. I don't recall in 2008. I don't know.
Q. Okay. When was Poz-o-Pac removed from pond three south?
A. When the liner project was ongoing which I don't recall the date of that.
Q. Okay. Do you know what year that was?
A. 2009, 2010.
Q. Okay.
A. I don't recall.
Q. I think that's right. I think we're going to get there in the next exhibit.

(Exhibit No. 107 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. Okay. Yes. This is Exhibit 107. And actually, I'll ask you one more question about the -- about the Poz-o-Pac.
Who would know what KPRG was doing in 2008 in pond 3S?
MS. NIJMAN: You mean other than KPRG?
BY MR. RUSS:
Q. Other than KPRG and yourself, who at Midwest Generation would have been overseeing their work in pond three south?
A. I really don't know.
Q. Okay. So Exhibit 107, this is an email from you to a couple of people, correct?
A. Yes.
Q. And you're sending four photographs of liner damage in pond three south, correct?
A. Correct.
Q. I think this is what you were referring to earlier. Do you see where it says: The southeast section of HDPE liner on our 3S ash pond is extremely damaged?

A. Uh-huh, yes.
Q. Can you describe that damage?
A. The HDPE liner was torn and the -- the felt material was exposed which is the underlining of the HDPE liner.
Q. Okay. And do you see where it says: I think this has been buried under some of the ash for a bit?
A. Yes.
Q. When you said "for a bit," how long did you mean?
A. I don't know.
Q. Do you know what caused the damage?
A. The cleanout process of the pond.
Q. And who did that?
A. LaFarge.
Q. Okay. Did anyone investigate the damage?
A. What do you mean by "investigate?"
Q. Did anyone -- let me see how I can phrase this.
(Brief pause.)
BY MR. RUSS:
Q. Do you see where it says in the third line: Could have occurred during the cleanout of the pond

many months ago?
A. Uh-huh, yes.
Q. And in the next sentence: We had some real fears this was going to be an issue going forward with LaFarge and the cleanout process.
A. I see that, yes.
Q. Why did you have fears that this was going to be an issue?
A. You have heavy equipment in the ponds, and in order to remove bottom ash from the ponds, one has to be extremely careful and diligent on how they're removing the material.
And plus, the equipment that's in the pond, you have heavy equipment, as well as trucks that are entering and leaving the pond.
Q. Do you know what piece of equipment specifically caused the damage?
A. No. I don't know that.
Q. Did LaFarge admit that they had caused the damage?
A. I don't -- I don't recall, actually.
Q. Okay. Was there ever any uncertainty about what caused the damage? Were you always clear that it was LaFarge that had caused the damage?

A. There was a little bit of uncertainty.
Q. Okay. And to resolve that uncertainty, was there -- that's what I mean when I say "investigation." How did you resolve that uncertainty?
A. We didn't really resolve it.
Q. Okay. Okay. Was the damage repaired?
A. It was repaired.
Q. And were you involved in planning the repair?
A. Yes.
Q. And what did the repair consist of?
A. The contractor who installed the liner originally came out and did -- put new pieces of HDPE liner and the felt material underneath that and -- and repaired it.
Q. Okay. Do you have a sense of the earliest point in time that the damage could have occurred?
A. During -- if -- the cleanout process which I don't know the date for that.
Q. How often is that pond cleaned out?
A. It varies, but at a minimum, annually.
Q. At a minimum.
And at a maximum?

A. Twice.
Q. Twice a year. Okay.
So is it fair to say it could have been between six months and a year before it was discovered?
MS. NIJMAN: Objection.
BY MR. RUSS:
Q. It could have been up to a year -- could it have been -- would it have been less than a year before it was discovered?
A. I would agree with that.
Q. Okay. Thanks.
And could it have been six months before it was discovered?
MS. NIJMAN: Objection; calls for speculation. That's not what the email says.
MR. RUSS: That's okay. You can answer.
BY THE WITNESS:
A. I don't -- I don't know.
BY MR. RUSS:
Q. Okay. Is the pond ever cleaned out more frequently than six months?
A. No.
Q. Okay. And you say that it was buried

under some of the ash. Do you know how deep the ash was over the damaged spot?
A. No, I don't.
Q. Okay. And what steps have been taken to prevent that from happening in the future?
A. Conversations with LaFarge. They put some other material to -- not materials -- an easier trackway to get into the pond so they're protecting the ramp which is where this happened at.
Q. Okay.
A. It was the entrance to the pond. So that's the only thing that has been done.
Q. And they haven't changed the equipment that they're using?
A. I don't -- I don't know --
Q. Okay.
A. -- actually.
(Exhibit No. 108 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. So now I'm going to turn to Exhibit 108. I must be looking at the next page. Let me see. I think I may have made a mistake here. So this -- I think I know what happened here. Some of the

documents we were provided with weren't stamped originally. This is a different page. That's okay. I'll skip that question for now. And you can just put that exhibit aside because that's not the right page.
Is it possible to visually inspect the bottom of pond 3S?
A. What do you mean by "the bottom?"
Q. The part of the pond that's within the side slopes.
A. No.
Q. And why not?
A. You have the warning and cushion layer, and you also have ash that's remaining. The ash is not all -- 100 percent removed.
Q. Okay. Has it been -- some ash has been removed from pond 3S?
A. Yes, it has. Yes.
Q. And is that part of a periodic removal, or is it a permanent removal?
A. I don't understand the question.
Q. Is 3S still active?
A. It is still active.
Q. So it will receive more ash in the future?

A. It will.
Q. Okay. And -- okay. Is it possible to visually inspect the side slopes of 3S?
A. Yes.
Q. Okay. Has the liner of pond 3S been damaged before that occurrence that we were just talking about that you're aware of?
A. Not that I'm aware of, no.
Q. And has it been damaged since then?
A. Not that I'm aware of, no.
Q. Okay. Thanks.
Have you ever had conversations about the amount of weight that can be safely stacked on top of an HDPE liner?
A. The amount of what? I'm sorry.
Q. Of weight.
A. Can you repeat the whole question?
Q. Yes. Sure.
Have you ever had conversations with anyone as part of your job about how much material in weight can be safely stacked on top of an HDPE liner?
A. No, I've not.
Q. Okay. I'll just skip that line of

questioning then.
Would geocell have prevented that damage from occurring?
MS. NIJMAN: Objection; vague.
BY MR. RUSS:
Q. Geocell, as you described it earlier, is a honeycomb matrix filled with concrete, correct?
A. Correct.
Q. And why is that used?
A. It was to aid LaFarge in cleaning the side slopes.
Q. Okay. So does geocell do anything to prevent damage of bottom liners?
A. Not to my understanding, no.
Q. Okay. And was the damage that LaFarge caused on the side slope?
A. It was not, no.
(Exhibit No. 112 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. Now Exhibit 112. This is just to clarify something. If you turn to the reverse page, 27525 -- although I guess I should ask you to verify it. This is an email from Raymond Wolan to

Margaret Ruane or however that's pronounced and you are cc'd, correct?
A. I am.
Q. Okay. And this is an email about the ponds at Midwest -- at Will County, correct?
A. Yes.
Q. And it says: Marge, I believe LaFarge is afraid of getting too close to the liner and afraid of running a machine on the stone and punching a hole in the liner, correct?
A. It says that, yes.
Q. I believe they need to get into the pond with a small track machine like a bobcat or rubber tire end loader to remove most of the remaining material, correct?
A. Yes. It says that.
Q. Did they do that? Did they use a bobcat or rubber tire end loader?
A. I don't know.
MS. NIJMAN: Objection to foundation.
MR. RUSS: What?
MS. NIJMAN: Objection to foundation. You can answer.

BY THE WITNESS:
A. I don't recall.
BY MR. RUSS:
Q. Okay. Okay. Do you know what equipment LaFarge is currently using to clean out ash ponds?
A. No, no.
Q. Okay.
(Exhibit No. 113 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. Exhibit 113. If you turn to page -- Bates page 26904, this is an email from James Sault to Jeff Beaudry and you're cc'd, correct?
A. Correct.
Q. Do you remember this email? I have to ask.
A. I don't recall the email.
Q. Okay. Do you see where it says in the last sentence of the first full paragraph: It would still be done in time before 3S got too full.
A. I see that sentence, yes.
Q. What happens when 3S gets too full?
A. There's a potential for ash to fill up the pond.
Q. And how is that dealt with?

A. We've never had that problem.
Q. Okay. Okay. Let's turn to page 26909 in this same exhibit. Do you see -- this email starts on 26908. It looks like it's from Raymond Wolan to Margaret Ruane, correct?
A. Correct.
Q. And you were cc'd?
A. Yes, correct.
Q. It says: Marge, I believe it was sometime in March that they piled up the slag in 3S and we gained another couple months. So if we do this, we could make it until 2S is finished, right?
A. It says that, yes.
Q. Are you familiar with the process of piling up the ash in 3S? Do you know what he's talking about?
A. Yes.
Q. And is that done to accommodate more ash when the pond is full?
A. Not necessarily, no.
Q. Okay. And go to page 26906 in the same exhibit. Wait a minute. I may have this wrong. I'm looking for something specific.
Has pond 3S ever overflowed?

A. No, not to my knowledge.
Q. Okay. Good enough.
I'm going to turn to groundwater issues now. It's a little bit different line of questioning. I'm going to start without exhibits, but were you aware of groundwater monitoring wells being installed in 2010?
A. Yes. I was aware of those.
Q. And do you know how many were installed?
A. I believe there were ten.
Q. Okay. Do you know if any wells were installed after that, after 2010?
A. To my knowledge, I don't believe any were installed.
Q. And were there any monitoring wells on site before those wells were installed in 2010?
A. I was aware of two.
Q. Okay. And where were they located?
A. Near the north diesel tank farm.
Q. And where is that?
A. Just north of the main parking lot by our diesel fuel tanks --
Q. Okay.
A. -- unrelated to ash ponds is my

understanding.
Q. Okay. And are those wells currently monitored?
A. No.
Q. Okay. Do you know when they stopped being monitored?
A. No.
Q. Okay. That's fine.
(Exhibit No. 94 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. So if you turn -- this is Exhibit 94 -- to Bates page 516, do you see where it says Proposed Additional Monitoring Well?
A. Yes.
Q. And do you see the two proposed additional monitoring wells on the map in red?
A. I do see those.
Q. Do you know why those proposed additional monitoring wells were proposed?
A. No.
Q. Do you know whether they were ever installed?
A. To my knowledge, I don't believe they were.

Q. And do you know why not?
A. No.
Q. Okay. This is exhibit -- oh. Let me ask one follow-up question on that.
Do you know who would know why those wells were not installed?
A. No.
(Exhibit No. 114 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. Okay. Exhibit 114. On the second page, 14033 Bates number, there's an email at the top from you to Maria Race, correct?
A. Yes.
Q. And it says: Groundwater sampling results from our wells; interesting results, right?
A. Yes.
Q. Did groundwater monitoring results always go to you before they went to Maria Race?
A. I don't know, but I'm set up with -- Test America is our main lab, so any results -- or any samples that are sent there on our behalf are always sent to me.
Q. And you would look at them when they come

in?
A. Not always.
Q. What did you mean when you said "interesting results?"
A. I don't recall.
Q. Okay. And you asked: What are we comparing with limit wise? Do you -- did you get an answer to that question?
A. I don't recall.
(Exhibit No. 115 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. Okay. Let's turn to Exhibit 115. This is an email -- do you see the data that start on page 14098, the analytical results?
A. I see the data, yes.
Q. Have you seen this before?
A. I can't recall.
Q. Have you seen groundwater analytical results for Will County before?
A. I have.
Q. From Patrick Engineering?
A. I don't recall from Patrick Engineering, no.

Q. Okay. Do you know what the -- what's your understanding of the term "downgradient?"
A. Very limited.
Q. Okay. But what is it? That's fine.
A. Downstream of some other point that's upstream of it.
Q. And is downgradient an -- are the words "downgradient" and "upgradient" typically used to describe groundwater wells?
MS. NIJMAN: Object to the extent it calls for an expert opinion. You can speak as a layperson.
BY MR. RUSS:
Q. Have you ever described any of the wells at Will County as upgradient or downgradient in conversations on the job?
A. Yes.
Q. And which wells are upgradient?
A. Anything that's east, northeast, south of the -- of the ponds.
Q. Do you recall which wells specifically are upgradient?
A. I don't recall offhand, no.
Q. Okay. So in this email, if you look --
MS. NIJMAN: What page?

MR. RUSS: This is still -- it's 14096. I'm sorry.
BY MR. RUSS:
Q. Eighth line down, halfway through the first full paragraph, a little bit more, it says: At Will County, for example, there is strong hydraulic evidence to suggest that everything is downgradient. Do you see that?
A. I see that.
Q. Have you ever had conversations about all of the wells being downgradient?
A. I've never had conversations, no.
Q. Do you understand what is being described there?
A. No.
Q. Okay. And the next -- the next sentence continues: The ponds may be draining in multiple directions towards either the river or the canal. Do you understand that drainage pattern?
MS. NIJMAN: Object to foundation. You can answer, if you know.
BY THE WITNESS:
A. No.

BY MR. RUSS:
Q. Okay. That's fine.
Do you know if elements from coal ash have been seen in any of the monitoring wells at Will County?
MS. NIJMAN: Vague.
BY MR. RUSS:
Q. Are you familiar with pollutants -- are you familiar with elements known as coal ash indicator pollutants?
MS. NIJMAN: Same objection regarding calling for an expert opinion. To the extent you know, you can answer.
BY MR. RUSS:
Q. Are you familiar with the chemical boron?
A. Yes.
Q. And in your work, have you ever treated boron as an indicator of coal ash?
MS. NIJMAN: Foundation.
BY THE WITNESS:
A. What -- can you rephrase that?
BY MR. RUSS:
Q. When you see high boron concentrations in a monitoring well as part of your job near an ash

pond, does that mean anything to you?
MS. NIJMAN: Same objection; foundation, calls for expert opinion.
MR. RUSS: That's okay. You can answer.
BY THE WITNESS:
A. (Shaking head.)
BY MR. RUSS:
Q. It means nothing. Okay. You can -- you have to answer out loud.
A. No. I'm sorry.
Q. Okay. I'll ask the same question about manganese. Are you familiar with the element manganese?
A. Yes.
Q. And have you seen evidence from Will County of manganese concentrations that are higher in downgradient wells than they are in upgradient wells?
A. I don't recall sitting here today.
Q. And have you seen evidence of boron concentrations that are higher in downgradient wells than in upgradient wells?
A. I don't recall today sitting here, no.
Q. Okay. Are you familiar with the term

"groundwater mound?"
A. Can you repeat that?
Q. Groundwater mound.
A. No.
Q. Or groundwater mounding?
A. No.
Q. Okay. That's fine.
What does the word "contamination" mean to you in the context of your work?
A. My understanding is something -- something that's possibly there that should not be there.
Q. And if you see the concentration of an element that's higher than a state groundwater protection standard, does that -- is that contamination as you understand the word?
A. In what context, I guess?
Q. In the context of Will County. If you saw boron, for example, in a groundwater monitoring well -- let's take a look at -- let's look at this exhibit again, 115, page 14098. Do you see the column that says Groundwater Quality Standard?
A. Uh-huh, yes.
Q. The standard for boron is two --
A. Yes.

Q. -- milligrams per liter?
And do you see under the column for Monitoring Wells three, four, five, six, seven, and nine and ten, those numbers are in bold font, correct?
A. Correct.
Q. Do you know why?
A. They exceed the groundwater quality standard.
Q. Right. Okay. Thank you.
And do you consider that to be contamination in your work?
MS. NIJMAN: I'm sorry. Is that the definition you want her to use?
MR. RUSS: I'm asking her, I guess, if -- if that's an example of contamination.
BY THE WITNESS:
A. I can't answer that. I don't know.
BY MR. RUSS:
Q. Okay. Do you know whether a boron concentration of 3.7 milligrams per liter, which is what is in monitoring well four, for example, is naturally occurring?
A. I don't know.

Q. No. Okay. All right.
Now, this is Exhibit 90 which we've looked at before. And this is a different issue, a different part of the email. We've already talked about this email. You were cc'd on it and it was a long time ago, and just to remind myself -- sorry to ask twice -- do you remember this email?
A. I don't remember the email, no.
Q. Okay. Do you see item three: Are there any groundwater issues at the site?
A. I see that, yes.
Q. And it says: Midwest Generation is not aware of any groundwater issues associated with the ponds at the site?
A. Yes. I see that.
Q. Does the phrase "groundwater issues" mean anything to you? What do you understand that to mean?
MS. NIJMAN: Foundation objection. She didn't write this.
MR. RUSS: That's true.
You can answer.
BY THE WITNESS:
A. I don't know what -- what the author meant.

BY MR. RUSS:
Q. Okay. Are you aware of any groundwater issues at the site?
A. What's your definition of "issue?"
Q. What's your definition of "issue?" I should ask you.
MS. NIJMAN: It's not her terminology. If you want to help her with a question, give her a definition. She can answer it.
BY MR. RUSS:
Q. Is the groundwater at Will County affected by the coal ash ponds? Has it ever been affected by the coal ash ponds?
A. I don't --
MS. NIJMAN: Objection to foundation.
BY MR. RUSS:
Q. In your experience.
A. I don't know.
Q. Are there any exceedances of ground water standards in the groundwater monitoring wells at Will County?
A. In the data I've reviewed, yes, there are.
Q. Okay. And do you know what caused those?
A. I don't know.

Q. Okay. Do you see the second sentence -- the second underlined sentence in number three: Groundwater elevation is anticipated to be below elevation 580 feet?
A. I see that, yes.
Q. Do you know why that's relevant to the groundwater issues being discussed?
MS. NIJMAN: Same objection.
MR. RUSS: You can answer.
BY THE WITNESS:
A. I don't know.
BY MR. RUSS:
Q. You don't know. Okay.
Let me think about that one. I'll probably come back to that one.
Are you aware of groundwater elevation generally at Will County? Do you have a sense of how high the groundwater is at the site?
A. No.
Q. And are you -- do you know if the groundwater under the Will County site is ever in contact with the pond liners, the ash pond liners?
A. Can you repeat that question?
Q. Do you know if -- yeah. Do you know if

the groundwater at Will County ever comes into contact with the liners of the ash ponds?
A. And which liner are you referring to?
Q. Any of them, so I'll start with 3S. Have you ever known groundwater to come into contact with the liner of pond 3S?
MS. NIJMAN: I'll object to vagueness. If you understand it...
BY THE WITNESS:
A. No. I -- I don't -- I don't know.
BY MR. RUSS:
Q. Are you aware of groundwater ever coming into contact with any part of pond 2S?
MS. NIJMAN: Same objection.
BY THE WITNESS:
A. I don't know.
BY MR. RUSS:
Q. And the two north ponds, the same thing?
MS. NIJMAN: Same objection.
BY THE WITNESS:
A. Same answer.
BY MR. RUSS:
Q. Good. I've got that consistent.

(Exhibit No. 117 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. Now Exhibit 117. This is a Field Change Request, right?
A. It is.
Q. Can you describe what a Field Change Request is?
A. Any change to a project that was already established, so anything that wasn't part of the original scope of work.
Q. Okay. And did you fill this change request out?
A. I only filled out the bottom portion.
Q. Oh. Who filled out the top portion?
A. It's requested by Tedd Mills.
Q. Okay. So you reviewed it before you signed it?
A. Correct.
Q. Okay. And Tedd Mills said that he was going to cut holes in liners to pump out groundwater, correct?
A. It says that, yes.
Q. And is this -- do you know which pond this

is?
A. My understanding is it's three south.
Q. Three south. Okay.
So was there groundwater in pond three south?
A. There was water.
Q. And the reason for change, it says: unknown water source is trapped in liner, correct?
A. Correct.
Q. Do you remember that happening?
A. I do.
Q. Where in the liner was it trapped?
A. If I recall correctly, on the side slope on the south side of the pond.
Q. And by "trapped in liner," do you mean it was -- does that mean it was between two sections of liner?
A. That means it was underneath the liner.
Q. Underneath the HDPE?
A. Correct.
Q. And what was it -- what was below the water that was trapped under the HDPE?
A. Just the side slope.
Q. Okay. Do you know why Tedd Mills described

it as groundwater?
A. I don't know.
Q. Okay. Why was the Field Change Request necessary in this case?
A. Moving forward, we didn't want any water underneath the liner. And you could walk on top of the liner and basically push it in, so we wanted to ensure that there wasn't anything behind it.
Q. And why is that important?
MS. NIJMAN: To your knowledge.
BY THE WITNESS:
A. I don't know to my knowledge, so...
BY MR. RUSS:
Q. Why would -- you said you didn't want water trapped in the liner, correct?
A. Correct.
Q. And why didn't you want water trapped in the liner?
A. You know, at the time I don't know why we didn't. It did not seem right to us at the time.
Q. Okay. So did this -- this work was performed, correct?
A. It was.
Q. Holes were cut in the liner?

A. I don't recall how the work was actually performed.
Q. Okay.
A. Cut holes...
Q. And to your knowledge, has this been an issue since 2009?
A. No, to my knowledge.
Q. And is it possible that water is getting trapped in the liner in places that you haven't seen?
MS. NIJMAN: Object; calls for speculation.
BY THE WITNESS:
A. I don't know.
BY MR. RUSS:
Q. Are there sections of the liner where you would not notice water trapped in the liner?
A. Which pond are you referring to?
Q. In pond three south.
A. I don't know.
Q. Are there sections of the liner that are covered with ash?
A. Yes.
Q. And would you notice if water were trapped in the liner under the ash?

A. I would not be able to tell, no.
Q. Okay. Thanks.
(Exhibit No. 118 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. Now, this is Exhibit 118. This is a Stormwater Construction Site Inspection Report, correct?
A. Correct.
Q. And the inspector's name is your name, correct?
A. Correct.
Q. So you made this inspection in 2009?
A. Yes.
Q. Of the three south ash pond?
A. Yes.
Q. And you wrote -- in the bottom of that top box in response to the question: Are there any discharges at the time of the inspection, you marked the box Yes, correct?
A. It's checked yes.
Q. And it says: Water is seeping through cracks in second p-o-p layer, correct?
A. Correct.

Q. Is that Poz-o-Pac?
A. That is.
Q. And what is the second Poz-o-Pac layer?
A. So we removed the first layer.
Q. Yes.
A. And this is the Poz-o-Pac layer that was remaining.
Q. Okay. And is that second Poz-o-Pac layer still there?
A. Yes.
Q. And when you say "water is sleeping through the cracks," where was it going?
A. It remained in the pond.
Q. So was it coming up through the Poz-o-Pac or going down through the Poz-o-Pac?
A. I don't -- I don't recall.
Q. So you wrote that water is seeping through cracks. How did you know water was seeping through cracks?
A. My recollection is that I saw water.
Q. Did you see water where it shouldn't be?
A. Can you rephrase that?
Q. You saw water. How did you know that water was seeping through the cracks?

A. I don't recall.
Q. Was it coming up from the ground?
MS. NIJMAN: Objection; asked and answered.
BY THE WITNESS:
A. Yeah. I don't -- I don't recall.
BY MR. RUSS:
Q. What was done about this?
A. I don't recall.
Q. And why would you call the water seeping through cracks a discharge?
A. I don't know.
Q. What does "discharge" mean to you when you're filling out this form?
A. To me, it would have meant discharge off site, but...
Q. Off site meaning off the property?
A. Off the property, but that's not...
Q. Would water seeping into groundwater be a discharge, as you understand it, when you're filling out this form?
A. I don't know.
Q. Okay. Let's move on to Exhibit 119. I'm sorry. One more question about that.
Do you know how much water we're talking

about in this report?
A. No.
Q. Okay.
A. I don't recall.
Q. Okay. Do you know who would know how much water seeped through the cracks?
A. I don't know.
Q. Okay.
(Exhibit No. 119 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. Exhibit 119, I'm looking at the bottom. This is an email from you to Sarah Kamm, correct?
A. Yes.
Q. From 2012.
And you're describing a pump to remove excess water that has accumulated in the bottom of two south, correct?
A. Correct.
Q. And do you know where that water came from?
A. It could have been stormwater or as bottom ash is dewatered naturally.
Q. So that water could have been seeping out of the bottom ash? When you say it's dewatered

naturally --
A. Yes.
Q. -- the water separates itself from the bottom ash?
A. Yes.
Q. But you didn't know at the time where it was coming from, correct, or did you know?
A. At the time this was written, I don't know.
Q. And you describe it as excess water. Do you remember why you described it that way as excess?
A. No. I don't recall.
Q. And the email goes on to say: What isn't fine is that they have strung the hose outside of the pond and just laid it in the grassy field to the east. We cannot pump water that has come into contact with combustion by-products in the ground just to have it seep into the earth. Do you know how much water was pumped out that way?
A. I don't recall.
Q. Would you characterize that as a discharge?
A. No.
Q. Okay. Has that happened since?
A. No.

Q. Do you know who would know how much water was pumped out that way?
A. No. I don't know.
Q. Or whether that was a discharge? Do you know who would know if that's a discharge?
A. I don't know.
Q. How long did it take for that problem to be corrected?
A. I don't recall.
Q. Do you recall how long it had been happening when you noticed it?
A. No.
Q. Okay. Would you describe that as a problem?
MS. NIJMAN: Objection; vague.
BY MR. RUSS:
Q. You said "it isn't fine." When you say "it isn't fine," is it your understanding that that's not standard operating procedures?
A. It's not good -- good -- good procedures.
Q. Okay. Okay. Thanks.
Is it a violation of any NPDES permit for the site?
A. No.

Q. So why isn't it a good procedure to pump it out of the pond that way?
A. All the water needs to be treated through our wastewater treatment system.
Q. And is water that seeps into the earth untreated?
A. What's your definition of "untreated?"
Q. Well, you said that it has to be treated by your wastewater treatment system. This water described in this email was not, correct?
A. Correct.
Q. So is it fair to characterize it as untreated?
A. I would agree, yeah.
Q. Okay. Thanks.
(Exhibit No. 120 marked for identification, 12-2-14.)
BY MR. RUSS:
Q. Now, this is Exhibit 120. This is a Proposal for Ash Pond Investigation from Patrick Engineering, correct?
A. Yes.
Q. Have you seen this before?
A. No.

Q. Okay. Did you work with Patrick Engineering on a proposal for ash pond investigations?
A. On a proposal, no.
Q. Okay. You did work with them in some capacity on the ash pond investigations?
A. Yes.
Q. And what was that capacity?
A. Scheduling them to come on site, being the site contact.
Q. Did you ever review their plans before they started doing the work?
A. No.
Q. Okay. This -- I know you said you haven't seen this, but I'm going to ask you to look at Bates page 21488 just so that you know what I'm talking about when I ask you the next question.
Under task three, the third line says: The survey crew will also concurrently measure the water elevation in all of the ash ponds, the river, and the Chicago Sanitary and Ship Canal, right?
A. Correct.
Q. Do you know if that work has been performed?

A. I don't know.
Q. Okay. Do you know who would know if Patrick Engineering was taking those measurements?
A. Patrick Engineering.
Q. Okay. Do you know, is there anyone at Midwest Generation who is responsible for ensuring that that task is carried out?
A. I don't know.
Q. You don't know who it is? Do you know --
A. The name of --
MS. NIJMAN: It's addressed to somebody.
BY THE WITNESS:
A. Mr. Joe Bocian on the -- project manager on the letter that it was addressed to.
BY MR. RUSS:
Q. Okay. And did you work with Joe Bocian?
A. Not on this specific project, no.
Q. Okay. Did you work with Joe Bocian in relation to Will County at all?
A. On other matters, yes.
Q. Okay. Okay. Now I'm going to turn to the Compliance Commitment Agreement, so this is going to be -- I'm going to ask a few questions before we actually even leave the exhibits.

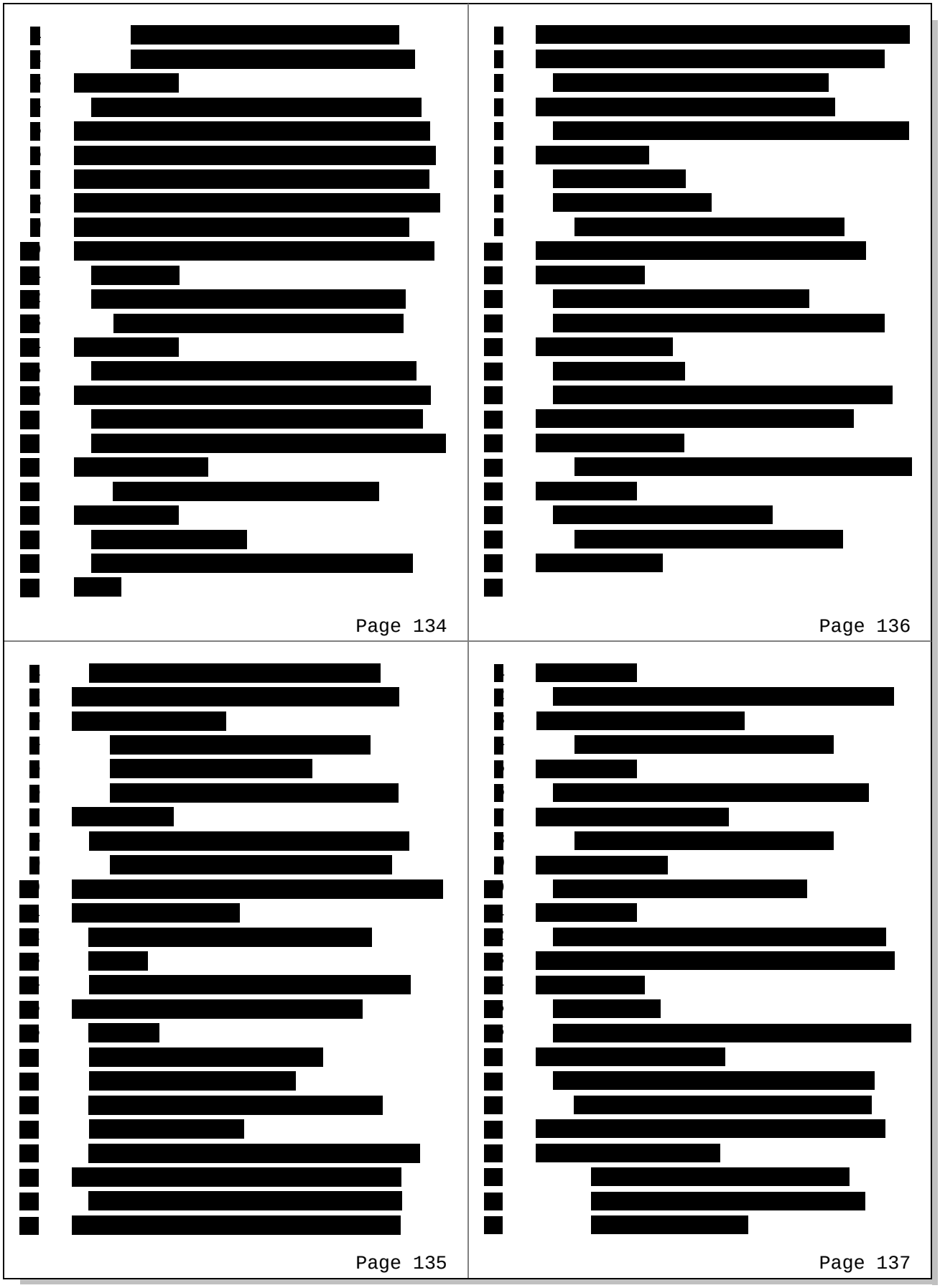
So do you have any role in assuring compliance with the Compliance Commitment Agreement?
A. Yes.
Q. And what is your role?
MS. NIJMAN: Asked and answered. You can answer again.
BY THE WITNESS:
A. At the time that it was in place, ensure that all the steps were completed.
BY MR. RUSS:
Q. Is there any remaining -- are there any remaining obligations under the Compliance Commitment Agreement that you're responsible for ensuring the completion of?
A. I'd have to review the CCA again.
Q. Okay. That's Exhibit 99. Do you see anything in there that is ongoing?
A. Yeah. We always op- -- item 5b, Operating.
Q. Uh-huh.
MS. NIJMAN: Just for the record, the witness is reading from Bates page 561.
MR. RUSS: Thanks.
BY THE WITNESS:
A. So item 5b.

BY MR. RUSS:
Q. Is there an ongoing groundwater monitoring requirement?
A. Yes, 5d.
Q. Okay. Do you have a sense of whether the concentrations of boron in the groundwater monitoring wells at Will County have changed over time?
MS. NIJMAN: Objection; vague.
BY MR. RUSS:
Q. Do you know --
MS. NIJMAN: Foundation.
BY MR. RUSS:
Q. -- have the concentrations of boron in the monitoring wells remained steady, in your opinion?
MS. NIJMAN: Again, objection; calls for an expert opinion. She's already testified as to her knowledge of boron.
BY THE WITNESS:
A. I don't know.
BY MR. RUSS:
Q. Do you know -- did you look at boron monitoring results from 2010 when they were sent to you?

A. I reviewed the report.
Q. And have you looked at groundwater monitoring results from 2013 in 2014?
A. I've reviewed the reports.
Q. Did you ever compare concentrations of boron in 2013 and 2014 to concentrations in 2010?
A. I personally have not.
Q. Okay. Have you looked at other people's assessments of that comparison?
A. "Other people's" meaning?
Q. Have you looked at who sends you the quarterly monitoring reports?
A. I get it from our consultant.
Q. And who is that?
A. Rich Gnat.
Q. And does Rich Gnat compare current concentrations of boron and other elements to concentrations in the past?
A. I believe the report shows that, yes.
Q. And do you look at those comparisons?
A. Briefly.
Q. Do you know what they show off the top of your head?
A. Off the top of my head, no. I'd have to

look at the report.
Q. Okay. That's fair.
Are you aware of any groundwater monitoring that takes place outside of the terms of the Compliance Commitment Agreement today?
MS. NIJMAN: Asked and answered.
MR. RUSS: Actually, I asked about -- it's a slightly different question, but...
MS. NIJMAN: She identified all the wells she was aware of.
MR. RUSS: Yeah, but this is a different question.
BY MR. RUSS:
Q. So the Compliance Commitment Agreement has ten wells in it, correct?
A. Correct.
Q. And it requires quarterly monitoring, correct?
A. Correct.
Q. Does Midwest Generation monitor those wells more frequently than quarterly?
A. To my knowledge, we do not.
Q. Okay. And do you measure elements that are not in the groundwater monitoring reports that you

submit to IEPA?
MS. NIJMAN: I'm objecting to the extent -- are you asking for her personal knowledge? Does she do it, or has she seen it?
MR. RUSS: No. I'm asking for her personal knowledge.
BY MR. RUSS:
Q. Are you aware of Midwest Generation measuring other things in those wells other than the things that are reported to IEPA?
A. I don't know.
(Pursuant to agreement, pages 134 through 137 were placed under seal.)



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(Pursuant to agreement, pages 134 through 137 were placed under seal.)
BY MR. RUSS:
Q. So the two northern ponds, one north and one south, there's ash in those ponds currently, right?
A. Correct.
Q. And you don't know if it's fly ash, but there's bottom ash and slag in ponds one north and one south, correct?
A. There's slag.
Q. Oh. And maybe bottom ash, but you don't know?
A. Slag and maybe fly ash.
Q. No bottom ash?
A. No bottom ash.
Q. Okay. Okay. Thanks for clarifying that.
Does Midwest Generation, as far as you know, have any plans to remove the ash from those ponds currently?
MS. NIJMAN: I'm going to object to asked and answered. And then secondly, she's here not speaking for the company.
MR. RUSS: That's okay.

MS. NIJMAN: To your own personal knowledge.
BY MR. RUSS:
Q. Are you aware of any plans to do that?
A. I personally don't know of any plans.
Q. Have you reviewed any plans to completely dewater those ponds?
MS. NIJMAN: Same objection.
BY THE WITNESS:
A. I've not reviewed any plans for that.
BY MR. RUSS:
Q. Have you seen any plans?
MS. NIJMAN: Same objections.
BY THE WITNESS:
A. I have not.
BY MR. RUSS:
Q. Have you seen any plans to use the ponds again in the future?
MS. NIJMAN: Asked and answered. Same objections.
BY THE WITNESS:
A. I've not seen any plans to use them in the future.
BY MR. RUSS:
Q. So who would know about Midwest Generation's

intentions for those ponds in the future?
MS. NIJMAN: I'll object to vague. If you know, you can answer.
BY THE WITNESS:
A. I have no idea.
BY MR. RUSS:
Q. Is there anyone working at Will County who would know about plans for those two ponds?
MS. NIJMAN: Same objection.
BY THE WITNESS:
A. No. I would be speculating. I don't know.
BY MR. RUSS:
Q. Okay. I want to go back to the issue of seepage really briefly when you wrote that report about water seeping through the Poz-o-Pac. Who would know where that water came from?
MS. NIJMAN: Objection; calls for speculation. You can try to answer it, if you know.
BY THE WITNESS:
A. I don't know.
BY MR. RUSS:
Q. Let's go over your job duties a little bit more.
As a NPDES compliance person, what exactly

do you do?
A. Our station chemist is the main person responsible for NPDES compliance, so if she is unable or not at the station for our sample day, I will back her up and take samples. That's the extent --
Q. Okay.
A. -- to my duty.
Q. And then as the -- you said you do compliance around waste issues at the site?
A. Yes.
Q. And what does that job entail specifically?
A. Coordinating any hazardous waste, non-haz universal waste pickup with our vendor, inspections of our haz waste room, universal waste room.
Q. And was it in your capacity as a solid waste compliance employee that you wrote the report about the water being pumped out of the pond and into the grass --
MS. NIJMAN: Objection; vague.
BY MR. RUSS:
Q. -- or was that in your capacity as a NPDES compliance person?

A. Can you rephrase that?
Q. Do you remember the email where you stated that water can't be pumped out of the pond onto the ground?
A. Correct.
Q. Do you consider that to be part of your job as someone who works on NPDES compliance?
A. General overall compliance.
Q. So part of your job is overall environmental compliance at the site?
A. Yes.
Q. And what -- in that capacity, what are your specific responsibilities around, for example, say, pond three south?
MS. NIJMAN: Can you -- I'm sorry. Object to vague.
THE WITNESS: Can you be more specific?
MR. RUSS: Sure.
BY MR. RUSS:
Q. In a given week, what do you have to do with pond three south?
A. In a given week me personally?
Q. (Nodding head.)
A. If I happen to be out in that area, I

would take a look, but there's nothing on a weekly basis that I'm responsible for.
Q. Do you ever write reports about specific ash ponds at the site?
A. I haven't, no.
Q. Do you ever report on the conditions of the ponds at the site to anybody?
A. If I would see an issue, to the operations manager.
Q. Okay. And then if you find a problem like water seeping through the Poz-o-Pac, who deals with that?
A. Well, I wouldn't see that at this time.
Q. Now. You did in the past.
A. Okay.
Q. So when that happened in the past, who was responsible for addressing -- remediating that problem?
A. It was part of the project.
Q. Okay. Was it a consultant, or was it Midwest Generation staff that addressed it?
A. I don't recall.
Q. So on an annual basis with pond three south, what kind of reporting do you have to do?

Is there anything systematic that's not in response to something you discover walking around?
A. Reporting to...
Q. Anybody within your organization.
A. Within the organization...
There's no formal reporting outside of the inspection once the pond has been cleaned by LaFarge and documenting that, but...
Q. Okay. So every time LaFarge cleans out the pond, you have to go take a look at it?
A. That's the only time I could get any sense of a little bit of the liner, yes.
Q. Okay. And when you say "a little bit of the liner," does that mean that even after LaFarge has cleaned out a pond, you can't see the whole liner?
A. That's correct.
Q. Okay. And when -- until LaFarge cleans out a pond, you don't conduct any inspections of the pond at all? Between clean-outs, do you ever visually inspect the pond?
MS. NIJMAN: Asked and answered. We had a big discussion about it.
MR. RUSS: I don't think so. You can

answer.
BY THE WITNESS:
A. If I'm in the area and -- as I said before, every employee who's traveling outside in that area is -- have an obligation to see what's happening with the equipment.
BY MR. RUSS:
Q. Okay. "The equipment" meaning the cleanout equipment?
A. No, the pond.
Q. The pond. Okay. Thank you.
(Pursuant to agreement, pages 146 through 151 were placed under seal.)



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Page 150

(Pursuant to agreement, pages 146 through 151 were placed under seal.)

BY MR. RUSS:

Q. Do you use Microsoft Excel at work?

A. I do.

Q. Do you ever create charts of groundwater quality data?

A. I don't, no.

Q. Do you have any spreadsheets of groundwater quality data that you maintain?

MS. NIJMAN: That she's created?

MR. RUSS: Uh-huh.

BY THE WITNESS:

A. I haven't created any spreadsheets on groundwater data.

BY MR. RUSS:

Q. Okay. Do you have spreadsheets of air quality data?

A. That I download from our system.

Q. Same deal. Okay.

Is there anyone at the Will County Station who generates charts from spreadsheets of groundwater quality data?

A. Not to my knowledge, no.

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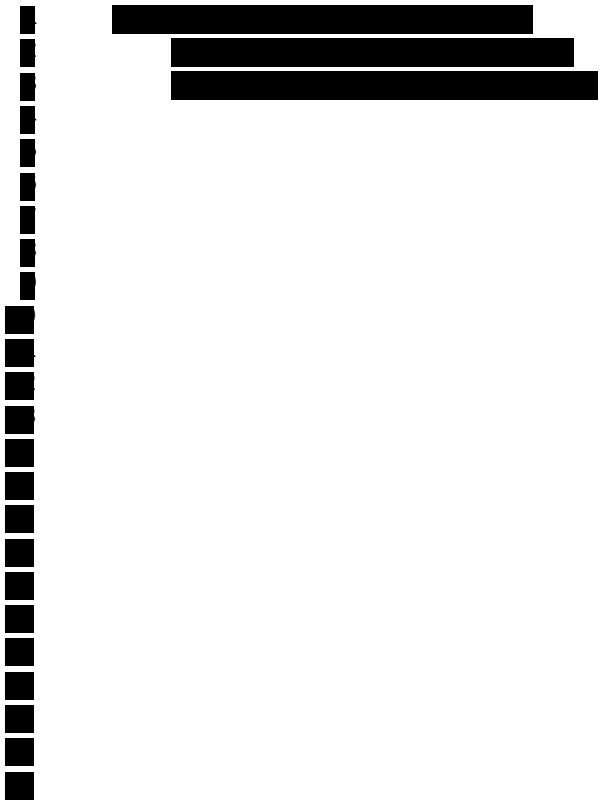

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Q. Is there anyone at Midwest Generation who does that that you know of?

A. I don't know the answer to that.

Q. You've seen charts of groundwater quality data that outside people have made, correct?

A. Charts, do you mean spreadsheets?

Q. Spreadsheets and graphs.

A. I have, yes.

Q. And who does that?

A. Our consultants.

Q. And is that Patrick Engineering?

A. It had been.

Q. And is it KPRG?

A. It is currently.

Q. And the labs that do the testing, they include Test America?

A. Yes.

Q. Are there any other labs that do testing?

A. I don't know if there's anybody else.

Q. There were other consultants that have worked at Will County over the past -- since you started working there, right?

A. In regards to what?

Q. Groundwater. Patrick Engineering, KPRG.

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Have there been any other outside consultants on site working on groundwater monitoring?
A. No.
Q. On the ash ponds liners?
A. There are contractors, yes.
Q. And they include LaFarge for cleaning out the ponds?
A. Just on cleaning out the ponds.
Q. Who works on the liner repair?
A. On the repair? That was Clean Air Water Systems.
Q. Okay. And who works on installing new liners?
A. It was Breezer -- well, the installation is C-A-W-S, CAWS.
Q. Okay.
A. They did the actual installation of the liner.
Q. And what did Breezer do?
A. The prep work of the pond itself.
Q. And what does that include?
A. Regrading of the slopes, warning cushion layer installation, any assistance that the Clean Air Water Systems company would need.

Q. And as part of prepping the site for the new liner, are we talking about pond two south?
A. We're talking about both ponds.
Q. Pond three south?
A. They did both.
Q. And pond three south was relined in 2009; is that right?
A. I believe so.
Q. Roughly?
A. Roughly.
Q. Roughly.
Not in 2013?
A. No. It was not in 2013.
Q. Yep.
When that prep work was being done, did it include removal of Poz-o-Pac?
MS. NIJMAN: Asked and answered.
MR. RUSS: Yeah. That's true, but I have to ask that --
BY THE WITNESS:
A. Yes.
MR. RUSS: -- so you know what I'm talking about.

BY MR. RUSS:
Q. And did Breezer do that work, the Poz-o-Pac removal?
A. I believe so, yes, at this time.
Q. And after Breezer was complete with the Poz-o-Pac removal, did you inspect the pond 3S in 2009 or whenever that was relined?
MS. NIJMAN: Did she personally?
MR. RUSS: Personally.
BY THE WITNESS:
A. What do you mean by "inspect?"
BY MR. RUSS:
Q. Did you look at it? Do you visually inspect it?
A. What do you mean by "inspect?"
Q. You looked at it, right?
A. I did see it, yes.
Q. And did you file any reports about Breezer's performance on the job, whether they did a good job?
A. I don't recall.
Q. Do you remember seeing Poz-o-Pac in the bottom of the pond after Breezer had finished --
A. Remaining?

Q. -- prepping the site?
A. Intact?
Q. Yes.
A. Yes. There was a layer remaining.
Q. And the top layer had been completely removed at that point?
MS. NIJMAN: Asked and answered.
BY THE WITNESS:
A. Yes.
BY MR. RUSS:
Q. And where was it sent?
A. I don't recall.
Q. Was it sent off site?
A. It was off site.
Q. Okay. And do you remember how much Poz-o-Pac is left in the bottom in depth, inches, thickness?
MS. NIJMAN: Asked and answered.
BY THE WITNESS:
A. I don't recall exactly.
MS. NIJMAN: If we're just going to repeat, we should just tie this up.
BY MR. RUSS:
Q. In pond 2S when that was relined, was it

the same process: The top part of the Poz-o-Pac was removed, the bottom part left in place?

MS. NIJMAN: Asked and answered.

BY THE WITNESS:

A. Yes.

BY MR. RUSS:

Q. And did Breezer do that work?

A. They did.

Q. And do you know if the top layer of Poz-o-Pac was sent to the same place several years later?

A. That I don't recall.

Q. Okay. And do you recall in 2009 when pond three -- when pond 3S was relined, were there plans to reline more than one pond at that time?

MS. NIJMAN: You mean was she aware of it?

MR. RUSS: Uh-huh.

BY THE WITNESS:

A. There was.

BY MR. RUSS:

Q. And why wasn't that done?

A. I -- I don't recall at the time, actually.

Q. But you do recall there being a plan to line?

A. There was.

Q. What other ponds were...

A. Just two south.

MR. RUSS: Okay. I think that's it for me. That's it.

MS. NIJMAN: Reserve signature, please.

(AND FURTHER DEPONENT SAITH NOT.)

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
SIERRA CLUB, et al.,)
)
Complainants,)
) PCB No-2013-015
v.)
)
MIDWEST GENERATION, LLC,)
)
Respondent.)

I hereby certify that I have read the foregoing transcript of my deposition given on December 2, 2014, at the time and place aforesaid, consisting of Pages 1 through 159 inclusive and I do again subscribe and make oath that the same is a true, correct and complete transcript of my deposition so given as aforesaid.

Please check one:
_____ I have submitted errata sheet(s)
_____ No corrections were noted

_____
REBECCA MADDOX

SUBSCRIBED AND SWORN TO before me this___ day of _____, A.D., 2014.

_____
Notary Public

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

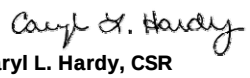
I, CARYL L. HARDY, Certified Shorthand Reporter No. 084-3896, Notary Public in and for the County of Cook, State of Illinois, do hereby certify that previous to the commencement of the examination, said witness was duly sworn by me to testify the truth; that the said deposition was taken at the time and place aforesaid; that the testimony given by said witness was reduced to writing by means of shorthand and thereafter transcribed into typewritten form; and that the foregoing is a true, correct, and complete transcript of my shorthand notes so taken as aforesaid.

I further certify that there were present at the taking of the said deposition the persons and parties as indicated on the appearance page made a part of this deposition.

I further certify that I am not counsel for nor in any way related to any of the parties to this suit, nor am I in any way interested in the outcome thereof.

I further certify that this certificate applies to the original signed and certified transcripts only. I assume no responsibility for the accuracy of any reproduced copies not made under my control or direction.

IN TESTIMONY WHEREOF I have hereunto set my hand and affixed my notarial seal this 12th day of December, A.D., 2014.



Caryl L. Hardy, CSR

My Commission Expires
February 1, 2016

SULLIVAN REPORTING COMPANY
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December 12, 2014

Ms. Jennifer T. Nijman
Nijman Franzetti, LLP
10 South LaSalle Street, Suite 3600
Chicago, Illinois 60603

Re: Sierra Club vs. Midwest Generation
Case No. PCB No-2013-015

Dear Ms. Nijman:

Enclosed please find a copy of the deposition transcript of Rebecca Maddox which was taken on December 2nd, 2014.

As signature was reserved, please arrange for the deponent to review her transcript making any necessary corrections on the errata sheets. Then have her sign the deponent's signature page and have the signature notarized.

Please send the original errata sheets and signed deponent's certificate within 28 days of today to Ms. Faith E. Bugel, keep a copy for yourself, and please send a copy to me. If they are not returned by said date, upon request an affidavit will be provided pursuant to the procedure outlined in Rule 207(a) of the Illinois Supreme Court Rules and the deposition will be completed and will be "used as fully as though signed."

Thank you for your cooperation in this matter. If you have any questions, please do not hesitate to call me.

Sincerely,

Caryl L. Hardy

cc: Ms. Faith E. Bugel

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Exhibit E3

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
SIERRA CLUB, ENVIRONMENTAL LAW AND POLICY CENTER, PRAIRIE RIVERS NETWORK, and CITIZENS AGAINST RUINING THE ENVIRONMENT,	)	
	)	**PCB No-2013-015**
Complainants,	)	**(Enforcement - Water)**
	)	
v.	)	
	)	
MIDWEST GENERATION, LLC,	)	
	)	
Respondent.	)	

The discovery deposition of RICHARD R. GNAT, called by the Complainants, for examination, taken pursuant to notice, taken before CARYL L. HARDY, a Notary Public within and for the County of Cook, State of Illinois, and a Certified Shorthand Reporter of said state, taken at 10 South LaSalle Street, Suite 3600, Chicago, Illinois, at the hour of 9:55 a.m., on the 18th day of December, A.D., 2014.

APPEARANCES:

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BY: MS. JENNIFER T. NIJMAN and
MS. KRISTEN LAUGHRIDGE GALE,

Appeared on behalf of the Respondent.

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(The witness was duly sworn.)

RICHARD R. GNAT,

called as a witness herein, having been first duly sworn, was examined upon oral interrogatories, and testified as follows:

EXAMINATION

BY MR. HARLEY:

Q. For the record, could you please state your name.

A. Richard Gnat.

Q. And how do you spell Gnat?

A. G-n-a-t.

Q. And what is your employer, Mr. Gnat?

A. KPRG & Associates, Inc.

Q. And what is the address of your place of employment?

A. 14665 West Lisbon Road, Suite 2B, as in boy, Brookfield, Wisconsin, 53005.

Q. Mr. Gnat, my name is Keith Harley. I'm an attorney for a group called Citizens Against Ruining the Environment. I wanted to ask you, have you ever given a deposition before?

A. Yes, I have.

Q. So you know that you're under an

obligation to answer the questions truthfully?

A. Yes.

Q. Please answer out loud. If at any point you need for me to speak louder or to clarify a question, please just let me know that.

Also, you'll have an opportunity to review the deposition transcript and correct any transcription errors.

If you need a break at any time, just let me know. We'll take a short break.

One thing to clarify, although you have significant academic and professional credentials, you have not been called as an expert witness. You've been called as a fact witness to testify regarding factual matters about which you have firsthand observations, knowledge, and experience. Is that understood?

A. Yes.

MS. NIJMAN: Is that a statement or a question?

MR. HARLEY: It was a -- it was a statement and then a question. Hopefully you'll foreclose the number of possible objections.

MS. NIJMAN: Okay. He is -- I agree that he

is a fact witness and has not been named as an expert in this case.

MR. HARLEY: All right. At this time I'd like to enter the curriculum vitae of Richard R. Gnat as Exhibit 165.

(Exhibit No. 165 marked for identification, 12-18-14.)

BY MR. HARLEY:

Q. Mr. Gnat, for the record, is this a true and accurate copy of your CV?

A. It appears to be.

Q. I've been reading a number of documents in anticipation of today's deposition, and there's one question that I must start with. What does KPRG stand for?

A. Those are the initials of the owners of the company. K was for Fred Krikau, P for David Pyles, R for Tom Rysiewicz, and G for Richard Gnat. And Fred Krikau is now retired.

Q. I see.

(Mr. Zaharoff entered the deposition room.)

BY MR. HARLEY:

Q. And what is your job title at KPRG?

A. Principal.

Q. How long have you been a principal at KPRG?

A. I started at KPRG in January of 2002 and I earned out ownership of the company over two years and formally become a principal in 2004.

Q. When KPRG performs work for an entity like Midwest Generation, how do you refer to this entity? For example, is this your client?

A. Yes. We refer to them as a client.

Q. Approximately when did Midwest Generation become KPRG's client?

A. I believe we started initial small projects with Midwest Generation in the 2002, 2003 time frame.

Q. Does KPRG have an employee who is the primary point of contact in relationship to Midwest Generation?

A. Yes.

Q. Who is that?

MS. NIJMAN: Over what time period?

MR. HARLEY: At this time.

BY THE WITNESS:

A. At this time that would be me.

BY MR. HARLEY:

Q. At the time Midwest Generation become KPRG's client, did Midwest Generation designate a primary point of contact?

MS. NIJMAN: Objection; vague. At Midwest Gen or at Midwest -- or at KPRG?

MR. HARLEY: At Midwest Gen.

THE WITNESS: I'm not sure I understand the question completely.

MS. NIJMAN: Let him -- you can ask him to rephrase, if you'd like.

THE WITNESS: Can you rephrase it?

MR. HARLEY: Yes.

BY MR. HARLEY:

Q. When Midwest Generation became KPRG's client, who did KPRG report to at Midwest Generation?

A. That would depend on the project.

Q. And who is your point of contact at Midwest Generation today?

A. Again, that would depend on the project. Primarily Jim DiCola.

Q. Jim DiCola.

What is your understanding of KPRG's present scope of work for Midwest Generation?

A. We provide a variety of -- of assignments for them, take care of tasks for them for various environmental items depending on the project and the need they have at the time.

Q. How many separate projects are you doing at this point?

A. It would be hard to quantify.

Q. Less than ten?

A. At any specific point in time?

Q. Right now.

A. Right now...

Over the course of the last several months, probably ten to 12 projects.

Q. Okay. Besides Jim DiCola, have you reported to others at Midwest Generation as to KPRG's work on these projects in the past year?

A. Yes.

Q. Who?

A. Maria Race.

Q. Anyone else?

A. Peter O'Day.

Q. What is Peter O'Day's title at Midwest Gen, do you know?

A. I -- I'm not sure I know his exact title.

He's my environmental contact at the Joliet facility.

Q. I see.

Anyone else?

A. Harrison Estap.

Q. And in what -- where is Harrison Estap located at?

A. At the Joliet facility as well.

Q. Anyone else?

A. Rebecca Maddox.

Q. Anyone else?

A. Currently that's the primary contacts we've been talking with.

Q. As part of your work for Midwest Generation over the past year, have you also communicated with people who are not directly employed by Midwest Generation but who, like you, are doing work for Midwest Generation?

MS. NIJMAN: Objection; compound. You can answer, if you understand it.

THE WITNESS: Can you clarify the question, please?

MR. HARLEY: Yes.

BY MR. HARLEY:

Q. People who -- do you communicate on these projects with people who are not employed by Midwest Generation?

MS. NIJMAN: Vague. You can answer.

THE WITNESS: Can I ask my attorney some counsel on this one because I'm not quite sure how to answer that question?

MS. NIJMAN: All right.

MR. HARLEY: Sure.

MS. NIJMAN: To the extent there is a conversation based on privilege with counsel, I'm going to advise him to exclude any conversation with counsel. I think what Keith is getting at is subcontractors or other consultants?

MR. HARLEY: Yes, that's right.

MS. NIJMAN: So maybe we can ask it that way.

BY THE WITNESS:

A. Normally in the recent past, if there are conversations with other consultants working -- because Midwest Generation does use a variety of consultants and a variety of contractors, if there is a collaborative effort, it's generally done

under protection of counsel, under confidentiality. And there are projects where we are asked to interact and provide our portion of -- of the project -- the information that we have that might assist another consultant in their work, we provide that at the direction of Midwest Generation.

BY MR. HARLEY:

Q. And who would be another consultant with whom you interacted over the past year?

A. Patrick Engineering and NRT.

Q. And who at Patrick Engineering?

A. Rick Frendt was the main person I talked with.

Q. And who at NRT was it?

A. NRT, correct. That would be Heather Simon and, I believe, Bruce Hensel.

Q. Okay. Thank you.

I'm going to ask you a series of questions in which I'm asking you to respond. To be clear, when I say "you," I mean you in the context of your employment at KPRG.

As part of your work for Midwest Generation, do you have knowledge of the groundwater monitoring wells that have been installed at

Midwest Generation's Waukegan facility?

A. I'm familiar with them.

Q. Do you have knowledge of the groundwater monitoring wells that have been installed at Midwest Generation's Powerton facility?

A. I am familiar with them.

Q. Same question Will facility.

A. Yes.

Q. Same question Joliet.

A. I'm familiar with them.

Q. Did you have any role in designing the groundwater monitoring wells at Waukegan? By "design," I mean determining the location and depth of the groundwater monitoring wells.

A. Not all of the wells.

Q. Not of the wells?

A. Not all of the wells.

Q. Not all of the wells at Waukegan. Thank you for clarifying.

Did you have any role in designing the groundwater monitoring wells at Powerton?

A. Not all of the wells.

Q. Same question Will.

A. We did not install any of those wells.

Q. And same question Joliet.
A. We did not install any of those wells.
Q. Do you have ongoing responsibilities in relationship to the operation of the groundwater monitoring wells that you designed?
MS. NIJMAN: Objection; vague as to terminology of "operation." Do you mean the sampling? You can answer.
BY THE WITNESS:
A. Can you clarify that? Is this in regards to the sampling of the monitoring wells?
BY MR. HARLEY:
Q. I have separate questions for sampling. I'm wondering about the physical -- maintaining the physical integrity of the monitoring wells.
A. The physical integrity of the monitoring wells is checked with each round of sampling. And if the sampling crew identifies that there's damage to a well, we will go out there and fix that damage prior to the next round of sampling.
Q. And when you say "we," you mean KPRG?
A. Correct.
Q. As part of your work for Midwest Generation, do you have knowledge of the

groundwater sampling that is taking place at Midwest Generation's Waukegan facility?
A. Yes.
Q. Same question Powerton.
A. Yes.
Q. Same question Joliet.
A. Yes.
Q. Same question Will.
A. Yes.
Q. What is your role in relationship to designing the groundwater sampling protocol?
MS. NIJMAN: Object to vague. If you understand, you can answer.
THE WITNESS: Can you clarify or specify what you intend?
BY MR. HARLEY:
Q. The constituents which are sampled and the frequency of sampling.
A. I was not involved in the selection of the parameters or the establishment of the frequency of sampling that was done prior to KPRG's involvement in the work.
Q. And do you know who was responsible for establishing that protocol?

A. It is my understanding that Midwest Generation, Packer Engineering, and Illinois EPA developed it.
Q. What is your role, if any, in relationship to ongoing groundwater sampling at the facilities?
A. KPRG is contracted to perform quarterly monitoring at all four stations and the reporting.
Q. What is your role in relationship to analyzing trends for different constituents that are present in groundwater sampling?
A. In the annual report submittals, we do develop time-versus-concentration curves for all historical data for each well.
Q. As part of your work for Midwest Generation, do you have knowledge of the Compliance Commitment Agreement that Midwest Generation entered into with the Illinois EPA regarding groundwater conditions at Waukegan?
A. I'm familiar with it.
Q. The same question Powerton.
A. I'm familiar with it.
Q. Same question Joliet.
A. Same answer.
Q. Same question Will.

A. Same answer.
Q. What was your role, if any, in relationship to the Compliance Commitment Agreements?
MS. NIJMAN: Objection; vague.
BY THE WITNESS:
A. Our role was part of an attorney-privileged team that was looking at how best to respond to the CCA, to the notices of violation.
BY MR. HARLEY:
Q. Okay. As part of your work for Midwest Generation, do you have knowledge of activities related to relining ash ponds at Waukegan?
A. Can you rephrase that?
Q. Were you involved in activities related to relining ash ponds at Waukegan?
A. No. The ash ponds at Waukegan were already lined.
Q. And would that be the same answer if we look back now to 2005?
MS. NIJMAN: Objection; vague.
BY THE WITNESS:
A. Yes. The ponds were lined.

BY MR. HARLEY:
Q. Have you had any relationship to the relining of ash ponds at Powerton?
A. We were not involved in that project.
Q. The same question Joliet.
A. We were not involved in the relining at Joliet.
Q. The same question Will.
A. We were not involved with the relining at Will.
Q. As part of your work for Midwest Generation, do you have knowledge of the groundwater management zone that was established at the Powerton facility?
A. I'm familiar with it.
Q. The same question Joliet.
A. I'm familiar with it.
Q. The same question Will.
A. I'm familiar with it.
Q. What was your role, if any, in developing these groundwater management zones?
A. As part of assisting with developing the responses to the notices of violation and put into -- and then executing the Compliance

Commitment Agreement, I was involved in the development of the groundwater management zone and the submittals to IEPA.
Q. As part of your work for Midwest Generation, do you have knowledge of the environmental land use controls that were established at the Waukegan facility?
A. I'm familiar with them.
Q. The same question Powerton.
A. Also familiar with that, yes.
Q. The same question Will.
A. Yes, I am.
Q. What was your role, if any, in developing these environmental land use controls?
A. The same as for the groundwater management zones where we were tasked to assist in developing responses to fulfill the Compliance Commitment Agreement, recognizing that at Waukegan Station, there was already an existing ELUC on site which we were not involved with.
MR. HARLEY: Could you -- I'm sorry. Can you read back that last statement.
(Record read.)
MR. HARLEY: Thank you.

BY MR. HARLEY:
Q. As part of your work for Midwest Generation, do you have knowledge of the ash management practices at the Waukegan facility?
A. Basic, not -- not intimate.
Q. The same question Powerton.
A. Same.
Q. Same question Joliet.
A. Same answer.
Q. The same question Will.
A. Yes.
Q. What is your role, if any, in relationship to ash management practices?
A. We do not have a role in ash management practices.
Q. As part of your work for Midwest Generation, do you have knowledge of the off-site ash disposal practices at Midwest Generation's Waukegan facility?
A. Not that I'm aware of.
Q. The same answer Powerton?
A. I guess I'm not sure what -- what the actual question is.
Q. Do you have knowledge of where ash is

directed for off-site disposal?
A. It is my understanding that some of the ash is taken by a truck for landfilling when they remove ash from impoundments on a regular basis. Which landfills those contractors use I'm not aware of.
Q. And that would be the same answer for all Midwest Generation facilities?
A. Yes.
Q. As part of your work for Midwest Generation, do you have knowledge of Midwest Generation's 2010 response to a request by USEPA for information regarding coal ash commonly called the Steam Electric Questionnaire?
A. I'm not familiar with that.
Q. As part of your work for Midwest Generation, do you have knowledge of the chemical constituents of the coal ash that is generated at Midwest Generation's facility?
MS. NIJMAN: At which time period? I'll object to vague.
BY THE WITNESS:
A. Currently or...

BY MR. HARLEY:
Q. Presently.
A. I'm aware of some ash data. I -- I do not -- so I'm aware of constituents within -- within the ash.
Q. Are you familiar with a coal combustion byproduct sampling exercise which took place at the Joliet facility?
A. I'm familiar with it.
Q. Were you a participant in that coal combustion byproduct sampling exercise?
A. I was involved, yes.
Q. And what was the results -- what was the work product that was generated as a result of that coal combustion byproduct sampling?
A. That was a while ago. If my recollection is correct, at the time we were asked to sample an area that had some ash placed in it to evaluate whether or not that ash would meet the requirements of the coal combustion byproduct for potential beneficial reuse.
Q. And did that include analyzing the levels of different chemical constituents in that coal combustion byproduct?

A. I believe there -- there is a leach test that was performed and the chemical analysis for the compounds, yes.
Q. Do you recall, is antimony a chemical constituent of that coal combustion byproduct?
A. Antimony was, I believe, on the list of analyses.
Q. Arsenic?
A. I believe it was on the list of analyses.
Q. Boron?
A. I believe it was on the list of analyses.
Q. Manganese?
A. I believe it was on the list of analyses.
Q. Sulfate?
A. I believe it was on the list of analyses.
Q. Iron?
A. I believe so. That I'm not 100 percent sure on, but I believe it was.
Q. Selenium?
A. I believe it might have been.
Q. Sulfate?
A. I believe you've asked that already, sulfate.
Q. Oh, I did. I'm sorry. Strike that.

Vanadium?
A. I believe that it might have been. I'd have to see what that analytical protocol was at the time. That was quite a long time ago and exactly what all the constituents were on that list I don't want to misspeak.
Q. Fair enough.
I want to turn now to the Will County facility, so all the questions in the next sequence relate solely to Will County.
In the past year, approximately how often have you visited Midwest Generation's Will County facility?
A. Myself personally?
Q. Yes.
A. Maybe once.
Q. Have there been years where you visited -- when you visited the facility more frequently?
A. Yes.
Q. When you visited the facility this year, was there a primary on-site contact for you?
A. Yes.
Q. Who was that?
A. Rebecca Maddox.

Q. I would like to call your attention to the aerial depiction of the Will County facility marked with Bates number 644. This will be marked as Deposition Exhibit Number 166.
(Exhibit No. 166 marked for identification, 12-18-14.)
BY MR. HARLEY:
Q. Do you recognize this depiction?
A. Yes, I do.
Q. Who prepared this depiction?
A. KPRG.
Q. Did you have any role in the preparation of this depiction?
A. One of my engineers did this drawing.
Q. Does this exhibit accurately depict ash ponds at the Will County facility?
A. It appears to.
Q. For the record, how are these ash ponds identified in this depiction?
A. Well, I believe you've got ash pond three south, ash pond two south, ash pond one south, and ash pond one north.
Q. Does this exhibit accurately depict the relative location of groundwater monitoring wells?

A. In general, yes.
Q. And for the record, how are these wells identified?
A. As monitoring wells MW 1 through MW 10.
Q. Apart from the coal ash ponds that are delineated on Exhibit 166, are you aware of any other areas of the Will County facility where coal ash has been deposited in the past?
A. Not that I'm aware of.
Q. So the record is clear on this point, you are unaware of a spent slurry pond?
A. I'm unaware of a spent slurry pond.
Q. You are unaware of a stand-by pond?
A. I'm unaware of a stand-by pond.
Q. Are you aware of a south area runoff basin?
A. The name is familiar, but I cannot speculate where that is.
(Exhibit No. 167 marked for identification, 12-18-14.)
BY MR. HARLEY:
Q. Calling your attention to a document which is marked with Bates number 618 and Deposition Exhibit 167, are you familiar with this depiction?
A. Seeing it now, yes, I am.

Q. And this also was developed by KPRG; is that correct?
A. Yes, it was.
Q. On this depiction, you'll notice that there are two retention ponds which are south of ash pond 3S. Do you see those?
A. Yes, I do.
Q. Do you know if coal ash was ever deposited in either of those retention ponds?
MS. NIJMAN: I'm going to object to the time period you're asking about.
MR. HARLEY: At any time in the past.
BY THE WITNESS:
A. Not that I'm aware of.
BY MR. HARLEY:
Q. And are you aware of the dep- -- depositing coal ash in the south runoff basin at any point in the past?
A. Not that I'm aware of.
Q. Are you familiar with the hydrogeology at the location of the Will County facility; for example, the depth, direction, and rate of flow of groundwater?
A. In general, yes.

Q. How far below ground surface is the groundwater at the Will County facility?
A. To my recollection, not having the data tables in front of me, I believe it's fairly shallow between nine and a half and maybe 11, 12 feet.
Q. And what is the thickness of the aquifer?
A. I'd have to go back and review the literature on that.
Q. What is the direction of the rate of flow -- strike that.
What is the direction of flow of the groundwater?
A. In the vicinity of the ponds?
Q. Yes.
A. To the -- let me make sure I've got my directions right. To the west.
Q. And what is the rate of flow of groundwater to the west?
A. Offhand, I do not remember what that value was.
Q. Do you know where the groundwater discharges?
A. I believe it discharges to the river.

Q. Can you clarify which river, please?
A. To the Des Plaines River.
Q. Thank you.
Turning your attention back to Exhibit 166, is it accurate to say that the groundwater monitoring wells are clustered around the delineated ash ponds?
MS. NIJMAN: I'll object to the terminology. If you understand it, you can answer.
BY THE WITNESS:
A. I would ask that to be rephrased because a clustered well is -- is a specific definition.
BY MR. HARLEY:
Q. Is it accurate to say that these wells are concentrated around the delineated ash ponds?
A. Same --
MS. NIJMAN: Same objection.
BY MR. HARLEY:
Q. I'm sorry. Did you answer?
A. They appear to be.
Q. Why are these wells located where they are?
MS. NIJMAN: Objection; foundation. He already stated he didn't locate them.
MR. HARLEY: He did answer in the

affirmative.
MS. NIJMAN: For he did not locate them.
BY THE WITNESS:
A. KPRG did not install any of the monitoring wells at Will County.
BY MR. HARLEY:
Q. Have you, individually or as part of a team working for Midwest Generation, considered placing groundwater wells at additional locations at the Will County facility?
MS. NIJMAN: I'm going to object to the extent you've had privileged conversations through counsel in response to the violation notices or this litigation.
BY THE WITNESS:
A. I would decline to answer. Any opinions that I provided were done under privilege.
BY MR. HARLEY:
Q. Do you review groundwater sampling results derived from the wells at the Will County facility?
A. I'm involved in it, yes.
Q. Over what period of time have you been reviewing these sampling results?
A. KPRG started work on the groundwater

monitoring and reporting, I believe, the second quarter of 2013.
Q. How often do you review the results of the groundwater sampling?
A. Groundwater samples are collected on a quarterly basis and we have to provide a quarterly report to Illinois EPA.
Q. Do you participate in the submission of these reports?
A. Yes, I do.
Q. As part of your review, do you compare the concentrations of sample constituents to any groundwater quality standards?
A. For the purposes of comparison, we are using the class 1 -- Illinois EPA class 1 groundwater standards.
Q. Is arsenic one of the constituents that you compare to groundwater quality standards?
A. Yes.
Q. Is boron?
A. Yes.
Q. Is manganese?
A. Yes.
Q. Is sulfate?

A. Yes.
Q. As part of your review -- strike that.
You also analyze arsenic trends in groundwater samples over time; is that correct?
A. As part of the annual report submittal, time-versus-concentration curves are provided.
Q. The same answer for boron?
A. Yes.
Q. Same answer for manganese?
A. Yes.
Q. Same answer for sulfate?
A. Yes.
(Exhibit No. 168 marked for identification, 12-18-14.)
BY MR. HARLEY:
Q. Calling your attention to a document marked with Bates number 620 and Deposition Exhibit 168 --
MS. NIJMAN: Just note for the record that all of these maps that we have drawn -- you've used as exhibits so far are part of larger reports. You're taking them out of the reports to show the witness which is fine except that there may be conclusions or statements in the report that

obviously the witness does not have in front of him.
BY MR. HARLEY:
Q. Do you recognize this depiction of the Will County facility?
A. I'm familiar with it.
Q. What was your role in developing the data which is reflected on this exhibit?
MS. NIJMAN: Objection; vague.
BY THE WITNESS:
A. I had one of my engineers develop this figure.
BY MR. HARLEY:
Q. On this exhibit, what is the significance of the yellow, bolded sampling results?
A. The yellow, bolded results indicate values which exceed the comparison standard that we were using which is the class 1 groundwater standard assuming that this is, in fact, class 1 groundwater.
Q. When is this exhibit dated, for the record?
A. January 17th, 2013.
Q. On this exhibit, are there any wells which exhibit more constituents that are not in compliance with groundwater quality standards than others?

MS. NIJMAN: Objection; vague.
THE WITNESS: Can you rephrase that?
BY MR. HARLEY:
Q. Are there any monitoring wells that have more exceedances of the class 1 groundwater standards than others?
MS. NIJMAN: Same objection. I'm also going to object because this does not show all of the data for each of the wells. It's a select set of data.
BY THE WITNESS:
A. Based on this depiction, there are some wells with more highlighted exceedances than other wells.
BY MR. HARLEY:
Q. Would monitoring well four be one of those wells?
A. Yes, it would.
Q. Do you know why monitoring well four has more constituent exceedances by comparison to other wells?
MS. NIJMAN: I'm going to object to the extent any opinions you've drawn were for counsel.

BY THE WITNESS:
A. I cannot speculate on that.
BY MR. HARLEY:
Q. You've never had to discuss this directly with Illinois EPA?
A. Discussions that I had were primarily with counsel under privilege. I had discussions with Illinois EPA. I do not recall specifically discussing any specific well and/or exceedance.
Q. Is it accurate to say that this depiction was developed at the early stages of the process that you began reviewing sampling results?
MS. NIJMAN: Again, I'm going to object to this because it's from a report. We don't know what the report is dated and the date that's on this map may not, in fact, be the date of the data; that that may be the generation of the aerial map which you can see is from the other aerial maps that you've shown.
MR. HARLEY: I believe he testified that he began reviewing sampling results in the second quarter of 2013.
MS. NIJMAN: Yes.
MR. HARLEY: I'm merely trying to confirm

that these results are within the period that he was reviewing sampling results.
MS. NIJMAN: Okay. But we can't tell when these samples on this map were taken from this exhibit alone.
THE WITNESS: And also, second quarter of 2013 -- January 2013 is first quarter.
MS. NIJMAN: Right. I mean, the dates don't match up is what I'm telling you.
BY MR. HARLEY:
Q. So you were not a part of developing the results which are depicted on this exhibit?
MS. NIJMAN: Again, vague. We don't know the dates of the results on this exhibit. It's not the date of the map. The date of the map is just the aerial.
MR. HARLEY: The question is open-ended. It's not specific to --
MS. NIJMAN: You can try to answer it. I'm going to object to vague and the fact that this is an incomplete exhibit that is not an accurate depiction. You can try to answer the question.
BY THE WITNESS:
A. KPRG generated this map under my

direction. Looking at this map, I do not know the date that the particular data that's depicted was generated.
BY MR. HARLEY:
Q. But you have reviewed data subsequently?
MS. NIJMAN: Subsequent to what?
MR. HARLEY: January 17th, 2013.
BY THE WITNESS:
A. Yes.
BY MR. HARLEY:
Q. Are there still groundwater exceedances in any wells at Will facility?
A. There were some exceedances, I believe, during the last quarter of sampling that was submitted to IEPA which was submitted, I believe, end of October.
Q. Do you know which wells exhibited exceedances?
A. I would have to go back to those reports.
Q. Was antimony one of the constituents that exhibited exceedances in your most recent report to Illinois EPA?
A. I do not remember.
Q. Boron?

A. It may have.
Q. Manganese?
A. It may have. Without seeing the report, I cannot definitively answer your question.
MS. NIJMAN: So is this 169?
MR. HARLEY: This is Exhibit 169 which is Bates number 625.
(Exhibit No. 169 marked for identification, 12-18-14.)
BY MR. HARLEY:
Q. Do you recognize this depiction of the Will County facility?
A. It's a KPRG figure also generated at my direction.
Q. And the heading for this document is Proposed Groundwater Management Zone; is that correct?
A. Yes.
Q. And it's dated January 11th, 2013; is that correct?
MS. NIJMAN: Same objections to the dating versus the data.
BY THE WITNESS:
A. That is the date on the figure.

BY MR. HARLEY:
Q. Does the groundwater management zone that was proposed -- strike that.
Does the proposed groundwater management zone that is depicted in this exhibit extend over the entire Will County facility?
A. No, it does not.
Q. Do you know why not?
MS. NIJMAN: Only to the extent you've had those conversations with IEPA or outside of counsel.
BY THE WITNESS:
A. This figure was developed as a result of discussions in addressing the CCA requirements, and the boundaries were agreed upon between IEPA and Midwest Generation.
BY MR. HARLEY:
Q. But this is a proposed groundwater management zone; is that correct?
A. Correct.
Q. Whose proposal is this?
A. Midwest Generation's proposal.
Q. Do you know why Midwest Generation proposed a groundwater management zone that only partially covered the Will County facility?

MS. NIJMAN: Again, except privileged conversation, you can answer.
BY THE WITNESS:
A. Most of those discussions were done under attorney-client privilege and -- it's my understanding that with the proposal provided, IEPA was in agreement with the way it was -- was bounded out.
BY MR. HARLEY:
Q. Did you ever speak directly to any employee of Illinois EPA about this groundwater management zone?
A. Not individually, no.
Q. In what context did you have non-privileged discussions about the proposed groundwater management zone?
A. Once the initial draft response -- draft submittals in response to the CCA requirements were submitted to Illinois EPA, I believe there were some comments that Illinois EPA had. We addressed those comments and finalized what the groundwater management zone was.
(Exhibit No. 170 marked for identification, 12-18-14.)

BY MR. HARLEY:
Q. I'm handing you a document which has been marked as Deposition Exhibit 170 and is Bates stamped as 621. Do you recognize this depiction of the Will County facility?
A. Yes, I do.
Q. Did you participate in the preparation of this depiction?
A. It was generated under my direction.
Q. And is it correct that the title of this depiction is Proposed ELUC Boundary?
A. That is the title on the figure.
Q. And it's dated January 14th, 2013?
MS. NIJMAN: Same objections as to date of the figure versus date of the data.
BY THE WITNESS:
A. That is the date on the figure, yes.
BY MR. HARLEY:
Q. Does the area subject to the environmental land use control extend over the entire Will County facility?
A. No, it does not.
Q. Do you know why not?
MS. NIJMAN: Same privilege objection.

BY THE WITNESS:
A. The same sequence of -- of discussions and events as -- as the groundwater management zone in that these two were being done in parallel in response to the CCA.
BY MR. HARLEY:
Q. Did you engage in direct conversations with any employee of Illinois EPA about the environmental land use control at the Will County station?
A. Once this proposed ELUC boundary was submitted, Illinois EPA provided comments. We responded to those comments as part of finalizing the ELUC.
MR. HARLEY: Let's go off the record for a second.
(Discussion had off the record.)
MR. HARLEY: Let's go back on the record.
BY MR. HARLEY:
Q. The following questions all relate to the Joliet facility.
Over the past year, how many times have you visited the Joliet facility?
A. Numerous times.

Q. Monthly?
A. Over the past year personally, I was at the Joliet facility perhaps six, ten times.
Q. When you visit the facility, do you have a primary on-site contact?
A. Yes.
Q. Who is that?
A. Peter O'Day.
Q. Is the reason that you're visiting the Joliet facility because you have projects at the Joliet facility?
A. Yes.
Q. Can you describe those projects?
A. Right now our projects include work to do the quarterly monitoring for the ash pond monitoring system, as well as other work for Joliet which is on the other side of the river.
Q. When you say "the other side of the river," do you mean the quarry sites?
MS. NIJMAN: You're saying other than Joliet 29 station?
THE WITNESS: Other than Joliet 29 station.
MS. NIJMAN: So this is only about Joliet 29.

THE WITNESS: Yes. Just Joliet 29, yes.
BY MR. HARLEY:
Q. Is your only project at Joliet 29 related to groundwater sampling?
A. We just finished another one which was assisting with the clean out of their wastewater treatment sludges.
Q. Are those the only two projects this year?
A. Currently right now, yes, and -- and this year relative to Joliet 29.
Q. And in the past three years, have there been other projects that you have been asked to complete at Joliet 29?
A. At Joliet 29 I believe we do an annual cleaning of the wastewater treatment sludges. And I believe between that -- over the last three years between that project and the groundwater monitoring are really the only ones we're working on at Joliet 29 right now.
MR. HARLEY: For the record, this is a depiction of the Joliet facility Bates stamped 688, Deposition Exhibit 171.
(Exhibit No. 171 marked for identification, 12-18-14.)

BY MR. HARLEY:
Q. Do you recognize this depiction?
A. I'm familiar with it.
Q. What was your role in the preparation of this depiction?
MS. NIJMAN: Again, I'm going to just object to the fact that this is one page out of a much larger report. The dates don't match up. To the extent you can answer the question, you can answer.
BY THE WITNESS:
A. This figure was generated by one of my engineers under my direction.
BY MR. HARLEY:
Q. Does this exhibit accurately depict ash ponds at the Joliet facility?
A. To the best of my knowledge, yes.
Q. For the record, how are these ash ponds identified in this depiction?
A. Ash pond one, ash pond two, and ash pond three.
Q. Does this exhibit accurately depict the relative location of groundwater monitoring wells?
A. In general, yes.

Q. And how are these wells identified?
A. As monitoring wells MW 1 through MW 11.
Q. Apart from the ash ponds that are delineated on this exhibit, are you aware of any other areas at the Joliet facility where coal ash has been deposited in the past?
A. I'm aware of some areas that may have had coal ash placed on them in the past.
Q. How many areas?
A. KPRG was tasked to sample some ash, as you had mentioned earlier, and that was in this northwest portion of the site.
Q. Does that area have a designation or a name?
A. Not that I'm aware of.
Q. Do you have knowledge of areas at Joliet 29 where ash and slag -- strike that.
Do you recall participating in an ash burial runoff inspection at the Joliet facility?
A. Yes. I do that. And there is an ash -- my understanding is that there may -- that there is an ash area over to the east.
Q. What is an ash burial runoff inspection?
A. It is my understanding that that part of

the property has a stormwater permit requirement, I believe, as part of their stormwater permit requirement, to inspect the cover that's in place for any indication of excessive rilling or erosion that may occur over the course of a year and if such is identified to -- to repair it.
Q. To your knowledge, has it ever been necessary to repair the cover in that area?
A. There have been instances where repairs needed to be made.
Q. What was your role in executing those repairs?
A. We contracted -- once I identified the areas that I felt had some rilling starting to develop, I contract with a company called Allied Landscaping. I meet with their foreman. We go through each area that I've identified.
And the area then gets properly filled in with a clay material, pack it down, an erosion mat placed, and -- and re-seeded to try and reestablish that -- that portion of the cover.
Q. You used the term "rilling." Can you describe what rilling is?
A. Rilling is the erosion of soil through

surface runoff and develops a rill in the soil.
Q. What is the cover on that area?
A. I do not know exactly what material -- what type of material was used for that cover placement. I am not aware of when it was placed, and I have not performed any borings through that area, so I really cannot answer that question. I do not know.
Q. In the area which is east of ash pond three, is there a liner?
A. I do not know.
Q. Turning to the area that you described as northwest of the site, is there a cover on that coal ash disposal area?
A. At the time when we did our sampling, there was no specific cover on that.
Q. And when was that?
A. I do not remember the exact year. That was probably 2003, 2004 time frame, maybe a little bit -- 200- -- 2005. Circa 2003, 2004, I think. It was a while ago.
Q. Was there a liner?
A. I don't understand that question.
Q. Is there a liner underneath that coal

disposal area -- strike that.
Is there a liner underneath that coal ash disposal area?
MS. NIJMAN: I'm going to object as to timing and foundation.
MR. HARLEY: He already testified that he inspected the site in 2003.
BY THE WITNESS:
A. At the time when we did our borings within this placement area, the borings did not indicate a liner.
BY MR. HARLEY:
Q. Besides the area that you've described as the northwest area and the area you've described as the east area, are you aware of any other places at the Joliet facility where coal ash has been disposed of?
MS. NIJMAN: I'll object to the terminology.
BY THE WITNESS:
A. I'm not aware of any disposal areas.
BY MR. HARLEY:
Q. Are you familiar with the hydrogeology at the location of the Joliet facility; for example, the depth, direction, and rate of flow of

groundwater?
A. In the vicinity of the ash ponds in general, yes.
Q. How -- strike that.
Approximately how far below ground surface is the groundwater?
A. I don't recall exactly offhand. I believe it's on the order of 15 feet, maybe a little bit deeper, maybe a little bit shallower.
Q. Approximately how thick is this aquifer?
A. I would have to go back to the literature.
Q. What is the direction of groundwater flow?
A. In the vicinity of the ash ponds, the direction of groundwater flow is, in general, to the southeast -- south, southeast.
Q. Where does it discharge?
A. The groundwater is flowing towards the intake channel for the station.
Q. Approximately what is the rate of flow?
A. I would have to go back to the report where -- where it's calculated.
Q. As to the groundwater monitoring wells, is it accurate to say that these wells are concentrated around the delineated ash ponds?

MS. NIJMAN: Same objection; vague.
BY THE WITNESS:
A. KPRG did not install any of these wells. They appear to be placed in the vicinity of the ash ponds.
BY MR. HARLEY:
Q. According to this depiction, are there any ash ponds immediately proximate to the northwest coal ash disposal area?
A. Can you rephrase that? I'm not sure what you mean by "northwest coal ash disposal area."
Q. That is the area that you described as being in the northwest corner of the facility.
MS. NIJMAN: I don't think he used the term "disposal area," so that's what threw him.
MR. HARLEY: Oh.
BY THE WITNESS:
A. That's correct. I did not refer to it as disposal area.
BY MR. HARLEY:
Q. What is the correct way to call that area?
A. I do not believe there's a specific term for that area. I believe the term I used was placement where there was former ash placement in

that area that we were asked to sample.
Q. Were you asked by Midwest Generation to place groundwater monitoring wells near the northwest ash placement area?
MS. NIJMAN: At the time of the sampling?
MR. HARLEY: At any time.
MS. NIJMAN: I'm going to object to the extent there's been a privileged discussion in that regard. To the extent that deals with the 2003 time period and the sampling you did, you can answer.
BY THE WITNESS:
A. In 2003 that was not what we were requested or tasked to do. Any subsequent discussions were done under client privilege.
BY MR. HARLEY:
Q. The area that you have described as the east ash placement area, have you been asked by Midwest Generation to place groundwater monitoring wells proximate to that area?
MS. NIJMAN: Same objection. To the extent there's privileged conversations, don't answer.

BY THE WITNESS:
A. No, I have not.
(Exhibit No. 172 marked for identification, 12-18-14.)
BY MR. HARLEY:
Q. Calling your attention to a document that has been marked as Deposition Exhibit Number 172 and is Bates stamped 670, do you recognize this depiction of the Joliet 29 facility?
A. I'm familiar with the figure.
Q. What was your role in the preparation of this depiction?
MS. NIJMAN: Just noting for the record the same objection as to this exhibit as we have with prior exhibits. You can answer.
BY THE WITNESS:
A. I had an engineer draft up this figure and the work was being performed as part of assisting Midwest Generation in responses to the -- to fulfill the Compliance Commitment Agreement.
BY MR. HARLEY:
Q. And is it correct that the title of this figure is Proposed Groundwater Management Zone?
A. Yes.

Q. And mindful of counsel's objection, this figure is dated January 19th, 2013?
A. That is the date on the figure.
Q. Does the proposed groundwater management zone extend over the entire Joliet 29 facility?
A. No, it does not.
Q. Do you know why not?
MS. NIJMAN: Object to privilege. If there were discussions outside of privilege, go ahead and answer.
BY THE WITNESS:
A. Basically the same answer as for the previous station discussion. The management zone proposal was developed and submitted as part of our CCA compliance requirements to Illinois EPA. Illinois EPA provided comments, and we finalized the GMZ submittal.
BY MR. HARLEY:
Q. Outside of any privileged conversation, did you express -- strike that.
As part of your work for Midwest Generation and outside of any privileged conversation, did you have any recommendation for the extent of the groundwater management zone at

the Joliet facility?
A. Any recommendations provided were done under attorney-client privilege.
Q. Does the groundwater management zone of the Joliet facility include the area that you have characterized as the northwest ash placement area?
A. No.
Q. Does the groundwater management zone include the area that you have characterized as the east ash placement area?
A. No.
Q. Do you know if there's an environmental land use control for the Joliet facility?
A. Not associated with the ash ponds that I'm aware of.
Q. Do you know why not?
MS. NIJMAN: Same objection.
MR. HARLEY: What objection is that, please?
MS. NIJMAN: Privilege.
BY THE WITNESS:
A. I guess I'm not understanding your question.

BY MR. HARLEY:
Q. As part of your work for Midwest Generation and apart from any privileged conversations that you've had, do you know why there is not an environmental land use control at the Joliet facility?
A. I was tasked to help Midwest Generation respond to the notice of violation and the scope of the Compliance Commitment Agreement that was negotiated. My understanding did not include an ELUC, so therefore, KPRG was not involved in the development of the ELUC.
MR. HARLEY: Can we go off the record for a second?
(Discussion had off the record.)
MR. HARLEY: Let's go back on the record.
BY MR. HARLEY:
Q. The following questions all relate to the Waukegan facility.
How often have you visited the Waukegan facility over the past year?
A. Three -- maybe three times.
Q. And is that because you have projects for Midwest Generation at the Waukegan facility?

A. That is correct.
Q. And what are those projects?
A. Right now our projects are primarily associated with the groundwater monitoring around any ash pond issues.
Q. What are the ash pond issues?
A. The groundwater monitoring that's occurring around the two ash ponds out at Joliet.
MS. NIJMAN: Waukegan. Waukegan.
THE WITNESS: I'm sorry. At Waukegan. At Waukegan.
BY MR. HARLEY:
Q. Are there any other ash pond issues at Waukegan that are part of projects that you're doing for Midwest Generation?
A. No.
Q. When you visit the facility, who is your primary on-site contact?
A. Fred Veenbaas.
(Exhibit No. 173 marked for identification, 12-18-14.)
BY MR. HARLEY:
Q. I'd like to call your attention to the aerial depiction of the Waukegan facility marked

with Bates number 608 and Deposition Number 173. Do you recognize this depiction?
A. I'm familiar with it.
Q. Who prepared this depiction?
A. One of my engineers under my direction.
Q. Does this exhibit accurately depict coal ash ponds at the Waukegan facility?
A. It appears to.
Q. For the record, how are these ash ponds described?
A. The west ash pond and the east ash pond.
Q. Does this exhibit accurately depict the relative location of groundwater monitoring wells?
A. It appears to.
Q. For the record, how are these wells identified?
A. The wells on this figure at this time are identified as wells MW 1 through MW 7.
Q. Have there been additional monitoring wells that have been installed since the period of time in this depiction?
A. Yes.
Q. What are those wells?
A. MW 8 and MW 9.

Q. And relative to the other monitoring wells that are on this depiction, where is monitoring well eight?
A. I believe monitoring well eight is located north of monitoring well six along the west -- or near the west property boundary, and well MW 9 is located along the access road to the north and slightly west of MW 5.
Q. Do you know why monitoring wells eight and nine were installed?
MS. NIJMAN: Other than your conversations with counsel, you can answer.
BY THE WITNESS:
A. They were installed to provide additional information on groundwater quality to the north -- to the north and west of the ash ponds.
BY MR. HARLEY:
Q. Approximately when were those groundwater monitoring wells installed?
A. Approximately a year ago, I believe. I want to say it was in the first quarter or second quarter of this -- of 2014, I believe.
Q. What prompted the installation of additional monitoring wells at the Waukegan

facility?
MS. NIJMAN: Same privilege objection.
BY THE WITNESS:
A. I will decline to answer that. That was all discussed under privilege.
BY MR. HARLEY:
Q. Apart from the west ash pond and the east ash pond that are delineated on this exhibit, are you aware of other areas at the Waukegan facility where coal ash has been deposited in the past?
MS. NIJMAN: Same objection as to privilege.
BY THE WITNESS:
A. From anecdotal discussions, I'm aware of -- of a potential placement of ash off properties by the tannery potentially and then other potential -- potential areas, but I do not have any direct knowledge of that.
BY MR. HARLEY:
Q. So you don't have any knowledge of potential location?
A. My understanding is there may be some ash placed in the vicinity to the west of the west ash pond. However, we don't -- do not have any direct

data from that location.
Q. When you say no data, no historic information?
A. I have no soil borings running through that area.
Q. Have you been asked by Midwest Generation to perform any -- strike that.
Have you been asked by Midwest Generation to collect any data related to a potential ash placement area?
MS. NIJMAN: Object to the extent those have been conversations through counsel.
BY THE WITNESS:
A. I will decline to answer that. All those conversations were under privilege.
BY MR. HARLEY:
Q. Do you have knowledge of a bottom ash settling pond at the Waukegan facility?
A. Not that I'm aware of.
Q. Did you ever participate in an excavation of any ash at the Waukegan facility?
A. The excavation of any ash...
Not that I'm aware of.
Q. Did you participate in a geotechnical

analysis of soil surrounding ponds at Waukegan?
A. Yes.
Q. Can you describe that geotechnical analysis?
A. To the best of my recollection, that was a while ago. A series of soil borings were placed around the east and west ash ponds and samples were collected, both disturbed and undisturbed samples, for specific geotechnical analyses that were requested by Midwest Generation.
Q. When you use the term "undisturbed," what does that mean?
A. For geotechnical analyses, an undisturbed sample would be, for example, a Shelby tube which is pushed into the ground as opposed to a disturbed sample which, say, would be collected from a split spoon which is actually pounded into the ground.
Q. I see.
And what is the goal of a geotechnical analysis using these techniques?
A. To define the specific geotechnical properties in the soil that -- that were being requested.
Q. Do you recall how far below ground surface

the analysis extended?
A. I would have to speculate on that. I believe they extended to the base of the ponds to the same elevation as the base of the ponds, but I'd be speculating at this point exactly the depths.
Q. And do you recall what the geotechnical analysis revealed in terms of the surface and subsurface material?
A. What the data showed?
Q. Yes.
A. I do not remember.
Q. So the record is clear on this point, you don't recall if the subsurface material included ash?
A. There may have been ash in some of the borings. I would have to go back and take a look at them.
Q. And to be clear, these are areas outside of the west ash pond and the east ash pond?
A. I would have to go back and take a look at the map as to where the borings were placed.
Q. Mindful of counsel's objection related to privilege, did the results of those borings

contribute to the decision to place monitoring well eight and monitoring well nine west of the west ash pond?
A. Not that I'm aware of.
Q. Are you familiar with the hydrogeology?
A. In general, yes.
Q. How far below ground surface is groundwater at the Waukegan facility?
A. Without going back and looking at the data tables, I cannot say exactly, but I would imagine it's on the order of anywhere from 12 to 15, 20 feet depending on the location, but again, not seeing the data, I don't want to misspeak on that.
Q. Approximately how thick is the groundwater layer, the aquifer?
A. I would have to go back and check the literature on that. I don't remember offhand.
Q. What is the direction of groundwater flow at the ground -- at the Waukegan facility?
MS. NIJMAN: I'm going to object only to the extent you're talking about Exhibit 173, or are you talking generally?
MR. HARLEY: Knowledge.

BY THE WITNESS:
A. Based on the map that's provided here, the direction of groundwater flow is in a southeasterly direction which is generally consistent in this area of the property.
BY MR. HARLEY:
Q. And where does groundwater discharge?
A. Groundwater in this area discharges into -- or towards the direction of the wetland and Lake Michigan.
Q. What is the wetland?
A. There is a wetland that is located between the east ash pond and Lake Michigan. I do not know if the wetland is delineated.
Q. I'm sorry. I couldn't hear that last part of your statement.
A. I do not know if the wetland is formally delineated.
Q. All right. Before we get to this exhibit, if the wetland has not been formally delineated, on what basis are you characterizing it as a wetland?
MS. NIJMAN: Object to foundation. You can answer.

BY THE WITNESS:
A. I'm not quite sure where you're leading with the question.
BY MR. HARLEY:
Q. It was your term "wetland" and I'm just trying to sort out that characterization.
A. To -- to back up a little bit --
Q. Yes.
A. -- I use that term not as a wetland expert. I'm not a wetlands expert.
Q. Uh-huh.
A. I do not perform delineations. It appears to be a swampy-type area, so what the actual correct terminology for that is I'm not an expert in which to define that.
Q. And to your knowledge, is that wetland area within the boundaries of the Midwest Generation property?
A. From my understanding, it is.
(Exhibit No. 174 marked for identification, 12-18-14.)
BY MR. HARLEY:
Q. I would like to call your attention to a document which has been marked as Deposition

Exhibit 174 and is Bates stamped as 610. Do you recognize this depiction of the Waukegan facility?
MS. NIJMAN: I'm just going to object to the same issue with all of these other maps.
BY THE WITNESS:
A. I'm familiar with the map.
BY MR. HARLEY:
Q. What was your role in the development of this map?
A. I had -- I directed my engineer to generate the map. And just like our involvement with the other facilities, we were responding relative to -- to fulfill the requirements of the CCA since we were tasked to assist with that.
Q. According to this depiction which KPRG prepared, does the proposed ELUC boundary extend over the entire Waukegan facility?
A. No, it does not.
Q. Do you know why not?
MS. NIJMAN: Objection in relation to privileged conversations. Otherwise, you can answer.
BY THE WITNESS:
A. My answer will be the same as it was for

the other facilities. We provided the proposal to Illinois EPA. Illinois EPA provided comments, and then we were tasked to finalize the ELUC submittal.
BY MR. HARLEY:
Q. Did you have any direct communications with Illinois EPA about the ELUC?
A. Just through the written comments.
Q. Does the environmental land use control extend over the area which includes monitoring wells eight and nine?
A. The proposed ELUC boundary on this map does not extend to wells eight and nine.
Q. This map also delineates a previously-established environmental land use control. Are monitoring wells eight and nine contained within that previously-established ELUC area?
A. I believe so, yes.
Q. Earlier you indicated that there was a potential ash pond to the north and west of the west ash pond?
MS. NIJMAN: I'm going to object to the mischaracterization of prior testimony. There was never a discussion of an ash pond.

BY THE WITNESS:
A. I did not refer to anything as an ash pond outside of the east and west ash ponds.
BY MR. HARLEY:
Q. How did you characterize the area where there was no data, no soil borings, but perhaps ash -- the deposition of ash in the past?
A. That may -- may have been an ash placement area.
Q. Ash placement area.
When you use the word "ash placement area," how is that distinguished from an ash pond, in your mind?
A. I'm not quite sure I understand the question.
Q. You now have used, in the context of the Joliet facility and now in the context of the Waukegan facility, the term "ash placement area." I'm trying to understand what you mean by the term "ash placement area." What does that mean?
A. It's an area where there may potentially include some residual ash from former operations that I'm not familiar with.
Q. What is the difference between the term

"ash placement area" and "ash landfill," if any?
MS. NIJMAN: Object to foundation.
BY THE WITNESS:
A. I would decline to answer as -- as not specifically being in a position to define the difference between the two.
BY MR. HARLEY:
Q. Is the potential ash placement area at the Waukegan facility within the boundaries of the proposed environmental land use control?
MS. NIJMAN: Objection; misstatement of prior testimony. He's already said he can't define -- it may exist and can't define an area, so how can he answer that? Object to foundation.
BY THE WITNESS:
A. I decline to answer. I don't know the boundary.
BY MR. HARLEY:
Q. How is it that you came to know about a potential ash placement area outside of west ash pond and east ash pond at the Waukegan facility?
A. I would decline to answer based on client-privileged discussions.
MS. NIJMAN: Can we chat for a second?

(A recess was taken.)
MS. NIJMAN: So I've asked the witness to supplement his answer based on some data he's aware of.
MR. HARLEY: Thank you.
BY THE WITNESS:
A. The boring log for monitoring well MW 5 --
BY MR. HARLEY:
Q. Yes.
A. -- does have coal ash in the boring log for that well location suggesting that there's ash in the vicinity of well MW 5.
Q. Would that also be true for monitoring well six?
A. I would have to go back and check the boring log for well MW 6.
Q. Would that also be true for monitoring well eight?
A. The same: I'd have to go back and check the boring log for that. There may have been some.
Q. Is there any evidence of ash in the soil boring for monitoring well nine?
A. I would have to go back and check, but there may have been some.

Q. And what document would you refer to in order to confirm or deny the existence of ash in monitoring well six, eight, and nine?
A. For monitoring well six, I would -- that well placement was part of our CCA requirements, and so I'd go back and check the submittal of fulfillments of our CCA requirements which will include that boring log.
The other data is -- was done under privilege.
MS. NIJMAN: I think the data was produced.
MS. LAUGHRIDGE GALE: The groundwater monitoring data was produced.
MS. NIJMAN: The monitoring data was produced for nine.
BY THE WITNESS:
A. For eight and nine, the groundwater monitoring data, I'd have to go back into our files and check the boring logs in our files.
BY MR. HARLEY:
Q. These boring logs that you're describing, were the borings done as part of establishing monitoring well eight and monitoring well nine?

A. As part of drilling those wells, yes.
Q. And that was done in the first quarter of this year, I believe you testified?
A. First -- first quarter, early second quarter. I don't think I actually identified exactly the date we put those in.
Q. With that time frame in mind, you still don't have a recollection of whether or not there was ash in those borings?
A. There -- there may have been some. I don't want to misspeak.
(Exhibit No. 175 marked for identification, 12-18-14.)
BY MR. HARLEY:
Q. Before we leave Waukegan, I would like to call your attention to a depiction of the Waukegan facility which has been marked as Deposition Exhibit 175 and is Bates stamped number 609. Are you familiar with this depiction of the Waukegan facility?
A. Yes, I am.
Q. What was your role in the preparation of this depiction?
A. An engineer developed this under my

direction.
Q. And is it correct that this is titled Aerial Distribution of Groundwater Impacts?
MS. NIJMAN: And I'll object on the same basis as the other objections --
MR. HARLEY: Sure.
MS. NIJMAN: -- that the data doesn't match up with the date of the aerial necessarily.
BY THE WITNESS:
A. That is the title on the figure.
BY MR. HARLEY:
Q. What was the purpose of the preparation of this depiction of the Waukegan facility?
MS. NIJMAN: Object to the extent it's a page taken out of a report. If you want to give him the report, he could probably tell you what the reason was.
BY MR. HARLEY:
Q. Do you remember?
A. As to which report this particular figure came out of?
Q. No. I'm just wondering if you recall why it is that KPRG was tasked to prepare this depiction of the Waukegan facility.

MS. NIJMAN: Same objection.
BY THE WITNESS:
A. If this figure was associated or taken out of the ELUC preparation submittal, it was a requirement of IEPA, as part of that ELUC submittal, to provide an aerial distribution map, if my memory serves me correctly.
BY MR. HARLEY:
Q. On this depiction, for monitoring well five what are the constituents that exceed class 1 groundwater standards?
A. The class 1 groundwater exceedances are depicted in yellow. And for MW 5 those appear to be arsenic, boron, chloride, manganese, sulfate, and total dissolved solids.
Q. Are the levels which are shown here similar to the exceedances which are found in monitoring well eight?
MS. NIJMAN: That's not on this map?
MR. HARLEY: That's not on this map.
BY THE WITNESS:
A. Monitoring well eight is not on this map.
BY MR. HARLEY:
Q. Which did not exist at this time. I'm

asking based on your knowledge of the sampling results for monitoring well eight.
MS. NIJMAN: If you remember, you can answer.
THE WITNESS: Pardon me?
MS. NIJMAN: If you remember, you can answer. I'm sorry.
BY THE WITNESS:
A. I would not like to misspeak in this forum. I -- without seeing that last round of data for MW 8, I would not like to speculate and misspeak.
BY MR. HARLEY:
Q. Would it be the same answer for monitoring well nine as well?
A. Correct.
Q. Is there a groundwater management zone for the Waukegan facility?
A. Not that I'm aware of.
Q. Do you know why not?
MS. NIJMAN: Objection to privilege. To the extent you had conversations about it other than with counsel, you may answer.

BY THE WITNESS:
A. I'm not aware that it was requested or negotiated as part of the CCA. And as to why, I'm not aware.
BY MR. HARLEY:
Q. The following questions all relate to the Powerton facility.
In the past year, how often have you visited the Powerton facility?
A. Maybe one -- in the past year, I have not been at the Powerton facility personally.
Q. Approximately how many times have you visited the Powerton facility in the past three years?
A. Twice.
Q. And was that because you had projects for Midwest Generation?
A. Relative to the groundwater monitoring of the ash ponds, yes.
(Exhibit No. 176 marked for identification, 12-18-14.)
BY MR. HARLEY:
Q. I would like to call your attention to the document which is Bates stamped number 723 and which

is Exhibit 176. Do you recognize this depiction?
A. I'm familiar with it.
Q. What was your role in the preparation of this depiction of the Powerton facility?
A. This was prepared by an engineer under my direction.
Q. And is it correct that this depiction is titled Groundwater Contour Map for Silt Clay Unit 12-12-2012?
A. That is the title.
Q. What is the significance of the term "silt clay unit?"
A. At Powerton, once KPRG started getting involved in looking at some of the information, we didn't necessarily agree with the way the groundwater flow maps were being drawn at Powerton. There was some -- there were some convoluted contours -- potentiometric contours and, in looking at it, didn't make sense.
So we went back in and took a look at the boring logs to see where individual wells were screened, and we identified that there was -- that there were a series of five or six wells that were screened within a silty clay layer whereas the rest

of the wells were screened in a fine sand.
So when we isolated the wells screened in the silty clay layer and contoured the groundwater flow within that unit separately as opposed to including all the data together between two units, the groundwater flow direction started to make much more sense from a hydrogeologic standpoint.
And so this map shows the groundwater flow within that silty clay unit using water levels only from the wells within -- screened within the silty clay unit.
Q. What is the relationship between the silty clay unit and the other groundwater unit that you were describing?
A. I'm not sure I follow your question. Can you rephrase that?
Q. You said that this is a characterization of groundwater in relationship to a silt clay unit which removed another groundwater aquifer from consideration?
MS. NIJMAN: Object to the misstatement of prior testimony. You can try to answer it, if you know what he's...

BY THE WITNESS:
A. I believe what you may be asking --
BY MR. HARLEY:
Q. Yes.
A. -- is, is the silt clay unit and the fine sand unit -- are they hydro- -- hydrologically connected.
Q. Yes.
A. I believe they are.
Q. So in light of that hydrogeologic connection, why exclude the fine sand unit?
MS. NIJMAN: Object to the misstatement of prior testimony. He didn't exclude them. Just for the purposes of this map.
THE WITNESS: Right.
BY THE WITNESS:
A. Those are not excluded. There is a separate groundwater flow map for the wells screened in the sand unit.
BY MR. HARLEY:
Q. So if I ask you questions about the hydrogeology at the Powerton facility, it would be appropriate to ask questions separately about the fine sand unit versus the silt clay unit?

A. Relative to groundwater flow direction, you can view them separately, if you like.
Q. Does this exhibit accurately depict ash basins at the Powerton facility?
A. It appears to.
Q. Why are they characterized as ash basins at Powerton but ash ponds at other facilities?
A. I believe that is strictly a difference in terminology used between plants.
Q. But they serve the same function?
A. That is my understanding.
Q. Does this exhibit accurately depict the relative location of groundwater monitoring wells at the Powerton facility?
A. It appears to, yes.
Q. Apart from the ash basins that are delineated on this exhibit, are you aware of any other areas at the Powerton facility where coal ash has been deposited in the past?
MS. NIJMAN: Object to privilege, but you can answer.
BY THE WITNESS:
A. Not that I'm aware of.

BY MR. HARLEY:
Q. Did you participate in a geotechnical analysis of soil surrounding the settling basin and ponds at Powerton?
A. If you're referring to the same geotechnical study that we did at Waukegan, we also did some geotechnical borings, if I remember correctly, in -- at the Waukegan -- at the Powerton station and I believe had the same geotechnical analyses run on those samples as well.
Q. Approximately where, using this depiction, were those soil borings taken?
A. I couldn't speculate on that. It was quite a while ago. The borings were right in the vicinity of the ash bonds. Exactly where I can't speculate at this time without going back and seeing them there.
Q. Do you recall what those borings showed in terms of the subsurface material that you sampled?
A. In general, there was some ash in -- in some of the borings. However, you know, the specific stratigraphy all the way down I -- it's quite a while ago.
Q. Do you recall to what depth those borings

extended approximately?
A. The approximate -- I believe the target was the base of the -- of the basins, you know, the approximate equal elevation of basin to basin. Offhand, I don't remember what the exact depths of the basins are.
Q. So let's talk about the hydrogeology at the location of the Powerton facility. For the silt clay unit, how far below ground surface is groundwater?
A. I believe it's within ten or 12 feet, maybe shallower. I'd have to go back and take a look at the data tables.
Q. Approximately how thick is the groundwater aquifer?
A. I'd have to go back to the literature and check on that.
Q. What is the direction of flow in the silt clay unit?
MS. NIJMAN: Same objection as to the map and the dates on the map if you're asking for at this time of the map or generally?
MR. HARLEY: Generally.

BY THE WITNESS:
A. At the time of this drawing, groundwater flow is in a westerly direction and it's generally consistent with what we've seen within the silt and clay layer.
BY MR. HARLEY:
Q. And what is -- where does it discharge?
A. The groundwater flow is towards the -- the former intake channel.
Q. And does the intake channel connect to any body of water?
A. The intake channel comes in off of the Illinois River.
Q. Now, as to the fine sand unit, how far below ground surface is the fine sand unit?
A. Again, I would have to speculate. I would have to go back to the boring logs or cross-sections to provide a definitive answer. I don't want to speculate.
Q. Can you state approximately?
A. I'd have to go back. I don't want to misspeak.
Q. How thick is the fine sand unit?
A. The fine sand unit is the main aquifer in

that area. And its depth I'd have to go back into the literature, but if I -- if my recollection serves me correct, it's up to about 130 feet deep in this area.
Q. Okay. And what is the direction of flow in the fine sand unit?
A. It is in a northerly direction.
Q. And where does it discharge?
A. It flows towards the Illinois River.
Q. Can you describe the hydrogeologic connection between the fine sand unit and the silt clay unit?
MS. NIJMAN: To the extent you've developed an opinion for counsel, I'm going to direct you not to answer that. To the extent you have reported this elsewhere, you can answer.
BY THE WITNESS:
A. I'll decline in answering that in that any of my opinions and conclusions were provided to counsel under privilege.
BY MR. HARLEY:
Q. Generally speaking, is there a difference in rate of flow of groundwater in the fine sand unit versus the silt clay unit?

A. There may be.
Q. Which one would tend to have a greater rate of flow?
A. The fine sand unit.
Q. Of the monitoring wells which are identified in this exhibit, which monitoring wells would characterize the silt clay unit?
A. It would -- based on the figure I have in front of me here, it would be wells MW 12, MW 14, MW 15, MW 8, and MW 6.
Q. And from that, can we conclude that the other monitoring wells are characterizing groundwater in the fine sand unit?
A. Yes.
Q. Why is monitoring well 16 located where it is?
MS. NIJMAN: Objection; foundation.
BY THE WITNESS:
A. Monitoring well 16 was installed as part of CCA compliance requirements in an area defined further upgradient of groundwater flow for purposes of -- of trying to establish additional background.
BY MR. HARLEY:
Q. Do you know if that was done at the

suggestion of Illinois EPA, or was that done at the suggestion of Midwest Generation?
MS. NIJMAN: I'll object to the extent that was a conversation -- a privileged conversation with counsel. To the extent there was a conversation with EPA, you can answer.
BY THE WITNESS:
A. That was discussed with Illinois EPA with some of the initial discussions when the notices of violation came out and as the scopes of the CCAs were being developed, and so it was a combined discussion.
(Mr. Zaharoff left the deposition room.)
BY MR. HARLEY:
Q. In reviewing sampling results, have you observed differences in the level of constituents identified in monitoring well 16 versus downgradient wells?
MS. NIJMAN: Object to foundation.
BY THE WITNESS:
A. I have observed differences on some of the parameters.

BY MR. HARLEY:
Q. Which parameters?
A. I'd have to go back and take a look at the data. I do not have it in front of me.
Q. In reviewing well sampling data, have you observed differences in the sampled constituents that you find in the silt clay unit versus the fine sand unit?
A. I have not sat down and looked at the distinction between the chemistry from the wells in the silt unit versus the wells in the sand unit.
Q. Is that because you have not been asked to do that by Midwest Generation?
MS. NIJMAN: I'll object to the extent you've been directed either way from counsel.
BY THE WITNESS:
A. Any -- I'll decline to answer any opinions or conclusions that we have that were done under discussions with -- under client privilege.
BY MR. HARLEY:
Q. Have you ever had direct conversations with Illinois EPA about differences in constituents in wells in the silt clay unit versus the fine sand unit?

A. Not that I'm aware of, no.
MR. HARLEY: Off the record.
(Discussion had off the record.)
(Exhibit No. 177 marked for identification, 12-18-14.)
BY MR. HARLEY:
Q. Calling your attention to what has been marked as Deposition Exhibit 177 and is Bates stamped number 727, do you recognize this depiction of the Powerton facility?
A. I'm familiar with it.
Q. And what was your role in developing this depiction?
A. I directed my engineer in the drawing of it and it was developed as part of our task to assist in responses to the CCA requirements.
Q. And is it correct that this document is titled Proposed Groundwater Management Zone?
A. That is what's on the title, yes.
Q. On this document there are two areas which are identified as dredge spoil piles. Do you know what those dredge spoil piles consist of?
A. I -- I do not know. I did not do any work with the dredge spoil piles.

Q. When you visited the Powerton facility, has there ever been any discussion about the dredge spoil piles?
A. I can -- can I -- can I ask...
MS. NIJMAN: Sure.
(A recess was taken.)
MS. NIJMAN: Back on the record.
What was the last question?
(Record read.)
BY THE WITNESS:
A. I personally have not had any discussions about the dredge spoil piles. Didn't -- didn't even see them.
BY MR. HARLEY:
Q. I couldn't hear the last part.
A. I personally did not have any discussions with -- relative to the dredge spoil piles. I didn't even see them. I was not on that part of the site.
Q. This depiction also identifies features which are described as French drains. Do you know what a French drain is?
MS. NIJMAN: At this facility or generally?
MR. HARLEY: Generally.

MS. NIJMAN: Okay.
BY THE WITNESS:
A. I'm not an engineer. However, yes, I am familiar with the basic concept of a French drain.
BY MR. HARLEY:
Q. What is the basic concept of a French drain?
A. I'm not sure where your question is leading. I'm not an engineer, but a French drain is generally an underdrain that will allow for some de-watering or interception of water in an area.
Q. Is that surface water?
MS. NIJMAN: Generally?
MR. HARLEY: Generally.
MS. NIJMAN: So without -- do you have an understanding generally of how French drains operate?
BY THE WITNESS:
A. In general, it would be intercepting some groundwater.
BY MR. HARLEY:
Q. Groundwater?
A. Yes.
Q. Do you know if that's how the French

drains function at the Powerton facility?
A. I'm not familiar with their design, construction, nor when they were put in, nor who put them in, so I cannot answer that question.
Q. In developing this depiction of the Powerton facility, do you know why it was important to identify the location of French drains?
MS. NIJMAN: Object to foundation.
BY THE WITNESS:
A. As part of our response requirement for the GMZ submittal is a site map which identifies various -- excuse me -- items and structures. This information was provided to me by Midwest Gen to post on the maps, so am I aware of the significance of that? No, I'm not.
BY MR. HARLEY:
Q. Generally speaking, can the existence of a French drain change the direction of flow?
MS. NIJMAN: Objection; foundation.
BY THE WITNESS:
A. Generally speaking, yes.
BY MR. HARLEY:
Q. Okay. Also referring to Deposition Exhibit 177, does the groundwater management zone

extend over the entire Powerton facility?
A. No, it does not.
Q. Do you know why not?
MS. NIJMAN: Object to the extent it calls for privileged conversation with counsel.
BY THE WITNESS:
A. My answer will be similar to the answers for the previous stations. We were tasked to assist in developing the GMZ. We proposed an area to Illinois EPA. They reviewed and provided us some comments, and we finalized the current boundary.
BY MR. HARLEY:
Q. And to foreclose another detour, would you give the same answer to the boundaries of the environmental land use control at the Powerton facility?
A. Yes.
Q. I had some questions of a more general nature, and then I believe my colleague may have some questions that I will ask you as well, but we're getting very close to the conclusion.
As part of your work for Midwest Generation, have you ever been asked by Midwest

Generation to evaluate the use of interceptor trenches as part of addressing groundwater conditions at any Midwest Generation facility?

MS. NIJMAN: I'll object only to the extent if it's been directly by Midwest Gen, you can answer. If it's through counsel, it's privileged.

BY THE WITNESS:

A. I will decline to answer in that any of those discussions would have been done under attorney-client discussions to my -- to my recollection.

BY MR. HARLEY:

Q. So you never were a participant in any direct conversations with Illinois EPA about the potential use of interceptor trenches at any Midwest Generation facility?

A. Not that I'm aware of or not that I recall.

Q. I believe your answers will be similar for the following questions, but I do want this to be clear for the record.

As part of your work for Midwest Generation, have you been asked by Midwest Generation to evaluate the use of in situ

biodegradation as part of addressing groundwater conditions at any Midwest Generation facility?

MS. NIJMAN: Same privilege objection.

THE WITNESS: I get -- can I -- again, I'm sorry. Can I ask you?

MS. NIJMAN: Sure.

THE WITNESS: I've just -- I'm not quite sure where your questions are leading.

(A recess was taken.)

MS. NIJMAN: Back on the record.

The only issue was the deponent wanted to clarify we were talking about these four facilities.

MR. HARLEY: Yes. I'm sorry.

BY THE WITNESS:

A. Okay. The way it was stated to me was unclear if we were talking strictly on these four facilities.

BY MR. HARLEY:

Q. I see, because I said "any Midwest Generation facility." Yes. I'm clarifying that it means -- when I say "any Midwest Generation facility," I mean Will, Joliet, Waukegan, and Powerton.

As part of your work with Midwest

Generation, have you been asked by Midwest Generation to evaluate the use of in situ biodegradation as part of addressing groundwater conditions?

MS. NIJMAN: Same privilege objection.

BY THE WITNESS:

A. At these four stations, to my best recollection, no.

BY MR. HARLEY:

Q. As part of your work for Midwest Generation, have you been asked by Midwest Generation to evaluate the use of pump-and-treat systems as part of addressing groundwater conditions at any one of these four facilities?

MS. NIJMAN: Same privilege objection.

BY THE WITNESS:

A. Same -- to the best of my recollection at these four facilities, I have not been asked to evaluate them.

BY MR. HARLEY:

Q. As part of your work for Midwest Generation, have you been asked by Midwest Generation to evaluate the use of in situ chemical oxidation as part of addressing groundwater

conditions at any of the four Midwest Generation facilities?

MS. NIJMAN: Same objection. We're excepting any conversations you may have had with or through counsel.

BY THE WITNESS:

A. Any -- any conversations on remediation would have been done under counsel privilege. To my recollection, no.

BY MR. HARLEY:

Q. As part of your work for Midwest Generation, have you been asked by Midwest Generation to employ three-dimensional groundwater monitoring at any of the four Midwest Generation facilities?

MS. NIJMAN: Object to foundation and, again, with the exception that we're not talking about any conversation you may have had with counsel.

BY THE WITNESS:

A. That would strictly have been under counsel-privileged discussions in regards to three-dimensional groundwater monitoring I believe is what you're saying.

BY MR. HARLEY:
Q. Uh-huh.
As part of your work for Midwest Generation, have you been asked by Midwest Generation to employ contaminant particle tracking simulations for groundwater for any of the four Midwest Generation facilities?
MS. NIJMAN: And I'm going to object to foundation as to what that is and what it means and object to exclude any conversations you may have had by or through counsel.
BY THE WITNESS:
A. And I will decline on that that any of those conversations that I had would be under client -- counsel privilege.
BY MR. HARLEY:
Q. There strictly as to the foundation objection, for the record, can you describe what three-dimensional groundwater modeling is?
A. In general terms, a three-dimensional groundwater model is a numerical simulation of the subsurface conditions in which groundwater moves, and it allows you to evaluate and replicate existing groundwater flow conditions and then to

use that model as a tool to help evaluate, if there's a change in conditions, what might one expect as a change in groundwater flow.
Q. And has KPRG ever undertaken a three-dimensional groundwater model?
A. KPRG uses an associate that specializes in groundwater modeling. It's a very specialized field to do it right and we use an associate to do three-dimensional groundwater modeling for KPRG's clients if our clients need that level of -- of analysis.
Q. And when you say "an associate," do you mean someone who is employed by KPRG?
A. He is an associate firm. A one-man shop basically, two-man shop.
Q. What is that firm called?
A. Geo-Hydro, Inc.
Q. And what is the individual's name?
A. Charles Norris.
Q. To your knowledge, has Geo-Hyrdo, Inc., ever completed any work for Midwest Generation?
A. Relative to these four facilities?
Q. Yes.
A. No.

Q. And again, strictly as to the foundation objection, can you please describe for the record what contaminant particle tracking simulation is?
A. In general terms, contaminant particle tracking is an add-on package to a groundwater model. Once you develop a three-dimensional numerical model that simulates groundwater flow properly, you can then tack on an additional package where you can introduce the specific chemistry into the aquifer at a specific point, and then the flow model will calculate the dispersion and downward movement of -- of the constituent that you're going to model.
So it's particle tracking, a very descriptive term for those packages.
Q. And what kind of particles could be tracked using this simulation?
A. Particles are referred to as molecules in the contaminant. Depending on what you would put in as your source in the term, the model then numerically goes through the crunches to -- to allow you to evaluate how a particular compound can move through the system.
Q. And when you say "compound," would that

be, for example, antimony?
A. Maybe.
Q. Could it be boron?
A. Maybe.
Q. Does KPRG perform contaminant particle tracking simulations?
A. That would be done through our associate modeling -- the associate who does our modeling -- groundwater modeling for us.
Q. And that would be in this case again?
A. Geo-Hyrdo, correct.
Q. Geo-Hydro.
Do you know if Geo-Hyrdo has completed any work for Midwest Generation related to contaminant particle tracking simulations?
MS. NIJMAN: You mean as through KPRG as an associate of KPRG?
MR. HARLEY: Yes.
BY THE WITNESS:
A. At these four facilities, no.
BY MR. HARLEY:
Q. To wrap up, just some clarifying questions about hyrdogeology at the Will County facility.
Do you communicate directly with Patrick

Engineering regarding the work that they have completed at the Will County facility?

MS. NIJMAN: Again, I'm going to object. Other than to the extent you described earlier that there was conversations through counsel in response to the CCAs -- excuse me -- the violation notices, you can answer other than those conversations.

BY THE WITNESS:

A. Can you clarify the time frame as well? At the present time we do not talk with Patrick Engineering.

BY MR. HARLEY:

Q. Two years ago.

A. We had discussions with Patrick Engineering in regards -- when the notices of violation came out in regards to some of the data tables and some of their groundwater flow maps.

Q. And did those include conversations about the Will County facility?

A. Yes.

Q. What were the nature of the conversations that you had with Patrick Engineering regarding hydrogeologic conditions at the Will County facility?

MS. NIJMAN: I object. To the extent any opinions or issues were conclusions drawn under the scope of counsel, I direct you not to answer. If there's data you want to -- you've discussed, you can talk specifically about data.

BY THE WITNESS:

A. In regards to the hydrogeology, we did not necessarily agree on the groundwater flow maps that were being generated for the facility.

BY MR. HARLEY:

Q. What was the nature of the disagreement?

A. If I remember correctly, the groundwater flow maps that were being generated were being done via a computer plotting program, a computer contouring program which is a nice exercise to do.

However, being a computer program, this is a mathematical averaging program, and the contours that are generated by the computer have to then be looked at by a professional to make sure that they make sense hydrogeologically.

And if I remember correctly, I had some issues on their figures where basically the computer printout was just being used without taking the next step of -- of -- of having to

modify the flow lines correctly so that they made sense hydrogeologically and it's not just a computer mathematical depiction.

Q. What additional steps needed to be taken, beyond the computer simulation, in order to accurately characterize groundwater flow?

A. The flow lines needed to be -- the term is smoothed out. The way the -- if my recollection is correct, the computer flow lines, the potentiometric surface lines, were basically coming across the river at 90 degrees. Computer-wise that made sense. From a hydrogeologic standpoint, you've created a waterfall. There's no waterfall. The flow lines can't be crossing the river one after another at 90 degrees because that means water is -- you're creating a waterfall.

So those three lines had to be smoothed out so that you get a more accurate depiction of groundwater flow as it's approaching the surface water body.

Q. So what empirical work did you do in order to come to the conclusion that these flow contours needed to be smoothed out?

MS. NIJMAN: Asked and answered.

THE WITNESS: Pardon?

MS. NIJMAN: Asked and answered. You just described that.

MR. HARLEY: He described his conclusion. He did not describe the method that he used in order to come to that conclusion.

MS. NIJMAN: He looked at it. He described that.

BY THE WITNESS:

A. Straight hyrdogeologic interpretation of a situation that I know doesn't exist.

BY MR. HARLEY:

Q. Why wasn't that clear to Patrick Engineering, if you know?

MS. NIJMAN: Objection; calls for speculation.

BY THE WITNESS:

A. I can't speculate on that.

BY MR. HARLEY:

Q. Have you ever reviewed groundwater data at the Will County facility that suggests that there's a groundwater mound under the ash ponds?

A. Not that I recall. And any discussions I may have had on opinions or conclusions were done

under attorney-client privilege.
Q. Have you ever seen groundwater data related to the Will County facility indicating groundwater flow toward the canal?
A. I have not seen any data for groundwater elevations on the east side -- east half of the site, so I can't make any conclusions in regards to that.
Q. So you have not been asked by Midwest Generation to characterize groundwater flow for that portion of the site?
MS. NIJMAN: Objection to the extent it's privileged.
BY THE WITNESS:
A. I will decline to answer based on any discussions that we had in regards to -- to these issues were under attorney-client privilege.
BY MR. HARLEY:
Q. Have you ever seen groundwater data at Will County suggesting groundwater flow in a southwesterly direction?
MS. NIJMAN: Same privilege objection. You're asking for his opinions now based on data that he's seen and his opinions to the extent --

MR. HARLEY: I know. I think it's -- I'm sorry. I'm sorry. Please complete your objection. I'm sorry.
MS. NIJMAN: Okay. So to the extent there is -- are you asking for data like a map that shows that someone else said is showing going to a certain direction? I mean, he obviously reviews data, so I'll object to vagueness, foundation, and privilege. You can try to restate it.
MR. HARLEY: I believe the question was of a factual nature, not requesting any kind of conclusion. It was simply has he reviewed data.
MS. NIJMAN: But you're suggesting the data reveals a conclusion. So are you saying someone else came to a conclusion of a direction of flow that he has seen it?
MR. HARLEY: If he hasn't seen it, then the simple answer is no.
BY MR. HARLEY:
Q. Have you ever seen groundwater data at Will County indicating groundwater flow in a southwesterly direction?
MS. NIJMAN: Same objection. If you can understand what he's talking about, you can answer.

BY THE WITNESS:
A. I -- I believe this comes down -- there may have been -- and I do not recall exactly. There may have been some initial depictions that Patrick Engineering had that might have shown some flow from the Des Plaines River towards the facility.
And again, we disagreed with the way they were drawing their maps, and so whether or not their interpretations were correct, I can't recall, but our fundamental disagreement with them was how they were drawing it on computer maps.
BY MR. HARLEY:
Q. Have the disagreements between KPRG and Patrick Engineering ever been reviewed by Illinois EPA?
MS. NIJMAN: Objection to vague. You can answer, if you understand.
BY THE WITNESS:
A. The -- after KPRG took over the groundwater monitoring program, certainly our maps were the ones being submitted at that point, so IEPA was certainly aware of the difference in some of those interpretations.

And also, in the responses to the NOVs, we had identified several issues with the data at that point, and those were also, I believe, clarified within the context of the response to the notices of violation.
MR. HARLEY: One moment, please.
(Brief pause.)
MR. HARLEY: I have no further questions.
MS. NIJMAN: Okay. Thank you.
Reserve signature.
(AND FURTHER DEPONENT SAITH NOT.)

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
SIERRA CLUB, et al.,)
)
Complainants,)
) PCB No-2013-015
v.)
)
MIDWEST GENERATION, LLC,)
)
Respondent.)

I hereby certify that I have read the foregoing transcript of my deposition given on December 18, 2014, at the time and place aforesaid, consisting of Pages 1 through 109 inclusive and I do again subscribe and make oath that the same is a true, correct and complete transcript of my deposition so given as aforesaid.

Please check one:
_____ I have submitted errata sheet(s)
_____ No corrections were noted

_____
RICHARD R. GNAT

SUBSCRIBED AND SWORN TO
before me this___ day
of _____, A.D., 2014.
_____
Notary Public

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

I, CARYL L. HARDY, Certified Shorthand Reporter No. 084-3896, Notary Public in and for the County of Cook, State of Illinois, do hereby certify that previous to the commencement of the examination, said witness was duly sworn by me to testify the truth; that the said deposition was taken at the time and place aforesaid; that the testimony given by said witness was reduced to writing by means of shorthand and thereafter transcribed into typewritten form; and that the foregoing is a true, correct, and complete transcript of my shorthand notes so taken as aforesaid.

I further certify that there were present at the taking of the said deposition the persons and parties as indicated on the appearance page made a part of this deposition.

I further certify that I am not counsel for nor in any way related to any of the parties to this suit, nor am I in any way interested in the outcome thereof.

I further certify that this certificate applies to the original signed and certified transcripts only. I assume no responsibility for the accuracy of any reproduced copies not made under my control or direction.

IN TESTIMONY WHEREOF I have hereunto set my hand and affixed my notarial seal this 29th day of December, A.D., 2014.

Caryl L. Hardy, CSR

My Commission Expires
February 1, 2016

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December 29, 2014

Ms. Jennifer T. Nijman
Nijman Franzetti, LLP
10 South LaSalle Street, Suite 3600
Chicago, Illinois 60603

Re: Sierra Club vs. Midwest Generation
Case No. PCB No-2013-015

Dear Ms. Nijman:

Enclosed please find a copy of the deposition transcript of Richard R. Gnat which was taken on December 18th, 2014.

As signature was reserved, please arrange for the deponent to review his transcript making any necessary corrections on the errata sheets. Then have him sign the deponent's signature page and have the signature notarized.

Please send the original errata sheets and signed deponent's certificate within 28 days of today to Ms. Faith E. Bugel, keep a copy for yourself, and please send a copy to me. If they are not returned by said date, upon request an affidavit will be provided pursuant to the procedure outlined in Rule 207(a) of the Illinois Supreme Court Rules and the deposition will be completed and will be "used as fully as though signed."

Thank you for your cooperation in this matter. If you have any questions, please do not hesitate to call me.

Sincerely,

Caryl L. Hardy

cc: Ms. Faith E. Bugel

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Exhibit E4
(REDACTED)

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of	)
	)
SIERRA CLUB; ENVIRONMENTAL LAW & POLICY CENTER; PRAIRIE RIVERS NETWORK; and CITIZENS AGAINST RUINING THE ENVIRONMENT,	)
	)
Complainants,	)
	)
vs.	)**PCB No-2013-015**
	)**(Enforcement-Water)**
MIDWEST GENERATION, LLC,	)
	)
Respondent.	)

The discovery deposition of MARIA RACE, taken under oath on the 12th day of November 2014, at Suite 3600, 10 South LaSalle Street, Chicago, Illinois, pursuant to the Rules of the Supreme Court of Illinois and the Code of Civil Procedure, before Tracy L. Overocker, a notary public in and for the County of Will and State of Illinois, pursuant to notice.

APPEARANCES:
ENVIRONMENTAL LAW & POLICY CENTER, by
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Appearing on behalf of the Defendant.

ALSO PRESENT:

ENVIRONMENTAL LAW PROGRAM
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Ms. Bugel. 4

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EXHIBITS

NUMBER FOR IDENTIFICATION
Nos. 1 through 42 4
Nos. 43 through 52 64
No. 53 104
Confidential Exhibit No. 4 retained by Bugel*

(Whereupon, Deposition Exhibit Nos. 1 through 42 were marked for identification.)
(Witness sworn.)
MARIA RACE,
called as a witness herein, having been first duly sworn, was examined and testified as follows:
EXAMINATION
BY
MS. BUGEL:

Q Do you want to be called Miss Race or Maria, which one --
A Maria is fine with me.
Q Maria, will you please give your name for the record.
A Maria Loraine Race.
Q And can you spell that, please.
A Sure. M-a-r-i-a L-o-r-a-i-n-e R-a-c-e.
Q And your place of employment, please.
A NRG Energy. So it's just capital N-R-G.
Q And your business address?
A It's changed. I believe it's 529 Romeo Road, Romeoville, Illinois 60446.
Q Okay. And I know you know me, Faith

Bugel --
A Yes.
Q -- from the ELPC. I am here representing ELPC, but I'm asking questions on behalf of all the plaintiffs today. We're just going to have one questioner.
Have you ever given a deposition before?
A No.
Q Then I just want to go over a couple of the basics of depositions. This is a formal legal proceeding. You know you've been sworn in and that means you are under oath to answer all the questions truthfully.
For the benefit of the court reporter, please answer out loud. It makes it hard -- nods and things just make it hard for her.
If you don't understand a question, please tell me. If you need me to rephrase a question, I can do so; but if you do answer a question, we will assume that you've understood it.
If you need a break, please let us know. We're happy to take as many breaks as you need.

And then also at the end, you will have an opportunity to read over the deposition and correct any mistakes in the transcript afterwards.

So do you understand those directions?

A Yes, I do.

Q All right. So your current employer is NRG. Is there still a subsidiary of that company that's Midwest Generation?

A Yes. I believe Midwest Generation is still the name that's associated with the power plant.

Q And before working at NRG, you were working at Midwest Generation; is that correct?

A Correct. And also Edison Mission Energy.

Q Are you in any capacity still working for Midwest Generation or overseeing the plants in any way?

MS. NIJMAN: I object to form.

Do you understand the question?

THE WITNESS: I don't understand the question.

BY MS. BUGEL:

Q What I'm trying to get at is that you worked at Midwest Generation and they were bought by NRG and you still have a role in Midwest Generation as a company?

A Correct.

Q Okay. And can you tell me how long you've been in your current position?

A Since April.

Q And what was -- what are your responsibilities in that position?

A My current responsibilities are to assist in the commercial operation of the facilities.

Q And what is your title?

A Asset manager, director of Asset Management.

Q And what was your previous position?

A I was director of Environmental Services for Midwest Generation, Edison Mission Energy.

Q And how long were you in that position?

A Approximately four years.

Q And what were your responsibilities in that position?

A Could I see my résumé? That may make it easier.

MS. NIJMAN: Did you -- we sent that off to you.

MS. BUGEL: Yeah, and I didn't make it an exhibit because my background -- I've got two more

questions on background.

THE WITNESS: I can just --

MS. NIJMAN: You want to give a general?

THE WITNESS: -- wing it.

Sure.

I worked for Bill Constantelos to assist the company in compliance direction and decision-making on a day-to-day basis with regard to environmental compliance, and that was for the wind farms and for the coal plants.

BY MS. BUGEL:

Q And prior to being director of Environmental Services, what position were you in?

A I had a variety of positions where my title changed, but I was basically doing the same thing. I started out as, I think, senior environmental engineer or something along those lines; and I worked managing the NPDES permitting, day-to-day compliance and Toxics Release Inventory, Lincoln Stone Quarry Landfill, and just managing day-to-day compliance issues surrounding those types of things. And there were more responsibilities, but those were probably the major ones.

Q And what year did you start working at

Midwest Generation?

A 2001.

Q And I want to ask you a few questions about terminology related to coal ash.

Can you explain to me what is slag?

MS. NIJMAN: Let me just state for the record that Maria is a fact witness, she's not an expert witness. She can give her understanding of what it means. She's not giving an expert opinion as to the definition of "slag."

So in your role, you can describe --

THE WITNESS: Okay.

MS. NIJMAN: -- how you believe "slag" is defined.

THE WITNESS: In my role as an environmental compliance officer, my understanding is that slag is the bottom ash that comes from a cyclone boiler.

MS. BUGEL: And let me explain what I'm looking for in these questions. I'm looking for if there is sort of a common way the term is used within Midwest Gen, within the company, so sort of practice, again, obviously not expert opinion.

MS. NIJMAN: Yeah. And then let me just clarify for the record that Maria Race is not

testifying as to how it's used within the company. She's testifying as to how she uses it. She can't testify as to how other people understand it.
BY MS. BUGEL:
Q How is slag related to ash?
A When -- in my recollection, my understanding is that slag and bottom ash are combined in hand- -- wet handling at our facilities.
Q Have you ever used those terms interchangeably?
MS. NIJMAN: Which terms?
MS. BUGEL: Slag and ash.
MS. NIJMAN: Bottom ash?
MS. BUGEL: I had just asked about ash.
MS. NIJMAN: Okay. Well, if you understand.
THE WITNESS: I suppose it's possible that I could have, but to my recollection, I generally combine bottom ash and slag together.
BY MS. BUGEL:
Q What is the slag tank in your experience?
A I'm not sure. In my experience, I believe slag tank may be on some drawings in the permits -- permit applications, but I'm not sure what a slag tank is, literally.

Q Do you know if there's a wet bottom slag tank at Will County?
A I don't know.
Q What is processed water -- let me rephrase that.
What is your understanding of processed water?
A My understanding is that processed water is water that's being used by an industrial -- being used in an industrial process. So when you say "processed water," I'm assuming that for our facilities that means water that is in our process being used for a variety of purposes.
Q Then in your understanding for your facilities, is it -- can it be related to ash?
A Yes.
Q Can you explain how it might be related to ash?
A My understanding is that processed water is used to transport bottom ash and slag from the boilers to the ash impoundments.
Q What is your understanding of the meaning of sluice?
A My understanding of sluice is that that

implies movement, that you're sluicing water from one place to another and that it doesn't necessarily have a process. Meaning it could be clean water being sluiced or it could be processed water being sluiced.
Q How can sluice be related to ash?
A My understanding -- and the way that I use it -- is that ash can be sluiced from a boiler to an ash impoundment. So, in other words, it's transported from one place to another using water as the medium.
Q If sluice water or sluice -- which one is more -- the proper usage? Sluice water or sluice, or doesn't it matter?
A I don't think it matters as long as I understand what you're saying.
Q Okay. If sluice water is used to move ash, does it end up with ash in it?
A If processed --
MS. NIJMAN: Just -- in your experience. That sounds to me like an expert opinion request. If you've seen it or you have experience with it or if you know you can answer the question, you can answer it. If it's asking for an opinion, I'm going to object.

THE WITNESS: Could you repeat the question.
(Record read as requested.)
THE WITNESS: I don't know the answer to that.
BY MS. BUGEL:
Q Can you identify -- just to make this more concrete about Midwest Gen facilities so we can get away from this expert opinion thing, can you explain -- can you identify a Midwest Gen facility where sluice is used to move ash?
A At Joliet 29, water is used to sluice ash from the boiler to a pond.
Q Do the sluice and ash then get routed to the same place at Joliet 29?
A It is my understanding that sometimes they get routed to the same place.
Q Can you explain at Joliet 29 how they would get separated?
A Well, they don't get separated from each other, but sometimes the Joliet 29 ash goes to Lincoln Stone Quarry and sometimes the Joliet 29 ash is sluiced to ash -- either Ash Pond No. 1 or Ash Pond No. 2.
Q So if the ash is sluiced to Lincoln Stone Quarry, do both the sluice and the ash end up in

Lincoln Stone Quarry?
MS. NIJMAN: You mean the water and the ash together?
MS. BUGEL: Yes.
THE WITNESS: Yes.
BY MS. BUGEL:
Q And you said the second option for where they might go is to a pond?
A Mm-hmm.
Q Do the -- if sluice is used to move ash, do the water and ash together then end up in the pond?
A Yes. They do end out in the pond. If what you mean is the initial water with the ash in it moving ends out in the pond, then yes.
Q Yes. That's what I meant.
And I am passing you what has been marked as Deposition Exhibit 1 -- and I apologize, because of the volume of documents, we just made two copies -- and Deposition Exhibit 1 appears to be an e-mail from -- oh, I'm sorry, can you turn to Page 13734 of Deposition Exhibit 1 referring to the e-mail on that page? This appears to be an e-mail with the RE heading of Subgrade for Joliet 29 Ash Pond Liner 2 -- I'm sorry, Ash Pond 2 Liner from Eric Tlachac --

Am I pronouncing his name correctly?
A I don't know actually. Good guess.
Q -- to Maria Race on October 24th, 2007, 1:22 p.m.
Do you see where it says that? The identifying -- just the identifying information I read.
A Yes, I do.
Q And this e-mail was to you; correct?
A Correct.
Q And are you familiar with this e-mail?
A I'm not sure. It's been a while since I've seen it, but I'm sure this is a true e-mail that came to me.
Q Do you recall reading this e-mail when you received it?
A I'm not sure to be honest with you.
Q Does this appear to be a true and accurate copy of that e-mail?
MS. NIJMAN: Asked and answered.
You can answer again.
THE WITNESS: I believe so.
MS. NIJMAN: You can read them all if you want to.

THE WITNESS: Should I read this? Do you have more questions?
BY MS. BUGEL:
Q I was just waiting for you to --
A Okay.
Q -- to review it if you wanted to review it.
MS. NIJMAN: Let her ask the next question and then we can see what you need to do.
THE WITNESS: Okay.
BY MS. BUGEL:
Q If you refer to the second paragraph in the e-mail, it begins, Just to clarify. Just to clarify there is 4 to 6 -- I'm sorry, 4, dash, 6 of bottom ash above the Poz-O-Pac. However, this will make an excellent bedding layer for the geomembrane.
Do you see where it says that?
A Yes, I do.
Q Do you have an understanding of what the 4 to 6 was referring to?
A I wouldn't want to guess.
Q And turning the page to 13735 and at the top of this -- the page, this appears to be an e-mail -- this one, it's a little hard to tell. It appears to be an e-mail from Eric Tlachac to Maria

Race?
A Mm-hmm.
Q October 24th, 2007, 12:02 p.m.
Do you see where it says that?
A Correct. Yes, I do.
Q And looking at the end of the second paragraph -- the second paragraph begins, Pond 2 --
A Mm-hmm.
Q -- in a parenthetical at the end it says, There is probably more risk from the unlined runoff basins out there than a little ash stuck between the Poz-O-Pac and the geomembrane.
Do you see where it says that?
A No.
Q Do you see that?
A Oh, I'm looking in the wrong place. Yes, I see that.
Q Do you have an understanding of what Eric Tlachac meant by that?
MS. NIJMAN: Only if you know what he meant.
THE WITNESS: I don't know what he meant.
BY MS. BUGEL:
Q And turning back to Page 13734, at the bottom of that page, there is an e-mail from you,

Maria Race, to Eric Tlachac sent Wednesday, October 24th, 2007, 12:22 p.m. The second -- do you see where it says that?

A Yes.

Q The second sentence of that e-mail says, I agree with your assessment of risk/benefits.

Do you see where it says that?

A Yes.

Q Do you recall what you meant by that?

A If I were to guess, based on what I see in this e-mail --

MS. NIJMAN: Well, don't guess. If the e-mail helps your recollection or if there's something stated there, that's fine.

THE WITNESS: I'm agreeing in this e-mail that it's okay to leave the 4 to 6 inches, it says, of ash in place.

BY MS. BUGEL:

Q And do you understand from this e-mail chain that that was saying "in place" meaning between the Poz-O-Pac and the geomembrane?

A Yes.

Q And do you recall considering the risk of doing that?

A I don't recall considering the risk of doing that.

Q Do you have an understanding of the risk of doing that?

MS. NIJMAN: I object to the form. The risk of doing what?

MS. BUGEL: Leaving 4 to 6 inches of ash in between the Poz-O-Pac and the geomembrane.

MS. NIJMAN: And what risk are we talking about?

MS. BUGEL: The risks -- there were risks discussed in this e-mail. Maria has read where she said, I agree with your assessment of the risk, slash, benefits. That is the risk we're talking about.

MS. NIJMAN: So whatever general risk --

THE WITNESS: Let me look at this again.

As I sit here, I believe I wouldn't have considered the ash placed on the Poz-O-Pac, the ash that was still there to be a risk, the bottom ash, which is what is stated in here.

BY MS. BUGEL:

Q Why wouldn't you consider that to be a risk?

MS. NIJMAN: If you recall.

THE WITNESS: As I sit here, bottom ash is used for a variety of purposes and bedding for the liner seemed appropriate.

BY MS. BUGEL:

Q And looking, again, at the second paragraph in the very first e-mail on Page 13734, the paragraph that begins, "Just to clarify," this goes on in the third sentence -- I'm sorry, the second sentence -- second sentence begins, However, this will make an excellent bedding liner for the geomembrane, parentheses, we just did a cover project that way this summer on an ash landfill in Wisconsin, closed parentheses, comma, provided that it is dry, comma, so installing in spring may not make sense either.

Do you see where it says that?

A Yes, I do.

Q Do you recall having any understanding of that part of the e-mail at the time you received it?

A I don't recall.

Q It goes on to say, July/August would be ideal, comma, and I believe that L.C. said that Pond 1 wouldn't be full until 2009, period.

Do you see where it says that?

A Yes.

Q Do you recall having any understanding of that at the time you read it?

A I don't recall.

Q Do you recall any agreement to that time period?

A No, I don't recall making an agreement to a particular time period.

Q Do you recall if the membrane at Joliet 29 Ash Pond 2 was, in fact, installed?

A This is actually Will County e-mail, isn't it?

MS. NIJMAN: It says Joliet 29.

THE WITNESS: This says Will County. I'm getting confused.

MS. NIJMAN: The RE says "Joliet," but the text says "Will County," so it's a little complicated.

THE WITNESS: They both have a Pond 2, which is why I'm confused.

BY MS. BUGEL:

Q Okay.

A Let me see.

Q The third paragraph goes, FYI, I have not heard back from Jim Sault on our proposal for

permitting the replacement liners for Ash Ponds 2 and 3 at Will County. And then in the parenthetical it goes on to say, I wasn't anticipating Joliet 29 needs for procurement support based upon a conversation that I had with Lynn Johnson in September, but we're happy to do it, dash, it's nice to see these projects through to complete, parenthetical.

Do you see where it says that?

A Yes.

Q Does that clear up whether this was Joliet or Will County?

A Well, Jim Sault works at Will County.

Q Mm-hmm.

A From looking at these e-mails, I believe that Ash Pond 2 they're discussing here is Joliet because Bill Spelich and Elsie Briette work at Joliet.

Q And do you recall that liner being installed following this e-mail chain?

A I think this is a very confusing e-mail chain.

Can you repeat the question, please.

MS. BUGEL: Can you read it back.

(Record read as requested.)

THE WITNESS: No, I do not.

MS. BUGEL: Can we turn to Deposition Exhibit 2, please.

BY MS. BUGEL:

Q I'm passing you what's been marked as Deposition Exhibit 2. This is Bates No. 18418. Turning to the lower e-mail on that page, this appears to be an e-mail from Brian Delcorio to Maria Race and others on July 24th, 2008, at 10:27 a.m., with a subject line of Joliet Pond No. 1 Liner Install.

Do you see where it says that?

A Yes.

Q Are you familiar with this e-mail?

A No, I don't recall it.

Q Does your name appear on this e-mail?

A Yes.

Q Are you able to say whether this is a true and accurate copy of this e-mail?

A As I sit here, it looks like one.

Q If you want to take a moment to review the long paragraph in that e-mail.

MS. NIJMAN: Faith, I just have a question. Is the -- on the subject line, there is a little symbol

like there is an attachment. Is that an attachment symbol?

MS. BUGEL: I believe that is an attachment symbol. The exhibits that we received, sometimes they had the attachments, many times they did not have the attachments.

MS. NIJMAN: Okay. I'm just asking if the next page is the attachment.

MS. BUGEL: No, I don't believe that the -- this is the attachment. I think there would have been something -- a document attached.

THE WITNESS: Okay. I've read the document.

BY MS. BUGEL:

Q Okay. And then referring to the top e-mail on that page from Maria Race to Brian Delcorio, among others, on July 24th, 2008, 10:36 a.m.

Do you see where it says that?

A Yes.

Q Do you see where it says, You may proceed as you describe?

A Yes.

Q Do you recall giving that response to this e-mail?

A I do not recall it.

Q Do you know whether they went ahead and reconstructed the bank as discussed in the e-mail?

A I do not.

Q Do you recall whether any of the actions discussed in this bottom e-mail were taken?

A I don't know.

Q Do you know when Joliet Pond No. 1 was relined?

A I'm not sure. I know that it was relined, but I'm not sure of the day.

Q I'm passing you what has been marked as Deposition Exhibit 3 and it's got Bates No. 13737 through 13745. And this appears to be an e-mail from Eric Tlachac to Blake Connolly, cc'ing Maria Race, among others, February 21st, 2008, 9:13 a.m.

Do you see where it says that?

A Yes.

Q Do you see where you were cc'd on this e-mail?

A Yes, I do.

Q Are you familiar with this e-mail?

A I don't remember it.

Q Do you recall reviewing this e-mail at the time you received it?

A No, I don't, but I get a lot of e-mails, so I may have.

Q Do you know whether this appears to be a true and accurate copy of the e-mail chain?

A I would believe it is.

Q Referring to the last -- the very last -- I've got to find where I'm referring to. Referring to the last paragraph on this page, the last sentence, it's not complete on this page, but begins, In fact.

Do you see that, where it says that?

A Yes.

Q We did not want to remove the existing Poz-O-Pac liner at Joliet because we were concerned that would present a subgrade surface that would jeopardize the integrity of the geomembrane replacement liner, parentheses, i.e., sharp edges, closed parentheses, comma, or at least require additional accommodations, slash, cost to mitigate -- and this goes on -- but the Joliet ponds are 15 to -- 15, dash, 20 feet deep, parentheses, as opposed to 7 feet at Will County, closed parentheses, coma, so the capacity impact there was much less significant, period.

Do you see where it says that?

A Mm-hmm. Yes.

Q Do you recall whether the Poz-O-Pac liner at Joliet and -- I'm sorry, I got confused myself -- do you recall whether the Poz-O-Pac liner at Joliet was removed?

MS. NIJMAN: In which pond?

MS. BUGEL: This does not specify a pond, but in relining -- let's -- I'm going to refer to Pond Liner 1.

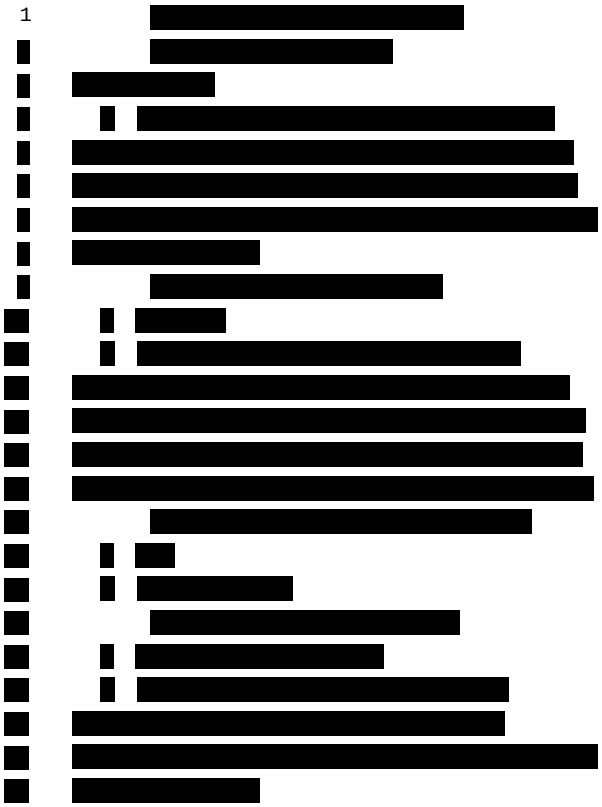
BY MS. BUGEL:

Q Do you recall that being removed?

A I don't recall.

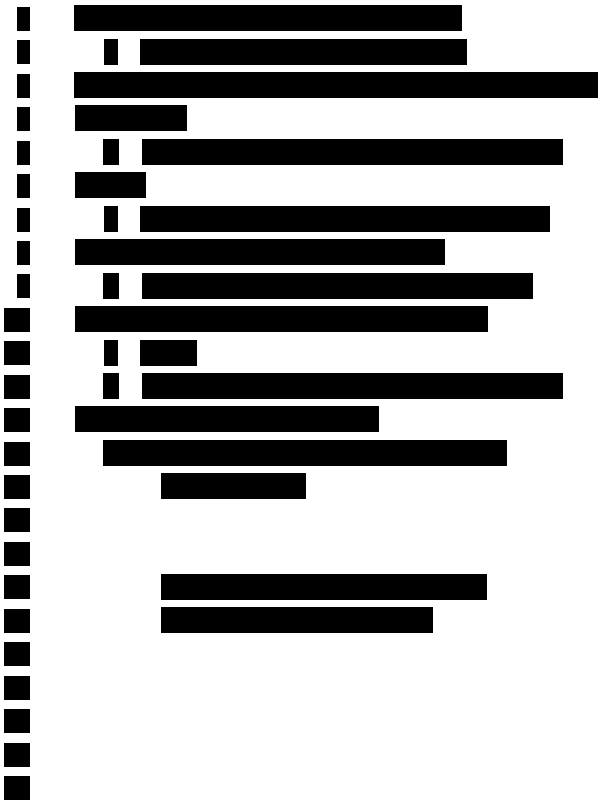
MS. BUGEL: We are now referring to a document that's confidential, so if you could mark the transcript as confidential and I will let you know when we're done.

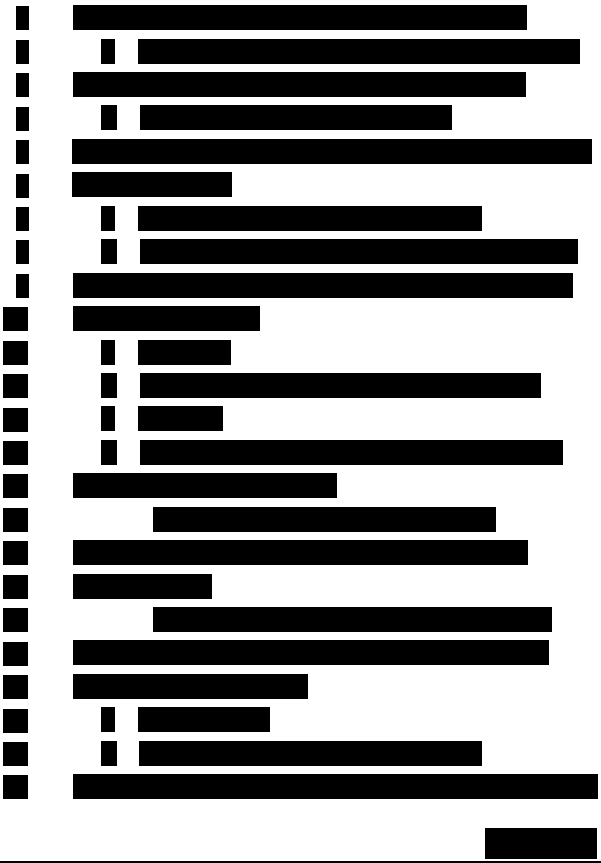
(Whereupon the following pages are marked confidential.)











(whereupon the following pages are no longer confidential.)

BY MS. BUGEL:

Q I am passing you what is marked as Exhibit 5 -- so I've passed you what's been marked as Exhibit 5.

A Mm-hmm.

Q And this has a caption, In the matter of Midwest Generation, LLC, Joliet 29 Generating Station, Joliet, Will County, Illinois, ID No. 6284, Illinois EPA VN W, dash, 2012, dash, 00059 Bureau of Water.

Do you see where it says that?

A Yes, I do.

Q And are you familiar with this document?

A Yes, I am.

Q Have you reviewed this document?

A Yes, I have.

Q Does this appear to be a true and accurate copy of the Joliet Compliance Commitment Agreement?

A Let me just take a quick look. It looks incomplete because it's not countersigned, but otherwise it looks like the correct agreement, but I'm concerned that it isn't countersigned. I don't

believe John Kennedy signed a version that wasn't countersigned, though, that we didn't agree on, but I'm not sure.

MS. NIJMAN: Okay. That's fine.

BY MS. BUGEL:

Q Can you please turn to Provision 5C on Bates Page -- my page number on it is wrong, but Bates 526.

Are you familiar with this provision?

A Yes, I am.

Q Do you know how Joliet complies with this visual inspection requirement?

A I do not. I assume that they have a procedure in place at the site for that.

Q Do you know if this CCA prohibits storage or handling of ash in unlined ponds?

A As I sit here, my understanding is that this regards the ash ponds at Joliet 29. I'm not sure how it addresses other items.

Q And can you explain how -- if this addresses just the ash ponds at Joliet 29 and not other items, how is that relevant to any prohibition on storing or handling ash in unlined ponds?

MS. NIJMAN: I'm going to object to the form of

the question as compound and vague.

THE WITNESS: I don't understand the question.

BY MS. BUGEL:

Q Okay. I had asked you if this CCA prohibits storing or handling ash in unlined ponds, and your answer -- to paraphrase it -- says this is in regards to the ash ponds at Joliet.

I'm trying to figure out how that response answered my question.

MS. NIJMAN: You can answer, if you understand what she's asking.

THE WITNESS: Are you -- the CCA describes the following actions that need to be taken at the ash ponds.

MS. NIJMAN: And you're referring, in your answer, to the operational ash ponds?

THE WITNESS: Correct.

MS. NIJMAN: I think that's the distinction, Faith.

BY MS. BUGEL:

Q So -- well, let me -- is there an explicit requirement in here or -- let me rephrase that.

Is there an explicit prohibition in here on storing or handling ash in unlined ponds?

MS. NIJMAN: I think the document speaks for itself. It's either there or it's not.

You can answer if you know or you can -- we can sit here and she can read every word and see if it's there, but it seems like a waste of our time.

THE WITNESS: Under Compliance Activities in Part 3, in 5A, it states: The ash ponds at Joliet 29 shall not be used as permanent disposal sites and shall continue to function as treatment ponds to precipitate ash. Ash will continue to be removed from the ponds on a periodic basis.

And I believe that is what the compliance activities listed here are about.

BY MS. BUGEL:

Q Okay. Do you -- let me back up a little bit.

Can you explain what role you played in responding to the Violation Notice -- and I believe it's the same Violation Notice that's listed on this CCA, Illinois EPA VN W, dash, 2012, dash, 00059. Is that the Violation Notice, to best of your knowledge, for --

A I believe so.

Q Okay. And can you explain what role you played in responding to that Violation Notice?

A Sure. I was working with a team on addressing the VNs. The team consisted of my boss and his boss, among others.

Q And who was your boss?

A Bill Constantelos.

Q And who was his boss?

A Doug McFarland.

Q And when you said -- I believe you referred to the VNs. When you referred to the VNs, were you referring to the VNs for all of the Midwest Gen --

A All of the Midwest Gen groundwater well VNs that came out at approximately the same time in June 2012.

Q Can you explain what role you played in this Compliance Commitment Agreement?

THE WITNESS: Can I talk to you for a minute?

MS. NIJMAN: Is this a privilege question?

(Break taken.)

THE WITNESS: Thank you.

Could you please read the last question.

(Record read as requested.)

THE WITNESS: I worked with a team of Midwest Generation folks and we were directed by counsel in putting together information.
BY MS. BUGEL:
Q In doing so, were you involved in putting together any information about other potential sources of contamination that might have affected the groundwater at Joliet 29?
MS. NIJMAN: I'm going to object.
I direct you not to answer. It is a privileged conversation.
She stated she was directed by counsel on how and what to review. So given that, whether she looked at information relating to other items would be between -- whether counsel asked her for that or not. That's the basis of the privilege.
MS. BUGEL: I'm going to take a short break. Can we go off the record for a moment.
(Break taken.)
BY MS. BUGEL:
Q Separate from the knowledge you gained as a result of being directed by counsel, were you aware of other potential sources of groundwater contamination at Joliet 29?

MS. NIJMAN: Prior to the VNs?
MS. BUGEL: Prior to being directed by counsel to investigate any sources.
MS. NIJMAN: Assuming that direction was ever given.
THE WITNESS: So separate from the VNs is what you mean?
BY MS. BUGEL:
Q What I mean is, prior to any direction by counsel to do any investigation, were you aware of any potential sources of groundwater contamination at the Joliet 29 vicinity?
MS. NIJMAN: And let me insert an objection as to relevance and overbreadth because we're talking about this litigation relating to ponds. So are you asking for any source of groundwater contamination?
MS. BUGEL: Well, in order to make a determination as to whether it was the ponds, you might need to look at other sources besides ponds. So yes.
MS. NIJMAN: If you can answer the question, subject to the objection of overbreadth. Beyond the scope.
THE WITNESS: Can you give me a time frame for

that? That would help me.
BY MS. BUGEL:
Q Prior to being directed by counsel -- prior to any direction by counsel to investigate after you received the VNs, before you had confidential --
A Okay.
Q -- communications with counsel, did you become aware in that time period of any other potential sources of contamination?
A At Joliet 29, my main concern for source of contamination was road salt coming from off-site.
Q Can you explain why were you concerned about off-site road salt?
A Because the chlorides were high and we weren't seeing much more than that and before -- in the time frame that you just described, I would have probably investigated the road salt issue.
Q And what did that investigation turn up?
A I don't think anything of substance in that I looked at -- I looked on-line to see if I could find information relating to salt in the Des Plaines River and there were -- you know, anecdotally I can tell you that there is more salt after the snowy season and -- so I could see that there was a

correlation, but I don't believe at that time I went further to try to prove it.
Q Did you investigate any other potential sources other than road salt prior to any confidential direction by counsel?
MS. NIJMAN: After receiving the VNs?
MS. BUGEL: After receiving the VNs.
THE WITNESS: As I sit here, I can't remember doing that.
BY MS. BUGEL:
Q Before receiving the VNs, did you learn of any potential sources that led you to be concerned about groundwater contamination at the Joliet 29 facility?
MS. NIJMAN: I'm going to object to the form of the question as vague and also, again, overbroad as going beyond the scope of the complaint.
You can answer it if you understood it.
THE WITNESS: So are you talking about contamination potential co-located with the ash ponds? Something near the ash ponds? Is that what you're asking?
BY MS. BUGEL:

Q Let's start with that. Something near the ash ponds.
A Not that I'm aware of that I can remember right now.
Q Were there any other sources within the Joliet 29 property lines that you identified as potential sources of contamination at the Joliet 29 facility, water contamination, prior to the VNs?
MS. NIJMAN: Outside of direction from counsel.
BY MS. BUGEL:
Q Outside of direction from counsel.
A As I sit here, I can't remember having concern about water contamination of anything outside of direction by counsel.
Q I'm going to pass you what has been marked as Deposition Exhibit 6.
Are you familiar with this document?
A Only because it was one of the Bates numbers that was sent over, but I hadn't before that ever seen this document before.
Q When those Bates numbers were sent over, did you actually review documents prior to today?
A I didn't have a lot of time. So what I did was open up each one and just glance at the first

page and see if I recognized it.
MS. BUGEL: So for the record, this is Bates 25326. It's dated October 20th, 1992, to J.J. Kowalczyk. Subject: Submittal of individual stormwater permit application for Joliet Station No. 29.
BY MS. BUGEL:
Q Do you see where it says that?
A Yes.
Q So is it fair to say you've never reviewed this document beyond glancing at the first page before today?
MS. NIJMAN: It misstates testimony. She doesn't recall.
THE WITNESS: I don't recall seeing it. However, I have looked at files before at sites and it's not impossible that I've seen this.
BY MS. BUGEL:
Q Okay. Let's just flip to Page 25326 -- I'm sorry, we were already on Page 25326. Let's turn to Page 25339. And do you see the second paragraph there where it discusses an abandoned ash landfill area?
A Yes.

Q And do you see in the very first sentence that it identifies that -- that says, East of the station is an old landfill that has received bottom ash and fly ash from Joliet Station No. 9?
A Yes.
Q Do you see where it says that?
Do you have any idea if this is talking about the same ash disposal area that we discussed in regards to Deposition Exhibit 4 which is the U.S. EPA questionnaire?
MS. NIJMAN: If you know. I don't know how you would know.
THE WITNESS: I'm not sure.
BY MS. BUGEL:
Q Okay. Turning the page, there is a map on 25340 and --
A I need to get my bearing here. Hang on.
Q Okay.
A All right. I'm ready for a question.
Q Do you see on this map towards the middle where there is a V-shaped set of arrows that are labeled Stormwater Outfall No. 2?
A Yes.
Q Abandoned ash landfill?

A Yes.
Q Do you have any idea if this is the same ash landfill/ash disposal area that is discussed in deposition Exhibit No. 4, the U.S. EPA questionnaire?
MS. NIJMAN: I'm going to object to the form of the question and asking her to make that comparison. The documents speak for themselves. Exhibit 4 has latitude and longitude numbers on it -- you can certainly determine -- but asking her to make that assessment here without knowing latitude and longitude and being unable to compare, I think, is an inappropriate line of questioning.
You can try to answer it.
MS. BUGEL: I realize you think it's inappropriate, Jennifer, but as the person who was director of Environmental Services for Midwest Gen, I thought she might have some knowledge as to where the ash landfill was, that that might be something she came across in her career of 13 years.
MS. NIJMAN: Then ask her that.
THE WITNESS: Is that a question?
MS. BUGEL: You can read back my question, please, Tracy.
(Record read as requested.)

THE WITNESS: I'm not sure.
MS. NIJMAN: That's it.
THE WITNESS: Yeah, I'm not sure.
MS. BUGEL: And, Jennifer, I'm going to object to you coaching the witness and telling her "that's it" while she's still answering a question. I would appreciate if you would let the witness finish herself.
MS. NIJMAN: I understood she was finished, but that's fine.
MS. BUGEL: Well, it doesn't require a comment from you which could actually be perceived as coaching her to stop talking.
MS. NIJMAN: Certainly no intention to do that.
MS. BUGEL: Okay.
BY MS. BUGEL:
Q The abandoned ash disposal area that's discussed in Deposition Exhibit No. 4, do you have any idea where that is located at the Joliet 29 facility?
MS. NIJMAN: I object to form and vague.
You can answer, if you understand the question.
THE WITNESS: I believe -- so this is

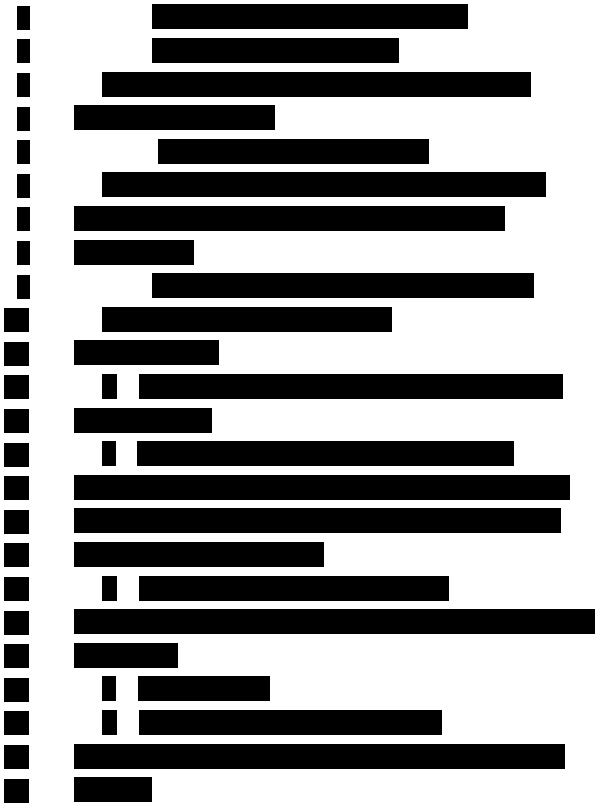
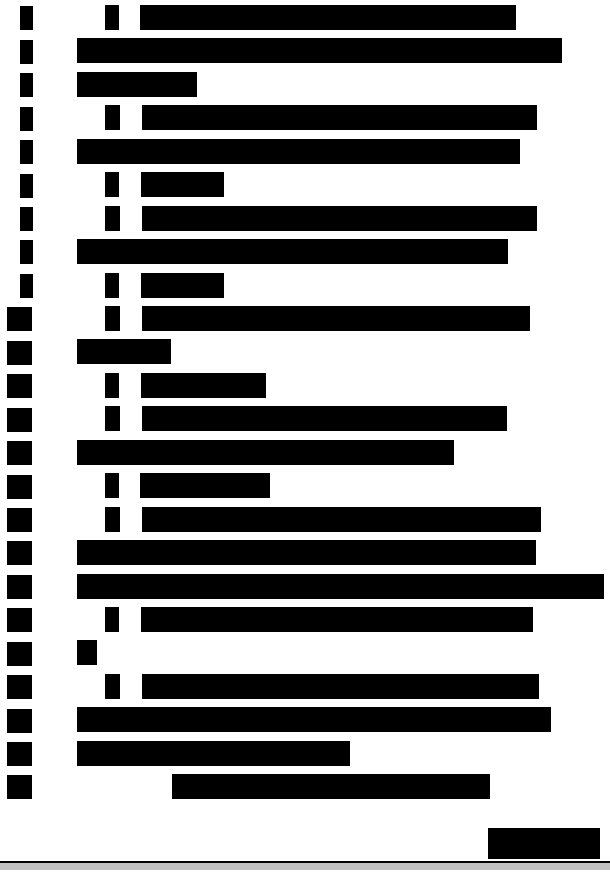


Exhibit 4; right?
MS. BUGEL:
Q This is Exhibit 4 --
A This is not?
Q U.S. EPA questionnaire. Let's set aside --
A Okay. So setting this aside -- that would be better. I could more easily speak to this.
Q Okay. Let's set Exhibit 6 aside and if you want to pull this up again and I need to flip back to find those page numbers again. So this is -- yes, it begins at 821?
MS. BUGEL: For the record, we are discussing a confidential exhibit again and you -- we were looking at Pages Bates No. 890, 891.

(Whereupon the following pages are marked confidential.)



are no longer confidential.)

(Whereupon the following pages are no longer confidential.)

BY MS. BUGEL:

Q I am passing you what has been marked as Deposition Exhibit 8. The first page is just the file folder that it came in, so you can flip to the second page of it which is Bates No. 25139 and this goes through 25167.

MS. BUGEL: And for the record, this is titled Commonwealth Edison Company, Chicago, Illinois, Phase 1, Environmental Site Assessment of Commonwealth Edison, Joliet No. 29 Generating Station, 1800 Channahon Road, Joliet, Illinois, and -- by ENSR Consulting dated October 1998.

BY MS. BUGEL:

Q Are you familiar with this document?

A Yes.

Q And how did you come to be familiar with it?

A I can't remember. I know that sometime in the mid 2000s I became aware of it.

Q And you've reviewed this document?

A At some point I have. Not recently.

Q And if you could refer to Page 25149. There is a map on Page 25149 and this map appears to be of the Joliet 29 facility; is that correct?

A Yes.

Q And on this map, do you see where -- in the lower left-hand corner there is a label, ash landfill?

A Yes.

Q Do you have any knowledge as to what that ash landfill is?

A No, I do not.

Q Based on its location on this map -- based on its location on this map alone, would that be a different ash landfill than the ash disposal area that you just indicated that you knew of that was east of the ponds?

MS. NIJMAN: I object to foundation. Compound. If you know, you can answer.

THE WITNESS: I'm not sure, but I think so.

MS. BUGEL: And just for the record, this ash landfill that's labeled here -- the label for an ash landfill here would be southwest of the ponds.

BY MS. BUGEL:

Q Is that correct?

A Southwest, yes. More south.

Q And the -- do you see how the property boundary is depicted on this map with a long dash and then two small dashes -- shorter dashes? You can look at the legend.

A Yes.

Q And do you have any idea if the property boundary that is depicted on this map remains the same?

A I don't think so.

MS. NIJMAN: I'm also going to object --

THE WITNESS: I'm not sure.

MS. NIJMAN: -- the question assumes that she knows what the property boundary is. Foundation.

BY MS. BUGEL:

Q Do you know what the property boundary is at the Joliet 29 facility?

A I have to tell you, I'm not entirely sure because ComEd retained some property and Midwest Gen has some property, and so I actually have to look at a property map to know whenever I'm doing anything with the site.

Q Okay. I am handing you what has been marked as Deposition Exhibit 7. This is dated April 18th, 2011, beginning at Bates No. 2496 through Bates No. 2550. The first page appears to be a letter to the Illinois Environmental Protection Agency; the second page -- Page 2497 indicates that it is signed by Richard M. Frendt.

Are you familiar with this document?

A Yes, I am.

Q And have you reviewed this document -- previously reviewed this document?

A Yes, I did.

Q And --

A Probably during its preparation I would have reviewed it.

Q And it is the quarterly groundwater monitoring results, first quarter 2011, Joliet 29 generating station ash impoundment; is that correct?

A Correct.

Q And does this appear to be a true and accurate copy?

A Yes.

Q Could you please refer to Page 2499. Page 2499. And this appears to be a site location map.

Do you see where it says that?
A Mm-hmm.
Q And a moment ago we were talking about the property boundaries of the Joliet 29 facility, and do you see where this is indicated in the legend as a dashed red line?
A Mm-hmm. Where it says General Site Location?
Q Yes. And given this property boundary, do you have any idea of whether the ash landfill that was indicated in Exhibit 8 would be within the property boundaries of the Joliet Station No. 29?
A I don't think so based on my knowledge. However, I would note that this is meant to be a general location and not a completely, you know, "In God We Trust" accurate map.
Q Okay. Do you know if Midwest Gen has ever monitored the groundwater in the south to southwest side of the property?
MS. NIJMAN: I'm just going to object to overbreadth to the extent it asks her about the entire company. You can ask if she's aware of it. She's not answering for the company. She's not a --
MS. BUGEL: And I've asked if she knows. I've

asked for just her awareness of what she knows.
MS. NIJMAN: No, you didn't, but that's fine. If she knows --
MS. BUGEL: No, I think I started that question with, Do you know, which is kind of asking for what she knows.
MS. NIJMAN: Okay. Given that qualification.
THE WITNESS: I am not aware of any as I sit here except for the groundwater monitoring that we've done for the monitoring wells around the ash impoundments.
BY MS. BUGEL:
Q For reference, can you turn to Page 2501 of Exhibit 7?
A Mm-hmm.
Q And have you reviewed this portion of this document before?
A I'm sure I have.
Q And does this appear to be the monitoring well location -- I'm sorry, monitoring well location map?
Do you see where it says that?
A Yes. It does appear to be that.
Q And this map indicates where I believe a

total of 11 monitoring wells are located.
Do you see that?
A Yes.
Q And can you describe, generally, where those wells are located to the best of your understanding?
MS. NIJMAN: I object to vague.
You can answer, if you understand what she's asking.
THE WITNESS: Could you be more specific in your question? I'm not sure I understand it.
BY MS. BUGEL:
Q You indicated earlier that you understand that Midwest Gen has done some monitoring around the ash ponds?
A Yes.
Q And does this map -- is this map consistent with your understanding of where those monitoring wells are located?
A This looks like where our monitoring wells are located on this page, yes.
Q And on this page, those monitoring wells appear to be located immediately adjacent to the ash ponds -- I'm sorry, let me rephrase that.

Those monitoring wells are located adjacent to the ash ponds; is that correct?
A Yes.
Q And around the ash ponds; is that correct?
A Correct.
Q And on this map, there are -- well, I realize this map may not show the full extent of the property boundary; but at least on this map, there don't appear to be any monitoring wells south of the actual facility building?
A That's correct.
Q Or southwest of the facility building?
A Correct.
Q Do you know if there are any monitoring wells that do not appear on this map but are at -- but are on the property boundary?
A I don't think so, as I sit here.
MS. BUGEL: Give me a moment to figure out where I am and what I've covered, and I figure we'll go for maybe another seven minutes and take a break for lunch.
THE WITNESS: Sure.
BY MS. BUGEL:
Q Is that good?

A Yeah, that's great. Thank you.
Q I'm passing you what has been marked as Deposition Exhibit 9 and this is a -- covers the Bates range 19485 through 19668. And if you turn past the file folder page to Page 19486, do you see where it says, This is a summary report dated July 25th, 2005, and it's on KPRG letterhead?
A Yes, I do.
Q And do you see where your name appears on this?
A Yes.
Q So is it correct to say that this summary report was directed to you?
A Yes.
Q And are you familiar with this report?
A Yes.
Q And have you reviewed this report?
A Not recently. Probably, you know, in the time frame when it came out.
Q And on Page 19486, under Project History and Previous Work, do you see where it says -- in the very first sentence, Midwest Generation, Joliet Station No. 29 include areas where ash and slag resulting from the combustion of coal were formerly

placed on the ground surface.
Do you see where it says that?
A Yes, I do.
Q Do you have an understanding as to which ash disposal areas that is identifying?
A Yes, I do.
Q Can you explain which one or ones?
A Yeah. Actually, if you go to Bates Page 19495, there's a legend that has -- that has this. It isn't on a larger map, though.
Q So can you indicate generally -- and let me -- for the record, this page is indicated as Former Ash Placement Area, Joliet Station No. 29.
Do you see where it says that?
A Yes.
Q Can you indicate, to the best of your ability, where you understand this former ash placement area to be on the Joliet Station 29 property?
A Going back to this other -- let me look at this other document and see if it makes it easier to point it out. It's not on here. It's hard to say. It's near the coal pile just to the north, I believe.
Q Now, would that be different from the ash

disposal area that we identified as being east of the ponds?
A Yes.
Q And do you have any idea of the size of this former ash placement area that is depicted on Page 19495?
A I guess I would use the scale that's here as an estimate but -- and measure it out. I honestly don't remember.
Q And turning to Page 19486, which is the cover letter.
A Mm-hmm.
Q The second sentence says, The -- and then it has a segment that's redacted -- ash placement area at Station No. 29 is approximately 13.2 acres in size.
Does that strike you as accurate based on your understanding?
A Sure.
Q Do you have any idea whether this ash placement area that we just identified was lined?
A To my knowledge, it was not lined.
Q Do you understand whether coal ash was placed directly on the ground surface?

A My understanding is that that is the case.
Q Turning to Page 19492, this discusses inlet metals data from sample locations.
Do you see that?
A Yes. In the bullet points?
Q In the bullet points, yes.
A Okay.
Q Do you have any idea whether the sampling resulted in -- the sampling indicated elevated levels of any constituents?
MS. NIJMAN: Are you just asking her to read what it says in the document or are you asking for an independent recollection?
MS. BUGEL: No, I'm asking her recollection.
THE WITNESS: I don't remember.
BY MS. BUGEL:
Q Do you have any recollection as to the depth of the ash in the area that we've identified -- that you said is near the coal pile to the north of the property?
A I don't recall the depth, but it is probably in this document.
Q And turning to Page 19487, second paragraph -- I'm sorry, second full paragraph begins,

The borings indicated that the depth of ash ranged from 2.5 to 18 feet in thickness within the two areas.

Do you have any idea what two areas that is referring to?

A No. Maybe, you know, you could figure it out from context, but I don't know. I would assume that it's the areas in this map.

Q Do you know why KPRG was hired to write this report?

THE WITNESS: There's a privilege issue here that I should discuss with you.

MS. NIJMAN: Okay.

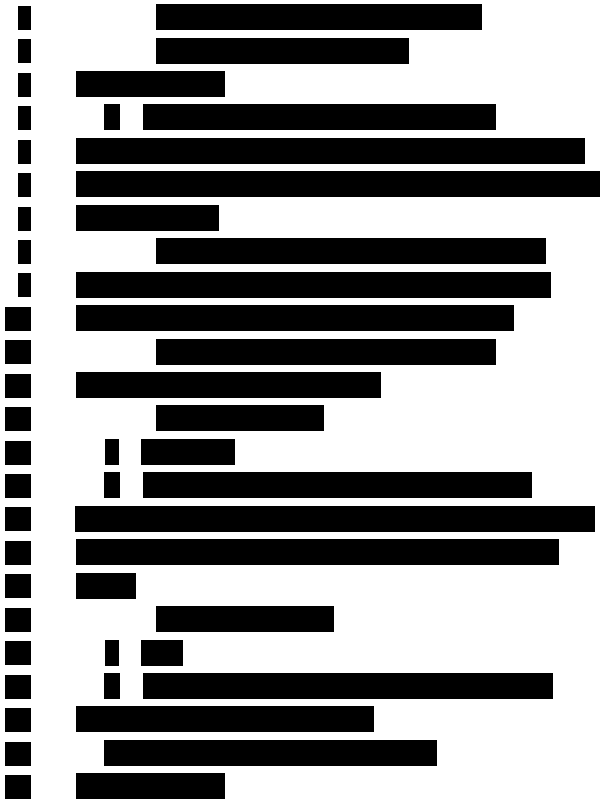
MS. BUGEL: If you want to discuss it -- I have four questions left on this, so if you want to discuss it, then we can do those four questions and then break for lunch just to finish off this area.

MS. NIJMAN: Well, if you want to go on with your questions other than the "why" question, we can discuss this at lunch and get back to you.

MS. BUGEL: Okay. Let's go back to that question after lunch.

BY MS. BUGEL:

Q Do you know if the ash, from the area that



we've identified again near the coal piles to the north, was ever used for a beneficial reuse as CCB?

A I can't remember.

Q Do you know if the ash in that area is still on-site?

A No, it is not, as I remember.

MS. BUGEL: That's all.

MS. NIJMAN: Okay.

(Whereupon, a luncheon recess was taken to resume at 1:00 p.m.)

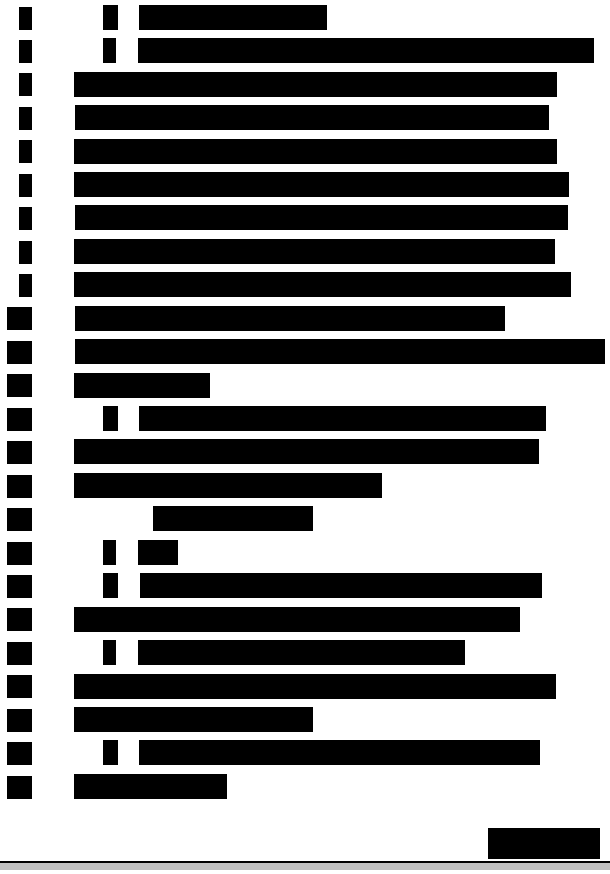
(Whereupon, Deposition Exhibit Nos. 43 through 52 were marked for identification.)

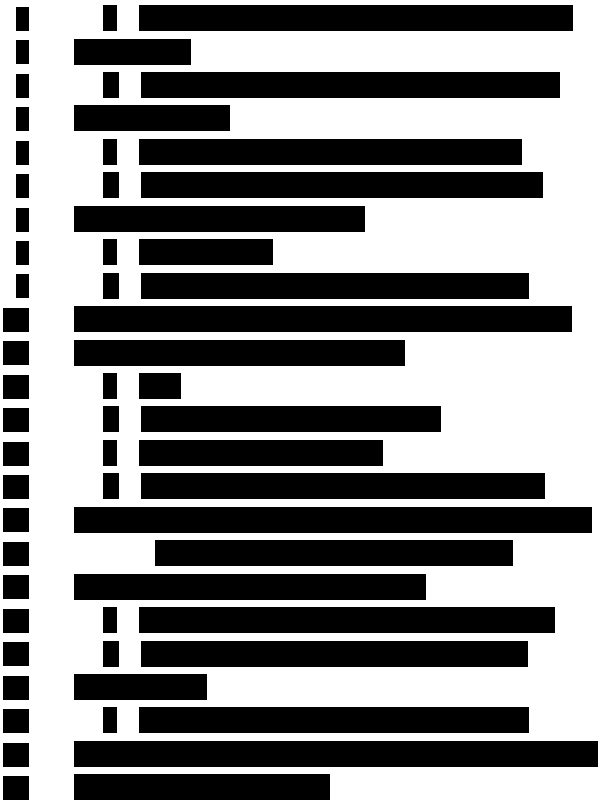
(Record read as requested.)

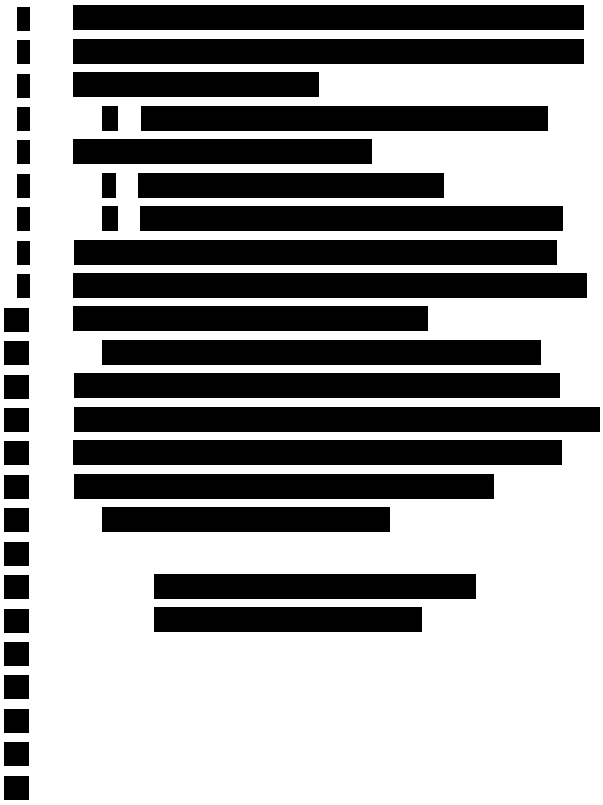
MS. NIJMAN: I'm going to direct her not to answer on the basis of attorney-client privilege.

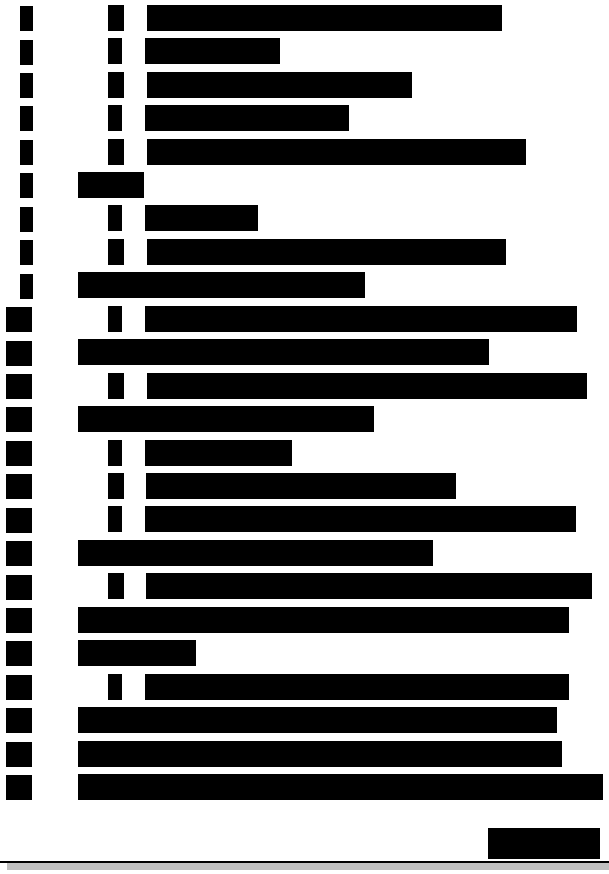
MS. BUGEL: We are going back to Deposition Exhibit No. 4 and I think this is -- that's your copy.

(Whereupon the following pages are marked confidential.)









(Whereupon the following pages
are no longer confidential.)

BY MS. BUGEL:

Q I am passing you a document that has been marked Exhibit 20. And, for the record, that document is dated October 4th, 2012. It is -- has a cover letter to John Kennedy and it is regarding the Proposed Compliance Commitment Agreement Violation Notice W, dash, 2012, dash, 00056, Midwest Generation, LLC, Waukegan Generating Station ID No. 6281.

Do you see where it says that?

A Yes.

Q And attached to the letter beginning on Bates Page 540, there is a Compliance Commitment Agreement for Illinois EPA VN W, dash, 2012, dash, 00056, Bureau of Water in the matter of Midwest Generation, LLC, Waukegan Generating Station.

Do you see that?

A Yes.

Q Are you familiar with this document?

A Yes, I am.

Q Have you reviewed this document?

A Yes. At the time that it came out in 2012.

Q And acknowledging that it is not signed by Michael Crumly. Otherwise -- I'm sorry, strike that.

Acknowledging that it's missing a signature for Michael Crumly, does this appear to be a true and accurate copy of the Waukegan CCA that is just signed by John Kennedy?

A Well, the concern that I have -- and I noticed this before -- is that it says "proposed" because this was the proposal, but it does look like -- it looks very similar to -- and John Kennedy signed it, so it just isn't countersigned yet.

Q Does the CCA require the relining of any ponds at Waukegan?

A No, it does not.

Q Do you have an understanding of why not?

MS. NIJMAN: You don't need to speculate. Just if you know.

THE WITNESS: No, I'm thinking about it.

MS. NIJMAN: Okay.

THE WITNESS: The liners were in good condition and Illinois EPA asks for what they wanted in the Compliance Commitment Agreement.

BY MS. BUGEL:

Q What did they want?

A The things that are listed here under Compliance Activities and Terms and Conditions.

Q Do you have an understanding of how the items listed in the CCA would address the violations from the Violation Notice?

THE WITNESS: Is this a privilege issue?

MS. NIJMAN: Well, she's asked for your understanding --

THE WITNESS: My understanding.

MS. NIJMAN: -- of how they respond to the VN.

THE WITNESS: Okay.

MS. NIJMAN: So if you have an independent understanding, not based on direction or conversation with counsel.

THE WITNESS: Could you read the question, please.

(Record read as requested.)

MS. NIJMAN: If you're concerned about a privilege issue, we can talk about it.

THE WITNESS: No, I'm just thinking about my answer. My understanding is that the ash impoundment liners' condition was good and that the site ponds have never been used as permanent disposal places and that we have monitoring wells in place; that those

things -- plus the ELUC that was added because there was a previous one for the tannery site that encompassed part of the property, this encompassed the rest of the property, that those things put together, my understanding is that that satisfied Illinois EPA, that these things -- with those things in the forefront satisfied the Illinois EPA.

BY MS. BUGEL:

Q Do you know what information formed the basis for the conclusion that the liners were in good condition?

A I do not. I'm sure we provided them information --

Q Do you --

A -- but I don't know what made them satisfied.

Q Do you know what information was provided to IEPA?

A I think that probably -- that could have been done under privilege.

MS. NIJMAN: We provided everything that was given to the EPA because it's -- once we've given it to the EPA, it's not privileged. So...

THE WITNESS: Yeah, I don't know of any

particular documents that we gave them.

BY MS. BUGEL:

Q Do you agree with the conclusion that the liners are in good condition?

A Yes, I am -- I do.

Q What's the basis for your agreement?

A I've seen the liners myself. As I sit here, I believe that they are in good condition. The last time that I saw them was from the roof of Waukegan station a few months ago and they were in good condition, to me, at that point in time.

Q How can a visual inspection inform the conclusion that they're in good condition? If you could just walk through what you're looking for.

MS. NIJMAN: Again, she's not an expert in reviewing liners. She's saying -- you've asked her for her basis for her understanding and she's given you her basis.

MS. BUGEL: And I'm asking what formed her basis. I'm trying to understand what she was looking for when she was up on the roof looking at the pond.

MS. NIJMAN: As a layperson?

MS. BUGEL: Yeah.

THE WITNESS: As a layperson, I would look for

rips or tears in the liner. The liner is white material, the ash is not white. So you can see the difference and, you know, you could see if there was a rip or a tear between the liner and the ground.
BY MS. BUGEL:
Q Okay. And I am passing you what has previously been marked Deposition Exhibit No. 21. The first page of this appears to be an e-mail, Waukegan Station 1 SR, Quarter Ash Pond Monitoring Report from Richard R. Gnat to Fredrick Feenbaas among others, cc Maria Race, dated 4/25/2014, 4:11 p.m.
Do you see where it says that?
A Yes, I do.
Q And your name appears on here as a cc?
A Yes.
Q And attached to this e-mail, if you flip to Page 2, is a letter with a title, Quarterly Groundwater Monitoring Report, Waukegan Generating Station, April 23rd, 2014, directed to Andrea Rhodes of Illinois Environmental Protection Agency and signed by Mark Nagel.
Do you see that?
A Yes, I do.

Q Are you familiar with this report?
A Yes, I am.
Q Have you reviewed it?
A I'm sure I reviewed it.
Q And turning to Page -- Bates No. Page 15564, did you review these groundwater analytical results?
A I'm sure I have.
Q And, again, I understand you are not an expert in groundwater monitoring or reading the results, but in reviewing the -- let me ask a different question.
Did you review multiple sets of groundwater monitoring results from the period of when the monitoring wells were installed through the present?
A Yes, I would have done that.
Q And did you -- are you able to look at results like this and understand where in the table you might -- let me strike that and rephrase it.
Are you able to look at results and identify if results are showing an exceedance in a table like this?
A Well, what I would do is compare what it

says for standards to what it says for results.
Q And in looking at results, are you able to determine if something might be a man-made source of contamination versus naturally occurring background?
A No. I can't -- as I sit here, I can't tell what a particular contaminant can emanate from in terms of whether it's natural or not natural; the molecules are the molecules. But I could look at something and say that it is higher than some of the other values, for example.
Q Okay. Can you look at the row listed as boron?
A Sure.
Q Do you see -- do you see boron levels in that row that are exceeding the standard in the first column?
A Yes.
Q And where are you seeing those?
A As I sit here and look at this, I can see from March 14th of 2012, June 18th, 2012, and across the page, every quarterly value is higher than the standard of 2.0 for this particular Monitoring Well 5.
Q Have you reviewed any monitoring reports

or -- let me rephrase that.
Have you reviewed any monitoring results from wells associated with the tannery that you just mentioned?
MS. NIJMAN: I'm sorry, did you mention a tannery?
MS. BUGEL: A couple questions ago.
THE WITNESS: I did mention a tannery.
I have reviewed data from the tannery that's produced under the ELUC for the tannery; that's one source of information.
BY MS. BUGEL:
Q And the data you reviewed, did you ever look at the boron levels in that data?
A That data was collected by Commonwealth Edison's consultant and they did not look at boron, but my answer is incomplete and I need to talk to counsel.
(Break taken.)
THE WITNESS: All right. I'm satisfied with my answer and ready for the next question.
MS. BUGEL: Could you read back my last question and answer.
(Record read as requested.)

BY MS. BUGEL:
Q And referencing the same data that you had reviewed that was collected by Commonwealth Edison, did you see any sulfate measurements from those wells?
MS. NIJMAN: If you recall.
THE WITNESS: I know -- I know as I sit here that they did measure manganese and probably sulfate, maybe iron -- sometimes they monitor iron, sometimes they don't -- and arsenic, but I don't remember the results.
BY MS. BUGEL:
Q How recently did you review that data?
MS. NIJMAN: The ComEd data?
MS. BUGEL: Yeah.
THE WITNESS: Probably in the spring sometime. I know that they send out more data in the summer. They usually do their sampling in the summer. I don't remember if I reviewed that data, but I probably did, so maybe in the summer.
BY MS. BUGEL:
Q So this calendar year, 2014?
A Yeah, this calendar year, 2014, I've probably seen it.

Q And does Midwest Gen -- I'm sorry, do you know if Midwest Gen has that data on file?
A We do have that data on file.
MS. BUGEL: Can that data please be provided?
MS. NIJMAN: I thought it was.
MS. LAUGHRIDGE GALE: Yeah, I will go look for it --
MS. BUGEL: Okay.
MS. LAUGHRIDGE GALE: -- and if I have it, then I'll find it and get it to you.
MS. BUGEL: Okay. Thank you, Kristen.
BY MS. BUGEL:
Q And there is a site adjacent to the Waukegan facility called general boiler; is that correct?
A Correct.
Q And is there also -- do you know if there is monitoring at that site as well?
A I know that there's a monitoring well that -- it's called Monitoring Well 15 that is next to that site, plus we have monitoring wells that are next to that site too now.
Q And when you said there was Monitoring Well 15 which is next to that site.

A Yeah, it's to the south and it's kind of in the corner and it's one of the ELUC wells from the tannery site.
Q Okay. Do you know whose property it's on?
A I believe it's our property.
Q Okay. And have you reviewed any data from that Monitoring Well 15?
A Yes. That would have come with the other -- the other ELUC wells, it would have been in the same time frame.
Q And do you recall what the constituents were?
A Arsenic, probably manganese and -- like you were saying, maybe sulfate.
Q And does Midwest Gen have that data on file?
A Yes. It's together.
MS. BUGEL: If that -- the same request --
MS. LAUGHRIDGE GALE: Sure.
MS. BUGEL: -- for that to be provided, if it has not been.
THE WITNESS: It may have come in in August.
BY MS. BUGEL:
Q And aside from any confidential exchanges

with counsel or work that was done in response to counsel, do you have an independent understanding of whether the tannery is a source of groundwater impacts alleged in the Violation Notice?
A I believe as I sit here that it is.
Q And what's the basis for your belief?
A My understanding is that there is a plume coming onto our site and, therefore -- that's carrying contaminants, such as arsenic and boron, and I would expect that it's impacting our site further to the south because the monitoring wells that are further to the north show impacts.
Q And, again, aside from any privileged information as a result of interactions with counsel, do you have an independent understanding of whether the general boiler site is impacting groundwater at Waukegan?
A I'm not sure.
Q We can put aside Exhibit 21 and turn to Exhibit 23, and I'm passing to you what has been marked as Exhibit 23. And this exhibit, for the record, is titled Commonwealth Edison Company, Chicago, Illinois, Phase 1, Environmental Site Assessment of Commonwealth Edison, Waukegan

Generating Station, 10 Greenwood Ave., Waukegan, Illinois, by ENSR dated October 1998.

Do you see where it says that?

A Yes, I do.

Q And are you familiar with this document?

A I read this document a while ago. I am somewhat familiar with it.

Q And when you say you read it a while ago, can you put any time frame on that?

A I know that I first saw it in the 2000s -- mid 2000s time frame and I'm sure I looked at it since then. And in 2012 when we were packing our offices, I would have put them together, but I don't think I read them at that point.

Q And turning to Page 11999, do you see the bullet point -- third bullet point on the page labeled Adjacent Properties?

A Yes.

Q Have you reviewed this bullet point before?

A Not recently.

Q I'll give you a minute to review it now.

A Okay.

Q And towards the end of that bullet in the second to last sentence, it says, An arsenic, lead,

mercury and chromium contaminated groundwater plume has been identified on the former tannery site which extends easterly onto the subject property.

Do you see where it says that?

A Yes, I do.

Q So do you have an understanding of what pollutants you would expect to occur at elevated concentrations if they were coming from the tannery?

MS. NIJMAN: I object to foundation.

THE WITNESS: I only know what I'm seeing here. I do know that the ELUC that we signed had to do with arsenic, in particular; but lead, mercury, chromium I don't remember coming up. I remember arsenic, iron and manganese in the ELUC.

BY MS. BUGEL:

Q Could you repeat what you said you remember in the ELUC?

MS. NIJMAN: She can read it back.

(Record read as requested.)

MS. NIJMAN: Is this 1998?

THE WITNESS: 1998.

BY MS. BUGEL:

Q In reviewing groundwater monitoring results from the monitoring wells on the Waukegan property,

have you seen arsenic?

MS. NIJMAN: Asked and answered.

BY MS. BUGEL:

Q Have you seen elevated arsenic levels?

A Yes.

Q How about lead?

A I don't remember. I just generally don't look at every constituent and --- I'm focused on the ones that I'm expecting to see, like arsenic.

Q Would your answer be the same for mercury?

A I don't remember.

Q And how about chromium?

A I don't remember.

Q I believe we can set aside Exhibit 23 and turn to Exhibit 24 -- I'm sorry, let me -- we'll get Exhibit 24, but I just wanted to go back and clarify for the record, where are the wells on the Midwest Gen Waukegan property that you believe are affected by the tannery plume?

MS. NIJMAN: If you have an independent recollection sitting here.

THE WITNESS: My understanding is that the wells that are to the west of the ash ponds are impacted. It's possible that they're impacted; I'm

not a hydrogeologist, but...

BY MS. BUGEL:

Q Okay. Turning to Exhibit 24, I am passing you what has been previously marked as Deposition Exhibit 24 and this appears to be an e-mail titled Ash Pond Data Summaries from Richard Frendt to Maria Race, February 10th, 2012, 11:21 a.m.

Do you see where it says that?

A Yes, I do.

Q And your name appears as the recipient of this e-mail; correct?

A Correct.

Q Are you familiar with this e-mail?

A Yes.

Q And have you reviewed it?

A Yes, I reviewed it in 2012.

Q And this e-mail appears to contain an attachment, if you flip to Page 14158, Ash Pond Data Evaluation and Summary, Joliet No. 29 Station, Midwest Generation, LLC, Joliet, Illinois, January 2012.

Do you see that?

A Yes.

Q Okay. And then based on the first page, it

appears to have a summary -- evaluation and summary for each of the five stations.

Do you see that on the very first page, I think, looking at the icons?

A Okay. Yes. I see that.

Q So let's flip to -- if you flip to Page 14166, that contains the evaluation and summary for Waukegan station.

A Okay.

Q Do you see that?

A Yes.

Q And then turning to Page 14167 there is a heading titled Conclusions.

Do you see that?

A Yes.

Q And do you recall reviewing this portion of the evaluation and summary?

A I recall reviewing it.

Q And the third bullet down, the second sentence -- I'm sorry, let me back up a bit.

The third bullet down talks about MW, dash, 5.

Do you have an understanding of what MW, dash, 5 is?

A Yes, I do.

Q What is that?

A It's the upgradient well that's on the south side of the west ash pond at Waukegan.

Q And if you turn the page to 14169 --

A Mm-hmm.

Q -- this appears to be a monitoring well location map.

Do you see that?

A Yes.

Q And does MW-5 appear on this map?

A Yes, it does.

Q And is it in the location you just described?

A Well, it's a little further to the middle than I would have remembered; but I'm sure this is correct.

Q But it's your understanding that that location is upgradient?

A Upgradient of the other wells.

Q Of the other wells and the groundwater flow is from west to east?

MS. NIJMAN: Objection. Foundation. And not an expert.

BY MS. BUGEL:

Q When you say "upgradient," what do you mean by that?

A That the water is moving from that side of the impoundments roughly towards the other side of the impoundments. However, to correct myself, as I sit here, I know I have seen potentiometric maps showing that the water moves sort of in a -- what is that -- southeasterly direction, not directly across.

Q Okay. So --

A But it varies.

Q So turning back to Bullet Point 3 under Conclusions, when this references MW-5, it is the well marked on the map on Page 14169 that's marked MW-5?

A Yes.

Q That well?

A Yes.

Q And the second sentence of that bullet says, The elevated concentrations of compounds of interest in MW-5 appear to be the result of the well being installed in a former ash disposal area and not a result of leakage from the current ash ponds.

Do you see where it says that?

A Yes.

Q Did you form an independent conclusion of whether you agreed with that or not?

MS. NIJMAN: In her layperson understanding of it. This is written by a consultant.

THE WITNESS: I have -- I have an opinion that there is ash shown to be in that area, but that does not make it a former ash disposal area.

BY MS. BUGEL:

Q What is the basis for your understanding that there is ash shown to be in that area?

A I believe I have seen borings independently that show ash to be in that area -- bottom ash.

Q Do you have an understanding of how that ash came to be there?

A No, I do not.

Q You indicated that it's your understanding that it is not a former ash disposal area?

A I don't know.

Q Do you have an understanding as to whether the tannery plume would impact the groundwater monitoring results from MW-5?

MS. NIJMAN: Again, I'm just going to object to the extent this is calling for an expert opinion.

THE WITNESS: I don't know for certain.
MS. BUGEL: Bear with me. I'm just going to take a minute and make sure I covered everything.
BY MS. BUGEL:
Q Can you pull your copy of Depo Exhibit 23 again, please.
A Sure.
Q And referring to Page 12012, do you recall ever reviewing this site plan?
A I remember seeing this.
Q Do you see where -- to the left of the fly/bottom ash settling basin, there is a rectangle that is labeled Former Slag, slash, Fly Ash Storage Area?
A Yes, I do.
Q And was that area ever used -- I'm sorry, let me rephrase that.
Has that area been used as a slag, slash, fly ash storage area actively while you have been at Midwest Gen?
A No, it has not.
Q And do you have any other information about this former slag, slash, fly ash storage area that we haven't already covered?

MS. NIJMAN: Objection to the vagueness. It's overbroad.
THE WITNESS: There -- it would help me if you rephrased the question.
BY MS. BUGEL:
Q Okay. Do you know anything else about this former slag/fly ash storage area?
A No, I don't.
Q I think we can move on to Exhibit 27. I'm going to turn to Powerton now.
A Okay.
Q And I'm passing you an exhibit that is marked Deposition Exhibit 27. It appears to be an e-mail from Rich R. Gnat to William Gaynors, cc Maria Race, among others, entitled Powerton Station Ash Pond Monitoring First Q 2014, dated 1/20/2014, 10:52 a.m.
Do you see that?
A Yes, I do.
Q And does your name appear on this e-mail as a cc?
A Yes, it does.
Q Are you familiar with this e-mail?
A I don't remember it.

Q Do you know whether you reviewed it?
A I may have reviewed it, but in looking at this, I'm not entirely sure I did.
Q I'll give you a minute to review it now.
A Okay.
Q Referring to the "PS" on the e-mail which is the last paragraph, it reads, Has the metals cleaning basin been used in the last four months, question mark. If so, please let me know because we have some additional reporting requirements. Last we talked, it was indicated that the basin may be used during the first quarter of 2014.
Do you see where it says that?
A Yes.
Q Do you -- do you know if the metals cleaning basin at Powerton is lined?
A I'm not sure if it's been recently relined, but it does have a liner as I sit here.
Q I'm going to back up. Are you familiar with a metals cleaning basin at Powerton?
A I have seen it before, yes.
Q Do you know what it's used for?
A Not entirely.
Q Do you know if it is used as an ash

impoundment?
A I don't know.
Q Do you know why it's called the metals cleaning basin?
A I know that when cleaning is being done at the facility that the basin is used for the discharge from the cleaning.
Q Do you know if there have been groundwater impacts associated with it?
A I don't know.
Q Do you see where this e-mail mentions additional reporting requirements?
A Yes, I do.
Q Do you know what those additional reporting requirements are?
A No.
Q Do you know if they're being complied with?
MS. NIJMAN: Objection. No foundation. She said she doesn't know what they are, so how can she know if they are being complied with?
MS. BUGEL: If she doesn't know what they are in detail, someone might say in an e-mail they're complying with them and you can know --
MS. NIJMAN: Objection.

MS. BUGEL: -- that something is complied with without knowing what the requirement is.
MS. NIJMAN: Objection. No foundation.
THE WITNESS: As I sit here, I would assume that we would be complying with it, with whatever the requirements are.
BY MS. BUGEL:
Q And the second sentence talks about the basin -- the basin may be used during the first quarter of 2014.
Do you know if it was used in the first quarter of 2014?
A No, I do not.
Q We can set that aside and turn to Exhibit 28, and I'm passing you an exhibit that's been previously marked as Exhibit 28 and Bates No. 16342. It appears to be an e-mail from Bill Buscher to Maria Race with the subject being RE, tomorrow, dated January 14th, 2013, 3:51 p.m.
Do you see where it says that?
A Yes, I do.
Q And are you familiar with this e-mail?
A Yes.
Q And you're the recipient of this -- the top

e-mail?
A Yes.
Q And does this appear to be a true and accurate copy of that e-mail?
A Yes, it does.
Q And this e-mail arranged a meeting with Bill Buscher in Springfield; is that correct?
A Correct.
Q Do you recall that meeting?
A I think so.
Q Do you recall -- so did that meeting, in fact, happen?
A I believe so, yes.
Q Do you recall what you were meeting about?
A Given the timing of the meeting, I would say that we were updating him on our progress on the CCAs. It would have been a courtesy meeting because I was going to Springfield regularly for Title 5 meetings during that period of time. So as a courtesy, before or after I would offer to meet with them and I'm sure I did that on more than one occasion. So I don't remember this exact meeting, but I think, roughly, I -- it would have been an update like, Oh, we've gotten this pond done or, you

know, we're working on getting this GMZ application in or whatever.
Q We can set that aside and turn to Depo Exhibit 29. I am passing you what has been marked as Deposition Exhibit No. 29 and this appears to be an e-mail from William Gaynors to Charles Hart, cc Maria Race, among others, Subject, FW Liner in Pekin and -- on September 24th, 2013, 1:04 p.m.
Do you see that?
A Yes, I do.
Q And you were cc'd on this e-mail?
A Yes.
Q Are you familiar with this e-mail?
A I think I remember it.
Q And you've reviewed it?
A I'll review it now.
Q Okay.
A Okay.
Q If you could flip to the backside, which is Bates 22766, do you see the last e-mail in the chain?
A Yes.
Q And it reads, Matt, comma, I was just informed by my site superintendent that several areas of liner to the north of the rear wall pulled the

backing strips away and the liner is loose.
Do you see where it says that?
A Yes, I do.
Q And do you recall this portion of that e-mail?
A I don't.
Q Do you recall anything about the loose liner discussed in that e-mail?
A I recall that -- this misinstalled liner, I recall that.
Q Okay. Can you explain what the misinstalled liner was?
A When I read that, I was assuming that some portion of it was not installed properly and that they were trying to get them back to do that.
Q And do you know if Clean Air and Water Systems, the company listed in the e-mail, did, in fact, return to address that misinstalled liner?
A They would have, yes. As I sit here, I'm sure that they did because we had the deadline that we had to meet and everybody was under pressure then.
Q So am I to understand -- strike that.
Is it correct then to summarize -- strike that. I'm having trouble phrasing this

question.
Is it correct to say that this was not -- strike that, too. Maybe the fourth time is the charm. So I'm just trying to sum this up.
Is my understanding correct if I say that a liner -- this was a new liner being installed?
A Correct.
Q And it was installed incorrectly?
A A section was misinstalled.
Q And the company that installed it had to come back and fix that?
A That's my understanding.
Q And the -- in that time the pond would not have been put into use; correct?
A I don't know.
Q Okay. And do you know when that liner was originally installed? And when I say "originally," I mean, again, this relining project by Clean Air and Water Systems.
A So when --
MS. NIJMAN: When was the new reliner put in.
THE WITNESS: The new relined liner --
BY MS. BUGEL:
Q Yes.

A -- been installed?
I'm not certain, some time in 2013.
Q I think we're going to turn to Exhibit 30.
Okay. I am handing you an exhibit that's been marked as Exhibit 30 and this appears to be an e-mail from Jeffrey Bard to Maria Race, cc Joseph Heredia, among others, date of 8/13/2012, 8:37 a.m., Subject, Refreshing my memory.
Do you see that?
A Yes, I do.
Q And are you familiar with this e-mail chain?
A It looks like something that I wrote. I'm -- you know, I wrote it several years -- a couple of years ago, so I'd need to reread it if you want me to.
Q Okay. I am specifically going to ask about the second e-mail down --
A Okay.
Q -- in that chain, the bottom e-mail on Page 21335 if you want to review that.
A Okay. So this -- this section here?
Q And, for the record, from Maria Race -- that is you --

A Mm-hmm.
Q -- to Mark Kelly, among others, dated 8/12/12 -- 2012, 3:32 p.m., Subject, Refreshing my memory.
A Okay.
Q And you were the author of that e-mail; correct?
A Correct.
Q And you're familiar with that e-mail?
A Well, I am now, but I don't specifically remember writing it.
Q And referring to Point 9, do you see where it says, When did we reline the bypass basin and the metal cleaning basin, parentheses, at the same time, question mark, end parentheses?
Do you see that?
A Yes.
Q Do you recall anyone responding to that question?
A No, I don't.
Q And do you recall ever learning of the metal cleaning basin being relined?
A I can't remember.
Q And do you know if it has been relined?

A I'm pretty sure it has been relined. It says here that we received the metal cleaning basin construction permit on November of 2009. I think that that's probably the time frame that we did it.
Q Do you see where -- do you see Point 2, I asked NRT to quit working on the construction permit applications for new liners?
A Yes.
Q Do you see that?
And do you see Point 5, Sent e-mail to Mark Kelly, don't reline anything else pending U.S. EPA final rules; but Mark sent back an e-mail on the bypass basin saying, The condition required relining.
Do you see that?
A Yes.
Q So do you know if either of those two directions affected relining of the metal cleaning basin?
A Absolutely would have -- if there was a condition issue, we would have done the relining.
Q Okay.
A Regardless.
Q So the condition issue in Point 5 refers to the bypass basin; correct?

A Yes, I believe so.
Q And do you know if any condition issue related to the metal cleaning basin?
A No, not off the top of my head.
Q Why did you ask NRT to quit working on the construction permit applications for new liners?
A Because there were a new set of regulations coming out and my concern was that if we put in liners, we would just have to redo them.
Q And then referring to Point 5 again -- well, we'll go with Point 5 since we mentioned it already.
Do you know what the condition was at the bypass basin that required relining?
A No, I don't. I don't remember.
Q Do you know if the bypass basin, in fact, got relined pursuant to Mark's e-mail saying, Condition required relining?
A As I sit here, I am certain it would have.
Q Okay. Just backing up to Point 3, referencing a construction permit for relining the secondary ash basin, do you see where it says this was not actually built, though? Correct?
A Yes, I see that.

Q Did anyone indicate that your understanding was correct, that it was not actually built?
A I don't think so. I don't remember getting an answer.
Q And do you -- looking at Point 6, do you see where it says, Summer 2010, comma, execs decide to go ahead and comply with IEPA's request to put in the ash ponds' monitoring wells?
Do you see where it says that?
A Yes, I do.
Q Put a place holder there, I'm going to pass you another exhibit.
(Whereupon, Deposition Exhibit No. 53 was marked for identification.)
BY MS. BUGEL:
Q And the court reporter has passed you an exhibit marked as 53. This appears to be an e-mail from Maria Race to Mark Wehling, among others, and others cc'd, on 7/8/2010, time of 12:45 p.m., Subject, Ash impoundment wells.
Do you see where it says that?
A Yes.
Q And you're the author of this e-mail;

correct?
A Correct.
Q Do you recall this e-mail?
A Not this specific e-mail, but I recall I would have -- it makes sense I would have written an e-mail like this during this time period.
Q And I will give you a moment to review it if you want.
A Sure.
Q Okay?
A I've reviewed it.
Q And do you see where it says -- it's going to be the fourth sentence, and it says, MWG resisted doing this for some time; however, we have decided to perform the installations as the repercussions from not doing it were significant.
Do you see that?
A Yes, I do.
Q And is that referencing resisting installing wells around the ash impoundments? Is that what they resisted?
A That's complicated. Yes. As I sit here, I would say that my understanding is that we didn't believe that installation of the wells would show

whether or not the ponds were leaking and that is the only reason that we resisted putting in monitoring wells.
Q This e-mail also says, The repercussions from not doing it were significant.
Do you see where it says that?
A Yes.
Q What repercussions were those?
A We didn't want to harm our relationship with Illinois EPA.
Q You indicated that you did not believe that installing monitoring wells would show that the ponds were leaking?
A Whether or not the ponds were leaking.
Q What was the basis for that belief?
A My belief is that these are old industrial sites and that it would be very difficult to show whether or not the impoundments were leaking by putting a couple of wells on either side.
Q And has that belief been confirmed by your experience of actually installing monitoring wells?
A I'd say it's been mixed.
Q And what's the basis for your answer?
A In looking at the results, some upgradient

wells show values that would be higher than the downgradient wells.
Q At which sites?
A Waukegan is one that is very -- very obvious.
Q Any others?
A No, I think Waukegan is the main one that -- where that's very apparent, but the other sites, I think the wells are sort of -- I'm getting lost in my answer.
MS. NIJMAN: And I'm going to object, again, to the extent this is calling for an expert opinion.
As to what these wells reflect or don't reflect, you can say what you know.
THE WITNESS: All I know is that like for Waukegan, I've seen upgradient values higher than downgradient values, so I would say that my opinion, not being an expert, is mixed on whether these monitoring wells have had values showing whether the ponds are leaking.
BY MS. BUGEL:
Q If monitoring wells do not necessarily have values to show whether ponds are leaking, do you know of anything that would show whether the ponds are

leaking?
MS. NIJMAN: Objection. Same objection. Not an expert and she doesn't need to answer any hypothetical questions.
MS. BUGEL: It's not a hypothetical.
MS. NIJMAN: You said "if."
MS. BUGEL: My question is, what would she use instead.
BY MS. BUGEL:
Q Do you know of anything that you can use instead to show whether ponds are leaking?
MS. NIJMAN: Objection. Same objection.
THE WITNESS: I'm not an expert. As I sit here, I would say the condition of the impoundment itself would tell you if it's leaking.
BY MS. BUGEL:
Q And can you explain what you mean by "condition"?
A If there is a suitable liner in the impoundment.
Q In your experience at Midwest Gen, do you know if the company takes steps to determine what the condition of the liner is at the impoundments?
A Yes.

Q What steps are those?
A At Midwest Generation in the mid 2000s, we looked at the liners for all of the impoundments, not just the ash impoundments, to see if they were in good condition.
Q How did the company go about doing that?
MS. NIJMAN: Again, I'm going to object to "the company," but you can ask what her information is in her job.
BY MS. BUGEL:
Q Okay. You indicated that in the mid 2000s Midwest Gen looked at all of the liners to see what condition they were in; correct?
A Correct.
Q Do you know what steps anyone took to look at the liners?
A Yes. I had a consultant put together an assessment looking at all of the impoundments for operations and maintenance reasons to decide how to approach lining maintenance.
Q What consultant was that?
A NRT.
Q And why did you decide to do that in the mid 2000s when you did?

MS. NIJMAN: Assuming there is no privilege related, you can answer.
THE WITNESS: There is privilege related.
MS. NIJMAN: I direct her not to answer.
BY MS. BUGEL:
Q What -- was there any action taken as a result of that assessment?
A Yes.
Q What action?
A We used the assessment to then begin a maintenance program to reline the ponds.
Q And do you know what ponds were relined as a result of that assessment?
A I can't remember anymore. We would have obtained construction permits for those.
Q And looking back at Exhibit 30, Point 2 references NRT work on the construction permit applications for new liners. Was that work a result of the NRT assessment that you were just speaking of?
A I believe so. That's logical.
Q And -- so it was -- you were the one who instigated this assessment in the mid 2000s; is that correct?
MS. NIJMAN: Objection. I think she described

when you asked the "why" that there was a privilege objection there.

MS. BUGEL: But I was just confirming that it was.

MS. NIJMAN: She hired the consultant.

THE WITNESS: I hired the consultant.

MS. BUGEL: Okay. Okay. Thank you.

BY MS. BUGEL:

Q Is this assessment -- was that just a one-time thing?

MS. NIJMAN: Objection to vagueness.

BY MS. BUGEL:

Q I'm trying to understand if you did this on a regular basis.

MS. NIJMAN: I'm going to object to the extent this addresses a privileged issue, direction by counsel.

BY MS. BUGEL:

Q Have you ever done another assessment similar to the assessment you talked about in the mid 2000s?

MS. NIJMAN: Has she personally within her job?

MS. BUGEL: Personally sought a consultant to perform the assessment -- an assessment.

THE WITNESS: No.

BY MS. BUGEL:

Q Referring back to Exhibit 30, Point 7 -- I'm sorry, Point 8 -- Point 8, do you see where it says, 1/28/2011, comma, Ash Surge Basin Relining Design Proposal from NRT arrived, parenthetical, history, Mark, did you ask for that, question mark, closed parentheses.

Do you see where it says that?

A Yes, I do.

Q Did the ash surge basin get relined pursuant to this proposal?

A Yes, it did.

Q Do you know when?

A In 2013.

Q And that was two years later; correct?

A Correct.

Q Is there a reason for that two-year gap?

A The only reason is that we were waiting for the coal combustion residuals rule, and if a basin was in good condition, we didn't want to reline until the new rules came out.

Q Okay. And I'm passing you what has previously been marked as Exhibit 33, Bates Nos. 530

through 536, a date of October 4th, 2012, to John Kennedy, RE, Proposed Compliance Commitment Agreement Violation Notice W, dash, 2012, dash, 00057, Midwest Generation, LLC, Powerton Generating Station ID No. 6282.

Do you see where it says that?

A Yes, I do.

Q And this was from Michael Crumly and, flipping to Bates Page 531, cc Basil G. Constantelos, Maria Race.

Do you see where it says that?

A Yes, I do.

Q So you were cc'd on this letter?

And attached to this letter, Compliance Commitment Agreement in the matter of Midwest Generation, LLC, Powerton Generating Station Pekin, Tazewell County, Illinois, ID No. 6282.

Do you see where it says that?

A Yes.

Q And are you familiar with this document?

A Yes, I am.

Q Have you reviewed it?

A I have reviewed it before.

Q And acknowledging that this is missing

Michael Crumly's signature but does contain John Kennedy's, dated October 15th, 2012, on Bates Page 536.

Do you see that?

A Yes, I do.

Q Does this appear to be a true and accurate copy of this document?

A Yes, it does.

Q And is the east yard basin covered by the CCA?

A Let me look.

MS. NIJMAN: Do you want to see the Violation Notice to see what was in the Violation Notice?

THE WITNESS: No, because I know the east yard -- I was thinking the east yard basin is covered in here and it is in here.

BY MS. BUGEL:

Q Where do you see that?

A In Point L.

Q Do you have an understanding of why the east yard basin was included in the CCA?

A Yes, I do.

Q And what is that?

A My understanding is that in the NPDES

Permit Application, there is a diagram that shows the potential for -- as an alternate route, that ash sluice will go to the east yard runoff basin.

Q And the CCA prohibits the east yard basin from being part of the ash sluicing flow system; is that correct?

A That's correct.

Q And do you see Provision 5M on Page 534?

A Yes.

Q Midwest Generation shall not use any unlined areas for permanent or temporary ash storage or ash handling.

Do you see where it says that?

A Yes, I do.

Q Do you have an understanding of why this provision was included in the CCA -- in the Powerton CCA?

MS. NIJMAN: Provision M?

MS. BUGEL: Provision M.

MS. NIJMAN: I'm going to object to the extent it relates to a strategy discussion with direction from counsel.

Other than that, if you have an independent understanding, you can answer.

THE WITNESS: My understanding is that at some point, someone saw ash on the ground there and -- in an unlined area, and so as a result of that, this provision was put in place.

BY MS. BUGEL:

Q And when you say "someone saw ash on the ground there," are you referring to Powerton?

A Yes.

Q Do you know where that was?

A No, I don't.

Q Do you know anything else about this ash on the ground?

A All I know is that someone was driving over the bridge by Powerton and saw ash sitting on the ground.

Q And I'm assuming you don't know who this someone was?

A I don't know exactly, but I think it was someone who belonged to Illinois EPA, you know, someone that worked for the agency that happened to drive by there on their route to work or something.

Q Do you know when this was?

A It was around this time.

Q And "around this time" being around --

A 2012. Sometime in 2012.

Q Do you know if anyone within Midwest Gen confirmed that there was ash on the ground at Powerton?

A I believe when the topic came up, that was confirmed, that there was ash on the ground and it was there for -- temporarily. It wasn't, you know, something that had been placed permanently or such.

Q Do you know how long "temporarily" was?

A No, I don't.

Q Do you know how much ash was on the ground?

A No, I don't.

Q And is it correct to say that the metal cleaning basin is not explicitly identified in the CCA?

A Let me look.

MS. NIJMAN: As she sits here looking at it today, she can answer the question, I guess.

THE WITNESS: I cannot recall. I do know there are monitoring wells around the metal cleaning basin.

BY MS. BUGEL:

Q Do you recall any discussions with the IEPA about the metal cleaning basin in relation to the Violations Notice?

A The only thing I remember discussing with the agency is that it was difficult -- because these ponds are co-located, it's difficult to figure out if there was contamination, which impoundment it would be related to, because the basins are very close to each other; but that's the only thing I remember.

Q Do you recall anything being done in response to this difficulty of identifying contamination?

A We put in an additional upgradient well to try to get a true upgradient marker.

Q Do you know what well that is?

A I believe it's No. 9 as I sit here, that's what I'm recalling. It's the furthest to the south on the property.

Q Do you recall any other communications with IEPA about the metal cleaning basin?

A Well, I'm sure we would have had a construction permit for the liner there whenever we relined and there could have been more communications, but I don't remember.

Q Would Midwest Gen still have that construction permit in its possession, do you know?

A I'm sure we do, you know.

MS. BUGEL: I'd like to make a request for that construction permit to be provided.
MS. NIJMAN: Every permit we have is in there. I mean --
MS. LAUGHRIDGE GALE: It would -- I'll look.
THE WITNESS: Some plant libraries are better than others, that's for sure.
BY MS. BUGEL:
Q And I'm passing to you what's previously been marked as Exhibit 31 and this is Bates No. 21464, an e-mail from Mark Kelly to Joseph Heredia, cc'ing Maria Race, June 8th, 2010, time of 11:13 a.m., Subject, RE, FW Ash Impoundment.
And are you familiar with this document?
A Yes.
Q And you were cc'd on this e-mail; correct?
A Yes.
Q And have you reviewed this document?
A Yes.
Q And do you have an opinion about silly pop culture -- strike that. It's a little deposition humor. Oh, come on now. It's always fun to read those e-mails.

A I know. People don't realize that these things will end up in depositions, that's for sure.
Q This one -- thank God they end up in depositions, the first time we laughed all day.
Now, here's the real humor, this is not the e-mail I was looking for. I think this is some place where I didn't renumber. I'm actually looking for the one with Bates No. 21361, but while we're on this one, let's go ahead and ask questions about it.
A Okay.
Q If I can find those questions in my notes or we can just -- so the second paragraph after the silly pop culture -- right after the silly pop culture reference, it begins, The secondary ash basin, to my knowledge, has never been dredged. We were going to do it the first time this summer to repair the liner.
Do you see where it says that?
A Mm-hmm.
Q Do you know what kind of repair the liner needed in the secondary ash basin?
A No, I don't.
Q Do you know what kind of damage there might

have been to the liner?
MS. NIJMAN: Don't --
THE WITNESS: I wouldn't want to guess.
BY MS. BUGEL:
Q Okay. Let me rephrase that.
Do you know why it needed a repair?
A No, I don't.
Q Do you know how anyone determined that a repair was needed?
MS. NIJMAN: If you can understand the question, you can answer it.
I object to vagueness.
THE WITNESS: I think that -- I don't understand what you're asking.
BY MS. BUGEL:
Q Okay. I'm trying to find out how individuals at Powerton determined that the liner needed a repair.
MS. NIJMAN: She said she doesn't know anything about the rips or the repair.
THE WITNESS: About this specific --
BY MS. BUGEL:
Q This specific repair.
MS. NIJMAN: So asked and answered. I object.

BY MS. BUGEL:
Q You can still answer if your attorney has not directed you to not answer.
MS. NIJMAN: If you know how other people made this assessment, I guess you can answer.
THE WITNESS: I can only guess.
BY MS. BUGEL:
Q Okay. And moving on to the next paragraph, do you see where it says, I would like to repair ripped liners in the metal cleaning basin later this summer?
Do you see where it says that?
A Yes, I do.
Q Do you know anything about the ripped liners in the metal cleaning basin?
A The metal cleaning basin was only periodically used and I don't remember specifically this particular case. However, I believe he wanted to repair it before he needed to use it and -- well, I answered the question.
Q Do you know if those repairs were made?
A Either the repairs would have been made or a new liner would have been installed.
Q And I want to ask you about the way you

answered. Because you said either the repair would have been made or a new liner would have been installed. So you don't, in fact, know which one happened; is that correct?

A This particular time.

Q This particular time?

A Yeah, I'm not sure.

Q So is the basis for your answer -- what is the basis for your answer?

A What I'm seeing here is that we needed to repair or replace a liner. I'm not sure in June of 2010 which one we ended up doing, but we would have needed a permit to construct a new liner. So I'm assuming that that's probably the way we would have gone, it would have made more sense.

Q And your answer, though -- is your answer informed by common practice at Midwest Gen? Because you're talking about what would have happened without knowing which one of these routes.

A Because we wouldn't have -- we wouldn't have used a liner that wasn't intact. So it would have either been repaired or replaced before it was put into use.

Q So is your answer based on the fact -- your

experience with Midwest Gen, that when a liner is not intact, the practice is either to repair or replace it?

A Yeah.

Q But in this specific situation, you don't know what happened?

A I don't know which way it went.

Q So you're answering from your general experience?

A Exactly.

Q And do you know how the rips in the liner of the metal cleaning basin were caused?

A I would not want to hazard a guess.

MS. BUGEL: Bear with me a second while I figure out where I am.

Can we go off the record for a second.

(Discussion off the record.)

MS. BUGEL: So I was just stating for the record that I am only about halfway done with my outline and that to complete this deposition and the questions that the plaintiffs have, we would need another four hours.

MS. NIJMAN: And we are certainly willing to cooperate in a reasonable time period. We've already

extended it by an hour, to four hours, beyond the requirement under the law. We are willing to stay here another hour if you need that time, but we are not willing to come back another day and we are not willing to extend this to eight hours. So you can do what you want to do in the next hour and then we're done.

MS. BUGEL: And I want to make sure that before we take us to the hearing officer, we've made an effort to resolve it. So if we're going to bring this up as a motion with a hearing officer, does that change your offer?

MS. NIJMAN: No. No. I think we've been very reasonable. I think the legislature has made it very clear that depositions of fact witnesses should be done in three hours. We've already extended it once. We're willing to be reasonable and extend it again. We've scheduled, what, six, seven other depositions --

MS. LAUGHRIDGE GALE: Five.

MS. NIJMAN: -- and you said you'd want more than that, so I think we are well within our reasonableness of stating that this is more than sufficient time.

MS. BUGEL: And just so our position is on the record, we see the need for this deposition to be longer simply because of the number of years that Miss Race has worked at Midwest Gen and subsequent owners and the breadth of her involvement in the documents, the number of documents that have her cc'd or as a sender or recipient in some way, the breadth of this case, the number of facilities we're dealing with, and the breadth of Miss Race's knowledge and experience for us are all the reasons that support needing more time.

MS. NIJMAN: Feel free to put that in a motion.

MS. BUGEL: I will -- if we can take a break, I will look at what I have left and I will see if it's at all possible to finish in an hour. I'm just trying to decide, you know, if -- well, let's -- why don't we take a break and see if we can finish in an hour.

MS. NIJMAN: Fair enough.

(Recess taken.)

BY MS. BUGEL:

Q This one we're looking at now is Exhibit 34. Do you have a --

A I don't think we have it.

Q I'm handing you what has previously been marked Exhibit 34 and this appears to be an e-mail from Maria Race to William Gaynors, cc others, October 19th, 2012, 9:25 a.m.

Do you see where it says that?

A Yes.

Q And you were the author of this e-mail?

A Yes, I was.

Q And do you recall this e-mail?

A Not specifically, but it looks like something I could have written.

Q Okay. Do you want to take a minute to review it?

A Sure. Okay.

Q Do you see where Point No. 1 discusses the limestone basin?

A Yes.

Q And can you -- do you know what the limestone basin is?

A Yes, I do.

Q Can you explain it?

A It's a basin to the east of the larger ash bypass basin.

Q What is it used for?

A Currently, I don't know that it's used for anything.

Q Was it historically used for something?

A There was some process involving limestone that it was used for in ComEd days and I don't -- that's where it got its name, limestone basin, but I arrived after that process had been dismantled.

Q And --

A So it doesn't have limestone in it or anything.

Q Okay. And in Point 1, you indicated it is simply a temporary holding spot for ash in the second to last line.

Do you see that?

A Yes, I see that.

Q Is it currently used as a temporary holding spot for ash?

A I don't know.

Q Do you know if it's lined?

A It was lined the last that I knew.

Q Do you know if it's ever been relined?

A I know it was relined sometime in the mid 2000s.

Q And Point No. 2, you discuss the east yard

basin.

A Mm-hmm.

Q And I know we've already touched on that today, so I'll try to just get to the point. You indicate that, We cannot use the east yard basin for Unit 5 and 6 fly tank overflow.

Do you see that?

A Yes, I do.

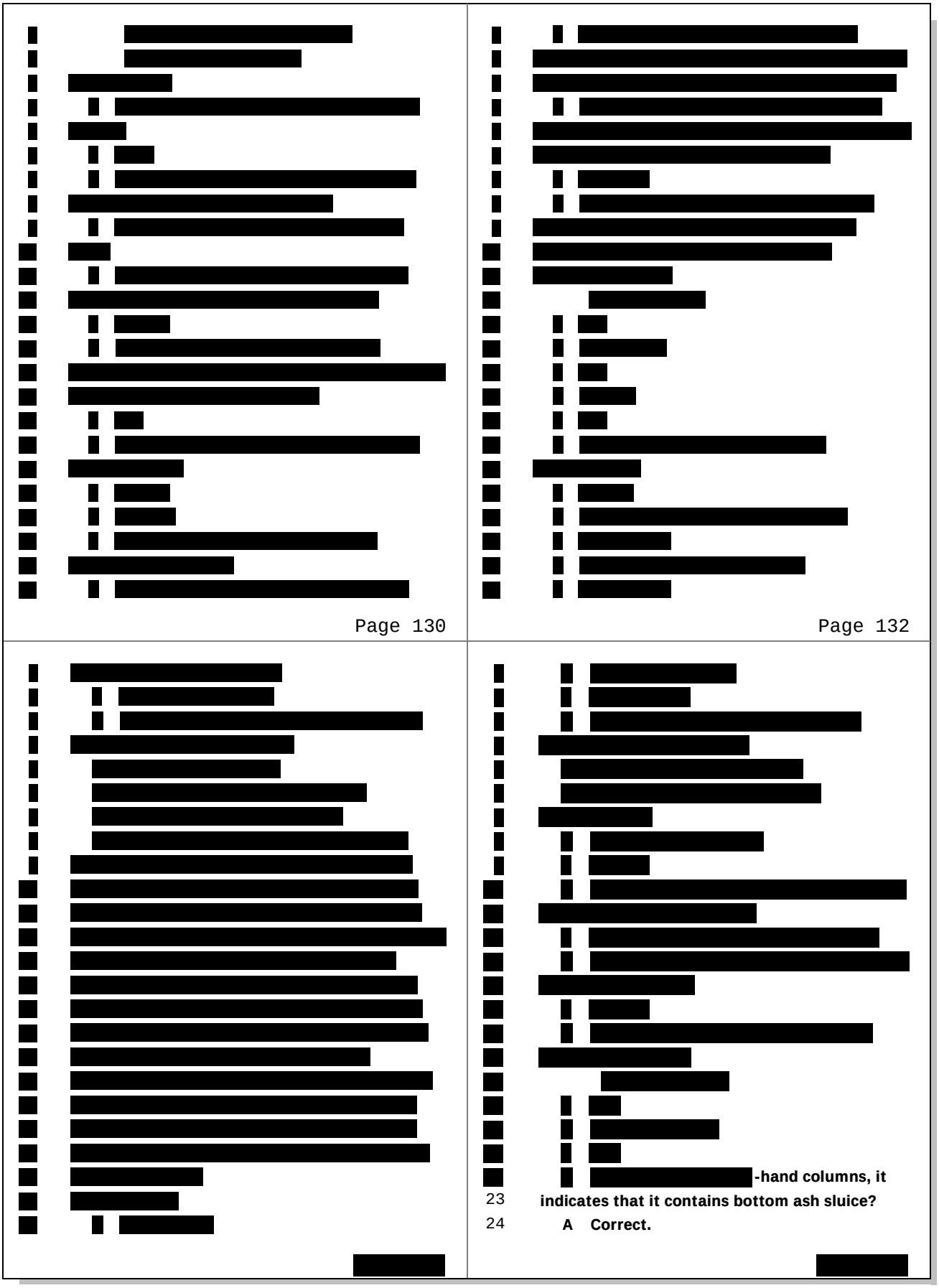
Q And do you know what fly tank overflow is?

A Intuitively, I was assuming that it's just the bottom ash holding tank overflow water, processed water, and that the reason I would have used that term is because there would have been a diagram -- an NPDES diagram that would have had a box that said that, so I was just repeating what I saw there. This was an ash source; therefore, it can no longer go to the -- it couldn't go to the east yard basin, it couldn't be routed there.

Q And turning to Deposition Exhibit 4 -- I think we can set that aside now and then we'll go back to Deposition Exhibit No. 4 and this is confidential.

(Whereupon the following pages

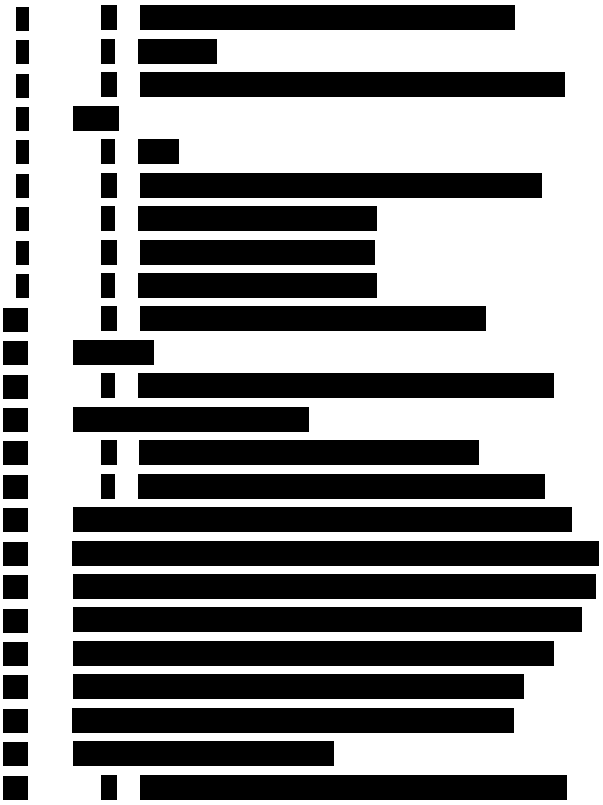
are marked confidential.)



Page 130

Page 132

-hand columns, it
23 indicates that it contains bottom ash sluice?
24 A Correct.



through 20126. And if you turn to the second page, 20002, for the record, this appears to be the Quarterly Groundwater Monitoring Report, Powerton Generating Station, April 23rd, 2014, to Andrea Rhodes of the Illinois Environmental Protection Agency and the cover letter is signed by Jeffery Kickert, station manager.

Are you familiar with this report?

A I have seen it.

Q And have you reviewed it?

A I've reviewed it probably very lightly.

Q And referring to the maps that are on Page 20006, 20007, can you turn to those pages?

A Mm-hmm.

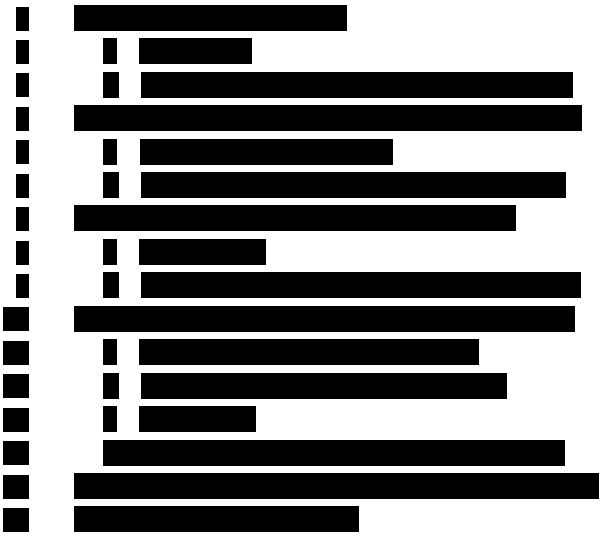
Q And starting -- it's not 2006, it should be 2 -- 20006, 2-0-0-0-6. This page has a site map, Powerton Station, Pekin, Illinois.

Do you see that?

A Yes, I do.

Q And we were talking about the old ash basin. Can you identify which basin that is on this map, if it appears there?

A It does appear there, but it's been split in two. It was at one time one whole basin, but



(Whereupon the following pages are no longer confidential.)

BY MS. BUGEL:

Q And I am handing you what has been marked as Deposition Exhibit 35, and if you flip -- the first page is the file folder, but if you turn to the second -- for the record, this is Bates No. 20001



there's a rail loop that was run in between it and so now it's been split into two basins; but at the time that the ICR was made, it was actually one basin.

Q And on this map, then it appears as former ash basin --

A Correct.

Q -- two of them?

A And the overflow portion is the southern piece.

Q Does that mean the former ash basin north of the split does not get used as an emergency overflow?

A I believe they're still hydraulically connected.

Q Do you know how much bottom ash the two former ash basins -- or one, since they're hydraulically connected -- contain?

A No, I do not.

Q And do you know if it contains any fly ash?

A I don't.

Q Do you know how much slag it contains?

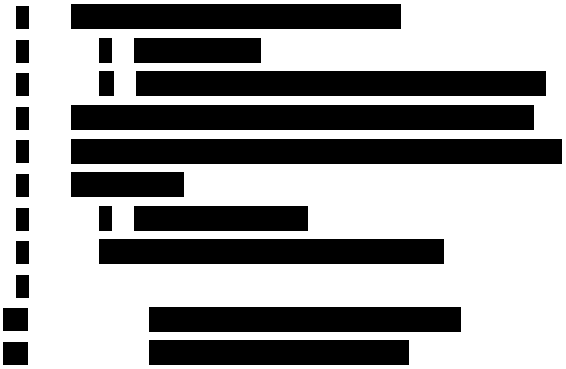
A I don't.

MS. BUGEL: And -- okay. And we are going to turn back to the questionnaire for just one more

question -- one more line of questions, the same pages we were on, 1273 through 1276. We are back on the record of confidential.

(Whereupon the following pages are marked confidential.)





(Whereupon the following pages are no longer confidential.)

BY MS. BUGEL:

Q And I am handing you what's been marked as Deposition Exhibit No. 36 and this is Bates No. 11302 through 11492. And it appears to be a cover letter addressed to Michael Reed, Midwest Generation, Powerton Generating Station, from Sean C. Chisek, C-h-i-s-e-k, of Andrews Environmental Engineering, cc'ing Maria Race, with a date of June 8th, 2004. And attached to that letter is Draft Sampling Plan Report, Midwest Generation, LLC, Powerton Generating Station, June 2004.

Do you see where it says that?

A Yes.

Q And are you familiar with this document?

A I remember it.

Q And you received a copy of it; correct?

A Probably.

Q You were cc'd on the cover letter; correct?

A Yes, I was.

Q Have you reviewed this before?

A Not for 10 years, but I'm sure I reviewed it at the time.

Q Okay. Fair enough. And I'll try to isolate my questions to certain pages so you don't have it review the whole thing.

Let's turn to Page -- let's turn to Page 11306 and let's see, the -- if you look at 11305, Section 2.0 covers the limestone runoff basin.

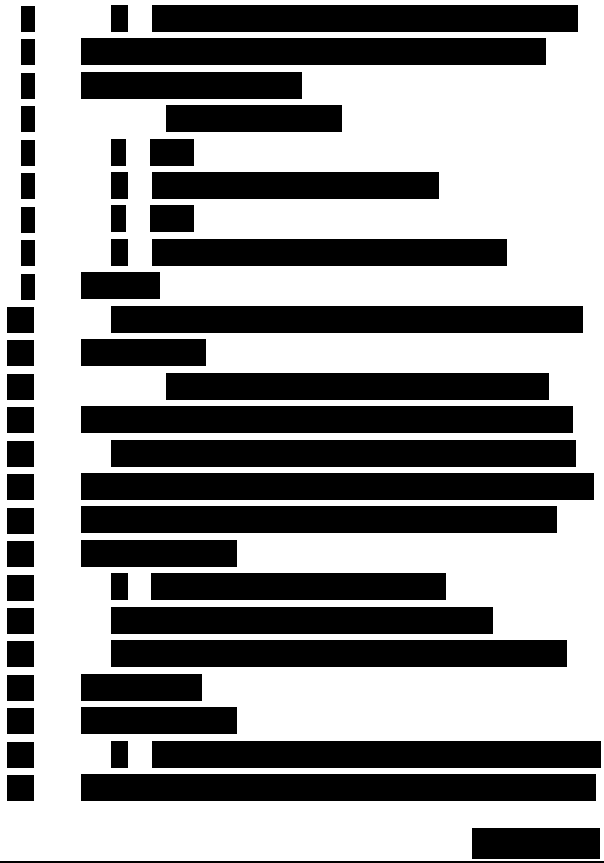
Do you see that?

A Yes.

Q And then this document, Test Pit Excavation and Sampling, in Section 2.2, do you see that?

A Yes.

Q And do you know what the source of the



material in the limestone runoff basin is per this report?
A I believe it was an area that the station used to put material that was in equipment that they were working on.
MS. BUGEL: I'm sorry, can you read back the answer.
(Record read as requested.)
BY MS. BUGEL:
Q And what do you mean by "material that was in equipment"?
A Ash or material like that. Ash-like material.
Q And if you look under the table listed as TPO 3, it describes the surficial material and it says, The surficial material appeared to be fly ash.
Do you see where it says that?
A Yes.
Q Is that consistent with your understanding of what would be contained in the limestone runoff basin?
A Yes. At that time.
Q Do you have any idea of how much fly ash is currently in there?

A No, I do not.
Q Bottom ash?
A I do not.
Q I think we can set Exhibit 36 aside. I'm passing you what has been marked as Deposition Exhibit 37 and this is Bates No. 8502 through 8536. And it's titled Commonwealth Edison Company, Chicago, Illinois, Phase 1, Environmental Site Assessment of the ComEd Powerton Generating Station, Manito, Pekin, Illinois, by ENSR, dated October 1998.
Do you see where it says that?
A Yes. And you did say Manito; right? I had to be corrected on that -- just for a little levity, here.
Q Oh, well, thank you. That's a high point of my day, too. I still can't pronounce Tlachac, though.
Okay. So are you familiar with this document?
A Yes, I am.
Q And have you reviewed this document?
A Not recently, but I'm familiar with it.
Q And can you turn to Page 8514, please and we are looking -- one, two, three, four -- starting

with the fourth paragraph down, do you see where this says, A former slag and dumping area is located directly east of the coal pile collection basin?
Do you see where it says that?
A Yes.
Q Do you know if that former slag and dumping area is still in that location at Powerton?
A I don't think so. I don't remember an area like that.
Q And it does say the area is presently overgrown with vegetation.
A I don't think so, but I'm not sure.
Q And next paragraph down, do you see -- okay. Strike that.
A Let me think about the directions. I'm not sure. I don't think so.
Q Do you know who would know?
A The station manager.
MS. NIJMAN: This is from 1998.
THE WITNESS: Yeah, I mean this -- I'm not sure.
BY MS. BUGEL:
Q And let's turn to Page 8531 and this Section 5.0, Summary of Findings, very bottom of that

page, it references the slag dumping area again and the very last sentence says, It is unknown whether slag and/or coal management practices in these areas have had an adverse impact on soil and/or groundwater quality.
Do you see where it says that?
A Yes.
Q So it indicates in 1998 that it was unknown. Would the monitoring wells that have since been installed on the property provide any indication as to whether the slag and dumping area has had an adverse impact on groundwater quality?
MS. NIJMAN: I'm going to object to the extent your question asks for an opinion and expert assessment.
If you know.
THE WITNESS: I don't know.
BY MS. BUGEL:
Q And moving on to Exhibit 38. I'm passing you a document that has been marked as Exhibit 38 and it is eight (sic) pages, 11233 through 11237. And turning to the second page, do you see -- the second page and the third page appears to be duplicates of each other, but do you see that it is dated September

11th, 2013, to Mr. Lynn Dunaway, Illinois Environmental Protection Agency, RE, Midwest Gen, LLC, Powerton Generating Station ID No. 6282, Compliance Commitment Agreement, dash, ELUC, slash, GMZ?

Do you see where it says that?

A Yes, I do.

Q And it is signed on Page 11234 by Richard R. Gnat, KPRG & Associates, and cc includes Miss Maria Race, among others?

A Yes, I see that.

Q Are you familiar with this document?

A I am sure I received it. I can review it.

MS. NIJMAN: Let's see what the question is.

BY MS. BUGEL:

Q And you are cc'd on it; correct?

A Correct.

Q And you are also referenced in this -- in the very last sentence where it says, If there are any questions, please contact me at (262) 781-0475 or Miss Maria Race of Midwest Generation at (630) 771-7862.

Do you see that?

A Yes.

Q Let's look at the first paragraph and -- I'm looking at the very first paragraph right after Dear Mr. Dunaway; it begins, On January 18th, 2013, if you want to start by just reviewing that paragraph.

A Sure. Okay. I read the first paragraph.

Q Do you see the second to last sentence that reads, Even though these points may be upgradient of specific ash basins, they are not believed to be reliable upgradient monitoring points for historical ash-related activities that may be impacting groundwater quality proximate to these wells.

Do you see where this says that?

A Yes.

Q Do you have any understanding of what is meant by "historical ash-related activities"?

MS. NIJMAN: Does she know what IEPA meant?

MS. BUGEL: No, this was written by --

THE WITNESS: I'm not sure. Yeah, I'm not so sure.

MS. BUGEL: -- her consultant.

MS. NIJMAN: Because this is a quote from the IEPA comment, that's all in quotes. This is the consultant quoting IEPA.

MS. BUGEL: I don't see that this is a long quote of the IEPA's. I see quotes around things like upgradient, side-gradient and intermediate, but there are no quotes around that whole sentence.

MS. NIJMAN: Well, if you have a question, she can try to answer it.

MS. BUGEL: Okay. Do you want to read back my question, Tracy.

(Record read as requested.)

MS. NIJMAN: With my objection, you can answer it, if you know.

THE WITNESS: The only thing that I know of is that there are fly ash handling silos that are near the area and so, perhaps, the handling of the fly ash near the upgradient areas gave IEPA concern, but I don't know that for certain.

BY MS. BUGEL:

Q I'm handing you what's been marked as Deposition Exhibit 39 and it's Bates Pages 10639 through 10771. And it's -- I am not sure whether the pages are out of order, but let's refer to Pages 10642 and 10643. And this is dated -- it looks like those might be even be duplicates of each other, but it's dated October 20th, 2010, to Illinois

Department of Public Health referencing monitoring well construction reports signed by Patrick Engineering, Steven E. Kroll.

Do you see where it says that?

A Yes.

Q Are you familiar with these reports?

A I'm not sure that I saw these, but I may have. I don't remember them explicitly.

Q So would it be accurate to say you don't remember having reviewed them?

A I don't remember having reviewed them.

Q I'll just ask you one question about 10649, if looking at that jogs your memory at all.

Are you familiar at all with these well construction reports on this page?

A I've seen them before.

Q And on -- I'm looking at the form for Well No. PEIMW 06.

Do you see that --

A Yes.

Q -- in the upper right-hand corner?

A I do.

Q And then looking at No. 25, it has a table labeled Earth Materials Passed Through.

Do you see that?
A Yes, I do.
Q And third entry down in that table says, Cinders?
A Yes.
Q Do you have any understanding of what cinders in a report like this would indicate?
MS. NIJMAN: I'm going to object to the extent that this was not written by her, she has no recollection of it, she's not an expert witness. We've gone over this many, many times now.
You can try to answer, but this is a question that should be asked of Patrick, who you have on your list of requested depositions.
THE WITNESS: I'm not sure what they mean.
BY MS. BUGEL:
Q Okay. We can set this aside. And I'm handing you what has previously been marked as Exhibit 40 and this is Bates No. 19808 through 19969 and it is titled Fourth Quarter and Annual Groundwater Monitoring Report, Powerton Generating Station with a date of January 21st, 2014. This letter is directed to Miss Andrea Rhodes of Illinois Environmental Protection Agency. It is signed by

Richard R. Gnat and Maria Race is cc'd, among others.
Do you see where it says that?
A Yes, I do.
Q And do you see that you are cc'd on this report?
A Yes.
Q And do you -- are you familiar with this report?
A I'm sure I looked at it when it came out.
Q And let's -- are you aware that in this report, there is an indication that boron increased in certain wells in the latter half of 2013?
MS. NIJMAN: Only if you have independent recollection.
THE WITNESS: I am not aware of that.
BY MS. BUGEL:
Q Let's look at Exhibit 41. I'm handing you what has previously been marked as Exhibit 41 and this is Bates Page 13822. It appears to be an e-mail, Ash ponds, parentheses, few more questions, closed parentheses, from Rabins, Jaime, to Maria Race, with a date of 1/28/2009, 11:46 a.m.
Do you see where it says that?
A Yes. And I do have to correct your

pronunciation.
Q Oh, okay.
A Jaime Rabins.
Q Jaime? And I went to --
A It looks like Jaime.
Q -- spelled that way that went by "Jaime." So Jamie. Thank you.
So were you the recipient of this e-mail?
A Yes.
Q Are you familiar with this e-mail?
A Yes.
Q And have you reviewed it?
A Yes.
MS. NIJMAN: Right now, you mean?
THE WITNESS: Right now, yeah. I've looked at it right now.
BY MS. BUGEL:
Q Okay. Good. And looking at the very first sentence, do you see where this says, Are there any known groundwater impacts at the Will County Waukegan, Powerton, Joliet 29, Joliet 9 or Crawford Generating Stations?
A I see that.

Q Do you recall answering this question?
A I don't recall.
Q And can you please look at the very last sentence in this e-mail? Do you see where it says, Also confirm that there are no inactive ponds at any of the Midwest Gen facilities which contain ash?
A Yes, I do see that.
Q Do you recall responding to that request?
A No, I don't recall what I said.
Q Okay. Can we get Exhibit 42? You can keep this out, I think we may go back to it.
A Okay.
Q And I'm passing you what has been marked Deposition Exhibit 42 and this appears to be an e-mail, the title RE, FW Ash pond information, from Bill Constantelos to Maria Race, dated 1/12/2009, time of 1:40 p.m.
Do you see that?
A Yes, I do.
Q Okay. And then we're going to try to work -- do you see -- if you flip to Page 13954, do you see the middle e-mail on that page?
A Yes.
Q From Jaime Rabins to Maria Race, 1/12/2009

a.m. -- I'm sorry, 11:24 a.m., Subject, RE, Ash pond information, and -- do you see that e-mail?
A Yes.
Q And you were the recipient of this e-mail?
A Yes.
Q And the last sentence in that e-mail says, I'm assuming that there are no inactive or closed ash basins at any of Midwest Gen's facilities.
Do you see where it says that?
A Yes.
Q And then further up, the next e-mail up appears to be your response.
Do you see that?
A Yes.
Q Do you see where it says, in the last sentence, I'll look into the closed, slash, inactive basins, period; I don't think so?
A Yes.
Q Do you recall providing that response?
A I don't recall providing that response.
Q And do you -- I find it difficult to tell whether these two e-mails are in a related chain at all.
Do you recall if Exhibit 41 and

Exhibit 42 were in a related chain?
A I don't know, but Jaime Rabins did ask questions about the ash impoundments during that January time frame, so they may not have been like related, like this one leads to this one, but he asked a question and then two weeks later asked another question. I could see that as being a possibility.
Q Okay. And did you later receive any information about closed or inactive basins at the facilities?
A I think that within the context of what he was asking -- he was asking if there were any -- as he puts it here -- where is it -- no inactive or closed ash basins, I was focused on the ash basins that existed within our NPDES System. And so I was looking into whether or not there were closed or inactive basins that were just sitting idle, and I'm sure I would have gotten back to him with an answer to that eventually. And it looks like from what the e-mail chain is here, that I called him, that I didn't send an e-mail.
Q And do you recall any of the details of that phone call?

A No, I don't.
Q And do you have an understanding today of whether there are any closed or inactive basins at Midwest Gen's facilities?
A I know that there are various basins that are included or not included in our NPDES permit application and permit systems.
Q That are closed or inactive?
A Inactive.
Q And can you list which ones they are?
MS. NIJMAN: Just what you recall.
THE WITNESS: Okay. I recall at Will County there are three -- I think it's either two or three inactive basins to the -- I'm so terrible with directions -- but it's to the south, I think on the south side of the property; and at Powerton, the limestone basin is inactive, not part of our NPDES System. And that's all I can think of right now.
MS. BUGEL: I will be mindful of the time. I know it's 4:00 o'clock. I have more questions, but we will not get to them today. So --
MS. NIJMAN: How close are you?
MS. BUGEL: We haven't covered Will County at all, so at the pace we're going, you know, it would

be an hour and a half. And then I have some questions about the compliance letters that followed -- that came at the end of the -- not at end of the Compliance Commitment Agreement, but indicating compliance with the Compliance Commitment Agreement.
MS. NIJMAN: There's no way you would have gotten this done in one day is what you're saying?
MS. BUGEL: Yeah.
MS. NIJMAN: Okay. Fair enough. We're done.
FURTHER DEPONENT SAITH NOT. . .

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of)
)
SIERRA CLUB; ENVIRONMENTAL LAW)
& POLICY CENTER; PRAIRIE)
RIVERS NETWORK; and CITIZENS)
AGAINST RUINING THE ENVIRONMENT,)
)
Complainants,)
)
vs.)PCB No-2013-015
)(Enforcement-Water)
MIDWEST GENERATION, LLC,)
)
Respondent.)

This is to certify that I have read the transcript of my deposition taken on the 12th day of November 2014 in the foregoing cause, and that the foregoing transcript accurately states the questions asked and the answers given by me, with the changes or corrections, if any, made on the Errata Sheet(s) attached hereto.

MARIA RACE
Subscribed and sworn to
before me this day
of 2014

Notary Public

STATE OF ILLINOIS)
) SS:
COUNTY OF WILL)

Tracy L. Overocker, being first duly sworn on oath, says that she is a Certified Shorthand Reporter, that she reported in shorthand the testimony given at the taking of said deposition, and that the foregoing is a true and correct transcript of her shorthand notes so taken as aforesaid and contains all the testimony given by MARIA RACE at said deposition.

And further, that she is not connected by blood or marriage with any of the parties to this action, nor is she a relative or employee or attorney or counsel of any of the parties, or financially interested directly or indirectly in the matter in controversy.

That the preceding deposition shall be read by said deponent, and any and all corrections which the deponent desires to make shall be duly made by the deponent on the enclosed errata sheet(s), indicating page and line to be corrected, and that the

explanation, if any, given by the deponent for said corrections, shall be thereon noted.

Certified Shorthand Reporter
No. 084-004439

SULLIVAN REPORTING COMPANY
Two North LaSalle Street
Suite 1615
Chicago, Illinois 60602
312-782-4705

November 26, 2014

NIJMAN FRANZETTI, LLP
C/O MS. JENNIFER T. NIJMAN
10 South LaSalle Street, Suite 3600
Chicago, Illinois 60603

Re: Sierra Club et al., vs. Midwest Generation, LLC

Dear Ms. Nijman:

Enclosed please find the transcript of the discovery deposition of MARIA RACE, taken on November 12, 2014, in the above-entitled cause.

Since signature was reserved, please ask MARIA RACE to review her transcript from November 12, 2014, making any necessary corrections on the errata sheets, and sign and notarize the deponent's signature page.

Please send the original signed errata sheets and signed deponent's certificate to Ms. Bugel, keep a copy for yourself, and please send a copy to me for my records.

According to Amended Rule 207(a), signature must be obtained within 28 days or the deposition may then be used as fully as though signed.

Your cooperation in this matter is greatly appreciated. Thank you.

Sincerely,

Tracy L. Overocker, CSR
SULLIVAN REPORTING COMPANY

CC: Ms. Bugel

A

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Exhibit E5
(REDACTED)

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:

SIERRA CLUB, ENVIRONMENTAL LAW AND POLICY CENTER, PRAIRIE RIVERS NETWORK, and CITIZENS AGAINST RUINING THE ENVIRONMENT,	)	
Complainants,	)	**PCB No-2013-015 (Enforcement - Water)**
v.	)	
MIDWEST GENERATION, LLC,	)	
Respondents.	)	

The discovery deposition of JOHN PATRICK SEYMOUR, P.E., taken under oath on the 1st day of March 2016, at 353 North Clark Street, 45th Floor, Chicago, Illinois, pursuant to the Rules of the Supreme Court of Illinois and the Code of Civil Procedure, before Brad Benjamin, a certified shorthand reporter in and for the State of Illinois, pursuant to notice.

APPEARANCES:
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(Witness sworn.)

JOHN PATRICK SEYMOUR, P.E.,

called as a witness herein, having been first duly sworn, was examined and testified as follows:

EXAMINATION

BY

MS. CASSEL:

Q Good morning, Mr. Seymour. My name is Jennifer Cassel. I'm an attorney at the Environmental Law & Policy Center, and I'm here on behalf of Sierra Club, ELPC, and a group called Prairie Rivers Network today.

Can you tell me for the record your full name, your place of employment, and the address of that place of employment.

A Sure. John Patrick Seymour, I work at the Geosyntec Consultant [SIC] located in Chicago at 134 North LaSalle, Suite 300, Chicago 60602.

Q Great.

Have you ever given a deposition before, Mr. Seymour?

A Yes.

Q Can you tell me the circumstances under which you gave a deposition?

A Last time I gave a deposition was over ten years ago. It was in a case that was a Superfund site that was -- it was a lawsuit over allocation.
Q Did your testimony in that case have anything to do with interpreting groundwater results?
A No.
Q What did your testimony have to do with in that case?
A It had to do with what waste was present and what property it was located at and what had been found in surface water and in a few waste samples, as to whether or not it was -- to characterize it.
Q Did that involve coal or coal ash?
A No.
Q Okay. So, as you know, having given a deposition before -- oh, I should say -- you said the last one you gave was over 10 years ago.
Have you given other depositions besides that?
A Yes. Probably on the order of 20 years ago.
Q Twenty years ago. Okay.
Do you recall what the circumstances were --

A Yes.
Q -- of that deposition?
A It was a site in Michigan that had been acquired by a county for an airport expansion. And the owner was suing the County to receive more money, felt it was undervalued because he had received a Hazardous Waste Part A Permit, and he believed that it was worth more because it could get a hazardous waste treatment storage and disposal facility.
Q And did that particular deposition -- in that deposition did you give testimony relating to coal ash or --
A No.
Q -- coal?
A No.
MS. NIJMAN: Wait until she finishes.
BY MS. CASSEL:
Q Did you give testimony relating to interpreting groundwater results?
A No.
Q Any other depositions that you recall beside those two?
A Not depositions, no. Those are the only two.

Q So, as you know, having given a deposition before, you are testifying under oath today. You have an obligation to answer all of the questions truthfully.
Do you understand that?
A Yes, ma'am.
Q For the benefit of the court reporter, please do answer out loud. If you don't understand a question, feel free to ask me to rephrase it, and I'm happy to do that. If you do answer a question, I will assume you understand it.
Do you understand?
A Yes.
Q If you need a break, let us know, and we'll be happy to take a brief break. When necessary, we'll also plan on taking a brief lunch break --
A Okay.
Q -- at some point here.
You will have the opportunity to read over the deposition transcript and correct any mistakes in transcribing what you've said after that transcript is available.
A Okay.
Q Are you currently taking any medication

that might affect your memory today?
A No.
Q Okay. Do you have any other physical or mental issues that might affect your memory today?
A No.
Q Now, I would like to mark our first exhibit, which is your CV.
(Seymour Deposition Exhibit No. 1 was marked for identification.)
MS. CASSEL: And these will be marked as Seymour Deposition Exhibits 1, 2, 3, just to keep it simple.
THE WITNESS: Thank you.
BY MS. CASSEL:
Q Sure.
So taking a look on the first page of your CV, the Career Summary -- and this is Bates 48959 -- you state that your career summary includes, quote, geotechnical and environmental evaluations of waste disposal expansions, operations, and -- let's see -- and closure?
Can you tell me, in brief, what those environmental evaluations entail.

A Well, for, actually, more like thirty years, I have been working with a Superfund, site assessments, investigations, groundwater quality evaluations, soil analytical analysis, mainly around landfills and waste containment facilities. I've also managed risk assessments; feasibility studies; conducted remedial designs; remedial actions; and conducted an O&M for waste containment facilities for many years.

Q I believe your career summary also states that you have provided relevant consulting engineering services for seven CCRs, which is defined as coal combustion residuals, impoundments, and fourteen CCR landfills.

Is that accurate?

A Actually, it's more now. I've done more since that resumé has been issued.

Q How many have you done then?

A Well, it's hard to count. I was retained as an expert by TVA for the Kingston failure on an insurance claim, but -- I prepared the expert report, but I was not declared as an expert. But it included hundreds of pond review of EPA Reports that we summarized the results from.

And then I've also been conducting and managing landfill inspections and impoundment inspections under the CCR Rule.

I've completed guidance documents for the Electric Power Research Institute regarding dewatering ash ponds -- coal ash ponds and enclosing coal ash ponds, including construction over coal ash ponds.

And there's some other ponds. Of course I'm not very familiar with these ponds; but I've also worked at a pond in Kentucky where I've evaluated the Coal Ash Rule location restrictions, groundwater monitoring networks, coal ash pond in Southern Ohio doing the same thing: looking at the location restrictions and groundwater quality monitoring network as regarding compliance with the Rule, and, actually, two ponds in Southern Ohio, very large ponds.

Q So for those ponds that you've just described, the TVA and Ohio and Kentucky ponds as well, did you interpret groundwater results as part of an investigation of --

A No. These were evaluating compliance of the networks. It was not evaluating groundwater

quality.

Q And what did your evaluation of the monitoring networks entail?

A Looking at the -- well, I was a project manager, and I had to review -- go through everything and direct the work. But I had to review the locations of the wells; the geology of the wells; whether or not the screen length was at the appropriate location; whether they had adequate downgradient wells, upgradient wells.

Q And did that involve an interpretation of groundwater flows?

A Yes.

Q What else did it involve, if anything?

A That was mostly it. I mean, it was regarding the groundwater compliance. We also, then, made recommendations for additional monitoring and changing of the network. And, currently, we are working with the client in doing the field effort to install new wells, envelop, and initially sample those wells in preparation for the monitoring for the Rule.

Q Okay. Let's take a look at some of the projects that you specifically mention in your CV

just to get a better idea of what those entailed.

You first mention on the second page of your CV, which is Bates 48960, the J.C. Weadock Plant CCR Facility Engineering Study.

A Yes.

Q Do you see that? Okay.

It says that you assessed future use and closure of the facility, considering regulations and future proposed regulations regarding CCRs under RCRA.

Do you see that?

A Yes.

Q Is that an accurate statement?

A Yes.

Q Could you explain what that means in a little more detail?

A The client was looking to the future to what they could do with this area. It was prior to the CCR Rule, and it was basically a feasibility study of looking at this site with different configurations, looking for a new adjacent site, and looking for off-sites.

So it was a feasibility study, we called it an engineering study, to evaluate future

methods of managing their CCR waste.
Q Did you evaluate groundwater quality data as part of that project?
A No.
Q Did you perform an environmental evaluation other than the feasibility study as part of that project?
A We looked at the different environmental regulations to see what they needed to do to adhere to the different regulations, including local laws; Michigan laws and CCR Rule, which is draft at the time, or proposed, and the proposed effluent limit guidelines as to the needs -- for future needs for their facility.
Q Okay. Now, can you identify for me -- obviously, you've got a good number of projects listed here on your CV. Can you identify for me in which of these projects -- or any of these projects in which you did interpretation of the groundwater monitoring results?
A In the James M. Gavin Power Plant, I had a small role in the Monongahela Network. In evaluating what the results were, there weren't any problems, so it was not much of a review.

The R. Paul Smith Evaluation was basically installation of a new network. But, again, there were no problems, so there was not much of an evaluation.
MIG/DeWane Landfill Superfund Remedial Design, a lot of groundwater evaluations regarding flow, concentrations, degradation, existing treatment, potential future treatment.
Q Did this particular facility, the Superfund site, did that involve coal or coal ash?
A No.
Q Okay.
A It did include looking at the inorganics, but not at coal or coal ash.
Q Okay.
A Yeoman Creek Landfill Superfund Site, that is one where I was in charge of obtaining the groundwater data, taking the initial review of the data, and providing that data to the U.S. EPA as an ongoing monitoring of the Superfund site.
Q That was the Yeo- --
A Yeoman Creek Landfill Superfund Site.
Q And did this site entail coal or coal ash?
A No.

Q And during the groundwater interpretation that you did here -- you did say you did groundwater interpretation at this site, right?
A Yes.
Q Did you use any indicators as a -- to evaluate the groundwater contamination at that site?
A At this point of the site, those had already been established.
Q Okay. So you used indicators, but they had already been chosen by someone else?
A Yes.
Q Can you identify any other sites in which you did groundwater interpretation?
A The -- we did some for the multiple sites for utilities in Wisconsin where we had a groundwater contamination for a manufactured gas plant site where I did look at the groundwater quality and the monitoring results looking for remedies, if you will.
Q Did you use any indicators in evaluating the groundwater contamination there?
A We did to a general extent, but they were -- so the answer's "yes."
Q Okay. Can you tell me more about that.
A Well, these are mostly manufactured gas

plant sites. So they're mainly organics. So they have heavy organics and some benzene, toluene, xylene, those types of organics as well. They do have -- chrome, for example, is one of the waste products at MGP sites, but it's not something that -- and cyanide, but that was not of a concern for me on the -- for groundwater.
Q So the constituents that you mentioned, the organic constituents, benzene, toluene, were those indicators that you used in identifying contamination?
A They were. Unfortunately, that was -- the site had lots of impacts and there -- multiple indicators.
Q What do you mean by "multiple indicators"?
A Well, there's a lot of -- this site -- MGP plants have a tendency to have a lot of organic contamination, and so there's naphthalene and all the PNAS, other -- you know, other problems at the site. So there was a lot of indicators.
Q Okay.
A It didn't actually -- we looked at it from a wastewater treatment facility as to what needed to be treated. That's what we looked at for indicators.

Q Can you continue to go through your CV --
A Sure.
Q -- to identify it further.
A Albion-Sheridan Township Landfill was a solid waste landfill that contained hazardous waste, and I was working with the client on the closure under Superfund. And, again, it was just getting the data -- initial data and doing a monitoring program.
Q So it was not interpretation of groundwater results for looking -- evaluating contamination?
A That is correct.
Q Which of the other projects within your -- on your CV involved interpreting groundwater contaminant- --
A The --
Q -- you know, monitoring for purposes of evaluating contamination?
Excuse me.
A The McGraw-Edison facility was one where we examined groundwater, and I helped conduct a feasibility study for the remediation of impact to groundwater and soil gas and existing previously stored waste at the site.
Q So this did not involve coal or coal ash;

is that right?
A That's correct.
Q Okay. Any others?
A The J&L Landfill Steel Company was similar. It was a Superfund site landfill closure where the wells were installed and we continued monitoring. This site contained solid waste, hazardous waste, and it was listed as a Superfund site because it had electric arc furnace dust, which is a heavy inorganic dust from steel manufacturing.
Q Can you -- I know you had discussed early on in your CV, a number. You said it was greater than your numbers that were listed here, seven CCR impoundments and fourteen landfills.
Can you identify which of the projects listed on here are those landfills or impoundments.
A Well, yes, I can.
Unfortunately, I think some of the -- this is not a complete resumé -- the Summary is more accurate -- but the ponds are, again, two ponds in southern Ohio that are major and flash ponds.
Q Can I ask, just to interrupt you quickly, so do they not appear in the listing of individuals?
A They're not listed specifically.

Q Okay.
A I can go through what is -- what I can tell you, yes, as I go through these.
The Weadock Plant.
Q What page is that?
A It's on page 2 of my resumé.
Q Right.
Okay. So we discussed that plant.
A Yes. But it was -- just to be clear, it started off as a major impoundment. And over the years, after filling, it was being converted to a landfill. So that is a pond that has been converted to a landfill.
Q Okay. And were you part of -- excuse me -- were you part of the decision to -- or did you recommend that the site be converted to a landfill?
A It had been ongoing, and I was preparing, again, the study that we had as -- the engineering study for future use.
Q Uh-huh.
A Follow-up work, continued work in this facility is to regrading the site because they had a stormwater pond within the landfill footprint. We wanted to eliminate the stormwater pond so that it

would not be considered a pond. So that was a pond project.
Q So the decision had already been made when you became involved to convert it into a landfill --
A Yes.
Q -- and so you were helping --
A Yes.
Q -- with that project?
A Yes.
Q Okay.
A And then, again, we had a stormwater pond that we wanted to make sure if there're any kind of coal combustion residuals, that they're removed to make it so it would no longer impound water and not be considered as an impoundment.
Q Okay. Are there any of the specific projects -- any of the rest of the specific projects listed on here besides, obviously, the guidance documents, the RP guidance documents that are listed here? Did any of these other ones involve coal or coal ash?
A Yes. Yes.
The General James M. Gavin Plant. That is the major pond. And, actually, there's two

sets of ponds again. I've continued to work at this facility. There's a very large fly ash pond that we looked at closure of that pond, groundwater monitoring for that pond, assessment for compliance for the CCR Rule.

They also have bottom ash ponds -- they have two of them -- Bottom Ash Pond Complex. We did the same regarding compliance of the CCR Rule.

The Monroe Power Plant --

Q Quickly, before we move on from there, can you tell me a little more about -- in the Gavin Power Plant project, did you recommend that the fly ash ponds be closed?

A The pond had been inactive already. They had converted their -- was not receiving waste. And so I worked with them for the last four years designing the closure of that facility. And they initiated some construction last year and it's been permitted. And so I continued to work with them to close that facility, but I did not recommend it. It was -- the client had already decided to close it.

Q Did you recommend the method by which it should be closed?

A We worked with the client. We came up with

an engineering concept that went to design. So the answer is basically yes.

Q Can you tell me what those recommendations entailed.

A Yes.

MS. NIJMAN: Just let me object. If there's a confidentiality issue here or if we need to put this on confidentiality for your client's sake, that's up to you.

THE WITNESS: This site is a permitted site in the state of Ohio. So...

MS. NIJMAN: Okay. So you're speaking --

THE WITNESS: The documents --

MS. NIJMAN: -- about public matters?

THE WITNESS: Yes.

MS. NIJMAN: Okay.

THE WITNESS: Thank you.

Will you please repeat the question.

MS. CASSEL: Will you read the question back, please.

(The last question was read by the reporter.)

THE WITNESS: The major effort in these large pond enclosures is movement of the ash. And in this

case it was primarily fly ash because it's difficult to work with when it's wet. And so it was a major relocation of the ash that was in place to allow for the cover design to properly function. And so the configuration of the cover design and the layering of the cover design was recommended by my company and me as an engineer.

BY MS. CASSEL:

Q When you say the movement of the fly ash, do you mean the movement within that impoundment, or was it removed all the way out of that impoundment?

A It was a very large impoundment, and it was movement within to obtain proper slopes so that the cover -- the new cover that was going be in placed [SIC] would properly function.

Q Has that remedy been put in place already at that site?

A It, again, has been permitted, and it is -- we're currently preparing construction documents to be constructed beginning this year. The client has started some construction on its own beginning last year.

Q Okay. But it has not yet been fully implemented?

A Correct.

Q Okay. Now, you had started to discuss the Monroe Power Plant?

A Yes. That's got two ponds. The main pond is a large 400-acre fly ash pond, and we've been working with the client for the last five or six years and the Michigan DEQ. We did a number of different projects. Regarding what you might be interested in here, it is, again, looking at closure concepts, which we're working with the client right now.

We've also provided some repairs of surface soil sloughing, which has been -- of course, all the reports have been submitted to the State, so they're not confidential.

And they had a vertical expansion of a portion of the landfill. We conducted the investigation of the ash and review, on the client's behalf, of the design which was done by another company. That was the fly ash pond.

Q When you say "the investigation of the ash" or "evaluation of the ash," what do you mean by that?

A It was a geotechnical evaluation of the ash that was within the -- they call it the ash basin

because the vertical expansion landfill was going to be constructed on the ash. And so we obtained the geotechnical properties to design the landfill for settlement and slope stability primarily.

Q Okay. I apologize. I had meant to ask you more questions about -- you had also mentioned a couple of bottom ash ponds at the Gavin Power Plant before we continue on more with the Monroe Power Plant.

Can you tell me a little more about what you did with regard to the bottom ash ponds at the Gavin Power Plant.

A Sure. We did a compliance review regarding location restrictions and Groundwater Monitoring Well Network, compliance with the CCR Rule.

Q Okay. So determining whether or not the location of the monitoring wells would be compliant with the CCR Rule; is that correct?

A Both the location of the wells, yes --

Q Okay.

A -- but also the location of the facility -- there are location requirements -- physical locations that were also examined.

Q Of the landfill?

A Of the bottom ash ponds.

Q Of the bottom ash ponds.

Okay. Did you do any groundwater quality interpretation as part of that?

A No.

Q So moving back to the Monroe Power Plant, you said you did a geotechnical analysis of the ash as part of the ash ponds that are there.

Have you done any interpretation of groundwater concentrations as part of the project with the Monroe Power Plant?

A No.

Q It looks like the next plant in Guatemala also involved CCB; is that correct?

A Yes. But it was a design project. It did not include groundwater.

Q Can you tell me, as we go through this -- again, this list of projects you've worked on, which of them have involved interpretation of groundwater results relating to coal or coal ash?

A There's one that's not on here. That is the city of Lansing.

Q So quickly, just to close that out, does that mean that of the ones that are on here, none of

those meet the criteria I just said?

A Looking again, as I mentioned, the Albion-Sheridan Landfill had ash -- inorganic ash, but not coal ash. Excuse me. That was the J&L Landfill.

Yes, there's one that is missing that is not included to my knowledge. I don't see it here. It's called the --

Q Okay. So -- I'm sorry -- just to make sure my question is fully answered, of the other ones that we've talked about, of the projects you see on here, only the two -- is it only the Gavin -- no, that -- you said that didn't involve groundwater -- interpretation of groundwater results.

You had said the MIG/DeWane Landfill?

A I did.

Q I apologize.

We've been -- just to make sure I'm totally clear on the record, can you just tell me, of these -- just identify the projects, first, that involved interpretation of groundwater results, whatever --

A Okay.

Q -- you were interpreting, starting on page

2 of your resumé.

MS. NIJMAN: I'm sorry. I'm a little lost.

What do you want him to identify?

MS. CASSEL: Just ones where he -- projects in which he interpreted results of groundwater quality or standards.

MS. NIJMAN: Regardless of what it --

MS. CASSEL: Regardless of what it contained.

MS. NIJMAN: And just name them?

MS. CASSEL: Yes.

THE WITNESS: The General James M. Gavin Power Plant Landfill.

BY MS. CASSEL:

Q Landfill.

A The R. Paul Smith Landfill on page 3. The MIG/DeWane Landfill Superfund Site.

Q Okay.

A The Confidential Landfill Remedial Action Support Services on page 3.

Q Okay.

A Yeoman Creek Landfill Superfund Site, interpreting results.

Q Utility Company, Multiple Sites.

In that situation I looked at two --

MS. NIJMAN: She just wants the names.
THE WITNESS: Okay. Thank you. There were two sites in there.
The McGraw-Edison facility; the J&L Landfill facility; the Albion-Sheridan Township Landfill; the Rasmussen Landfill, the Motor Wheel Disposal Site; the Brownfield Redevelopment Site.
BY MS. CASSEL:
Q Where is that listed?
A On the bottom of page 4.
The Janesville Disposal Facility on page 5.
Q I see.
A The National Industrial Environmental Services site, page 5.
Q Okay.
A The Berlin & Farro Liquid Incineration site, the Butterworth Landfill, the Bailey Dump Superfund Site, the Salt Intrusion Groundwater Modeling and Feasibility Study on page 6.
Q Uh-huh.
A And there were multiple LUST, underground -- leaking underground storage plant sites, probably five or six.

Q Now, of those that you just identified, can you tell me which of them involved interpreting groundwater results, looking for coal or coal ash contamination.
A General James M. Gavin Plant Landfill.
Q And is that both projects, both the one listed at the bottom of the second page and the top of the third page, the separate projects?
A They're related --
Q Okay.
A -- but the one didn't include the groundwater.
Q So --
A One was a feasibility study; one is the landfill design.
Q And is it the one on the bottom or the one on the top that's the one where you interpreted the results?
A The bottom of page 2.
Q The bottom of page 2. Okay. Thank you.
A The R. Paul Smith Landfill Expansion where we did sampling analysis.
Excuse me. The question -- we're looking for coal ash.

Q Correct. Coal or coal ash.
A And the one that is missing, that -- it was an older project from about twenty years ago -- was -- I was mentioning the Lake Lansing Landfill in Lansing, Michigan, where I interpreted coal ash results; but it was a while ago, and I did not make the -- this resumé. This resumé doesn't include all of my projects.
Q Okay. So only the two you identified, which were the Gavin Power Plant Landfill as well as the R. Paul Smith CCB Landfill Expansion, were the two that are listed on here that you evaluated an interpretation of --
A Yes, to my knowledge.
Q -- groundwater results for coal ash?
Okay. And then there's this additional project over twenty years ago for Lake Lansing in Michigan?
A Yes.
Q Okay. Can you tell me a little more about what that project entails, if you recall.
A Yes. Well, it was an open landfill for a power plant with coal ash. And I was retained as a consultant to come in, evaluate the groundwater

conditions, and look at where groundwater monitoring needed to be improved and then obtain that monitoring data and work with the client to assess a remedy based on the impacts that were measured.
Q Were there impacts measured?
A Yes.
Q And what do you mean by "impacts"?
A There were inorganics in the groundwater around the disposal facility.
Q And what was -- you said you were involved in proposing a remedy for that -- those impacts?
A We evaluated the rules. We told the client what they needed to do. And we started by installing, as I said, upgraded Groundwater Monitoring Well Network and obtaining the samples. We did not proceed farther than that.
Q Okay. So the only aspect of remediation per se that you were involved in were identifying additional locations for -- designing additional monitoring wells and interpreting the results of those?
A We -- yes, we -- in part, yes. We put -- we recommended locations of wells; we installed them; we sampled them; and we also instructed the client on

the process of how to work with the State to obtain a remedial action plan to address the groundwater impacts that we found.

Q But you were not engaged or involved in designing what that remedial action plan would look like?

A Correct.

Q Okay. Now, quickly, to continue with your CV -- although, I think we're getting close to done -- can you tell me, for any of the projects that you worked on that related to coal or coal ash, were you involved in making recommendations as to remedies for those sites?

A No.

Q Okay. I think we can move on.

MS. CASSEL: If you would give me the next exhibit. We will mark as the next exhibit your Initial Expert Report.

(Seymour Deposition Exhibit No. 2 was marked for identification.)

BY MS. CASSEL:

Q Can you review and then kind of let me know if that appears to be a true and accurate copy of

your report.

A As we get to the report, as you know, yesterday we submitted supplemented changed parts of this report.

Q I understand that. And today, we're not going to be asking any questions about that supplement --

A Okay.

Q -- with the exception of one, just to better understand it.

A It looks complete as qualified.

Q Okay. Can you turn to page 43 of the report, please.

Do you see at the bottom of that page where you state that, "It is my opinion that the recent groundwater impacts are not a result of the ash currently stored in ponds at the sites, but instead are more likely than not a result of historical uses at the sites and the surrounding industrial companies and conditions"?

Do you see that statement?

A Yes.

Q Do you continue to agree with that statement?

A Yes.

Q Let me ask you some questions about this "surrounding industrial companies and conditions." I'd like to go plant by plant.

Can you tell me what you allege are the other sources of contamination that are not the coal ash ponds or historic ash fill at Joliet.

A There's nothing outside that's proven. There are -- I'd have to look at -- let me look at the map.

MS. NIJMAN: Do you want your own?

THE WITNESS: Sure. Excuse me.

MS. CASSEL: Yep.

MS. NIJMAN: Just for the record, the witness is getting his own copy of the report that has the larger maps since these have been copied in a small version on Exhibit 2.

THE WITNESS: They're probably the same. I'm just comfortable with this.

At Joliet, there are offsite areas, but they are not necessarily impacted -- excuse me. There are facilities to the -- across to the west that are unclear to me, but may be impacting. And there are generally industrial areas to the

southwest. I believe there's a Caterpillar plant, but may not be. Again, I won't say that is impacting Joliet. I'm not saying it is impacting Joliet. It's there, but I'm not seeing it as impacting.

BY MS. CASSEL:

Q Are there any particular, specific non-coal ash pond or ash fill sources that you opine are impacting the groundwater?

A I have not opined that on Joliet.

Q So is it your opinion that the historical uses of the sites and the coal ash ponds are impacting the groundwater at Joliet?

THE WITNESS: Pardon me. Repeat the question.

MS. CASSEL: Could you read the question back, please.

(The last question was read by the reporter.)

MS. NIJMAN: Objection. Misstates prior testimony, that we read his prior opinion and its conjunction. Form of question.

You can try to answer, if you understand the question.

THE WITNESS: I can understand part of it. I can answer to part of it.

The Power Plant is over 50 years old and there are many historic uses at the site that may have caused the impacts that we're seeing, and they may be related to coal ash from historic uses.
BY MS. CASSEL:
Q Can you tell me what the historic uses are at the site that you allege may be affecting the groundwater concentrations and the water monitoring wells there.
A Based on just general knowledge of the coal power plant processes, they could -- again, they have something that occurred in the past that's not clear to me, where it could have come from; but I know there are historic uses of ash that they've used that may be causing these -- contamination to exist.
Q And what are the historic uses that you believe could --
A I'm just saying as a coal power plant.
Q As a coal power plant. Okay.
Have you done any specific evaluations of those historic uses to determine whether or not they are impacting the groundwater?
A No.
Q Have you --

MS. NIJMAN: Do you mean -- sorry.
MS. CASSEL: I'm sorry.
MS. NIJMAN: Just going back to that question, what do you mean by "historic evaluations"?
BY MS. CASSEL:
Q Have you done any --
MS. NIJMAN: Can you read back that question.
MS. CASSEL: Yeah, can you read the question back.
MS. NIJMAN: Maybe I just misheard it.
(The last question was read by the reporter.)
MS. CASSEL: "Have you done any specific specifics?"
Have you done any specific investigations of those historic uses to det- --
MS. NIJMAN: And what do you mean by "specific investigations"?
That's what I was hung up on.
BY MS. CASSEL:
Q Have you gone onsite to evaluate historic uses at the site to determine whether or not they've impacted the groundwater?
MS. NIJMAN: Like, by sampling?

MS. CASSEL: Could be one.
MS. NIJMAN: If you understand the question, you can answer it. It's very broad.
THE WITNESS: Yeah, I understand.
MS. NIJMAN: Object to broadness. Sorry.
THE WITNESS: In general, I have not done what I would call "specific research" into the plant records to see what may have been done. There has been previous work done on some of the ash sampling and ash fill that have been done that have identified, you know, what could be out there; but they -- I have not done any additional site investigation or sampling or analysis other than what's available in the record.
BY MS. CASSEL:
Q So you have -- is it correct that you've reviewed documents that relate to these general historic uses at the plant?
A That's what I said.
I didn't do specific research to pull up documents to say what they did with all their materials historically.
Q So your conclusion that there are historic uses that may be impacting the plant is solely based

on general knowledge of what is done at a coal plant?
A And looking at it by process of elimination, what we've seen out there so far doesn't appear to be an active source. So it must be from some other historic use.
Q But you can't tell me what that other historical use specifically is?
A I don't know what --
MS. NIJMAN: Objection. He said it's the historic use of the coal plant.
MS. CASSEL: Besides that --
MS. NIJMAN: Misstates prior testimony.
MS. CASSEL: -- that statement that it was historic use of the coal plant.
BY MS. CASSEL:
Q You can't identify within that more general statement a particular coal pile, a particular area of ash fill, any other particular specific source within that coal plant that you allege is contributing to the groundwater contamination?
A Correct.
Q Now, moving to Powerton, can you tell me -- okay. Now, to just follow up a little bit on Joliet, you had mentioned some ash fill sampling that had

been done.
Can you tell me what that consisted of.
A There's some ash fill sampling in the southwest part of the site that was conducted west of the Power Plant.
Q Do you know when that was conducted?
A I believe it was around 2005. I'd have to check to be correct, but I'm pretty sure it was around 2005.
Q And did you review those, either the samples themselves or a report about that sampling?
A There's a report by KPRG, and I did review that report.
Q Does that report -- did you rely on that report in coming to the conclusion that other sources -- or that the current ash ponds are not contributing to the groundwater contamination?
A That is one of the lines of evidence that I've used, yes.
Q What other lines of evidence?
A It's very broad because there's a whole report on that. So could you be more specific.
Q Okay. Besides that specific report, are

there other specific documents that you rely on in --
A Pardon me. I want to get a clar- -- I want to get a clarification of the previous question. I may --
Q Okay.
A I may have not answered it. I may not have answered the question that you asked.
THE WITNESS: Can you go back and ask the question again about what I relied upon.
(The requested testimony was read by the reporter.)
MS. NIJMAN: I'm going to, before you answer, object to the form of the question.
MS. CASSEL: Yeah. Why don't I restate that question.
THE WITNESS: It was kind of complex.
BY MS. CASSEL:
Q It was -- yeah, it went two directions.
Did you rely on the KPRG Ash Sampling Report in determining that other sources are likely contributing to the coal ash contamination?
MS. NIJMAN: Wait.
BY MS. CASSEL:
Q To the contamination at the groundwater --

of the groundwater at the Joliet site?
And I can rephrase that yet again if that was too complicated?
MS. NIJMAN: Yeah. That other -- you know, this other sources thing --
MS. CASSEL: Can you -- sorry. I was distracted.
BY MS. CASSEL:
Q Can you please tell me whether the KPRG Report that you reused -- that you reviewed -- excuse me -- did you rely on that report in coming to the conclusion that other sources that are not either the coal ash fill or the coal ash ponds are contributing to groundwater contamination at the site?
A It was --
MS. NIJMAN: Object to the form of the question. Vague. I don't know what she means by "other sources" at this point.
BY MS. CASSEL:
Q If you understand that question, you can answer.
A I can tell you what I -- they used the KPRG data for --
Q Okay.

A -- in that it was looked at to identify whether the ash that was there had leachate characteristics that would be acceptable or unacceptable to the State of Illinois and beneficiary use.
And when we look at the data, we look at it as potentially impacting groundwater. And it was identified that nothing in the ash exceeded the groundwater class- -- the groundwater quality criteria except for the data at one boring, which was subsequently removed.
Q Okay. So I apologize for cutting you off.
Had you completed your answer?
A No.
Q Okay.
A That was one piece of data that we used amongst data to indicate -- to conclude that the existing ash outside of the ponds was not contributing to the groundwater, so it must be something other than those areas.
Q I understand that.
And so what I'm looking for is what you used to determine that something other than those things have contributed to the groundwater

contamination at Joliet.
MS. NIJMAN: Objection. Misstates prior testimony.
MS. CASSEL: I think we're going to move on.
BY MS. CASSEL:
Q Can you tell me at Powerton what specific sources outside of the Powerton Plant you allege are sources of groundwater contamination at that plant?
A We have not -- I have not opined on any specific source.
Q Do you have an opinion, as we sit here, today of any other sources outside of the Powerton Plant?
A No specific source.
Q No specific source.
Any general sources?
A The inorganics that are in the groundwater are characteristic of coal ash materials.
My point is that the ash that we sampled and analyzed and where we evaluated it, it doesn't appear to be contributing enough to cause what we're seeing. And so I'm concluding by process of elimination there's something else.
Q Okay. So you aren't --

A But what I'm --
Q I'm sorry.
A And I'm thinking something old and historic, but not something current.
Q And, again, at Powerton, have you done any investigation of what that something old and historic is --
A No.
Q -- that you allege could be contributing to the groundwater contamination at Powerton?
MS. NIJMAN: Objection. Vague.
You can try and answer it.
THE WITNESS: I've -- I'm sorry. Please re-read the question.
(The last question was read by the reporter.)
THE WITNESS: I don't have a specific historical source.
Similar to Joliet, we're looking at the ash that we've seen outside the ponds. That does not appear to be the source.
BY MS. CASSEL:
Q Okay. So now let me ask -- we've now talked about the surrounding industrial companies. I

want to now ask that -- you also reference in your report on page 43 historical uses at the sites.
Do you allege that the contamination in the groundwater at Powerton is resulting from historical uses at the Powerton site?
A Yes.
MS. NIJMAN: Asked and answered.
Go ahead.
THE WITNESS: I bel- -- yes, that is my opinion, that it's something other than the ponds and other than the ash that we've sampled and analyzed.
BY MS. CASSEL:
Q What specific historical uses at the Powerton site do you allege contributed to the groundwater contamination at that site?
A Historically, the way power plants operated 50, 60, 100 years ago is the waste was not contained as it is now. So there's uncontained waste that historically caused some impacts, but what we've sampled recently does not appear to be contributing.
Q Have you done any sort of site investigation to evaluate whether there was, in fact, that historic use of waste at Powerton?
A I have not done an investigation. I've

relied on existing data to come to my conclusions.
Q Okay. Have you relied on any -- have you reviewed any documents relating to historic uses of ash at Powerton?
MS. NIJMAN: I'm going to object, only to the extent that the record is, what, 30 boxes now?
THE WITNESS: I'm trying to remember whether or not there is something that -- there was a specific study at Powerton outside the ponds.
MS. NIJMAN: So to the extent you can remember --
THE WITNESS: So I can't recall.
MS. NIJMAN: -- as you sit here.
THE WITNESS: I don't recall.
MS. NIJMAN: That's all you can do.
BY MS. CASSEL:
Q Can you identify for me today any specific historic use at Powerton that you allege may have contributed to the groundwater contamination --
MS. NIJMAN: Asked and answered.
BY MS. CASSEL:
Q -- other than the historical uncontained placement of ash waste at the site?
MS. NIJMAN: Asked and answered.

THE WITNESS: No specific source, historical source.
BY MS. CASSEL:
Q And what is the basis of your statement that historically power plants would not contain their ash waste?
A Discussions with power plant operators that are, well, older than me --
Q Did you --
A -- not specifically to here.
Q Okay. So not including operators at Powerton?
A Correct.
Q Did that include operators at the Joliet plant?
A No.
Q And you have not reviewed any specific records that show that that historic use of waste occurred at Powerton or Joliet that you recall?
MS. NIJMAN: Objection. Previous objections to the scope of the record.
And you can answer as you sit here and can recall today.
THE WITNESS: It does come to mind that in my

memory that there was the ENSR Report from back in, maybe, 1998, where they identified various uses and looked at the history of the facilities.
And so there -- that was the report that looked, you know, I would say, historically at the facilities.
BY MS. CASSEL:
Q Are you relying on that report as a basis for your conclusion that the contamination in the groundwater is a result of historic uses at the site?
MS. NIJMAN: You mean amongst the other things he's talked about already?
THE WITNESS: In com- --
MS. CASSEL: He can answer the question, if he understands it.
MS. NIJMAN: Okay.
THE WITNESS: In combination with --
MS. NIJMAN: Objection to vagueness of the question and overbroad.
You can try to answer it the best you can.
THE WITNESS: Again, there's a whole report, and the data from that ENSR Report along with the other data have allowed me to come to my opinion.

BY MS. CASSEL:
Q Can you tell me if there are specific documents, that you recall, that you rely on for the particular conclusion that other sources that are not the current ash ponds are contributing to the groundwater contamination at Powerton?
A I --
MS. NIJMAN: Again, objection to overbreadth. There's a series of documents cited in his report. There's a series of documents in the record.
If you can, off the top of your head, remember anything else, you can answer the question; but objection to overbreadth and vagueness.
THE WITNESS: I'll do my best in that, again, the ENSR Report had the most historical information; but it doesn't completely rule out other sources or activities have not yet been identified.
So I'm looking at the entire data set and identifying what I know, what I have measured, and what I don't know. And what I don't know is whether there's a specific source for the contamination.
BY MS. CASSEL:
Q Let's move on to Will County.

What do you allege --
MS. NIJMAN: I have the citation.
BY MS. CASSEL:
Q What do you allege are the sources of groundwater contamination from the surrounding industrial companies and conditions at Will County?
A Again, Will County has got properties adjacent to, but I would say are not necessarily causing active contamination because Will County is somewhat of an island. And then this is -- the comment -- the statement that you read for me earlier was a broad statement, I agree. Specifically to this site, though, they're -- it would be the historical sources, again, from an old power plant, not a company contributing to this --
Q Okay.
A -- the measured groundwater contamination.
Q So you're clarifying that at the Will County site, you're not alleging that there are any surrounding industrial companies or conditions that are contributing to the groundwater contamination?
A I'm --
MS. NIJMAN: From conditions? Companies and conditions?

Object to compound.
MS. CASSEL: I'm reading directly from his report and --
MS. NIJMAN: I understand.
MS. CASSEL: -- I'm asking him to clarify.
THE WITNESS: Where are you reading it? I'm sorry.
BY MS. CASSEL:
Q The bottom of page 43.
MS. NIJMAN: I understand, but that doesn't mean your question isn't compound.
THE WITNESS: Can you read it again, please.
MS. CASSEL: Let me restate that.
BY MS. CASSEL:
Q So are you clarifying now that for Will County that there are no surrounding industrial companies that are contributing to the contamination of the groundwater there?
A Not to my knowledge, currently.
Q Okay. Are there any specific surrounding industrial conditions that are contributing to the contamination of the groundwater at Will County?
A Not to my knowledge.
Q Can you tell me what historic uses at Will

County you allege are the sources of groundwater contamination at that site?
A It would be the same as Powerton. I don't have specific historical uses or conditions that would have caused it; But, again, I'm dealing with what I know, and what I know versus what I don't know.
Q And you said that your knowledge of historic uses at coal plants of placing ash in an uncontained manner comes from discussions with the operators in part; is that accurate?
A In part, yes.
Q What else does it come from, if not only from that?
A The ENSR documents, documents where some coal ash has been placed, of course, and some areas that have been reused for previous waste -- excuse me -- ash placement on a temporary basis. My experience, going to power plants and seeing how ash is handled historically. I've been going there for ten years or more now.
Q To the Will County plant in particular?
A No, in general. In my general experience.
Q Okay. Can you tell me, did you have any

discussions with the operators at Will County -- with any operators at Will County about historical uses of coal ash at that site?
A I relied on the documents that I could review, that I could -- I did not speak to them directly.
Q You did not speak to the operators directly. Okay.
Now, moving on to Waukegan, you state -- let's see. Let's turn to page 19 of your report, if you would.
A Yes, I'm on 19.
Q Do you see where you say, "Analytical res- --" this is in the first full paragraph near the bottom -- "Analytical results of the groundwater at/from the tannery indicate that certain inorganic constituents including arsenic, boron, chromium, lead, and mercury have migrated onto the Waukegan property."
Do you see that statement?
A Yes.
Q What is the basis for your statement that those particular constituents have migrated onto the Waukegan property?

A Well, I've got a citation, Footnote 46. And there's a series of documents that were called out by Bates numbers.
Q Do you recall what those are?
A At this time, probably groundwater monitoring results to some extent, but I don't remember all of them. That's all.
Q Do you remember -- regardless of the documents, your bases for stating that those particular constituents have migrated onto the Waukegan property?
MS. NIJMAN: Object to the form of the question. His bases is listed.
MS. CASSEL: Jennifer, I would object to the spoken objections. If he understands the question, he can answer. You've gotten your objection on the record. I would appreciate if you could let him answer.
THE WITNESS: Could you please ask it again. It's --
MS. CASSEL: Could you repeat that question, please.
(The last question was read by the reporter.)

MS. NIJMAN: Asked and answered. In the record.
THE WITNESS: Okay. Well, basically, people like to focus on boron as an example of an im- -- something that's coming onto the property. And there's boron on the upgradient side in a number of wells west of the existing facility that have boron, and the groundwater contours, in general, move west to east toward the property. And so I'm saying that the boron -- some of the boron, not all of it could be coming from the offsite property.
BY MS. CASSEL:
Q Where does the remainder of the boron come from in your opinion?
MS. NIJMAN: Objection. Vague.
THE WITNESS: As I've stated in the report, I believe there are some historical uses at these properties that have caused some old releases. And based on the data that we have obtained to date, when we look at the sampling, that where it's leaching greater than the groundwater quality criteria.
And so I don't have an answer what, specifically, the historic sources are. I'm saying I know what I don't know in that I don't -- I know that

it's not coming from what we've measured, but it must be coming from somewhere else onsite that I've not specifically identified.
BY MS. CASSEL:
Q So, to be clear, for your prior answer, you were saying that some of the boron you're alleging is coming from this offsite property, this tannery, but not all of the boron that's found in the monitoring wells at issue here is coming from that tannery.
Is that accurate?
A That's accurate, considering there are other characteristics of coal ash that aren't characteristic of a tannery.
Q Can you describe for me what characteristics of coal ash are not characteristics of a tannery.
A Well, I'm just saying in general that a tannery has certain types of chemicals, like chromium. If they have chromium, we don't see chromium to -- that I recall. So I'm just saying is that I'm not pinning all of the blame on the tannery.
Q And where did you not see chromium?
A I don't recall. I'm just saying, in general, it's a tannery. It's a different

manufacturing process. I don't recall the specific -- all of the chemistry --
Q Okay.
A -- but we do know that boron is common to both processes.
Q With regard to the other constituents that you list here, which includes chromium, I know -- arsenic, chromium, lead, and mercury, do you recall the bases for your statement that those particular constituents have migrated onto the Waukegan property?
A I'd have to go back and look at these individual citations --
Q Okay.
A -- which I brought. Sorry.
MS. CASSEL: Let's -- yeah, let's take out the next set of exhibits, if you would. So, let's see, some of these are contiguous and some are not, right? Or is this -- this one's for me.
MS. DUBIN: I'll take those two.
MS. CASSEL: So we're going to mark -- these are the ones we've been -- handed to the Court, right?
MS. DUBIN: I guess it doesn't matter.

MS. CASSEL: All right. I guess I've been keeping those. I'll give you one of these; one of these. And what else do we have? 8/15? There are other boring logs, though. Can you give me the other ones as well for 1324?
THE WITNESS: Could I ask for a five-minute break?
MS. CASSEL: Yeah. Of course. That's fine.
(After a short recess, the deposition resumed as follows:)
(Seymour Deposition Exhibit Nos. 3, 4, and 5 were marked for identification.)
BY MS. CASSEL:
Q Now, I've marked three additional exhibits. If you take a quick look at those, please.
A Uh-huh.
Q And Exhibit 3 has a backside as well.
MS. NIJMAN: I'm just moving the sticker so it doesn't cover the Bates number.
BY MS. CASSEL:
Q When you're done reviewing, if you could let me know if you've seen these before.

A Boring Log 8, yes. Boring Log MW-58, yes. MW-15 Boring Log, no.
Q And for the ones that you've seen before, which I think you said were 8 and 5, and there was a 9 on the back of the 8.
A Excuse me.
Q Have you seen that?
A MW-9? Yes.
Q Did you take those particular documents into account in concluding that the constituents you listed on page -- I believe it was 43 -- excuse me -- 19 of your report -- migrated onto the Waukegan property?
A I don't recall if those are specific ones that I relied on.
Q And you did not rely on Monitoring Well 15 Boring Log, correct?
A I don't recall seeing it.
Q Don't recall seeing it. Okay.
Is it your opinion that a monitoring well being screened in ash would have an impact on groundwater concentrations in that well?
A If the ash has leachable constituents remaining and if it is saturated, meaning you can

have a well screen in the ash and not have a saturation. So the answer in that situation would be it wouldn't have much impact. If it was saturated and you had a monitoring well screen in it, it would have some impact.
Q And what would impact -- what would determine whether the constituents remaining were leachable?
A Age. If the ash is really old and it had been there a long time, it would have less and less impact with time.
Q What amount of time?
A I honestly don't know.
Q Do you know what the age is of the ash in the monitoring wells that are -- I've got boring logs for -- in Exhibits 3, 4, and 5 -- so Monitoring Wells 5, 8, 9 and 15?
A Monitoring Well 8 and 9, to the best of my recollection, are west of the ash ponds and they're identified as being -- that area as being present in the 1998 ENSR Report. So it's older than that, and I did not look at historical topography to see if it -- how long it had been there; but I know it's at least before 1998 in the area west of the ash ponds.

Monitor Well 5A is right next to the ash pond and, as you can see, there's -- much of the dike is constructed of ash as I would expect it would have been as old as when that pond was constructed -- which I forget when it was constructed. I believe it was in the 1970s.
Q Do you know for certain whether or not the ash in this boring log described here is as old as the ash pond?
MS. NIJMAN: Objection. Vague and asked and answered.
THE WITNESS: As I've stated, I know it's from before 1998, but I don't know when that area was placed.
BY MS. CASSEL:
Q So you had referenced an area with regard to Monitoring Wells 8 and 9, I believe, and then with regard to Monitoring Well 5.
Are you also referencing the area west of the ash ponds?
MS. NIJMAN: Objection. Vague.
BY MS. CASSEL:
Q What area are you referencing when you discuss the 1998 ENSR document?

A The 1998 ENSR document documents that the area of Monitor Well 8 and 9, which is west of the ash ponds, existed.
Q What existed?
MS. NIJMAN: The area --
THE WITNESS: That area. The land, the soils that are logged in this hole existed, at least up until that time -- and I mean "before."
BY MS. CASSEL:
Q So there was land there, that's what they show? Or are you referencing the former ash area that's shown in the ENSR document?
A Yes. It's called the former -- I believe it's called the former ash area, west of the ponds.
Q And so in your answer about the age of the ash in Monitoring Wells 8 and 9, are you concluding that the ash in the Monitoring Wells 8 and 9 came from that former ash area west of the ponds?
A Again, to the best of my recollection, Wells 8 and 9 are installed in that area; but I would like to have a moment if I could check the location.
MS. NIJMAN: She didn't ask you for it.
THE WITNESS: Okay.

BY MS. CASSEL:
Q So are you -- is that what you're stating, or are you not certain whether or not Monitoring Wells 8 and 9, the ash in those particular monitoring wells comes from or is part of the former ash area west of the current ash ponds at Waukegan?
MS. NIJMAN: And I'm just going to object to the extent that you can answer to the best of your recollection as you sit here.
THE WITNESS: May I look at the Boring Log just to be certain?
BY MS. CASSEL:
Q You may, if you would just let me know what it is exactly that you're looking at.
A I'm looking at Figure 4-3 in my report, which is the Waukegan station monitoring wells for --
Q 4- -- does that have a Bates number on it, sir?
A It's my report, so let me look for the Bates number.
Q I'm sorry.
What figure did you say it was?
A 4-3.
Q 4-3?

MS. NIJMAN: It's Bates number -- your copy isn't Bates'd either.
MS. CASSEL: Does it not -- it may not have a Bates number, actually. I'm not sure if the report did have a Bates number. Just Figure 4-3. Okay. That's good enough.
BY MS. CASSEL:
Q So you're looking at that figure?
A Yes.
Q Okay.
A I just wanted to confirm the locations of 8 and 9, and that's on the edges of the former ash area that was identified in the ENSR Report.
Q Is Monitoring Well 5 also in -- is it in the former ash area, to your knowledge?
A Well, it's on the edge. And when I look at the Boring Log, I have concluded that it's likely -- it looked to me as part of the dike construction because it's made of a lot of coal cinders and ash for fill in that area.
Q Okay. So there's the ash -- the ash from the Monitoring Well 5 either comes from the dike or possibly from that former ash area itself.
Is that a fair statement?

A Yes.
Q And so going back to the earlier question, the age of that ash, you don't know exactly how old it is, you just know that it's been there since before 1998.
Is that accurate?
MS. NIJMAN: Objection. Vague.
THE WITNESS: To the best of my recollection, that's how I answered the question; that was placed before 1998.
BY MS. CASSEL:
Q Do you have any different answer to that question now as to how old that ash is?
A I don't think so. I believe that that's what I answered before. And I also said that in the area 5A, I thought it was a part of the dikes. And so it would have been constructed as part of dike, which I believe is in the 1970s.
Q For the ponds, not --
A For the pond dike.
Q Not for any former ash area?
A Correct. For the pond enclosure, if you will.
Q Okay. And since you said the Monitoring

Wells 8 and 9 are on the edge of that former ash area, do you believe that the ash that is in two of those particular wells specifically comes from that former ash area? Or do you also believe it was part of a separate construction?
A I don't know. I don't think there was -- I don't see any other construction in that area. It could have been from demolition activities over at the tannery. I'm not -- I don't really know.
Q Demolition activities at the tannery would create black slag to be put into the monitoring well or that would be fill in the monitoring well?
A My comment was that when you do demolition, you do earthwork, and they may have moved materials around. I'm not concluding that.
Q So it's a possibility?
A It's a possibility, a hypothetical.
Q Do you have any specific opinion as to the leachability of ash that is from 1998 or before?
A I don't have a specific opinion.
MS. NIJMAN: You mean other than what's in the report?
MS. CASSEL: I think he completed his answer.
MS. NIJMAN: Okay. Then you need to supplement

your answer.
Obviously, there's a report here. I mean, if you're asking for his recollection without having him refer to the report, or in addition to the report?
The objection is --
MS. CASSEL: If he doesn't understand my question, he's --
MS. NIJMAN: Okay.
MS. CASSEL: -- more than, you know, able -- welcome to ask me to clarify it. But I've asked him the question. I think they're relatively clear.
THE WITNESS: Just to be thorough, will you please read back the question.
(The last question was read by the reporter.)
THE WITNESS: I have not made an opinion on that, and I don't believe I made an opinion in the report either.
BY MS. CASSEL:
Q All right. Now, I'd like to move on and discuss with you a bit your selection of coal ash indicators. I'd like -- we talked about indicators a little before.

Can you give me a better understanding of what it means for a pollutant to be an indicator of contam- -- of something?
A Specifically for coal ash?
Q Sure. Let's do specifically for coal ash.
What does that mean?
A Well, when we -- when I looked at the data, you look for indicators from the ash itself, and you look at leachability results. So, in other words, you leach the -- you conduct the leaching tests and the chemistry analysis on the extract, and then you identify what could be coming from that sample.
Q Is there a reason they are called indicators? Is there a subset of coal ash pollution that is an indicator versus some subset of coal ash pollutants that are not indicators?
A First of all, you speak in a very broad sense of coal ash, and coal ash varies from where you obtain the coal and how you burn it. It's not always the same.
So when you look specifically to, for example, the sub-bituminous coal, there's history and there's specific data that you look at. So the indicators must be specific to the area that you're

trying to establish indicators. So it does vary from sample to sample, the indicators, primarily based on the coal source and how they're burning the coal.
Q And within each individual coal source and method of burning coal, are there any constituents that come from that coal source and that type of burning that are not used as indicators for that particular type of coal and method of burning?
A That's a complex sentence. Maybe you could break that up for me.
Q I could try.
So we've got a particular coal source and a particular way of burning that source, and that -- those two combined lead to some number of pollutants, correct?
A Some number of indicators, which are elements of the coal.
Q That's what I'm trying to understand.
Is there any differentiation between the total number of pollutants that come from that particular type of coal and method of burning that are not indicators? Is there any world of pollutants that are not indicators?
MS. NIJMAN: I'm going to object to the term

"pollutants" since it's not what he testified to.
THE WITNESS: As far as the constituents in coal, when you do an evaluation of the impacts and you look for indicators and then you look at the impacts frequently in a remedial investigation-type program or investigation, you're going to look at, you know, ultimately what is in the groundwater, what is in the soil, what is in the surface water, and identify, for those exposure roots, what elements, indicators, cause more health concerns than others.
And so you can select indicators on a set that's smaller than the entirety, depending on what you -- where you expect those indicators to be migrating to and the health or aquatic -- or biological effects of those indicators. So you would have a set smaller than the whole when you look at indicators.
BY MS. CASSEL:
Q So when you are using the term "indicators," you are referring to the entire world of potential pollutants that come from that particular type of coal and that they're burning and saying you can select a subset of them if you want, but your use of the word "indicators" is all of them.

Is that accurate?
MS. NIJMAN: Objection. Compound. Misstates prior testimony.
THE WITNESS: I think you have it backwards. I'm saying that you look at the entire list of chemicals, not indicators.
BY MS. CASSEL:
Q Okay. Not indicators?
A It's not -- all of the elements of the ash.
Q Okay.
A And you said a smaller subset based on the impact -- the effects of those indicators. And also the prevalence.
Q The effects of those chemicals?
Excuse me for interrupting you.
A Excuse me.
Effects of the chemicals -- constituents. And then you make it a smaller set to be able to say these are what I'm most interested in. They're more prevalent, they have more health effects, and they're -- obviously, they're from the source of the ash. That's how you go about setting a cons- -- indicators.
Q So in selecting indicators, you can select

some subset of those total number of chemicals based on some particular goal that you're looking for, like which ones impact health most? Is that a fair statement?
A That is a fair statement.
Q Okay. Can I ask --
A In part. In part.
Q In part.
Please complete it then.
A Well, you talked about health effects, and you -- maybe it would be more specific to human health versus biological surface water. The effects on the environment would be more thorough.
Q Okay. Have you ever used indicators in order to try to identify contamination coming from a given source -- a particular source?
A Yes.
Q What indicators did you use in what context?
A Would you specify as to -- that's a very --
Q Broad statement.
A You could ask about my whole career. I mean --
Q Okay.

A -- it should be a little --
Q When we're talking about --
A -- more focused.
Q -- coal ash, have you ever used indicators specifically before to try to identify coal ash contamination?
MS. NIJMAN: Coal ash -- objection to the term "contamination."
THE WITNESS: I have used the process at a number of sites, but not specifically in this context to look at an indicator from a leaking pond, for example.
BY MS. CASSEL:
Q Okay.
A I have looked at it from a leaking pond -- one leaking pond -- from a review capacity. A colleague asked me to review a document. I did not conduct that evaluation.
Q Okay. Now, can I ask if water testing showed that many indicators of coal ash were present in groundwater, but not every single chemical that could potentially come from coal ash were present in that groundwater, would that rule out coal ash as the source of those contaminants in the groundwater?

THE WITNESS: Could you re- --
MS. NIJMAN: Objection. Complex. Compound. Overbroad.
THE WITNESS: I lost my train of thought. I'm very sorry. Can you repeat the question.
MS. CASSEL: Let's try reading it back, if you got it, and we'll see if that works; and if not, I'll rephrase.
(The last question was read by the reporter.)
THE WITNESS: Thank you.
I think the answer is that -- again, it's very general -- that if you have twenty chemicals expected in coal ash and you find fifteen, I would not say that rules out coal ash. You have to look at a lot of data.
Again, that is very general statement. I mean, obviously if you had all twenty match you'd say it's coal ash. If you had ten out of twenty, maybe, but you may want to be looking for something else. Five, again, the fewer and fewer common matches, the less likely it would be coal ash.
BY MS. CASSEL:
Q Okay. Now let me ask a somewhat similar

question, so bear with me.

But if water testing showed some coal ash indicator pollutants in the groundwater as well as some non-coal ash indicators also in that groundwater, in that circumstance could you absolutely rule out coal ash as the source of the coal ash indicator contaminations?

MS. NIJMAN: Same objections.

THE WITNESS: I don't think it's quite that simple, as a "yes" or "no" question.

BY MS. CASSEL:

Q Okay.

A So -- because you look at lots of things when you look at what could be the source. So you can have non-coal ash indicators that could indicate there is something else as well. It wouldn't necessarily rule out coal ash, but it wouldn't necessarily say that it is coal ash. It becomes more complicated.

Q So there could be multiple sources of groundwater pollution in the same groundwater --

A That's --

Q -- and coal ash could be one of those sources of contamination, and something else entirely

could be another source of that contamination?

A It's very common at industrial sites to have more than one source.

Q But the fact that you have, for example, benzene present in groundwater while you also have a number of coal ash indicators, that in itself wouldn't rule out the possibility that the coal ash indicators came from coal ash?

A I would agree with that.

Q Now, turning to your analysis in this initial report -- and, again, we're not talking about the supplement yesterday to the extent that it even applies -- I don't know if it does -- did you consider anything detected in leachate -- the specific leachate test that you look at, to be an indicator pollutant?

MS. NIJMAN: Objection. Vague.

What are you referring to?

THE WITNESS: Are you referring to the leaching studies that were conducted on the ash samples or the leaching study on the -- outside the ash pond samples?

I'm not sure exactly what...

BY MS. CASSEL:

Q Let's take a look at Table 5-3 of your report.

So this looks to be the leachate collected from landfills and impounded as reported by EPRI 2006.

So with regard to this particular leachate, did you consider anything detected in the leachate as an indicator pollutant for coal ash?

A Regarding the Table 5-3, the impoundment from PRB source coal by the EPRI Study, if they detected it, we wanted to evaluate it.

Q Okay.

A And it is a -- I'll call it a conservative approach. We didn't try to shorten the list in any way. We wanted to use what they basically found.

Q So the answer is "yes" to my question?

A Yes.

Q Did your selection of indicators account for the relative concentrations of those pollutants within the leachate?

A No, not to my recollection.

Q And is it your opinion that that very -- that the -- excuse me.

Is it your opinion that a pollutant that has a much smaller concentration in leachate is as good an indicator as a pollutant that has a much higher concentration in the same leachate?

A That's a very general question.

I would say that when you look at all the data, you can say the smaller concentrations can influence a decision just as the higher can.

Q In what circumstances would the smaller concentrations be as good as indicators as pollutants with higher concentration?

A If you had something that was very unique, that may be a consideration. Again, you still need to look at all the data. But if it was something really unique to a particular substance, then you could -- if it was a small concentration, then, yes, you could say that's from that.

Q Are there any constituents listed, for example, in this Table 5-3 of your report, which is the leachate values from EPRI -- is that correct? Is that what these are, these -- the leachate constituents from the EPRI test?

A I'm sorry. Read that statement again. It was a little long.

Q It's just a question. I'm just trying to identify whether these particular constituents that are listed in Table 5-3 are, in fact, what was found in the leachate as reported by EPRI.

Is that right?

A Well, these data from EPRI are all they tested for, but that -- as you can see, beryllium, iron, silver, and thallium were not detected.

Q Right.

So -- but the answer to my question is "yes." These were the things that they tested for, and some of them they didn't find. But these were the constituents that they -- that they looked for, EPRI looked for in the leachate?

MS. NIJMAN: Objection. I'm not sure what the question is. There's no question pending. It sounded like a statement.

MS. CASSEL: I'm going to -- we can forget that question. Skip that question.

BY MS. CASSEL:

Q Let me just ask, of these constituents that are listed here on Table 5-3, are there any of those constituents that are very unique to coal ash?

A In the context of our previous question and

answer or -- because it -- these are indicators. I wouldn't say any, you know, are truly unique. I can say that we should look at all of them not being necessarily unique. You can't look at one being unique.

Q So it did come from your previous answer to my last question of stating that a constituent with a much smaller concentration in leachate can be as good an indicator as one with a higher concentration if it is very unique to coal ash or the substance that we're saying it's sourced from.

Is that accurate, the statement? Is that an accurate reflection of your prior testimony?

A The prior --

MS. NIJMAN: Objection. Objection. Misstates prior testimony.

THE WITNESS: Yeah. My prior testimony was in general, and now we're talking specifically to the EPRI data.

BY MS. CASSEL:

Q Okay.

A And I would not look at any one of these as being unique in the previous -- similar to the previous context.

Q Okay. So, in that case, is it your opinion that for coal ash indicators, concentration is irrelevant to whether a constituent serves as a good indicator for coal ash pollution?

MS. NIJMAN: Objection. Misstates prior testimony.

THE WITNESS: I'm not sure I heard you.

Did you say it was relevant or irrelevant?

BY MS. CASSEL:

Q Irrelevant.

A Okay. Then maybe you can read the question back.

Q Is it your opinion that concentration is irrelevant to whether a constituent serves as a good indicator for coal ash?

MS. NIJMAN: Same objection. Misstates prior testimony.

THE WITNESS: I hadn't stated that before, and I would say that in -- for coal ash, you have to look at more than just the concentration. It's not just minimum. You can't base it just on the minimum. You have to look at all of the data. I wouldn't say that one, for example, that's unique, if it was unique in

coal ash, because there is not one that's unique in coal ash that would be used.

BY MS. CASSEL:

Q So is concentration irrelevant to whether a constituent serves as a good indicator or not?

MS. NIJMAN: Objection. Asked and answered. Misstates prior testimony.

MS. CASSEL: I didn't say that --

THE WITNESS: It can be relevant or irrelevant. It all depends on the context. In this case we've picked lower concentrations as well as higher concentrations, so they're all relevant.

BY MS. CASSEL:

Q Okay. So if you contend that it is relevant, that concentration is relevant to whether a constituent serves as a good indicator for coal ash?

A To the extent that you found it. In other words, if you haven't found it, the concentration is low, which is relevant that it's not an indicator.

Q Okay. So it's not detected, then that level of concentration does matter and you wouldn't select it as an indicator?

A Correct.

Q Okay. But anything above detection makes

that a relevant concentration for this purpose?
A For the purpose of looking at indicators, that's the way we approached it, yes.
Q Okay. Do all pollutants travel through groundwater at the same rate?
A That's a very broad question.
Could you be more specific?
Q Do all coal -- do all pollutants coming from coal ash travel through groundwater at the same rate?
MS. NIJMAN: Same objection. Overbroad.
THE WITNESS: Again, there's very complex geochemistry involved, and that as a lot of these compounds move through the environment and you change oxidation state, some can precipitate and move slower. And, in fact, if you have an active source that has a variable pH, you can mobilize some and you can precipitate some. And so the answer is that they don't all move at the same speed.
BY MS. CASSEL:
Q And it's different circumstances that affect the mobility of those different constituents?
A Yes, it's very site-specific.
Q Okay.

A Geochemistry-specific.
Q So can you -- you had said pH can affect the rate at which a constituent moves through groundwater; is that accurate?
A Yes. Let me clarify.
Q Okay.
A The pH of the environment can affect how much it -- how far it goes. It wouldn't necessarily be the speed or the rate, but it would attenuate or -- the pH would cause it to attenuate or, again, it can also mobilize some metals.
So it's not really -- pH doesn't affect the speed per se as the -- how much mass is mobilized.
Q And when you say "how much mass is mobilized," is that similar to saying whether something leaches or doesn't?
A It's specifically that as the, let's say, impacted groundwater is moving through the environment -- let's pick on selenium. As it moves, there are elements and there are conditions where the selenium will precipitate out and will stop moving. It won't be dissolved anymore. And there are others that may be mobilized if the pH is changing over

distance.
So if you had -- so you can have both. I'm just saying that pH affects the mobility of the chemicals in the environment.
Q Are there any chemicals -- coal ash indicators, I'll say, to make it more specific -- that have a relatively constant rate of mobility through the environment?
A Yes.
Q Which are those?
A One that is commonly used is boron.
Q Are there any others?
A I believe sulfate is one, but I like to look first at boron.
Q And why is it that you like to look first at boron?
A Because it moves with water.
Q So would you say boron is highly mobile in groundwater?
A I don't think the adjective is necessary, but it is as mobile as water.
Q As mobile as water. Okay.
What about sulfate, is that the same situation?

A I'm not positive, but I think it is, similar. But sulfate, again, will combine with other elements in the environment. So I'd actually say probably, in general, not. I take that back.
Q Would you agree that pollutants with a -- that move at the same rate as water make better indicator pollutants than pollutants that do not move at that speed?
MS. NIJMAN: Objection. Terminology. "Pollutants."
THE WITNESS: In general, boron is a good indicator.
BY MS. CASSEL:
Q Why do you say "boron is a good indicator"?
A Well, it's a characteristic of ash and it is often found in ash areas, and it's shown by studies to be mobile in the environment.
Q Are there any other coal ash indicators that have similar characteristics?
A I don't recall.
Q Did your selection of indicator pollutants that you looked at in this -- in your report account for the relative mobility of those pollutants?
A We selected indicators -- two types of

indicators, some from site-specific data as shown on Table 5-3 from Midwest Generation facilities, and some from the EPRI Study, and we did not consider mobility.

Q Did any of the -- excuse me. Do any of the indicators that you selected, whether those are from the site-specific indicators or the EPRI indicators, do they occur in the groundwater naturally?

A Yes.

Q Can you identify which ones occur in groundwater naturally?

A Naturally in the world?

Q Or naturally in the area of the Midwest Gen power plants, let's say that.

A I didn't do a study that specific.

Q Okay. Do they appear -- did all of the pollutants appear naturally in the world?

MS. NIJMAN: I'm going to object to overbreadth.

I don't know if you can begin to answer that.

THE WITNESS: All of these are elements with the exception of sulfate, so they exist in the world. And I'm not here to opine -- to be very specific, I'm

just giving you a very general science question. Sulfate is a compound, and so these all exist naturally. They're not created by man. They're not --

BY MS. CASSEL:

Q And sulfate as a compound, does that ever occur naturally in groundwater to your knowledge?

A I'm not sure.

MS. NIJMAN: Objection.

BY MS. CASSEL:

Q Do you know whether these constituents occur naturally at the same concentrations as each other?

MS. NIJMAN: Objection. Overbreadth.

THE WITNESS: That would -- I can't answer that question. It's too broad.

BY MS. CASSEL:

Q Depends on -- what does it depend on?

A It depends on the environment, the geologic environment, the groundwater chemistry. You can have, you know, highly mineralized water naturally from bedrock, for example. You can have it from fine particles in soil where they have -- over time, can dissolve. And so they exist in many different

environments. I can't say anything about concentration.

Q But you said -- correct me if I'm wrong -- that you didn't specifically look at the concentrations of naturally occurring constituents of these coal ash indicators at the Midwest Gen plant sites?

MS. NIJMAN: Objection. Misstates.

THE WITNESS: I didn't do any specific study in the Midwest Gen coal ash area site, to identify whether in that region they exist.

BY MS. CASSEL:

Q Okay. And so you did not -- or -- actually, excuse me. Scratch that.

Did you take natural occurrence of these constituents into account in determining which coal ash indicators to use?

A When we look at this type of a situation, we look at the chemistry from the project site and all around that we have data for. We take all that into consideration when we look at indicators and whether they are occurring naturally or not.

Q Did you specifically look at the naturally occurring concentration of pollutants that you

selected as indicators in determining that those would be the indicators you used?

MS. NIJMAN: Asked and answered and overbroad.

THE WITNESS: The normal process when you look at what's naturally occurring is to identify the background. And, as you know, the background at these sites is very difficult to determine.

And so what we do is we take a step back and we say, Okay. Well, this is what we have. Whether it's natural or not natural, we have to deal with it.

So then you take a step back and say Well, where's it moving to? Who's exposed to it? And so in many -- if you don't have background, you can still address the problem. What is the problem with the whole process, if you don't have background, you can't eliminate it as background. If it's a part of background, regulatory programs don't require you to address it.

BY MS. CASSEL:

Q So for this particular set of indicators that you relied in your report -- which are two sets, right -- which is both the onsite tests -- excuse me -- leachate tests on the plants as well as the

EPRI indicators -- the only factor that you looked at to determine whether something should be an indicator is whether the pollutant exceeded the detection limits of that leachate test?

MS. NIJMAN: Objection.

THE WITNESS: Correct.

BY MS. CASSEL:

Q "Correct" was your answer?

MS. NIJMAN: First, put my objection on the record. Thank you.

THE WITNESS: Yes.

BY MS. CASSEL:

Q Just making it -- "yes"?

A Yes.

Q Okay.

All right. Can you tell me, are you aware of other projects in which this set of indicators has been used to indicate coal ash constituents?

A In regards to a groundwater impact study?

Q We can start there.

MS. NIJMAN: I'm sorry. I missed the question. I was looking for something.

Do you mind?

(The last question was read by the reporter.)

MS. NIJMAN: I'm just going to object to vagueness.

THE WITNESS: It's very broad and I don't -- I'm not aware of one. I do know that this data was identified, like for EPRI, for a purpose, and that is to understand what to look for. So that's what I know.

BY MS. CASSEL:

Q Have you ever used this particular list of indicators before, yourself, in evaluateing coal ash constituents in groundwater?

MS. NIJMAN: Same objection.

THE WITNESS: It's a very long list and it's very specific to this data, but I have not used this data on another application.

BY MS. CASSEL:

Q So now, in a connected matter, I want to better understand leachate.

Can you give me just your definition of what leachate is.

A When you take a sample -- I'll give you a couple of different ideas. When you take a sample

and you pass water or solvent through it, the purpose is to identify what is leaching from that, or what is extracted from it.

From a common landfill-type perspective, leachate is what water is dissolved -- constituents from the contained materials -- into some liquid form that exits the waste and becomes a leachate, having water percolated through the waste and then discharged out through a leachate collection -- leachate collection system is leachate.

Q What factors can affect how much a constituent leaches?

A In what particular test?

Q Are there any factors that no matter what test you use can affect how much a constituent leaches?

A There are probably many. Of the most common is the pH of the liquid that's used to mobilize the elements that are in the sample. That's one.

Temperature. We don't normally -- you don't have -- you run tests at constant temperature; but in the environment, in a landfill situation, temperature changes. So that can affect

how much it leaches.

The various things that are in the material, whether or not there's -- I'll call it competition. If something's mobilized, is it going -- not mobilize, because pH doesn't mobilize everything. So there are a number of things, but first we look at pH and temperature.

Q Okay. So, now, looking back at page 41 of your report I think we marked as Deposition Exhibit 2 -- let me know when you're there.

A I'm on 41.

Q So the leachate data that you cited on this page came from a 1985 ASTM test method; is that correct?

A ASTM 3987-85.

Q And you've got a citation there that says "ASTM, 1985." So it's from -- that's the leach test data that you discussed at this particular portion of your report?

A That's the procedure that was used.

Q Procedure that was used. Okay.

And did you rely on this, the results of this procedure, in coming to your conclusion that the constituents in the groundwater either were or

were not similar to the leachate?
MS. NIJMAN: Objection to vague.
THE WITNESS: As I previously stated, that this test procedure was done on samples that we had on hand. It was done on both the ash in the ponds and in ash outside of the ponds. We ran those tests and we came up with the results to see what would be indicators.
BY MS. CASSEL:
Q So you did compare the constituents in the groundwater with the results of these leachate tests --
A Yes.
Q -- this 1995 [SIC] -- okay.
A Yes.
Q And you relied on that comparison in part in concluding -- in determining what constituents matched or didn't match the leachate or -- I'm sorry. I'll leave it there.
Is that correct?
A We used this data and the groundwater data, and we did a comparison to see what matched --
Q Okay. And then you --
A -- or did not match.

Q And you relied on that comparison in coming to the conclusion that the contamination that's in the groundwater is not coming from the coal ash -- the current coal ash ponds; is that correct?
A That's correct.
Q Okay. In deciding to rely upon the results of this 1985 ASTM method, did you check whether that test method is still recommended by ASTM?
A ASTM doesn't recommend tests. They provide the tests as a test -- as a standardized test. I believe if you look at the ASTM standards, they don't say what they recommend it for or not for.
So what we do is we looked at that test -- as engineers and scientists, we look at what test to use. This test was available and made available and used in Illinois specifically for an application to look at what could come out of that ash that could be of concern. So it's a very state-specific test.
Q Can I ask, did you check whether ASTM considers that this 1985 test method has been superseded?
A I did not check. Normally, it would be superseded by a different dash, year at the end, but

I did not check.
THE WITNESS: Can I get a water?
MS. NIJMAN: Sure.
MS. CASSEL: Of course.
Go a little longer and then take a lunch break?
MS. NIJMAN: Sure.
MS. CASSEL: Does that work for you?
MS. NIJMAN: Uh-huh.
THE WITNESS: Okay.
MS. CASSEL: Let's mark the next exhibit, please.
(Seymour Deposition Exhibit No. 6 was marked for identification.)
MS. CASSEL: Here's a copy for you, Jennifer.
BY MS. CASSEL:
Q Now, if you would take a look at the exhibit, which is Exhibit No. 6.
Can you tell me, in general, are you familiar with ASTM's website?
A Yes.
Q Have you visited it before?
A Yes.

Q Can you tell me what ASTM does. I think you said they provide tests.
Is that --
A They develop standardized tests.
Q Develop standardized tests.
Is that specifically for leaching, or do they do things beyond that?
A They go very far beyond that. They do testing for many, many things.
Q Note for the record, I'm going to indicate that what you've just been handed, Deposition Exhibit 6, is a screenshot of ASTM's website.
A Uh-huh.
Q Do you see at the top there where it mentions -- where it states the name -- or -- excuse me -- the number of this test, D3987-85? Do you see that?
A Yes.
Q And that is the test that was utilized, that you relied on the results of?
A I believe so.
Q Do you see where it says "Superseded" on this website, right beneath the name of the test?
A I see that.

Q Do you think it's still appropriate to rely on the results of a test that are superseded -- has been superseded?

MS. NIJMAN: I'm going to object to the mode of questioning here in the sense of we're looking at something that doesn't show how or what was superseded in what way and also that his report cites to the 2004 date.

So I'm not quite sure where this is -- it's all relevancy and to the fact that this is an incomplete document. So he can't make any assessments to it.

BY MS. CASSEL:

Q Well, let me ask what your reaction is, sir, to this particular screenshot of the website.

Do you have any reaction to the fact that it says "Superseded" there?

A Well, I was not aware that this was superseded. I don't -- and I would have to know why it was superseded as to whether it could still be relevant.

Q Okay.

A Again, as Ms. Nijman has stated, I don't know why it was superseded, and that's important.

Q So you don't have a specific opinion as to whether or not this statement that has been superseded affects the reliability of those test results?

A I would state that when the tests were run, they were reliable and I would -- and I relied on them. I would not think that because it was superseded, it may very well be that there's a different test that they now use. But that test, when it was performed on the samples, it was relevant.

Q And how do you know that it was not superseded at the time it was run?

A I'd have to check.

Q Putting that aside, let's look at -- can we look at page...

MS. CASSEL: Can you mark this as the next exhibit, please.

(Seymour Deposition Exhibit No. 7 was marked for identification.)

BY MS. CASSEL:

Q Can you tell me, have you seen this document before, sir?

A Yes.

Q Can we turn to page 4, please.

Are you familiar with the 2012 ASTM neutral leaching test that was referenced here by Dr. Kunkel here on page 4 at the bottom?

A At the very bottom, there's a number of them that are listed.

Which one?

Q At the -- under the header, in the first paragraph under the header, Mr. [SIC] Kunkel states that, quote, in its most recent publication of the neutral leaching test, ASTM (2012), in part --

A I'm sorry. Can you -- I didn't find where you started.

Q The bottom -- the last sentence before the bullet points.

A Okay.

Q We're referencing a 2012 neutral leaching test from ASTM, ASTM D3987-12.

Are you familiar with that test?

A Yes.

Q And in deciding whether to rely on the 1985 ASTM neutral leaching test, were you aware of the statement in the "Significance and Use" section of

the ASTM D3987-12 procedure that states, as Mr. Seymour quotes, "This practice is not intended --" or -- excuse me. "This practice is not intended to produce extracts to be used as the sole basis of engineering design."

Were you aware of that statement?

A Which bullet is it?

MS. NIJMAN: I'm going to, first of all, object to the form of the question as complex, compound, overbroad, and vague. All of those things. I couldn't follow it.

If you can understand it without breaking it down, you can try to answer it.

THE WITNESS: Which bullet were you pointing to, the one that says 4.1, 4.2, or 4.3?

BY MS. CASSEL:

Q This one is actually 4.1.

Were you aware of this statement in 4.-- excuse me. I'm sorry. 4.2.

Do you see where it says, "This practice is not intended to provide an extract that is representative of the actual leachate produced from the solid -- a solid waste in the field or produce extracts to be used as the sole basis of

engineering design"?
Do you see where it says that?
A Yes.
Q In relying on the ASTM D3987-85 leaching procedure, were you aware of this bullet point 4.2?
A Yes.
Q Were you aware of Bullet Point 4.3 that says that, "This practice is not intended to simulate site-specific leaching conditions. It has not been demonstrated to simulate actual disposal site leaching conditions"?
A I see that.
Q When you decided to rely on the 1985 -- the ASTM D3987-85 procedure, you were aware of these bullet points --
A Yes.
Q -- 4.2 and 4.3?
Why did you decide to rely on the test?
A Most of the ASTM tests have similar qualifications. ASTM does not want to be pinned down as that definitive one answer because, in reality, this is true that the site-specific conditions vary by very many sites. This is a test -- as a standard

test. It's up to the engineer to decide how to use it.
So these are qualifications to basically say let the user decide whether it's appropriate or not. It doesn't say it should never be used. It's not what it's intended for, but you can still utilize it as a tool in our engineering tool kit.
Q So is it your understanding that they were, in fact -- the ASTM, in providing these statements, 4.1, 4.2, 4.3, were not indicating to engineers that these tests should not be used to determine appropriate leachate in-field conditions?
MS. NIJMAN: Object to form.
THE WITNESS: It's a very long question, but I -- these statements are in -- if you pulled out any of these other test results, my judgment would say that they have the same types of qualifications. What these statements are for are to tell the user that it's not specific to this specific site because you can't write a standard test for all sites.
So it's up to the user to decide how best appropriate to use it because there are many choices. There's not one choice, as you can see. It

doesn't rely on one type of test. This is the test that was run that was appropriate for Illinois, and it was accepted and that's what we used -- or what we relied on.
BY MS. CASSEL:
Q So have you in the past used other tests that have included similar language indicating that the test was not appropriate for the particular -- for field conditions?
THE WITNESS: Repeat the question, please.
MS. CASSEL: Could you read it back, please.
(The last question was read by the reporter.)
MS. NIJMAN: Object to overbroad.
THE WITNESS: I'm not sure I understand the question because there's a "not" in there that threw me.
Can you maybe rephrase it.
BY MS. CASSEL:
Q Okay. You said that a lot of tests, if not all tests, include language such as this; is that accurate?
A Yes.
Q Okay. Have you relied on other tests --

MS. NIJMAN: Objection. Misstates prior testimony. You said "similar to this."
BY MS. CASSEL:
Q Have you relied on other tests that had similar qualifying language such as what is found in 4.1, 4.2, and 4.3 for the ASTM D3987-12 test?
MS. NIJMAN: Objection to overbroad.
THE WITNESS: Having read a lot of ASTM procedures, they all have common similar statements that it's up to the user to decide which test to use. They're not making them site-specific.
So my statement was that if you went to these other tests, then I would expect that'd they have similar language.
BY MS. CASSEL:
Q Okay. So just to make sure the question is clear because I don't think I got a clear answer to it, when you've -- have you relied on other ASTM tests in the past?
A Yes.
Q And do you recall whether those ASTM tests had language similar to 4.1, 4.2, and 4.3?
A Specifically --
MS. NIJMAN: Specifically, as he sits here

today?
THE WITNESS: No.
BY MS. CASSEL:
Q Do you recall whether they had qualifying language suggesting that that test was not appropriate for detecting leachate in field conditions, for example?
MS. NIJMAN: Objection. Overbroad.
THE WITNESS: I don't recall. I do know that we used many different leaching procedures and that there's no one, normally, that's to be used in all situations; but I have used other tests, but I don't recall whether or not they had this specific language.
BY MS. CASSEL:
Q But it's your recollection that other tests -- that many other tests include similar language indicating that the test is not necessarily appropriate in given conditions?
MS. NIJMAN: Objection. Asked and answered. Misstates testimony.
THE WITNESS: What I mean is that a lot of ASTM procedures -- I've read a lot of them -- have qualification language. In general, ASTM doesn't

know if this is the full "Scope" section. It's impossible to say based on this one sheet of paper what this is.
MS. CASSEL: I'm asking the witness if he knows about a "Scope" section. And so that's actually whose testimony I'm interested in.
THE WITNESS: I know that when I looked at the test, I looked at the "Scope" section that was in the test. I can't tell you whether this is the same "Scope" section.
BY MS. CASSEL:
Q Do you recall whether or not that "Scope" section included any language stating that the test method was intended to be used under the specified testing conditions?
A That would be typical, but I don't specifically recall.
Q Can I ask, did you determine what the specific testing conditions were for an ASTM D3987-85?
MS. NIJMAN: I'm sorry. Testing conditions of what? Vague.
MS. CASSEL: D -- of ASTM, D3987-85.
MS. NIJMAN: Same objection. I don't know if

want to say it's for a specific use. In other words, you have to have the specific use in mind and you have to decide which test to use. That's what I said.
BY MS. CASSEL:
Q And you've relied on tests with qualifying language?
A Yes.
Q Okay. Now, turning back to -- I think this is Deposition Exhibit 6. I believe it's the screenshot of the PDF regarding D3987-85.
Do you see where it lists three bullet points under "Scope"?
A I see that.
MS. NIJMAN: Again, I'm objecting to a screenshot without the document attached and the appropriateness of the line of questioning without the document.
MS. CASSEL: Well, if you would let me set a foundation, then I can try to do that.
BY MS. CASSEL:
Q Can I ask you if -- are you familiar with a "Scope" section with relation to the D-3987-85 test?
MS. NIJMAN: I'm going to object. I don't even

you know what she's talking about.
THE WITNESS: I'm not clear on the scope or the statement. Would you -- I don't know if this is the scope of the actual test because it may be incomplete. I can read this if you'd allow me just to read it.
BY MS. CASSEL:
Q You can read that. I don't know that that will actually lead you to the answer of the question.
What I'm going for here is understanding what the specified testing conditions are that are instructed to be used for the ASTM D3987 test itself.
A Yes. This -- again, this is very common and standard in ASTM. What they say is that here's the test that you're going to run. Here's the specified test and conditions, like in the laboratory and the equipment. That's what they're saying. That's what it is appropriate for, the laboratory.
Q And do you know, for example, this particular test assumes a particular pH; is that right?
A I believe so, yes.
Q Do you know what that pH is?

A I believe it's neutral.
Q Neutral. Okay.
MS. NIJMAN: To the best of your recollection.

BY MS. CASSEL:
Q Did you --
A To the best of my recollection, it's neutral.
Q Did you evaluate what the conditions are in terms of pH at the coal ash ponds at the Midwest Gen sites?
A The bottom ash ponds that receive the ash, I believe, are more neutral. They are not acidic or basic.
Q Did you do any tests to determine the acidity or basicness, if that's a word --
A No.
Q -- of the conditions at the coal ash ponds?
A I rely on my general experience. I did not have a specific pH test.
Q Did you look at any documents or information concerning the pH of precipitation in the area of the Midwest Generation coal plant?
A I do know that area and the pH general

knowledge, and I also know that it's normally around 5 -- in the 5s, and that when we look at the ponds recognized to have an NPDES permit with a pH range. So I'm assuming it's going to be in that neutral range that's required by the permit.
Q You're assuming, but did you do anything beyond rely on your general knowledge to determine that?
A The knowledge of the permit, that the permits run from 6 to 9 -- pH 6 to 9, and I'm not aware of any violations.
Q And did you look at -- excuse me -- did you conduct any investigation to determine what the pH of groundwater is at the Midwest Generation plant sites?
A Well, the pH of the groundwater is in some of the test results, and I believe it was -- so it is available. I don't remember all the results.
Q And did you look at those results in deciding whether or not to rely on the neutral leaching test?
A Not for the groundwater because, again, it's a different application. You're looking at where the ash is, and in the ponds it's more neutral.
Q And is it your opinion that the pH of the

groundwater does not affect the pH in the ponds?
A I would --
MS. NIJMAN: Objection. Vague.
THE WITNESS: I would expect the pH in the groundwater would not affect the pH in the pond.
BY MS. CASSEL:
Q What's the basis for that statement?
A That the groundwater does not flow into the ponds.
Q Did you -- do you know whether the testing conditions assumed by ASTM D3987-85 has any assumed liquid to solid ratio?
MS. NIJMAN: Again, same line of objections.
To the extent you remember each aspect of this ASTM test, you can answer.
THE WITNESS: The way that tests are normally run is they have a volume of liquid and a volume of solids, but I don't -- or mass -- but I don't recall what they are.
BY MS. CASSEL:
Q And did you look at that volume of solid as compared to the volume of liquid in deciding whether or not to rely on this ASTM test?
A I looked at the results of the tests for

the purpose of comparison. The purpose of the comparison was, is it going to provide something that is acceptable in Illinois for a reuse standard. That's how I used it.
Q Okay. But that didn't answer my question, which is did you look at the solid to liquid ratio, or the volume of liquid to the volume of solid, as assumed or as used in the ASTM D3987 test when deciding to rely on the results of that test?
MS. NIJMAN: Same series of objections.
THE WITNESS: I did not.
BY MS. CASSEL:
Q Did you do anything to determine the liquid to solid ratio in the field conditions at the Midwest Generation sites?
A We did not calculate that.
Q The -- sort of a side question. The E-P-R-I, EPRI, data that you cited in Table 5-2 of your references, is that -- I think we didn't see that in the list of references. I may be missing it.
Could you identify either where it is in the list of references or let us know if it's not there in your report?
A Are you saying it's not specifically

referenced in our "Reference" section?
Q I believe so. I'm just asking if you can identify what it -- if it's in here, what it is.
MS. NIJMAN: It came from their documents.
THE WITNESS: Yeah.
MS. NIJMAN: Just for the record, it came from your documents, Sierra Club Document 15059.
MS. CASSEL: 15059.
Okay. It was that single page was the only thing that --
MS. NIJMAN: No, it's a document. That's the beginning of it.
MS. CASSEL: Okay.
BY MS. CASSEL:
Q Is that the entirety of the EPRI data cited in Table 5.2?
A There's a lot of data that's in that report, much more than what's on my one spreadsheet that I provided.
Q Gotcha.
But that's the sole source of that data that you used in your report?
A The EPRI data that we presented, that's the only document that we pulled the data from.

Q Just want to make sure that we've got the sources that you relied on in putting together the report.
MS. CASSEL: 12:15.
This might be a good time to break, I think, for lunch --
MS. NIJMAN: Okay.
MS. CASSEL: -- if that works for you all.
MS. NIJMAN: Sure.
MS. CASSEL: I'm happy with 45 minutes or an hour, whatever you guys prefer.
MS. NIJMAN: 45 minutes is great.
MS. CASSEL: Okay. So we'll reconvene around 1:00.
MS. NIJMAN: One other thing that I wanted to point out is that yesterday, the witness contacted me to tell me that he had prepared some notes, and to be fair to you, I wanted to let you know that. And if you would like those notes, he has brought them. And they're not notes that were prepared previous to yesterday. So I didn't have them before, and, in fact, I've not even seen them. So if they're --
MS. CASSEL: Yes, we would like to have them. Thank you. I appreciate that information.

(Tendered document.)
MS. BUGEL: Jenny?
THE WITNESS: Would you like them? Or...
MS. BUGEL: Jenny, do you want them?
MS. CASSEL: Yes.
MS. NIJMAN: Do they have the Bates number on them now?
MS. GALE: No. We haven't seen them.
MS. NIJMAN: This is the first time looking at it too. He told me he had prepared notes and I said to bring them to the deposition.
MS. CASSEL: So just for purpose of identifying them later, why don't we mark them as an exhibit since they don't have Bates numbers. We may or may not actually reference them in the deposition, but --
MS. NIJMAN: That's fine.
MS. CASSEL: We'll just mark them as an exhibit then.
(Whereupon, a luncheon recess was taken to resume at 1:00 p.m.)
(Seymour Deposition Exhibit No. 8 was marked for identification.)

MS. CASSEL: We can go on the record.
BY MS. CASSEL:
Q Okay, sir. I would like to turn to page 42 of your report, please, Deposition Exhibit 2.
So this is Section 5.5.2, the matching analysis that you did in this report and -- as well as in Tables 5-4 and 5-5.
And, so the record is clear, we're discussing the matching analysis in this initial report since I only received the supplement to that yesterday, and we're not prepared ask you questions about it other than a single question just to understand what was done.
So we will focus on this report and those -- the tables in the initial report?
MS. NIJMAN: Okay. Then let me just state for the record, though, depending upon on your questions -- it was a mathematical error that was corrected. So if you're going to ask him about his document, these pages have been supplemented.
MS. CASSEL: Well, I don't know enough about what was supplemented until I ask him.
MS. NIJMAN: Sure.
MS. CASSEL: So I'm going to focus on this and,

you know, I'll assume his answers based are on this unless he tells me otherwise.
MS. NIJMAN: So you'll have to clarify --
THE WITNESS: We'll take each question as it comes --
MS. CASSEL: Perfect.
THE WITNESS: -- and decide.
BY MS. CASSEL:
Q Okay. So you state on page 42 -- let's see if I can find it -- quote, Conceptually -- this is the second sentence of the paragraph under 5-5- -- or -- excuse me -- 5.5.2, page 42.
A Excuse me. Pardon me. I'm going to look for my supplement just in case I want to check something.
Go ahead. I'm sorry.
Q So you state on page 42, "Conceptually, if all the constituents detected in groundwater samples from a monitoring well match the constituents detected in leachate from ash currently stored in ponds, and if constituents not detected in groundwater samples match the constituents not detected in leachate from ash currently stored in ponds, then it would be probable that leachate from

ash currently stored in ponds is impacting groundwater."
Do you see where you state that?
A Yes.
Q What do you mean by "match"?
A Well, what we've done, in general -- because I know that you haven't seen the supplement -- but, in general, we're looking to see what you can find in the groundwater that's common to the pond or what's found in the groundwater that's inconsistent with what's in the pond. So if you look at both matching and non-matching data.
Q So what is -- if a pollutant is detected in both the groundwater and the leachate, then that's a match?
A Yes.
Q And if it's not detected in groundwater and not detected in leachate, that's a match?
A Well, that's one of the things that in the supplement you'll notice that we've changed because it came to us that by including that number in the denominator, it was calculating a number that we didn't think was representative of a matching versus non-matching analysis.

Q So what is the diff- -- so please explain to me what the difference is.
So is it not a match if the constituent is not found in the leachate and not found in the groundwater?
A Yes, because we felt that you could add a series of elements or compounds that didn't exist in the ash and didn't exist in the groundwater, and theoretically that number keeps getting less and less representative, so we took that data out.
Q But they are both in, then they are both a match?
A If they're both in and they both -- then they match.
Q When a pollutant is below detection, does that mean that there is none of it in the sample tested?
A In which media are you talking when you say there's a pollutant detected?
Q In any media. We can say the groundwater.
If there's a pollutant -- if a pollutant is below detection in groundwater, does that mean there is none of it in the groundwater?
A Well, by definition, if it's not detected,

we're not including it.
Q But that's not my question, as to whether you're including it.
I'm asking you, is there none of it in the groundwater if it's below detection.
MS. NIJMAN: Object to vagueness.
THE WITNESS: Again, the -- the sci- -- I'm sorry.
MS. NIJMAN: Go ahead.
THE WITNESS: The science is that if you don't detect it, you assume it's not there.
BY MS. CASSEL:
Q And is that what you did?
A Correct.
Q Okay. If you ran a test on the same groundwater that had a lower detection threshold and the concentration of a pollutant was found to be detectable under that test, but it was not found -- it was below detection in another test with a higher detection threshold -- what am I trying to say? The pollutant is, in fact, present in that groundwater in that case; is that correct?
MS. NIJMAN: Object to form. Compound.
THE WITNESS: The practice that we follow is

that you have detection limits, and you follow standard detection limits for groundwater quality monitoring.

In our practice in groundwater assessments, we have laboratory analyses and you have detection limits, and those detection limits are based on a lot of procedural things that the lab follows. And so you have a detection that's accepted and a standard test that's accepted.

Now, there are cases where you have a lower detection limit with a different method, and if that's accepted in the practice, then you would say it's there if you detect it.

BY MS. CASSEL:

Q Now, in determining whether there was a match of pollutants, as you call it in your report, did you take into consideration whether the test method used to analyze leachate had the same detection limits as the method used to analyze groundwater?

MS. NIJMAN: Object to form. Pollutants is not what he testified about in his report that you referenced.

THE WITNESS: What we took into consideration

was that the ASTM test that we used for the -- the extraction test, it met groundwater quality standards, which is what's required by the test.

So we believe that if the constituent was found and it was above the groundwater quality standard, then we would include it. If it was not detected, we always knew that it was below the water quality standard, and so we felt comfortable not including it if it was less than that detection level.

BY MS. CASSEL:

Q Do the leachate test that you relied on and the groundwater monitoring tests of the groundwater at the Midwest Generation plants have the same detection limits for all pollutants?

A Not for all.

Q So they have different detection limits for the same --

A For --

Q -- let's -- boron -- is that correct?

A I would have to look. I know that there are a few that are the same; but, in general, I think there's one that's got a lower detection limit in the groundwater test, and most of them are higher in the

leachate test than in the groundwater testing.

Q Did the fact that there were different detection limits figure into your analysis at all in terms of determining whether pollutants matched in the leachate and the groundwater?

A I believe you asked that question earlier and --

Q I may have. I'm trying to understand the --

A -- and the -- we did not fac- -- we factored in the detection level concept in that we knew we were meeting groundwater quality criteria in the analyses. That's how we factored it in.

Q You had said before that -- I believe you said that there are accepted detection limits that are used for different types of tests; is that accurate?

A Yes, that is --

Q What makes --

A -- accurate.

Q Excuse me.

What makes them accepted?

A In this case there are standards. And so it's a standard ASTM test and it's a standard test

for groundwater analysis accepted by the state. In this case both analyses types are accepted by the State of Illinois IEPA.

Q So they're accepted by the IEPA, and that's what you mean by "accepted"?

MS. NIJMAN: Objection. Asked and answered.

THE WITNESS: That's correct.

BY MS. CASSEL:

Q So just to make sure I'm understanding the data correctly, I'm going to look at your old Table 5. I recognize there's a new one. You can tell me what constituents there are.

Table 5-5. I'm sorry.

A I'm sorry, Jenny. I have to look at this one because I took 5-5 out of my -- my book.

Q Okay. If we can look at 5-5 for Waukegan, specifically.

A 5-5?

Q 5-5 for Waukegan, yes.

A I have it.

Q Okay. So just to make sure I understand what this table shows, what does a blank mean in the table, if there's a blank in the cross section between a well and a particular constituent?

A That it was not detected.
Q Okay. Blank means not detected.
What does the X mean?
A That it was detected.
Q Was detected.
Okay. So -- and in the second column, is this showing that under this analysis, only three of these constituents you considered to be indicators of leachate?
A In the second column of the table, it indicates that barium, boron, and sulfate are indicators of leachate.
Q And none of the other constituents are indicators of leachate; is that correct?
A That's correct.
Q Is that what the blanks mean? Okay.
Not -- so the table doesn't show concentration data; but if the leachate and the groundwater have the same concentration of the constituent, is that a match?
A I'm sorry, Jenny. Can you repeat the question.
MS. CASSEL: Could you read it back, please.

there could have been -- or there may be up to .05 milligrams per liter of arsenic in that water without it being detected; is that correct?
MS. NIJMAN: Objection. Vague. You said "leachate," then you said "water." I'm trying not to do a talking objection, but the question was unclear.
BY MS. CASSEL:
Q In the leachate, if the detection limit is .05 milligrams per liter, there could be up to .05 milligrams per liter in that leachate without it being detected; is that correct?
A That's correct.
Q So on Table 5.5 for Waukegan -- which I get back to that -- there is an X for all wells for arsenic.
What does that represent? Does that mean it was detected?
A It was detected.
Q So it was above .05 milligrams of arsenic per liter?
A I believe the groundwater quality detection was for lower. I'm almost certain. So it's actually higher than maybe .1 or -- excuse me -- one or two parts per billion detection level.

(The last question was read by the reporter.)
THE WITNESS: If they're not shown on the table, they're not detected. If they're detected, there would either be a match or a no match.
What I'm saying is that --
BY MS. CASSEL:
Q So there's no concentration data, obviously, or it's just X's and blanks.
But if the leachate -- if there's the same exact concentration of a pollutant in groundwater as there is in leachate, is that a match under your analysis?
A Yes.
Q Let's look at arsenic, just to take an example.
Do you know what the detection limit for arsenic was in the leach test?
A The leach test was -- I believe, is 50 parts per billion or .05 milligrams per liter --
Q Okay.
A -- because it's in the Clean Water -- or the Class I Illinois Drinking Water Standard.
Q Okay. So that means that in the leachate

Q This is for the groundwater?
A For the groundwater.
Q This is not for the leachate?
A Not for the leachate.
Q Okay. So let's look at the data for the wells, just to see what it actually was.
MS. CASSEL: Can you hand me the next exhibit.
MS. DUBIN: 56445?
MS. CASSEL: Yes.
That's part of this whole thing, right?
MS. DUBIN: Yes.
MS. CASSEL: Okay. Can you mark this exhibit, please.
(Seymour Deposition Exhibit No. 9 was marked for identification.)
BY MS. CASSEL:
Q So you have been handed what's been marked as Deposition Exhibit No. 9 -- Seymour Deposition Exhibit No. 9.
A Uh-huh. Okay.
Q Do you recognize this document?
A I recognize it as a Groundwater Quarterly

Monitoring Report, Waukegan Station, and it is labeled as the Fourth Quarter, 2015.

Q So let's take a look -- it says, "Annual and Quarterly Groundwater Monitoring Results - Fourth Quarter, 2015," right?

A Yes.

Q Okay. Just to make sure.

So let's look at Bates page 56445.

A Jenny, recognize, please, that this is 2015 data. This analysis is based on 2014 data.

Q It's fourth quarter, 2015. Okay.

I believe this data does have the 2014 concentrations in it, so we can look at those.

If you would look at 56445.

A Okay.

Q So the arsenic concentrations in Monitoring Well 2, as an example, in 2014 were .0085, .0062, .0081, and .0095.

I believe that's milligrams per liter; is that correct?

A Yes.

Q So in the groundwater -- there was arsenic in that groundwater in 2014, correct?

A Yes.

Q But that arsenic was always below .01 milligrams per liter, right?

A Based on the detection level standard.

Excuse me. This is the standard. I'm not sure what the detection level is.

Q So if the leachate --

A There we go. Excuse me. The detection is listed next to the result.

Q So if the leachate had the same amount of arsenic, just below .01 milligrams per liter, or these specific numbers below .01 milligrams per liter, would the leach test data have detected that arsenic?

THE WITNESS: I'm sorry. I'd like to have that question reread.

MS. CASSEL: Can you read it back.

(The last question was read by the reporter.)

THE WITNESS: I'm very sorry. I'm -- I'm -- please do it one more time, Brad.

(The last question was read by the reporter.)

MS. NIJMAN: Object. Vague. It's --

THE WITNESS: It's -- I'm just confused by the

question.

MS. NIJMAN: -- a hypothetical that you're giving?

MS. CASSEL: No.

BY MS. CASSEL:

Q Well, would this amount of arsenic that's shown in the 2014 groundwater data for Monitoring Well 2, would that amount of data show up in the leachate test?

A If you had results, for example -- looking for arsenic -- August 21st, 2014, the concentration is .0081, and that would be below the leachate test detection level.

Q And are all of the results for 2014 for arsenic in Monitoring Well 2 below the leachate test detection levels?

A They appear to be.

Q Okay. But the leachate could, in fact, have that same concentration of arsenic in it, correct?

A I think earlier the question that was asked that the arsenic could be in the leachate sample up to the detection level of the leachate test, which is .05.

Q So, "yes"?

A So the answer would be "yes."

Q Yet -- so essentially you could have the same concentration of arsenic, this concentration that's shown in the groundwater levels for 2014, in the leachate, but under your analysis that would not match; is that correct?

A Correct.

Q And the detection limit for groundwater, just to be clear, in 2014 for Monitoring Well 2 was .001 milligrams per liter, right?

A For the monitoring groundwater sample --

Q For the groundwater sample.

A -- .001, yes.

Q Thank you.

Let's consider antimony, just as another point of comparison. If we look at Table 5-4 of your report --

A For Waukegan?

Q For Waukegan also.

A Okay.

Q And this is looking at the -- 5-4 -- detected -- and here, we have a different list of constituents as being indicators of leachate.

Why is there a different list in this table?

A This list is based upon the EPRI leachate data.

Q So here we show in Table 5-4 of your report -- we show antimony as being in that leachate, correct? Because it was only an indicator if it was in it --

A Yes.

Q -- is that right?

But it's not present in the groundwater samples for any of the wells; is that correct?

A Yes.

Q Let's see how much antimony was detected in the leachate data. So if we can look at 5-2, Table 5-2, page 1 of that table.

A Page 1.

Q Page 1 of Table 5-2, the first page of that table.

A Okay.

Q So is it correct that the concentrations of antimony in leachate for sub-bituminous coal range between .00024 and .00062 milligrams per liter?

A In the impoundment for sub-bituminous coal, antimony was found at those levels in parts per million.

Q Okay. So that is less than .001 milligrams per liter, correct?

A Yes.

Q Now, let's compare how much antimony was detected in the groundwater.

If you would look back at the same monitoring data, page 56445 --

A I've got it.

Q -- from Monitoring Well 2. We have a non-detect, right, for antimony for each of those dates in 2014?

A Yes.

Q And the detection level of that is .0030, correct?

A Yes.

Q So with the concentrations of antimony that were found in the EPRI leachate data, up to .00062 milligrams per liter, would that amount of antimony be detectible in groundwater using this detection limit?

A It does not look like it would be.

Q So even if the groundwater had the same amount of antimony as the leachate, your matching analysis would not show a match in this circumstance, correct?

A What I would say is that if it was a detection level of .003 for groundwater, that --

THE WITNESS: I'm sorry. I shouldn't answer a question not asked.

Can you read the question again.

(The last question was read by the reporter.)

THE WITNESS: Correct. It would not match.

BY MS. CASSEL:

Q Okay. Have you used this same matching analysis before, matching the constituents in -- all constituents found in leachate to all constituents found in groundwater?

A For coal ash?

Q For coal ash.

A I have not.

Q Have you used it for other types of sources?

A No, I have not.

Q Do you know of any other projects in which

that matching analysis has been used?

A Well, my -- from my experience? What I have done or for other people?

Q Well, you just answered for what you've done, right?

A Right.

Q So do you know of any other people that have used that?

A I would be pretty sure that they have used that type of analysis before. Whether it's for coal ash or not, I can't speak. It's just a matching method.

Q Do you know for certain whether that particular method that you used here has been used before?

A No, I do not.

Q Do you know if this method has been published in any journals or academic papers?

A I don't believe it has.

Q So we went into this a little bit earlier, but can you tell me -- can you explain, because I just didn't understand, what exactly the differences are between your initial report and the supplement that you -- we were provided yesterday.

A Okay. What we did is that where we found in the denominator of the equation -- which includes matching and non-matching compounds as the total that was found in groundwater, whether they matched or not matched -- it included those that were non-detect, not in the groundwater, and non-detect in the leachate. And we felt that increased the denominator higher than what we believe represents the actual result, which -- so we lowered the denominator to remove data that was both non-detect in the groundwater when it was non-detect in leachate.

Q Is -- I'm sorry.

A And the reason is that, as I mentioned previously, if you take that to the limit, you could add more and more compounds that were not-detect in each -- leachate or ash, and the denominator keeps getting bigger and bigger and the result gets smaller and smaller. And we didn't feel that was representative.

Q You can invent any type of constituent you could ever imagine and that would all go into the denominator under --

A Throw lots of matter in there, and it would make the number less accurate.

Q Okay. Is that the only difference in that supplemental report?

A Yes, I'm pretty sure.

Q Okay.

A I'm 99 percent sure.

Q Okay. That was the mathematical error that was referred to on the first page of that report?

A Yes, Jenny.

Q Okay. Now, let's see. I think I'll turn to something different. I want to talk a little bit about your discussion of ash and fill areas outside of the ponds.

Is it your contention that the fill ash and fill areas outside of the coal ash ponds have not contributed to the concentrations of contaminants in the groundwater at those monitoring wells?

MS. NIJMAN: I'm sorry. I need to hear that again.

THE WITNESS: Can you repeat the question, please, Brad.

MS. CASSEL: Why don't I restate the question.

BY MS. CASSEL:

Q Is it your contention that the historical ash fill at the sites is not contributing to the

concentrations of constituents in the groundwater at those sites?

A The analysis that we've done indicates that we believe it is not contributing because the -- again, the analysis that we've done show leachates that are very low or, you know, not below the groundwater classified -- groundwater standards. And so we don't believe it's contributing to something that's above groundwater standards.

Q So let me ask, looking at the samples you mention, plant by plant, at Joliet 29, you relied on that same neutral leachate procedure as we were discussing earlier, right, the ASTM 1985 test?

A Yes.

MS. NIJMAN: We need to clarify the record. It's not an '85 test, it's a 2004 test.

MS. CASSEL: It says "D3987-85."

THE WITNESS: '85.

MS. NIJMAN: Paren (2004). And that's how it's noted in his report.

MS. CASSEL: The citation is ASTM 1985.

MS. NIJMAN: Okay. But if you look at the references in his report, it says Paren (2004).

MS. CASSEL: Okay.

MS. NIJMAN: So I just don't --

MS. CASSEL: I'll refer to it as the name of the test.

MS. NIJMAN: That sounds good.

BY MS. CASSEL:

Q ASTM D3987-85, I believe, are the numbers.

A Okay.

Q Is that -- that was what was done for Joliet 29; is that correct?

A Yes.

Q And those tests were conducted in 2005, right?

A I believe it was 2005.

Q Do you know where the Joliet 29 site samples were collected from?

A In general, yes, I -- if you have the report, I could point to it specifically.

Q In your report?

A Either my report or the KPRG that actually has boring locations on it.

Q Let's find it in your report because I don't know that we have the KPRG Report with us.

Do you know where in your report you have that location?

A It would have been -- if it's Joliet, it would have been Figure, probably like -- maybe, 4.1, 5.1. The figures are toward the back.
Q I'm sorry.
You said it's in a figure?
A Figure. Figure for Joliet.
Q Okay. Figure, Waukegan.
Okay. I have a figure, 7.1, that has a picture of Joliet.
So can you point out for me where on that figure, 7-1, of your report.
A Relative to where the ponds are located, if you go southwest, there's a very large dark area. It was in the green area next to the dark area, so it was to the southwest of the ponds. I believe the --
Q So where is this -- I'm sorry.
A I believe the black area is a coal pile that was separate from that. It was outside the coal pond.
Q So to see if I understand, where it says "Coal handling and transfer area, approximate area, 2.8 acres." And there's a green --
MS. NIJMAN: I'm sorry. What page are you on? He doesn't have that on his.

MS. CASSEL: I'm looking at Figure 7-1 of his report.
MS. NIJMAN: Oh. He was looking at 4-1.
THE WITNESS: I'm sorry.
MS. CASSEL: I can look at whatever -- whichever works best. But...
MS. NIJMAN: Was it in between?
THE WITNESS: I don't think so. Here it is.
And your question was...?
BY MS. CASSEL:
Q I'm just trying to identify on the Figure 7-1 where you were just referencing.
So do you see -- are you looking at the figure that says "Coal handing and transfer area, approximate area 2.8 acres"?
A That's -- I see that.
Q Can you tell me where the sampling was done relative to that.
A I am pretty sure it was in the green area where it says "Coal." It wasn't done in the black area where there's coal.
Q Okay.
A So it's outside that area.
Q Where the word "Coal" appears?

A Prob- -- yeah. In that general area.
Q In that general area. Okay.
Did you evaluate whether the samples that were taken there are representative of fill elsewhere on the Joliet site?
A When you look at the boring logs, fill is variable and those samples were also variables. So I would say, yes, it was consistent with the variable type of fill.
Q So the basis for your statement right now -- so you're concluding that it was representative, right? Is that correct?
A Yes.
Q And the basis for that is because those samples were variable and the ash -- the boring logs for the monitoring wells were also variable; is that correct?
A There's boring logs from the monitoring wells which don't all have ash, of course, unless -- I don't know if Joliet has any, but there're other boring logs in the site that have logged fill.
Q Okay. So based on looking at those two things --
A Correct.

Q -- those samples and the boring logs at Joliet. You're saying that's the basis of saying it's representative?
A Yes.
Q Okay.
MS. NIJMAN: A basis.
BY MS. CASSEL:
Q Is there any other basis for saying they're representative?
A Just the general knowledge of the site activities, knowing that it was placed there at some point in the past, similar to other areas on the site.
Q The -- I'm sorry.
What was placed there? You said "it."
A Well, the ash out here has been -- and the power plants have been burning a certain type of ash -- excuse me -- a certain type of coal for a number of years. And so, if you've been burning the same type of coal, then you're going to have similar by-products. And based on that as well as the, you know, general characteristics, that's what it was based on.
Q Do you know whether the coal that's in that

fill is the same type of coal that was also placed in that fill elsewhere on the site?
A In general, as far as the coal that was burned and then the ash that was placed in that area, I was told that it was -- they had been burning the same type of coal for a number of years now. I don't know exactly how long.
Q So you don't know for certain whether the coal that was burned, the ash that was placed there is the same type of coal that created the ash that was placed elsewhere onsite?
A I don't know if the records exist to make that determination.
Q Now, looking at Powerton, I think you state on page 47 of your report that samples were taken from the Limestone Runoff Basin; is that correct?
A (No response.)
Q Just under "Powerton Investigation" on page 47.
A Yes.
Q And, again, these samples were also analyzed using ASTM D3987-85; is that right?
A Yes.
Q Do you know what the Limestone Runoff Basin

was used for?
A At one time it did receive ash that was stored there on a temporary basis. My understanding is that it is no longer allowed to be stored there as a result of the Compliance Commitment Agreement?
Q Do you know if it was used for anything else in the past?
A I don't recall if it was a limestone quarry.
Q The name suggests limestone of some sort.
Did you also evaluate whether the material that was sampled from the Limestone Runoff Basin is representative of coal ash used as fill elsewhere at Powerton?
A The coal that was -- the waste that was being placed there -- the ash that was being placed there, was based on the coal that they had been burning consistently at these various power plants. So I'm assuming that it was consistent.
Q And what type of coal was that?
A Sub-bituminous Power River Basin -- Powder River Basin Coal.
Q Do you know when they began burning that coal at Powerton?

A I don't recall.
Q And do you know when the fill was placed in the Limestone Runoff Basin?
A Well, I don't recall specifically, but it wasn't kept there for very long. You know, I don't know if it was weeks or months, but it was placed at some historical time when they sampled it and now it's been removed. I don't know when it was placed there, but obviously it was placed there before it was sampled in 2004.
Q And do you know when other historical ash in fill at Powerton was placed on the Powerton site?
A All I know is that when we look at the drawings as of a certain date, it was before that date; but I don't know when it was placed there.
Q Do you know what that date was that you're -- the drawings you're talking about were?
A Well, there are many drawings. And so I don't have specifically which drawing; but suffice it to say, it's -- could be years, many years. But I really don't know specifically.
Q Is it your understanding that sub-bituminous PRB coal has been used at the site for many years, or do you not -- do you know --

MS. NIJMAN: Asked and answered.
BY MS. CASSEL:
Q -- how long it's been?
MS. NIJMAN: Asked and answered. He said three times now he doesn't know specifically.
BY MS. CASSEL:
Q If that remains your answer, I'm fine with that.
Let's now take a look at Will County.
Ms. CASSEL: Let's take a look at the next exhibit, the KPRG Report.
Sorry, Jennifer. There was an extra copy for you there. I forgot to pass it out.
(Seymour Deposition Exhibit No. 10 was marked for identification.)
MS. CASSEL: So this should be -- this is No. 10. There's a copy of No. 10 for you.
MS. GALE: Are we skipping 9? What was 9?
MS. DUBIN: Wasn't that --
MS. NIJMAN: That one was the --
MS. CASSEL: It was the groundwater data that we were just --
MS. NIJMAN: -- the January 22nd, 2016

Groundwater Monitoring.
BY MS. CASSEL:
Q Okay. Have you seen this report before, sir?
It's been marked as Deposition Exhibit 10.
A Yes.
Q Let's take a look at 59566, please.
A Excuse me.
What number?
Q Should be --
MS. NIJMAN: Maybe you mean 49?
THE WITNESS: Did you mean 49566?
BY MS. CASSEL:
Q I'm sorry. 49566. I apologize. 49566. Yeah.
So this discusses the samples that were collected at Will County -- or some samples that were collected at Will County, right?
A It says "Will County," yes.
Q And these samples were analyzed using the same method we've been discussing, Method ASTM D3987-85?
A Yes.

Q Let's take a look at where the ash was sampled from, I believe 49569.
A Okay.
Q Do you know where on the Will County site this is taken from?
A I'm not sure. I don't know for sure.
Q I'm trying to see if it says the study area.
I know we don't -- it doesn't seem like we have a clear idea of where the study area is, but did you evaluate whether those samples that were taken by KPRG at Will County were representative of other fill at the Will County site?
A I remember looking at the leachate results. I don't remember looking at the actual sample descriptions other than knowing it was a bottom ash-type material.
Q So you didn't do a comparison specifically between that fill and fill elsewhere on the site?
A Yes. This is a very --
MS. NIJMAN: Objection. Misstates testimony.
The WITNESS: I'm sorry?
MS. CASSEL: Can you read back the question, please.

(The last question was read by the reporter.)
THE WITNESS: I don't recall.
BY MS. CASSEL:
Q Now, I don't believe you cited any comparable sampling of ash fill at Waukegan; is that correct?
A I believe that is correct.
Q Do you recall the former ash area at Waukegan that we were discussing earlier, west of the current ash ponds?
A I do recall that area.
Q Do you know if there's been any soil sampling or leach testing from that former ash area?
A I don't believe it's been done at Waukegan.
Q Have you seen any leach test data from Waukegan other than from that area?
A Not for the general ash fill area because, I believe, if you look at our table, there's no Waukegan data, if that's what you're talking about.
Q Okay. And there's no leach test data from elsewhere on the Waukegan site that you're aware of, right?
A Correct. I'm not aware of any other leach test data --
Q Okay.
A -- of ash outside the ponds.
Q Are there any leach data of anything other than ash outside of the ponds that you're aware of?
A I'm not aware of any leach test data.
Q Okay.
MS. NIJMAN: Outside the ponds.
THE WITNESS: Correct. Outside the ponds.
MS. CASSEL: Can you tell me how long we've been going for?
(A discussion was held off the record.)
MS. CASSEL: We can go back on the record, please.
BY MS. CASSEL:
Q Now, let's go back to the report, please. If you would turn to page 5.
So in the fourth bullet point down, the third black bullet point, you wrote, "It is my opinion that groundwater concentrations are not the result of leaks of leachate from the ash currently stored in lined ponds."
Do you see where you state that?

A Yes.
Q What does "groundwater concentrations" refer to?
A This is the concentrations of the analytes that were detected in groundwater that we've evaluated.
Q So all -- any constituent that was found in groundwater is what you mean by "groundwater concentrations"?
A Relative to the studies we've done to match what -- from the ponds and then the groundwater. That's what this is relative to.
Q I'm not sure I understand your answer.
When you reference groundwater concentrations, are you only discussing -- are you only referencing the concentrations of constituents that are above the standards, or no?
A It's just, in general, what was found in the groundwater.
Q Do you know when groundwater testing first was done at these four Midwest Generation plants?
A The data that I've seen, that I've used in my evaluations, the data that's been taken since around 2010, I didn't factor in any -- there might

have been some historical and some old documents I did not factor that in.
Q So your conclusions, look at the groundwater data starting since that was reported in 2010?
A Yes.
Q Did you evaluate whether the ponds could have been leaking before they were relined?
A Well, we looked at the data since 2010, and some of the ponds were lined in 2000 -- in the 2000s; in mid to like -- at Waukegan. And then at, I think, Joliet there are some ponds that were lined earlier.
When you look at the ponds from 2013, that part that I was looking at, this 2014 data, to see what was going on -- so when you look at that data in general -- just trying to prepare for this deposition, I wanted to understand, well, could there be, you know, a question like this that I'd want to refresh my memory because I've looked at all the data; and my opinion previously, in general, was that it's scattered. It's not like -- it's not a plume. It's not strong.
And so, in doing so, I looked at whether they're increasing or decreasing as an

indication of whether a pond could be leaking. And what I found was that some are increasing; some are decreasing; some are staying the same.
Q So do you have an opinion as to whether the ponds could have been leaking before they were relined?
A Again, it's a "coulda" question. I don't have the information to make a real good conclusion.
Q Well, you stated that some of the ponds were not relined until 2013, right?
A That's the data I looked -- I'm sorry.
Q Did you look at -- did you consider whether ponds that weren't relined prior to 2013 could be leaking?
MS. NIJMAN: Asked and answered.
THE WITNESS: I think, in general, they're -- again, some of the ponds are very old and the practices are very old. These ponds go back to -- some of them to 1978, and they have very different kinds of liners. I didn't -- I have no analytical data to make a conclusion as to whether or not they were leaking.
BY MS. CASSEL:
Q So you didn't come to a conclusion as to

that particular question?
A I did not. I did not have the data to make that conclusion.
Q Did you evaluate whether groundwater concentrations are the results of leaks of leachate from ash currently stored in unlined ponds?
A The analysis that we looked at is in my report, and I don't recall unlined pond being in the report. I was asked to look at the ponds addressed by the Compliance Commitment Agreements, and I don't believe there are data on the ponds that are unlined.
Q Did you evaluate, for example, groundwater concentrations in the area of Will County Ponds 1N and 1S?
A If there was groundwater monitoring wells in the area, then I did.
Q Did you come to any specific conclusions about whether the groundwater concentrations could have resulted from Ponds 1N and 1S at Waukegan?
A My conclusions are in the report, that there's no identified leakage from these ponds -- from the ponds.
Q I apologize. I just -- I'm noting that this is a part- -- I'm asking about this particular

statement which references, specifically, lined ponds.

And so I want a better understanding of what your conclusion was, if you came to one, about unlined ponds such as 1N or 1S.

A Well, when we looked at the data for what's in the ponds and we looked at the groundwater data, it included all the groundwater data, including that which is around the unlined ponds at Will.

So the answer is because the data set were included, indirectly we did -- or directly we did.

Q And so the basis of your indirect conclusion is the matching analysis, and the other things that we've discussed here today is the basis of a conclusion that they were not coming from -- that contaminants in the groundwater were not coming from the unlined pond?

MS. NIJMAN: Okay. I need to object to the terminology of "unlined ponds." The witness already said that they were lined, different liners.

THE WITNESS: What -- let me look at one thing. For 1 North and 1 South at Will --

BY MS. CASSEL:

Misstates the prior testimony that he just said 2 seconds ago.

THE WITNESS: The report addresses the groundwater conditions since 2010 in the pond areas.

BY MS. CASSEL:

Q So we talked a minute ago about geo- -- now I forget -- HDPE liners, correct?

A Yes.

Q And there are other types of liners, right?

A Yes.

Q Is Poz-O-Pac -- are you familiar with that term?

A Yes.

Q Can you tell me what Poz-O-Pac is.

A Poz-O-Pac is a product, a cementitious product, made out of a combination of pozzolanic fly ash, cement, some aggregate, and it hardens like a concrete.

Q When you say "a cementitious product," does that just mean it includes cement? Is that what you said is an ingredient?

A Yes. You can sometimes use lime, sometimes cement, but it hardens.

Q Hardens. Okay.

Q Well, let me quickly ask you a preliminary question. We can hold that question for a second.

When you say "stored in lined ponds," what type of liner are you referencing there on page 5 of your report?

A We were looking at the geomembrane-lined ponds.

Q So the HDPE --

A HDPE lined ponds.

Q Okay.

A As I also said, though, that the groundwater quality data, a reflective also from around 1N and 1S -- and although we didn't state it, specifically, the groundwater data from that area reflect the pond, lined or unlined.

Q Did you evaluate as part of your analysis whether groundwater concentrations are the results of leaks of leachate from ash formerly stored in the ash ponds?

A I did not make an evaluation other than what's in my report.

Q Is it a fair statement to say your report focuses on current liner conditions?

MS. NIJMAN: I'm going to object again.

And you said it was similar to concrete?

A It hardens like concrete.

Q Like concrete. Okay.

Did you evaluate the extent to which the conditions of the ash ponds and the ash pond liners before the ponds were relined with HDPE might have created a risk of leaking or leaching contaminants?

MS. NIJMAN: Asked and answered. As to the groundwater data, he's answered this question.

THE WITNESS: I've looked at the data that I had, that was available to me. I had the data available since 2010. So I would be able to evaluate the data from the ponds that were relined in 2013 and would have been lined previously as far as ongoing. I can't go back farther than that and look at other liners.

BY MS. CASSEL:

Q Okay. Let's take a look at a new exhibit.

(Seymour Deposition Exhibit No. 11 was marked for identification.)

BY MS. CASSEL:
Q If you would look at this exhibit that's been marked as Exhibit No. 11, Deposition Exhibit 11.
Can you tell me if you've seen this document before.
A It looks generally familiar, but I don't remember specifically. Can you tell me where it's from? It doesn't have any identifying source.
Q Well, it was produced to me by your counsel, so they would have a better idea of the source, potentially, than I would.
MS. NIJMAN: The only question, is it part of the report or is this the document the way it was produced to you?
MS. CASSEL: I believe this is the document the way it was produced to us.
MS. NIJMAN: Okay.
MS. CASSEL: I believe. And I apologize if I'm misstating, but I think that's the case.
MS. NIJMAN: The only question is, is it part of a report, and, if it is --
MS. CASSEL: Right.
MS. NIJMAN: -- then let me object to the use of it without the rest of the report.

MS. CASSEL: That's fair, and I'm happy -- to the extent it is part of another -- a larger report, I'm happy to, you know, re-mark the exhibits to have that accounted in evidence, but I don't -- I'm afraid I don't have it here.
BY MS. CASSEL:
Q I will note, if you see the bottom of each of the pages that have tables on them, do you know that it says "Last Revised" -- do you see where it says "Last Revised 12/20/05"?
A Yes.
Q Okay. So let's take a look quickly at the first table, which is Bates 27 -- excuse me -- 23723, Powerton.
Do you see where it shows the column for the Secondary Ash Settling Basin?
A Yes.
Q Do you see where it shows under the row "Liner Material," no liner there?
A Yes.
Q And do you see where it shows for "Liner Condition, if known" -- do you see where it says "Poor" for Ash Surge Basin?
A On the Ash Surge Basin, the liner

condition, it says "Poor." Yeah, I see it.
Q And then looking at the row about eight or so rows down -- more than that, that says "Contamination Potential," do you see that it says "High" for Ash Surge Basin, Secondary Ash Settling Basin, and Bypass Basin?
A Yes.
MS. NIJMAN: I want to put an objection into the record. We have located the document. It was attached to MWG13-15_23721.
MS. GALE: You mean 23.
THE WITNESS: Yes.
MS. NIJMAN: 23721.
MS. GALE: Oh, I'm sorry.
MS. NIJMAN: 23721.
MS. GALE: Sorry. Sorry.
MS. NIJMAN: 23721, a letter dated December 21st from 2005 from NRT to Maria Race, enclosing NRT's Surface Impoundment Matrix and Supporting Tech Memos 1 and 2 from Midwest Generation's Impoundment Liner Evaluation at the six generating stations.
And then it goes on with describing what this document is. So --

MS. CASSEL: I'm sorry.
Could you state what the date of the document was again.
MS. NIJMAN: December 21st of 2005.
MS. CASSEL: I apologize for not having the entirety of the document with us.
MS. NIJMAN: It also says "We envision further refinements to the Matrix and Ranking Analysis as you review the documents, with that qualification of these being draft preliminary documents."
You can ask questions.
MS. CASSEL: Well, why don't we -- let's see if we can get that document.
Can you note it down and we'll ask to see if Rob could possibly bring it over.
MS. BUGEL: Yeah.
MS. CASSEL: Thank you.
BY MS. CASSEL:
Q So do you disagree with the descriptions that we just looked at in this Impoundment Rate Matrix, that as of, apparently, December 20th [SIC], 2005, the condition of the liners -- excuse me -- of the liner of the Ash Surge Basin was poor?
A I have no basis to know. This data is

collected and presented by somebody else. I have no idea what it's based on.
Q Do you contend that the condition of the Ash Surge Basin liner at Powerton was not poor before it was relined in 2013?
A I didn't say that. I said I don't have any basis to change -- make an opinion.
Q I understand that.
I've asked you a separate question, which is, do you have any basis to contend -- or do you contend that the condition of the liner at the Ash Surge Basin was not poor before 2013? Do you contend that?
A I --
MS. NIJMAN: If you need to look at your -- the documents of the various reports of the pond condition.
I mean, the problem I'm having with -- and you can go off the record or on the record -- I don't care -- but the problem I'm having, Jenny, is that you're using an old draft document when, in fact, we know when ponds were relined, that they saw the Poz-O-Pac long after this.
So you're --

MS. CASSEL: All right. Well, let's --
MS. NIJMAN: -- raising issues that --
MS. CASSEL: I'm sorry. Like I said, we talked about --
MS. NIJMAN: -- trying to trick him with a draft document that he didn't even write.
MS. CASSEL: I'm not trying to trick anyone. This is -- speaking objections, really, we've had too many of them today.
MS. NIJMAN: That's why I said you can take it off the record if you want to. I'm not trying to make a speaking objection. What I'm saying is, you trying to trick the witness this way is inappropriate.
MS. CASSEL: I'm trying to understand what he understands and what he contends, and that's fully appropriate for an expert witness. So...
MS. NIJMAN: Yes. And then if he has to look at these documents, then he can do that.
BY MS. CASSEL:
Q If you have something you need to look at in terms of coming up with your answer, I'm happy to give you the time to look at that.
A I believe --

MS. NIJMAN: We need to go off.
THE WITNESS: Okay.
MS. CASSEL: Can we go off the record, please.
(After a short recess, the proceeding resumed as follows:)
MS. CASSEL: We can go back on the record.
I actually don't even know if there was a question pending. Can you let me know?
There was not. Okay.
BY MS. CASSEL:
Q So I believe we were talking about Powerton, and I was asking you if, recognizing that this document is obviously -- was drafted far before you got involved -- well, actually -- I'm sorry.
MS. CASSEL: Before I continue with that question, I want to state for the record in evaluating and noting the way that these documents were produced to us, this was actually produced as a separate PDF from the letter that you guys referenced before.
So I'm not stating that it was necessarily -- is a separate document, I'm just saying the way it was produced to us was as a

separate PDF.
MS. GALE: Hang on.
MS. NIJMAN: Actually, no.
MS. GALE: It was a produced in the boxes that you guys chose. The company you chose separated it.
MS. CASSEL: Okay. That could be true.
MS. GALE: Well, no, I can tell you --
MS. NIJMAN: It is true.
MS. CASSEL: I was on maternity leave at the time, so fair statement.
Okay. So we'll acknowledge that this was attached to that letter.
BY MS. CASSEL:
Q Now, back to the question.
So I was asking you if you contend that the condition of the liner of the Ash Surge Basin at Powerton was not poor before that basin was relined in 2013?
MS. NIJMAN: And I'm going to object to this whole line of questioning.
To the extent you can remember --
BY MS. CASSEL:
Q To the extent you have -- you remember.
MS. NIJMAN: -- because this report should tell

you basically nothing about it.
MS. CASSEL: Okay, Jennifer, please. Really, the testimony needs to be the witness's. This is getting old.
MS. NIJMAN: And it can be.
MS. CASSEL: I've asked him a question.
MS. NIJMAN: And I'm objecting to the entire line based on this incomplete document.
THE WITNESS: My recollection, as I sit here today, is that at Powerton -- and I apologize. Sometimes when the negative or double negatives come in, it can be somewhat confusing in conversation -- there's a deposition that I just reread yesterday from Mark Kelly saying that the Poz-O-Pac was in great condition at Powerton.
BY MS. CASSEL:
Q Okay. So wait.
So are you relying on that deposition transcript to say that it was, in fact, not in poor condition prior to relining in 2013?
A Well, first of all, that was not an opinion in my report. I'm saying --
Q I'm not asking necessarily about opinions in your report, I'm asking about your opinions today.

A I'm saying that that, I would rely on to be that it was in good condition.
Q Okay. Now, do you have any other basis for saying, as we sit here today, that the liner of the Ash Surge Basin was not in poor condition prior to being relined in 2013?
A I don't recall anything else I would have relied on.
Q Now, let's look at the next portion of this impoundment matrix, which references Will County. So this is Bates 23725.
Do you show where it references the impoundment ID of South Impoundment -- South Ash Impoundment 3, South Ash Impoundment 2, South Ash Impoundment 1, and North Ash Impoundment at the top?
A I see that.
Q Do you see where -- the row that says "Liner Constructed in," it states "1977" for all four of those impoundments.
A Yes.
Q And then do you see just above that date line, under the row "Liner Condition, if known," where it states "Poor" --
A I see that.

Q -- for each of those liners? Okay.
A Yes.
Q South Ash Impoundment 1 and North Ash Impoundment have not been relined with HDPE, correct?
A South Imp- -- I'm sorry. South Impoundment --
Q Ash Impoundment 1.
A 1.
Q So 1 South and 1 North.
A I believe they were taken out of service. They were not relined.
Q Not relined with HDPE?
A That's what I recall. Let me look at my report for Will.
Q Okay.
A Okay.
Q You're all set? Okay.
Now, do you disagree that the liners for these two impoundments were in poor condition when this document was created?
MS. NIJMAN: Objection as to anything scope -- to the scope of this document.
THE WITNESS: My understanding of this document when you view it in its entirety, it was a document

that was done as a general assessment of the pond conditions. And I don't know if any of this -- or how this data was verified to be true or not true. I don't know that. Okay? I wasn't there.
I know there were some other depositions and other reports as to the conditions, for example, when the ponds were relined, that looked at the condition of the Poz-O-Pac as to whether it would be a suitable subgrade or not; but I honestly don't recall all the different ponds as to, at that time, whether it was acceptable or not acceptable. I'm focusing on it's been relined. Whatever the condition was before, it's been relined.
BY MS. CASSEL:
Q Okay. And so -- but, obviously, I'm asking you questions about prior to relining or for the ones that haven't been relined, those ponds.
So now, I understand you don't have a basis to contest this one way or the other for the time that it was written, do you contend that the liners for 1 South and 1 North, which do not have HDPE, as we discussed, are in good condition?
A I have no opinion. I don't know.
Q Okay.

MS. NIJMAN: Well, I'm going to, again, object. Misstates prior testimony. Where you just said there are depositions out there, you don't have them in front of you.
BY MS. CASSEL:
Q Now, do you have any opinion as to the conditions of those two liners for impoundment -- 1 South and 1 North at Will County right now?
A Currently?
Q Uh-huh.
A The lined ponds, I've seen it in my report that we don't have evidence that they are leaking. I have not -- and I've looked -- all I've looked --
Q So I've asked you about the condition of the liner in 1N and 1S.
A Oh, excuse me. Thank you.
Q I apologize.
A I --
Q Do you have any opinion about that?
A I don't have an opinion about 1 North and 1 South.
Q Do you contend that the condition of the liners in Will County ash ponds 2 South and 3 South were not poor before they were relined in 2009 and

2013?
MS. NIJMAN: Same objection.
To the extent you can recall as you sit here right now.
THE WITNESS: I think I've answered that for these ponds, that I -- there is other information out there that states what the condition was when they were relined and where they are now. I don't recall the conditions of all the ponds at Will at the time they were relined.
BY MS. CASSEL:
Q Do you know what any of those other documents are --
MS. NIJMAN: Asked and answered.
BY MS. CASSEL:
Q -- that you can tell me that would reference the condition of the ponds before they were relined that you relied on?
A I do know that it was in some various correspondence or e-mails and could have been in some Inspection Reports, but I don't specifically remember. I do know that there were some conclusions as to whether or not it was in good condition, needed to be removed or not, but I don't remember

specifically which pond. But they were all not in poor condition, some were in very good condition.
Q Okay. And -- but you can't -- would that be in your report? Would you specifically note in your report, documents that state that the condition of the Poz-O-Pac at these -- or the lack of liner altogether, if that was ever the case, were it not in poor condition?
A As I stated, I don't have an opinion in my report to that -- to the condition of the Poz-O-Pac or the previous liners.
Q And you can't point me to specific documents right now that --
MS. NIJMAN: Other than the depositions.
BY MS. CASSEL:
Q -- provide the basis for the -- other than the one that you just referenced, the Mark Kelly deposition for Powerton?
A That is the one specific that I recall, but, again, there are so many documents.
Q Okay.
A And if you have one that you can show me, then I'd be glad to look at it.
Q Did you take this impoundment matrix into

consideration in evaluating whether that -- the Poz-O-Pac or subgrade of the ash ponds was in good condition prior to them being relined?
MS. NIJMAN: Same objection to the use of this document.
THE WITNESS: I did not take that document into consideration for anything other than a historical account of what had been there and the dimensions and when they were constructed. I did not take the condition of the ponds into consideration for my evaluation.
As I said, I cannot verify how they identified the conditions of the ponds.
BY MS. CASSEL:
Q Did you look at any other documents that you recall that involved pictures of the ponds that would show what condition those ponds were in --
MS. NIJMAN: Asked and answered.
BY MS. CASSEL:
Q -- prior to being relined?
MS. NIJMAN: Asked and answered. He's talked about depositions, he's talked about his report, and he said he can't recall anything else.
I mean, what else do you want him to

say.
THE WITNESS: Well, I've --
MS. NIJMAN: If you can think of other documents as you sit here, you can answer the question.
THE WITNESS: I think -- I'm sorry.
Brad, can you please restate the question.
(The last question was read by the reporter.)
THE WITNESS: Again, what my opinion is is my opinion. I looked at a lot of documents. At the time -- and at the time this opinion was written, I believe I've answered the question. I don't have other specific documents. My concern was not the condition of the ponds prior to relining. I did not evaluate them. I have no basis to evaluate them.
BY MS. CASSEL:
Q Okay. Let's move on. Let's move back to page 6 of your report.
So near the top of that page, under the bullet "Historical ash and fill materials outside of the ponds is not a source and is not a risk to human health and environment," you have a sub-bullet

saying, quote, Ash generated by coal combustion may be classified as CCB." And then describe several conditions -- or conditions for that?
Can you tell me if IEPA has classified the historical ash in fill materials outside the ponds as beneficial use.
A The process is that the person who wants to beneficially reuse the ash does the examination. I do not believe the Illinois EPA -- I don't recall whether the IEPA approves it or not.
Q So you don't -- do you know whether they have, in fact, classified that ash as beneficial use?
A I don't believe it's in the -- required by the process.
Q But that's not my question.
I'm asking you if IEPA has classified it to your knowledge --
MS. NIJMAN: Asked and answered.
BY MS. CASSEL:
Q -- as CCB?
A The answer is I don't believe they have.
Q Okay.
MS. NIJMAN: Because it's not part of the process. Finish your answer.

THE WITNESS: Because it's not part of the process.
MS. CASSEL: The answer can be discerned from his answers. This is getting a little out of hand here.
MS. NIJMAN: Yes.
BY MS. CASSEL:
Q How does the classification as beneficial use affect the potential for coal ash for leach contaminants.
A Well, as a beneficial reuse, it's an evaluation as to whether you should be allowed to do it or not. And so those -- if it's allowed to be beneficially reused, for example, as structural fill or road fill, you'd say that it has a low potential for leaching.
Q Does the classification as beneficial use change in in any way the chemical or physical properties of the coal ash so designated?
A The classification doesn't change the properties. The classification just means that if it meets the criteria, then you can beneficially reuse it.
If not, you could, for example, have

to deal with TACO regulations as to whether or not they meet those rules. But, in general, being more specific -- excuse me -- to be more specific, it doesn't -- it's a process that which -- whether you can reuse it or not in the environment.
Q But it doesn't actually change the properties in any way of beneficial reuse?
Does ash that has -- that's been classified as beneficial reuse have different chemical properties than ash that has not been so?
MS. NIJMAN: Specifically asked and answered. You can ask Brad to read that back. I'm telling him to stop answering these questions that you keep asking four or five times now.
MS. CASSEL: That's fine. If you don't want to answer that question, I can move on. I think I understand the answer to that. I'm just trying to clarify it in my head.
Let's see, what did I miss?
BY MS. CASSEL:
Q Okay. Now, I want to talk a little more about liners, generally.
In your opinion, what would you expect to happen to an HDPE liner if the base on which that

liner's placed is not smooth?
MS. NIJMAN: Object to breadth.
THE WITNESS: Well, if you have a liner that's placed, a subgrade that's not smooth, that would normally not be in accordance with a design specification. You'd expect it to be built in accordance with the design specification, which prescribes the base -- the subgrade below the HDPE.
BY MS. CASSEL:
Q And who -- I'm sorry. Was that answer complete?
A And so -- yes, for now.
You have a follow-up question?
Q Yeah. Just you said "a design specification."
Where does that design specification come from?
A Well, the engineer. And, for example, NRT, for the relining, they have specifications that they followed that said what the bottom subgrade should be. And, as you probably know, they use a cushion for areas that had a rougher subgrade.
Q So what is the -- why would you not want a liner to be placed on an area that's not smooth?

A Well, you would only do that, again, if you had a cushion to protect it. You wouldn't put it on a subgrade that is not smooth that -- in accordance with a specification.
Q Why not?
A Because if you have an uneven subgrade and you load the geomembrane, the protrusions can cause punctures of the geomembrane.
Q When you say "load the geomembrane," what does that mean?
A When you apply the soils and the way ash and everything else -- it adds a load, a pressure. You put a pressure on the geomembrane --
Q Okay.
A -- based on weight.
Q And the geomembrane, that is -- when you refer to "geomembrane," are you saying the same thing as HDPE liner?
A Yes, excuse me. HDPE liner is a -- geomembrane's the general term.
Q Okay.
A HDPE liner is specific.
Q In your opinion, would the placement of geomembrane or HDPE liner on cracked Poz-O-Pac be

good engineering practice?
MS. NIJMAN: Objection. Assumes facts.
THE WITNESS: Hypothe- --
MS. NIJMAN: Are you asking generally?
BY MS. CASSEL:
Q You can answer the question, if you understand it.
MS. NIJMAN: If you understand it.
THE WITNESS: Hypothetically, if you have a Poz-O-Pac liner with a crack in it but it still remains smooth, that would be an acceptable subgrade by the specification.
BY MS. CASSEL:
Q Okay. So if it does have -- if it's smooth but it has a crack, that would be acceptable?
A Correct.
Q Okay.
A If it's smooth and it is uneven, then you -- and, again, you have a criteria for that -- then you'd have to either remove the bump, if you will, to make it smooth -- but if it's cracked and still smooth, it would be acceptable.
Q So unevenness is also a problem.
You wouldn't want that as a subgrade

characteristic?
A You want to avoid sharp -- sharpness. And so if it's a sharp edge or a protrusion, you want to avoid the potential for puncture.
Q Could limestone create sharp edges?
A On what?
Q If you were to place a geomembrane on top of limestone, could that potentially create a jagged edge that could damage the liner?
A Well, now you're speaking in hypothetical. In my practice, my feeling and my many years of practice you would not put a geomembrane or HDPE liner on top of limestone. You'd want to have it smooth, without protrusions, without particles larger than approximately three-quarters of a -- three-eighths to three-quarters of an inch, depending on the geomembrane. You would not put it on a sharp edge of a rock.
Q Have you evaluated whether limestone layers -- I believe it was the warning layer at a number of these ponds -- could migrate down through the cushion layer to the geomembrane at the Midwest Generation ponds?
A I have not previously analyzed that at all.

Q Do you know if any analysis has been done of that question?
A I don't remember if there's been an analysis.
Q Would you expect there to be leaching in an uncovered pond without an HDPE or geomembrane liner?
A Did you say "uncovered pond"?
Q Yes, I did.
MS. NIJMAN: Object to overbreadth.
THE WITNESS: I'm sorry. Read the question.
(The last question was read by the reporter.)
MS. NIJMAN: Object to the overbreadth of the hypothetical.
THE WITNESS: So are you saying that if you have a pond that's not covered and you have rainfall falling on it, will there be leaching of the constituents from the ash if there is no bottom liner?
BY MS. CASSEL:
Q Correct.
Although, I'm asking specifically in this case if there's no HDPE liner.
A Well, either -- if you have a HDPE or don't

have a HDPE, that is the process, that water will move through the ash and will mobilize the ash.
The question is does it go anywhere, does it get out. If it's not contained, then it will get out.
Q And if you don't have an HDPE liner, in your opinion, will it get out?
A Absent appropriate subgrade or appropriate other liner. I'm assuming if there's no liner and the subgrade is not low-permeability clay, then it will get out --
Q Okay.
A -- will leach out.
Q If Poz-O-Pac is the liner of an uncovered pond and that Poz-O-Pac is cracked, would that lead to leaching in your opinion?
MS. NIJMAN: Same objection to the overbreadth of a hypothetical.
THE WITNESS: If any liner is not intact and it's put under a hydraulic load like from liquids, it will push the liquids through the cracks if there's no subgrade that's appropriate that would contain it.
BY MS. CASSEL:
Q Looking quickly at page 54 of your

report -- let me see if I can find this.
In the first bullet point near the bottom of that page, you state that, "The liner subgrades were inspected for sharp surfaces prior to installation of the HDPE liner, and protective geotextile was installed below the HDPE liners to avoid the potential for puncture."
Do you see that?
A Yes.
Q Was geotextile installed beneath all the HDPE liners, at all of the ponds for Midwest Generation?
MS. NIJMAN: If you need to look to answer.
THE WITNESS: No, that's okay.
When we put together the Figures 5.1 through whatever it is when we looked at the ponds, it says whether they do or do not have a cushion below it or not. And my recollection is that --
BY MS. CASSEL:
Q Is a cushion the same thing as a geotextile?
A Yes. Let me clarify.
A geotextile is a fabric that is used as a cushion between the geomembrane -- HDPE and the

subgrade. And, from my recollection, Waukegan did not use a bottom cushion, but they also had a smooth prepared subgrade below it, so a cushion was not required.
Q So they did not have a geotextile beneath Waukegan?
A Yes.
Q And it's --
MS. NIJMAN: With your qualification.
BY MS. CASSEL:
Q It's also correct that there was not a geotextile installed beneath Will County Pond 3S, correct?
A I can check. The drawing I have is for Pond 3 for Will County, and it shows Poz-O-Pac in the bottom and a cushion on top of the Poz-O-Pac and below the HDPE.
Q Okay. So there is a cushion.
Is that a geotextile cushion?
A Yes. It's a 16-ounce nonwoven geotextile that acts as a cushion.
Q And what are you referencing right there?
A Figure 5-11 from my report.
Q What is a GeoCell? Do you know what that

is?
A A GeoCell, if you can envision a honeycomb, that is like one layer of honeycomb. It's made out of plastic. It expands like an accordion into these cells that are like square -- or quasi-square, rounded edges. And it's used when you -- to stabilize a grade.
In the case of Will, they actually had one area where they laid it on the grade and then they filled it with -- I believe they filled it with either grout or concrete.
Q So a GeoCell is not the same thing as a geotextile?
A Correct.
Q Okay. Did you inspect the Poz-O-Pac liners or underlying soil base underneath the geotextiles at the Midwest Generation ponds?
A Did I inspect it?
Q Uh-huh.
A I did not. My recollection is that when I visited the site, they were underwater.
Q And -- just correct me if I'm wrong, I believe you testified earlier -- well, correct me if I'm wrong.

Did you review photos of the Poz-O-Pac or soil underneath the HDPE liners?
A There are a series of photographs that I looked at, and I'm -- the ones I recall looking at was basically when they were being removed. I don't remember looking at photographs of intact Poz-O-Pac.
Q Was all of the Poz-O-Pac removed at the sites, to your knowledge?
A To my knowledge, they were not all removed.
Q So were there any ponds in which it was all removed?
A I believe so, if I remember right. Let me check. I'm trying to recall whether Waukegan -- I think they had originally Poz-O-Pac.
No. I apologize. I don't think Waukegan had Poz-O-Pac. But if you look at my drawings that we prepared, it tells you where the Poz-O-Pac remains.
Q Okay. I'm sorry. So can you --
A Each of these drawings, Drawing 5-1 from my report --
Q And this is your initial report, correct?
A Yes. And Figure 5-2 --
MS. NIJMAN: There's only one report.

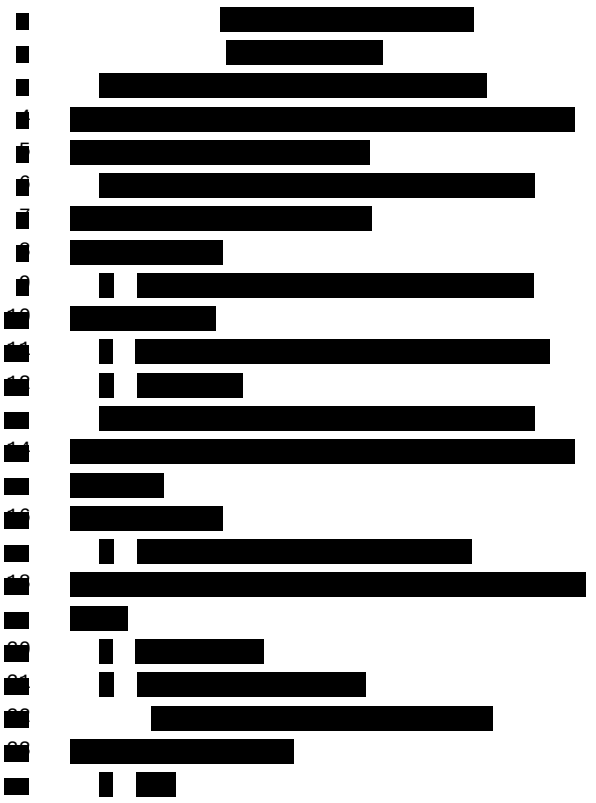
THE WITNESS: -- Figure 5-3, Figure 5-4 all have Poz-O-Pac, and that covers Joliet and Powerton with the exception of Figure 5-5, which is the secondary Ash Settling Basin where there is no Poz-O-Pac.
BY MS. CASSEL:
Q Okay. I'm sorry.
So based on these figures that you're referencing, there was Poz-O-Pac that was left under the ash pond, one at Joliet, based on Figure 5-1, correct?
A Correct.
Q There was also Poz-O-Pac left under Joliet Ash Pond 2?
A Figure 5-2, yes.
Q Figure 5-2.
Figure 5-3 shows Poz-O-Pac left under Joliet Ash Pond 3?
A Yes.
Q Okay. Poz-O-Pac was left under the Ash Surge Basin at Powerton based on Figure 5-4?
A Yes.
Q None at the Ash Settling Basin.
Is that because there had never been a

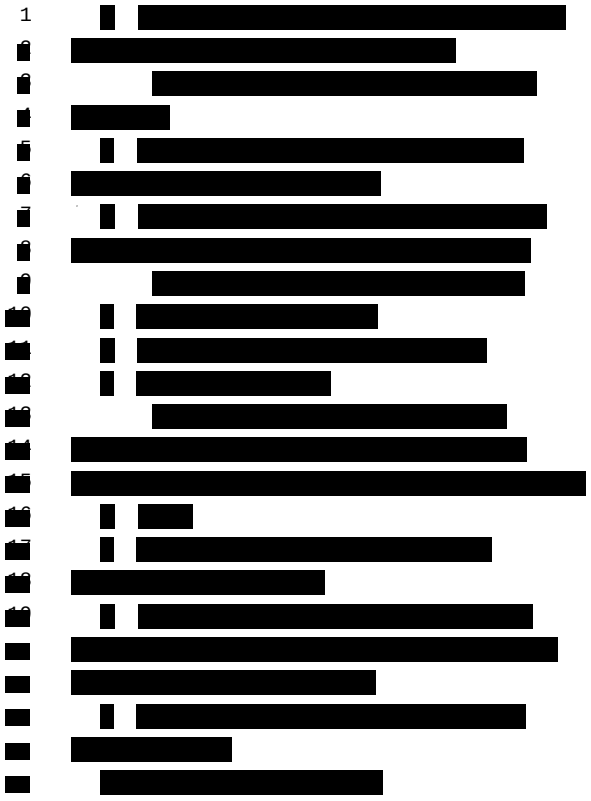
Poz-O-Pac liner there?
A I'd have to look at my list that I made as to whether it had Poz-O-Pac before.
Q Okay.
A And this is Powerton to compare the chart.
Yeah, it did not have Poz-O-Pac before.
Q The Ash Settling Basin?
A The secondary Ash Settling Basin.
Q Secondary. Thank you.
A It had a Hypalon liner. It did not have Poz-O-Pac.
Q Okay. And this is shown in Figure 5-5 -- excuse me. There was Poz-O-Pac that remained under the metal cleaning basin at Powerton based on Figure 5-6, correct?
A Yes.
Q There was also Poz-O-Pac that remained under the Powerton ash bypass basin based on Figure 5-7?
A Yes.
Q This one's a little different here.
So no Poz-O-Pac at Waukegan?
A Correct.

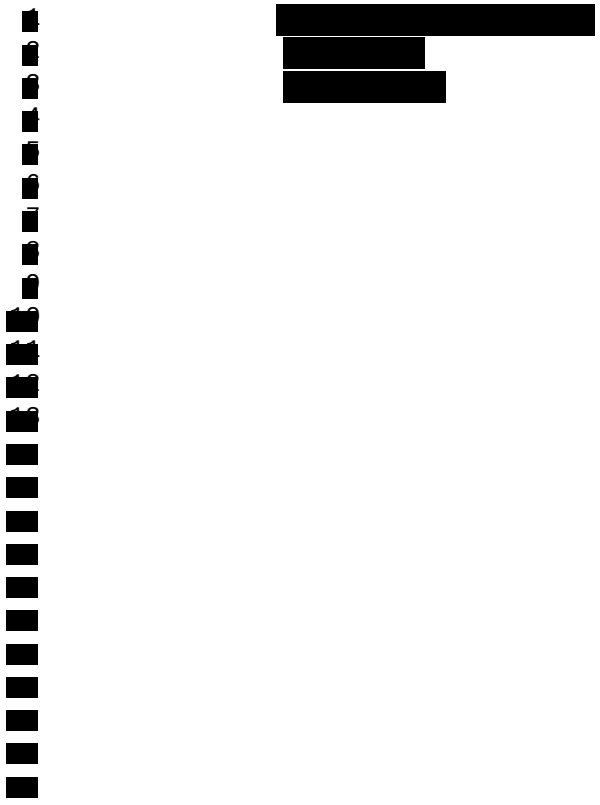
Q And then there is 2.5 feet of Poz-O-Pac that was left under Will County 2 South based on Figure 5-10, correct?
A Yes, South Ash Pond 2. Yes.
Q Okay. And same thing for South Ash Pond 3 --
A Yes.
Q -- based on 5-11?
Okay. Appreciate that. That helps clarify.
Obviously we looked at this impoundment matrix, and I know you referenced other deposition testimony, other documents.
Do you have a specific recollection right now as to specific reports that you reviewed that talked about the condition of the Poz-O-Pac before the liners were placed on -- the HDPE liners were placed on top?
MS. NIJMAN: Again, asked and answered, now, probably four times.
THE WITNESS: Yeah. I did answer the question earlier. I don't want to have to keep --
BY MS. CASSEL:
Q You don't have specific recollection right

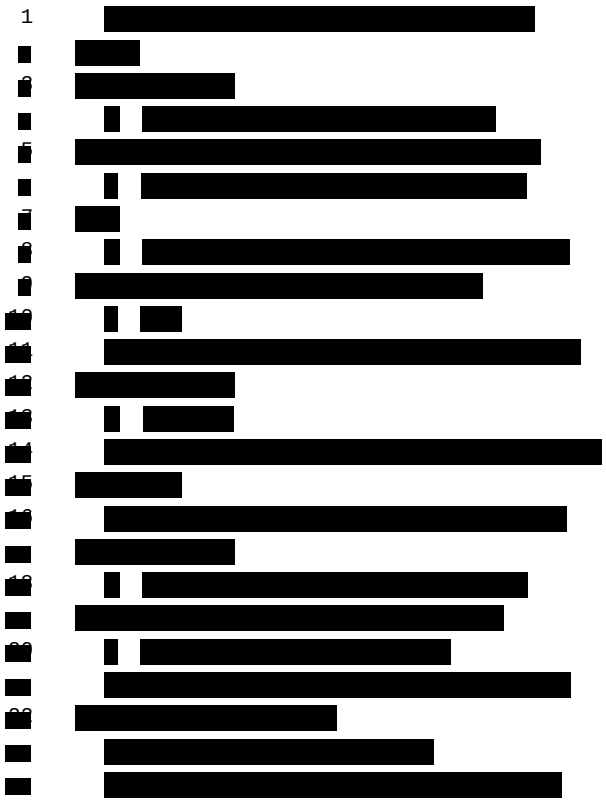
now?
A I do not, not specific of a report.
Q Okay. That's fine. I will stop.
Okay. Now, let's look at page 4 of your report. See under the very last bullet point -- do you see where you state, "All of the active ponds were relined to eliminate a potential exposure pathway"?
A Yes.
Q What is an active pond?
A The active ponds are the ones that at the time they wanted to consider re- -- continue to use. Other ponds they took out of service.
Q Do you know which ponds -- well, let me ask it the other way.
Do you know, were there any ash ponds that were not relined with HDPE?
A The ponds that were relined with HDPE were done in accordance with both the CCAs, the Compliance Commitment Agreements, and previous maintenance activities. The only ponds that I'm aware of off the -- was, as we've discussed earlier, at Will. The 1 North and 1 South were not relined because they were taken out of service.

Q Are you familiar with the former ash basin, which is also known as the old ash basin at Powerton?
A Yes.
Q Do you know if that basin was relined?
A It was not relined.
Q Let's --
MS. CASSEL: This is the massive questionnaire, Steam Electric Questionnaire.
MS. NIJMAN: Do you want to go to a confidential portion of the record?
MS. CASSEL: This is confidential. Okay. So we'll go confidential right here.
(Whereupon the following is confidential:)









(Whereupon the following
is no longer
confidential.)

MS. CASSEL: Can you mark this as the next deposition exhibit.

(Seymour Deposition
Exhibit No. 12 was marked
for identification.)

MS. CASSEL: Okay. If you could turn, please, to page 51 and 52.

And quickly, before we get there, are you familiar with this document, sir?

A Yes.

Q Let's look at page 51 and 52.

A Let me confirm that this is the Mark Kelly deposition, and it's the only deposition that he's provided, I believe.

Q I believe that's correct.

A Then this is the one I'm familiar with.

Q Okay. I apologize. Let me just get this clear. Look on -- please, direct your attention to page 52.

Do you see where the testimony is this:

"Question: Has water ever gotten to the former ash basin from the Ash Surge Basin by any conveyance at all?

Answer: Yes.

Question: How did that happen?

Answer: There's an overflow."

And then a few lines down, it says:

"Question: Do you remember the last time it might have happened?

Answer: Recently. The past couple weeks it happened once."

Do you see that testimony?

A I do.

Q Does that -- were you aware of that information, sir?

A Yes.

Q Does that change your opinion in any way about the extent to which these ash ponds were active at the time of your report?

A Again, when I said "active," maybe I should have clarified that we looked at those ponds that were active in the CCA that required relining. We did not look at the ash -- this Ash Surge Basin, the old ash basin. We did not look at it.

MS. NIJMAN: Except this was dead.

BY MS. CASSEL:

Q Well, can I ask, have you evaluated whether any of the ash ponds at Waukegan, Joliet 29, Powerton, or Will County are underlying -- underlain by at least 2 feet of compacted soil with a hydraulic conductivity of no more than 1 times 10 to the negative 7 centimeters per second?

A My understanding is that they do not have a compacted clay liner of low permeability as you have asked.

And to clarify my last question, they only -- for Powerton, the only way we looked at it was to look at the groundwater quality monitoring data. We did not look at this pond lining.

Q Okay. So -- I'm sorry -- you said your understanding is the ponds, the Midwest Generation ponds that we're discussing, do not have liners with the permeability that I mentioned?

A Correct.

Q What is the basis for your statement?

A That -- the records that we've researched and what has been indicated to us and the -- what I have documented in my report on the figures we just

went through? There's been no report of a compacted clay liner of low permeability as you've requested.

Q Okay. I said "compacted soil," just to be clear.

Do you know about compacted soil with that particular hydraulic conductivity under the liners at the ash ponds?

A I apologize. The only soil that is that low of permeability is clay. It's the same. I'm sorry.

Q Thank you for clarifying.

Okay. And have you evaluated whether any of the ash ponds at Waukegan, Joliet, Powerton, or Will County is underlain by a lower component, which is not a geomembrane and has a liquid flow rate no greater than the liquid flow rate of the clay with the conductivity we just mentioned, the 1 times 10 to the negative 7 centimeters per second?

MS. NIJMAN: Objection to the form of the question and to foundation.

If you can answer the question, you can.

THE WITNESS: Re-read the question, Brad.

MS. CASSEL: I can re-read it.

BY MS. CASSEL:

Q Have you evaluated whether any of the ash ponds at Waukegan, Joliet 29, Powerton, or Will County is underlain by any lower component, which is not a geomembrane, that has a hydraulic conductivity of no more than one by [SIC] 10 to the negative 7 centimeters per second?

A They're -- it's basically the same question, I believe, that the --

Q It isn't. I'm sorry.

I had asked soil before, and now I'm asking if there's a different lower component.

A There is no different lower component other than the Poz-O-Pac, which has a lower permeability, but I don't know if it meets the criterion that you spec- -- requested.

Q Okay. So you haven't specifically evaluated the permeability of the Poz-O-Pac?

A Correct.

Q Okay.

MS. CASSEL: We'll look at that in a second.

BY MS. CASSEL:

Q Let's take a quick look at -- well, would you expect Poz-O-Pac liners that are all 30 plus

years old, as we understand it, to have the permeability of 10 to the negative 7 centimeters per second?

MS. NIJMAN: Object to foundation.

And you can answer, if you can.

THE WITNESS: I believe I've answered the question that I've not looked at the permeability. So I can't tell you whether it meets the low permeability criterion you just mentioned.

BY MS. CASSEL:

Q Right. You said you hadn't actually evaluated that.

But I'm asking whether you think, based on your experience, that 30-year-old-plus Poz-O-Pac layers would have that permeability?

MS. NIJMAN: Foundation. Calls for speculation.

THE WITNESS: My opinion is that if it's intact, it's going to have a low permeability. I don't know how low. If it has been under water, hydrated, protected, if you will, by overlying layers, it would have a low permeability. I don't know how low it would be.

BY MS. CASSEL:

Q Okay. On page 55 of your report -- can you go ahead and look at that again.

A Okay.

Q Let's see. The last sentence of the bullet point near the bottom of the page, the bullet point that begins with "Periodic dredging of settled bottom ash," the last sentence of that, you say, "Based on my review of the --"

A You skipped -- excuse me.

Q I apologize.

A Where is it again?

Q The periodic review. So the sentence at the end of that bullet point says, "Based on my review of the O&M documentation, damage at the HDPE liner below the water level during dredging has not been observed at any ash pond."

Do you see where you write that?

A Yes.

Q Okay. Coal ash is not placed directly on top of the HDPE layers -- liners -- excuse me -- at the ponds that have those liners, correct?

A My understanding of the operation is that it's sloughed into the pond and that it's liquid

dispersant. It's not -- that's how it's placed.

Q But it's not placed directly on top of the liner, correct? There's something else between the liner and that ash?

A For the bottom, they have a protective layer, but on the sides the ash settles on top of the HDPE.

Q Okay. So on the sides, it is directly on top of the liner, but on the bottom, there are cushion warning new layers, right?

A Yes.

Q When coal ash is dredged from the ponds, the bottom of the ponds, the operators don't dredge through that cushion and warning layer, correct?

A My understanding from the deposition is that they do not.

Q Okay. Is it possible to observe --

A Excuse me. We also had follow-up conversation with notes with the different operators. Those notes were provided to you. I don't think it was the depositions, I think it was the notes that we asked them specifically that question as to how they were -- the ash was removed.

Q Is it possible to observe tears or holes in

portions of the liner that remain beneath the cushion or warning layer during dredging?

A It's not possible.

Q You also state in your report, page 56, if you would look at the next page, quote -- this is the first bullet point on that page, the last sentence -- The only tear that was potentially below the water line occurred when no water was in the ash pond and was repaired prior to refilling water to the level in that ash pond.

Do you see that?

A Yes.

MS. CASSEL: Okay. Can you give me the next exhibit, please.

If you could mark this please, sir.

(Seymour Deposition Exhibit No. 13 was marked for identification.)

MS. CASSEL: Thank you.

BY MS. CASSEL:

Q If you take a look at this document, please. It's been marked Deposition Exhibit No. 13; is that correct? 13. Okay.

Once you've had a minute to review,

can you let me know if you've seen this document before, sir.
A I'm familiar with this.
Q Okay. Is this the tear that's referenced in this e-mail, the tear that you refer to in your report as the only tear potentially below the water line?
A I believe so, yes.
Q Did you conduct any evaluation of when this tear occurred?
A There's this message, and I believe there's some follow-up e-mails that clarify when it occurred and also when it was repaired.
Q Did you do any evaluation of how it occurred, the reason for it?
A Only to the extent of what was reported in this e-mail.
Q Did you investigate at all whether it rained on this portion of Pond 3S at Will County with the tear -- the torn liner during the time it was torn?
A I did not, recognizing that this appears to be on the side, on the slope. But -- so I did not evaluate whether there was rain or not.

Q Okay. Did you evaluate at all whether groundwater seeped up into pond 3S at Will County when the liner was torn up?
MS. NIJMAN: I'm sorry. Groundwater?
THE WITNESS: Did you say groundwater?
BY MS. CASSEL:
Q I did.
A Not at this time.
Q You didn't do --
A I mean, I did not specifically do it regarding this event of this tear.
Q Okay. Let's look -- a quick look at the next exhibit, please.
(Seymour Deposition Exhibit No. 14 was marked for identification.)
BY MS. CASSEL:
Q Please take a look at what's been marked as Deposition Exhibit 14. Once you've done that, please let me know if you've seen it before.
A I've seen this before.
Q Okay. Do you see where it says the location is 3S Ash Ponds --
A Yes, I see that.

Q -- Will County, dated October 1st, 2009, correct?
A Yes.
Q Do you see where it says "Water seeping through cracks in 2nd p-o-p layer"?
A Yes.
Q Does that refer to Poz-O-Pac in your understanding?
A I believe so, yes.
Q Do you have any basis to contend that water seeped up through cracks in the Poz-O-Pac layer in Pond 3S in 2009?
A I've looked at this and other documentation, including Rebecca Maddox's (phonetic) deposition, and I have -- I don't know why this water is there. I don't have an opinion that I've researched. I don't even know at this point whether or not that tear was -- how close it was to the groundwater table, so I couldn't say.
Q So you didn't evaluate a specific -- or you don't have a specific opinion as to where that water came from?
A That's correct.
Q Do you have any -- you don't have any

specific basis to contest Ms. Maddox' description here?
A It's her eyewitness account. I have no basis to countermand it.
MS. NIJMAN: We don't know if it's an eyewitness account.
MS. CASSEL: Okay.
MS. NIJMAN: It's what's in this document.
BY MS. CASSEL:
Q Moving to page -- looking back at page 7 of your report, you state at the top -- wait till you get there. It's the first bullet point.
A Okay.
Q Do you see where you state, "The ash ponds do not need to be removed because they are for wastewater treatment purposes and are not landfills for permanent ash disposal"?
A I see that.
Q Can you explain how the pond's purpose affects the likelihood of groundwater contamination from that pond?
A I'm not sure the connection with your question with this bullet.
Q Is there any -- why did you state that the

ash ponds do not need to be removed because they are for ash wastewater purposes and not landfills?

A Well, I believe that part of a complaint was that the material was being placed there as a landfill. And my comment is that it's not a landfill, it's a wastewater treatment pond.

Q And does the purpose for which it is being used determine whether or not the ponds need to be removed to address groundwater contamination there?

A At this point I'd say that the purpose, whether it be wastewater or landfill, they would have similar -- the liners would function similarly. And I would say that neither one would have to be removed based on the information we have right now.

And I do believe that this is specifically in response to a claim that it had to be removed because it was used for ash disposal, and the comment is it's not. It's a wastewater treatment pond.

Q I see.

Okay. Can you tell me, are unfilled landfills for permanent ash -- excuse me. Unlined landfills for permanent ash disposal, is that a safe disposal practice in your opinion?

MS. NIJMAN: I'm sorry. Is this referring to the report again?

MS. CASSEL: It's not.

MS. NIJMAN: Oh. Objection to overbreadth and foundation.

THE WITNESS: The current practice that has evolved over the years is that when you place waste, you have it contained in some form or fashion.

BY MS. CASSEL:

Q So unlined landfills are uncontained, is that correct, as you reference them?

A Unlined landfills can be contained in two ways. They can be covered, for example, if they're closed, and that provides containment. They don't have to be lined per se.

For example, U.S. EPA, in their rulemaking, looked at landfills versus ponds. Where you have a landfill that exists, like a CCR landfill onsite, inactive, not lined, there's no action being taken for it.

So it's many different circumstances, but I can say that the normal technology's to contain it. But it can be contained by covering. It doesn't have to be lined.

Q Is there any circumstances in which containing it by covering it won't actually prevent continued groundwater contamination?

A You're getting into --

MS. NIJMAN: Overbroad. Hypothetical.

THE WITNESS: I'll use the --

MS. NIJMAN: Foundation.

THE WITNESS: -- schoolroom here -- the classroom. It's very broad, and so I don't know --

BY MS. CASSEL:

Q So what circumstances -- are there any circumstances under which that could be the case, that it would not be a safe disposal practice to simply cap a landfill without having a liner under it?

MS. NIJMAN: Same objections. Overbreadth. Foundation.

If you can answer the hypothetical with that amount of information, you can try.

THE WITNESS: I -- it's very -- I apologize. It's very broad. I mean, I've closed landfills by covering the head portion of the waste in the groundwater. And that -- they have groundwater monitoring and other protections to make them safe.

And so --

BY MS. CASSEL:

Q So you --

A -- it can done.

Q I apologize.

A -- and be safe. And if it's not --

Q So what things need to be done to make it safe?

MS. NIJMAN: Again, same objections to overbreadth and lack of any specificity.

THE WITNESS: As I mentioned, cover, containment, things like that. But I'm just saying -- is that there are many. But I'm not here --

BY MS. CASSEL:

Q I understand that. I --

A I'm not here to run down the cafeteria menu.

Q In your opinion, is there any way -- are there either any circum- -- I just -- I recognize it's broad, but it sounds like there are things that need to be done to make something safe if you simply cover it.

Is that an accurate representation of

your testimony?
A No.
Q No? Okay.
A There are many things that can be done to make it safe. That's my -- that's the point of my testimony.
Q Okay.
A There's no one thing.
Q Are there ever situations in which it would not be a safe disposal practice to simply cap a landfill?
MS. NIJMAN: Asked and answered.
THE WITNESS: Are there situ- -- if the pond landfill is unlined, you know -- you know, it's just very -- very vague that you're asking me this.
MS. NIJMAN: If you want to give him a specific hypothetical, then do so.
THE WITNESS: Okay. Well --
MS. NIJMAN: If you can answer, John, without any specifics, you can try.
THE WITNESS: I will give you an opinion that if you had a landfill that was closed that had highly mobile wastes and that the wastes were placed below the groundwater table and they were allowed to

migrate offsite, then I would say that would not be a safe practice --
BY MS. CASSEL:
Q Okay.
A -- as a hypothetical.
Q Understood.
Finally, looking back at page 4 of your report, quickly, I believe you state in the sub-bullet point in the middle of the page -- you state, "IEPA Bureau of Water has not reported any groundwater violations for sites with GMZs."
Do you see that?
A I see that.
Q Do you know what the applicable groundwater standards are within a GMZ?
A The point of the GMZ is established for -- during a remediation process. And what a GMZ does is it removes a violation, so there are no violations. It removes the possibility for a violation.
Q So IEPA could possibly actually report a violation of groundwater changes within the GMZ, could it?
A I don't believe they could based on the rule -- the way they set it up.

MS. CASSEL: If I could take a very, very brief break to see if I have any other questions, and then we will be -- we're very near close.
MS. NIJMAN: Okay.
MS. CASSEL: Thank you.
(After a short recess, the deposition resumed as follows:)
MS. CASSEL: Go back on the record.
Thank you again for taking the time today, Mr. Seymour. We are just about done, get you out of here. Just a few additional questions.
BY MS. CASSEL:
Q I wanted to ask, do you recall testimony earlier that older ash might leach less than more recent ash?
A Yes.
Q Is that an accurate description of your testimony?
A In general, yes. You would expect it to leach less over time.
Q Okay. Why is that the case?
A Because the -- they are dissolving, removing the contaminants, if you will, from the ash.

Q So it's already been leached out, some of the contaminants, or -- I'm sorry.
Can you explain it somewhat.
A Well, theoretically, what you have as time goes on, you're removing mass. You're removing -- you know, the elements. And so you expect over time that there would be less to remove.
Q Because it's already leached out some. And so --
A It's already -- it's already moved --
Q -- there's less to leach out continuously?
A Yes, that's the theory.
Q Okay. Is that the only reason why older ash might potentially or would leach less than newer ash?
A That's one. I don't -- haven't really thought if there are more mechanisms, that it would have less over time, but recognize a lot of the stuff that we have at the site is bottom ash with some fly ash. But it's primarily bottom ash that I've seen, cinders, things called out like that.
I believe they're recycling a lot of their fly ash. And bottom ash is commonly used as fill, and it's less leachable than fly ash, for

example.
Q What makes bottom ash less leachable than fly ash?
A It comes from the bottom of the boiler, and it's more solidified and hardened and it's courser. And so part of what makes something more soluble is the surface area. And so with bottom ash, the surface area is smaller for the same weight. So with fine particles, there's much more surface area to remove the metals from the particle.
Q And can you tell me, again, what the basis was for the statement that a lot of the ash at these sites is bottom ash and not fly ash?
A That's my understanding, is that fly ash is reusable and that they use bottom ash as fill. Now, I'm not saying it's only bottom ash. It's lots of different things if you look at the boring logs.
Q Okay.
A It's not a hundred percent.
Q You've mentioned a few times that Illinois has specifically relied on or approved the ASTM D3987-85 test; is that accurate?
A Yes. There's a code in Illinois that's specific, that says you use this test for beneficial

reuse of coal compression by-products. If it's a by-product, it's reusable.
Q So that's the test that's used to determine whether or not something qualifies for beneficial re- -- ash qualifies for beneficial reuse; is that accurate?
A Yes, in Illinois.
Q Do you know if Illinois has specifically sanctioned the use of this test for any other purpose?
A I'm unaware of that.
Q Okay. And then, finally, I believe earlier you had testified that at Joliet in the historical coal ash -- ash fill, the leachate is below the groundwater standard, so it can't be contributing to the groundwater concentrations being above the standards; is that correct?
MS. NIJMAN: Object to form and --
THE WITNESS: I'd have to go back to check the testimony.
BY MS. CASSEL:
Q Is that --
A To my recollection, it seems that I said that.

Q Okay. In making that statement or that testimony, are you taking into account the different detection levels, thresholds for leachate and groundwater?
THE WITNESS: If you could back up and repeat -- repeat the whole train of thought because we -- I interrupted, and I'd like to go back to the beginning.
MS. CASSEL: Could you read back my question just before this, please.
(The last question was read by the reporter.)
THE WITNESS: I think we -- I didn't say it can't. What I said, from my recollection, is that we ran the test, we looked at the results, and it met the groundwater quality criteria.
So we were saying that we don't believe it's contributing to the -- currently contributing to the groundwater impacts based on that result.
BY MS. CASSEL:
Q And -- I'm sorry -- what results are you referencing?
A The leach -- the leaching results of the of

the ash with ASTM D3987, those results.
Q And in coming to that conclusion, did you take into account the different detection thresholds of the leachate versus the groundwater?
A We took into consideration that the leachate had met the groundwater -- Class 1 groundwater standards, but not the detection between the two -- between the ash extract and the groundwater analysis.
MS. CASSEL: Okay. I believe that completes our questions. Yes. That's it for us for today.
The one thing I want to state quickly on the record is, in light of the production yesterday of the supplement to Mr. Seymour's report as well as the notes that were provided to us in the middle of -- not the middle -- in the beginning of -- relatively near the beginning of today's deposition, we're going to need to hold this deposition open in order to take a closer look and evaluate those documents and determine whether we need to further question Mr. Seymour about those.
MS. NIJMAN: Well -- and, as I mentioned to you yesterday, we don't agree. If you have any questions, you've had plenty of time to present those

questions. I have a couple questions myself.
Would you pass me Exhibit 8?
MS. CASSEL: And Exhibit 8 was those notes; is that correct?
MS. NIJMAN: Uh-huh.
EXAMINATION
BY
MS. NIJMAN:
Q Mr. Seymour, looking at Exhibit 8. Is that a copy of the notes that you provided to Ms. Cassel this morning?
A Yes.
Q When did you prepare those notes?
A Yesterday.
Q And why did you prepare them?
A I was preparing for this deposition, and I wanted to be clear in my ideas that the groundwater quality has not been trending up or down, that it was both trending up or down.
So I wanted to look at the trends for my own knowledge in case it came up as a question in the deposition.
Q And did anything in that -- in those notes change your opinion?

A It did not. It confirmed my opinion.
Q And was there any new data used in those notes?
A No. We used the data from 2014 as -- and I believe then -- and before. It goes from, I think, 2010 to 2014, but does not include 2015, to the best of my recollection.
MS. NIJMAN: Okay. Thank you.
I'd also like to mark as an exhibit The Supplemental to Expert Report of John Seymour.
So will that be 13?
THE REPORTER: That would be 15.
(Seymour Deposition Exhibit No. 15 was marked for identification.)
MS. CASSEL: If you could, give me a copy. Thank you.
BY MS. NIJMAN:
Q You also mentioned to Ms. Cassel several times today that you had prepared a supplement to your report.
Is this Exhibit 15 a copy -- full and correct copy of that supplemental?
A Yes, I believe so. Let me check.

Yes, I believe -- it looks complete.
Q And you already testified today with Ms. Cassel what the math error was.
Does anything in this supplement change your opinions in your report?
A No.
Q And specifically referring to your old report, which has been marked as Exhibit 1 -- Exhibit 2 -- excuse me -- Deposition Exhibit 2 in your deposition, your report with the old section 5.5.2, Ms. Cassel directed you to a statement at the very end of that page 43 of your report.
Do you see that?
A I see that.
Q Has that opinion, at the end of this particular section that has been replaced now -- has your opinion changed --
A No.
Q -- by these corrected --
A No.
Q Excuse me. And has the basis or the method by which you made this opinion changed?
A In general, no.
MS. NIJMAN: That's all I have.

MS. CASSEL: All set.
MS. NIJMAN: Thank you. Reserve signature.
FURTHER DEPONENT SAYETH NOT. . .

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD
In the Matter of:
SIERRA CLUB, ENVIRONMENTAL)
LAW AND POLICY CENTER,)
PRAIRIE RIVERS NETWORK, and)
CITIZENS AGAINST RUINING THE)
ENVIRONMENT)
) PCB No-2013-015
Complainants,) (Enforcement - Water)
)
v.)
)
MIDWEST GENERATION, LLC,)
)
Respondents.)

This is to certify that I have read the transcript of my deposition taken on the 1st day of March 2016 in the foregoing cause, and that the foregoing transcript accurately states the questions asked and the answers given by me, with the changes or corrections, if any, made on the Errata Sheet(s) attached hereto.

JOHN PATRICK SEYMOUR, P.E.

Subscribed and sworn to
before me this day
of 2016

Notary Public

STATE OF ILLINOIS)
) SS:
COUNTY OF COOK)

Brad Benjamin, being first duly sworn on oath, says that he is a Certified Shorthand Reporter, that he reported in shorthand the testimony given at the taking of said deposition, and that the foregoing is a true and correct transcript of his shorthand notes so taken as aforesaid and contains all the testimony given by JOHN PATRICK SEYMOUR, P.E., at said deposition. And further, that he is not connected by blood or marriage with any of the parties to this action, nor is he a relative or employee or attorney or counsel of any of the parties, or financially interested directly or indirectly in the matter in controversy.

That the preceding deposition shall be read by said deponent, and any and all corrections which the deponent desires to make shall be duly made by the deponent on the enclosed Errata Sheet(s), indicating page and line to be corrected, and that the explanation, if any, given by the deponent for said corrections, shall be thereon noted.



Brad Benjamin

Certified Shorthand Reporter

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March 25, 2016

Nijman Franzetti LLP
Ms. Jennifer T. Nijman
10 South LaSalle Street, Suite 3600
Chicago, Illinois 60601

Re: Sierra Club et al. v. Midwest Generation, LLC.

Dear Ms. Nijman:

Enclosed please find the transcript of the discovery deposition of John Patrick Seymour, P.E., taken on March 1, 2016, in the above-entitled cause.

Since signature was reserved, please ask Mr. Seymour to review his transcript from March 1 2016, making any necessary corrections on the Errata Sheets, and sign and notarize the deponent's signature page.

Please send the original signed Errata Sheets and signed deponent's certificate to John Patrick Seymour, P.E., keep a copy for yourself, and please send a copy to me for my records.

According to Amended Rule 207(a), signature must be obtained within 28 days or the deposition may then be used as fully as though signed.

Your cooperation in this matter is greatly appreciated. Thank you.

Sincerely,

Brad Benjamin, CSR
SULLIVAN REPORTING COMPANY

A

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Exhibit E6
(REDACTED)

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
SIERRA CLUB, ENVIRONMENTAL LAW & POLICY CENTER; PRAIRIE RIVERS NETWORK and CITIZENS AGAINST RUINING THE ENVIRONMENT	)	
	)	
Complainants,	)	
	)	
vs.	)	**PCB No-2013-015**
	)	**(Enforcement-**
MIDWEST GENERATION, LLC,	)	**Water)**
	)	
Respondent.	)	

The discovery deposition of FREDRICK VEENBAAS, taken under oath on the 20th day of February 2015, at Suite 3600, 10 South LaSalle Street, Chicago, Illinois, pursuant to the Rules of the Supreme Court of Illinois and the Code of Civil Procedure, before Linda McMahon, a notary public in and for the County of Cook and State of Illinois, pursuant to notice.

APPEARANCES:
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for the Respondent.

I N D E X

Witness:	Page
FREDRICK VEENBAAS	
Examination by:	
MS. CASSEL	4

E X H I B I T S

Number	Page
NOS. 300 through 311	4
CONFIDENTIAL PAGES 18 through 25	
CONFIDENTIAL PAGES 66 through 71	

(Whereupon, Deposition Exhibit Nos. 300 to 311 were marked for identification.)
Witness sworn.)

FREDRICK VEENBAAS,

called as a witness herein, having been first duly sworn, was examined and testified as follows:

EXAMINATION

BY

MS. CASSEL:

Q Good morning, sir. Thank you again for joining us this morning. Can you for the record please state your name, your place of employment and the address of that place of employment?

A My name is Fredrick Veenbaas, I work for Midwest Generation. I am at the Waukegan station facility at 401 East Greenwood Avenue in Waukegan, Illinois.

Q As Jennifer said, my name is Jennifer Cassel, I'm an attorney with the Environmental Law & Policy Center and I will be asking you some questions today. Have you ever given a deposition before?

A Yes.

Q As you know, in that case this is a formal legal proceeding and as you were sworn in you have a legal obligation to answer the questions truthfully. You understand?

A Yes.

Q For the benefit of the court reporter, please answer out loud. If you don't understand the question, don't answer, you can ask me to clarify that. If you do answer a question, we will assume that you understood it. Okay?

A Yes.

Q If you need a break, let us know and we will take a short break. You will have the opportunity to read over the deposition transcript when this is all done and correct any mistakes in that transcription. You understand that?

A Yes.

Q Sir, did you prepare for this deposition at all?

A I don't understand. When you say prepare, what do you mean?

Q Did you speak to anyone other than counsel about this deposition or review any documents in preparation for this deposition?

A Just my counsel here. I met with my counsel.
MS. NIJMAN: There was one other person that you spoke to for the operations.
THE WITNESS: Chris Lux.
MS. CASSEL: Q You spoke with Chris Lux?
A Right.
Q So as part of your preparation in your conversation with Chris Lux, did you discuss or review any documents pertaining to removal of coal compression waste in Waukegan?
A Yes.
Q Did you speak to anyone or review documents concerning inspection of liners at Waukegan?
A Yes.
Q Did you speak to anyone or review documents concerning identification or repair of liner damage at Waukegan?
A Yes.
Q Did you -- couple more -- did you speak with anyone or review documents pertaining to the identification or need for -- the identification of the need for and process for relining at Waukegan?
A Yes.

Q Finally did you speak with anyone or review documents pertaining to any changes in those operations that took place on or after October 15, 2012?
A Yes.
Q This was all -- the conversations that you had on those issues were all with Chris Lux and he was the only one?
A Yes.
Q Now, you understand, sir, that with regard to those operations that I just listed you will be answering today on behalf of Midwest Generation and not based on your personal knowledge, correct?
A Yes.
Q You did not review any other documents in preparation for this document?
A No.
Q Let's discuss your background a little bit, sir. Can you tell me how long you have worked at Midwest Generation?
A Since 1999, December of 1999.
Q What is your current position right now?
A I am environmental compliance specialist in Waukegan station.

Q How long have you been in that position?
A 2012.
Q What are your responsibilities?
A Basically review and responsible for the compliance activities of the station. That includes reporting, overseeing that the environmental activities go along as they should.
Q Do those responsibilities include anything related to ash management at Waukegan?
A Generally I'm aware of ash management, but it is not my responsibility.
Q When you say you are aware of it, what does that mean?
A I know it goes on, there are people that perform that function. I am not directly responsible for it.
Q Do they report to you?
A No.
Q Are there any situations in which if something goes wrong with an ash pond or any sort of ash management would that be reported to you?
A Generally it would particularly with repairs, but I would not necessarily be in the middle of the process, but I would be made aware of

the process, what is going on.
Q When you are made aware of that, why are they making you aware of that, are you telling anyone else?
A No. They are letting me know something is going on, there is an issue and that's what is going on.
Q Do you direct anyone with regard to those type of issues that you are made aware of?
A No.
Q Now, prior to your current position at Waukegan, what was your prior position?
A I was the chemistry assistant specialist at Will County.
Q What was the time line of that position?
A Basically between '99 when Midwest Generation took over Will County and when I opted to go to Waukegan in 2012.
Q What were your responsibilities as a chemistry assistant specialist?
A I was responsible for the process chemistry of the units, four units at the beginning. I was also the wastewater operator, the class K operator, which is a state license, and I was also responsible

for the process of water production.
Q And with those responsibilities, were you involved in any way in ash management at Will County?
A No.
Q Did you ever speak with anyone while you were at Will County about anything concerning ash ponds or ash management?
MS. NIJMAN: Objection.
THE WITNESS: Rephrase that again.
MS. CASSEL: Q Did you ever have communications with people at Will County while you were there concerning coal ash management?
A Let me clarify. As wastewater operator, I was responsible for the water that was used -- treated the water that was used to convey the ash in the ash ponds. In that context that is how I got involved with the ash management. It was treatment of the water, not the actual conveyance of the ash, or the cleaning of the ponds.
Q So you would be involved in treatment of water in those ponds?
A What we call the sluice water to bring the ash to the ponds.
Q So can you describe a little more what

exactly your roles were, your responsibilities were with regard to that process?
A There was weekly, generally a weekly discharge of water with waste system which is clarifies using coagulating agent, and I was responsible for making sure that that water adhered to the RMPS permit levels.
Q So the clarifiers, where was the water that went to the clarifier, where was that coming from?
A What we call the ash recycle system, which would be the water taken from the ash ponds and then conveyed back to the station, there was a line that teed off that line that went to the waste water system and we would open that valve up and treat water on weekly basis.
Q So the water that went through those clarifiers, did it have ash in it ever?
A No. The water that we treated through the waste water system adhered to the limits that we had for the permit.
Q To your knowledge, did that water ever have ash or any constituents of ash still in the water as it went through that system?
MS. NIJMAN: Objection, asked and answered

and compound.
THE WITNESS: Rephrase it then.
MS. CASSEL: Q You said that the water complied with certain limits of the permit. I am not familiar with that permit. To be honest I am not that interested in that permit.
I am asking you if there was any ash or ash constituents that were in that waste water process that you were overseeing?
A Generally the possibility of that happening the water that went to the ponds contained solids from anywhere in the plant, the floor drains, the roof drains to the area drains in the property. Also the water that was used to convey the slags to the ponds.
Q So the sluice slag?
A Yes.
Q Where did -- after the clarifiers is it correct to say that water could go into the standby pond?
A Yes. The clarifier discharger could go to the standby pond, which is about a million gallons in volume, and then from there it would go through a pipe all the way to the canal.

Q So were you in charge of making sure that the water flow from these various water sources at the plant proceeded through the various processing points?
MS. NIJMAN: Objection, misstates testimony. You can answer.
THE WITNESS: No, those systems are basically passive, they allow the water to flow from one point to another by gravity. I was not responsible for that. I was responsible for treatment of the water once it got to the point.
MS. CASSEL: Q If there was a problem with that flow, for example, if an ash pond was getting stuffed up with drippings like that, would you be made aware, would you have been made aware of that issue?
A Possibly. I mean I want to make sure -- I want to make sure water always proceeded out of the ponds where if we went through an overflow, it would go into a building where there are pumps, I pump it back in the building through the ash recycle system, so possibly.
Q Do you recall an instance where you were informed that there was a problem with one of the ponds being sort of stuffed up with leaves or plants?

A When I first got there, there was some leave issues in the ponds, which we took care of.

Q I think there may have been another -- I will ask about that later. I want to get a general idea. Then let me ask you, sir, I understand you were at -- is it correct to say you were at Commonwealth Edison at a number of plants prior to your position at Will County?

A Yes.

Q Did you have any responsibility relating to ash management when you were at Commonwealth Edison?

A On occasion, yes. Depends on what job you want me to speak to. I have had multiple jobs, and on some jobs strictly the operating side I was responsible for maybe that area.

Q Do you recall any particular duties or responsibilities you had with regard to ash ponds?

A Well, there were no ash ponds at Crawford and there were no ash ponds at FISK. There were hydro bins which they convey the bottom ash to a bin with filters and they would dump the ash in a truck. So as I was operating supervisor, I was responsible for people to make sure that that happened. I also had a job at Kincaid which had ash ponds, but I had

no responsibility in that area.

Q Did you have any similar responsibilities with regard to water, process water management at those facilities?

A I did not hold a license in any of those facilities.

Q Moving into the more recent past, can you tell me if you had any responsibilities relating to responding to the notice of violations that were issued by Illinois EPA to Midwest in 2012?

A Specifically which one?

Q There were multiple ones. I am asking if you had any responsibilities relating to responding to any of them?

A No.

Q Did you have any role in developing the compliance commitment agreement?

A No.

Q Did you have or do you have any responsibilities for complying with the compliance commitment agreement?

A Compliance commitment agreement exists at Waukegan and I am aware of that and most of what it entails, so I have some responsibilities in

those areas.

Q Can you describe to me what some of those are?

A There is a quarterly sampling requirement that is part of the CCA and I coordinate with KPRG, for the sampling of the wells that we have. There are wells that exist as a result of that agreement. We have responsibilities to make sure that ash is only stored temporarily in the ponds. Also, we have responsibility if there are any issues with the ponds that, say, a hole or a tear in the lining below the water line, then we would report that -- we would suspend activity and report that to the IEPA.

Q So you are responsible for making sure that those things take place at Waukegan?

A Among others. Among other things. Among other people.

Q Understood. Let me ask you a couple questions about terminology. Do you have an understanding what slag is?

A Yes.

Q Can you tell me what that is?

A Slag is a word that is used for ash that generally comes out of cyclone furnaces.

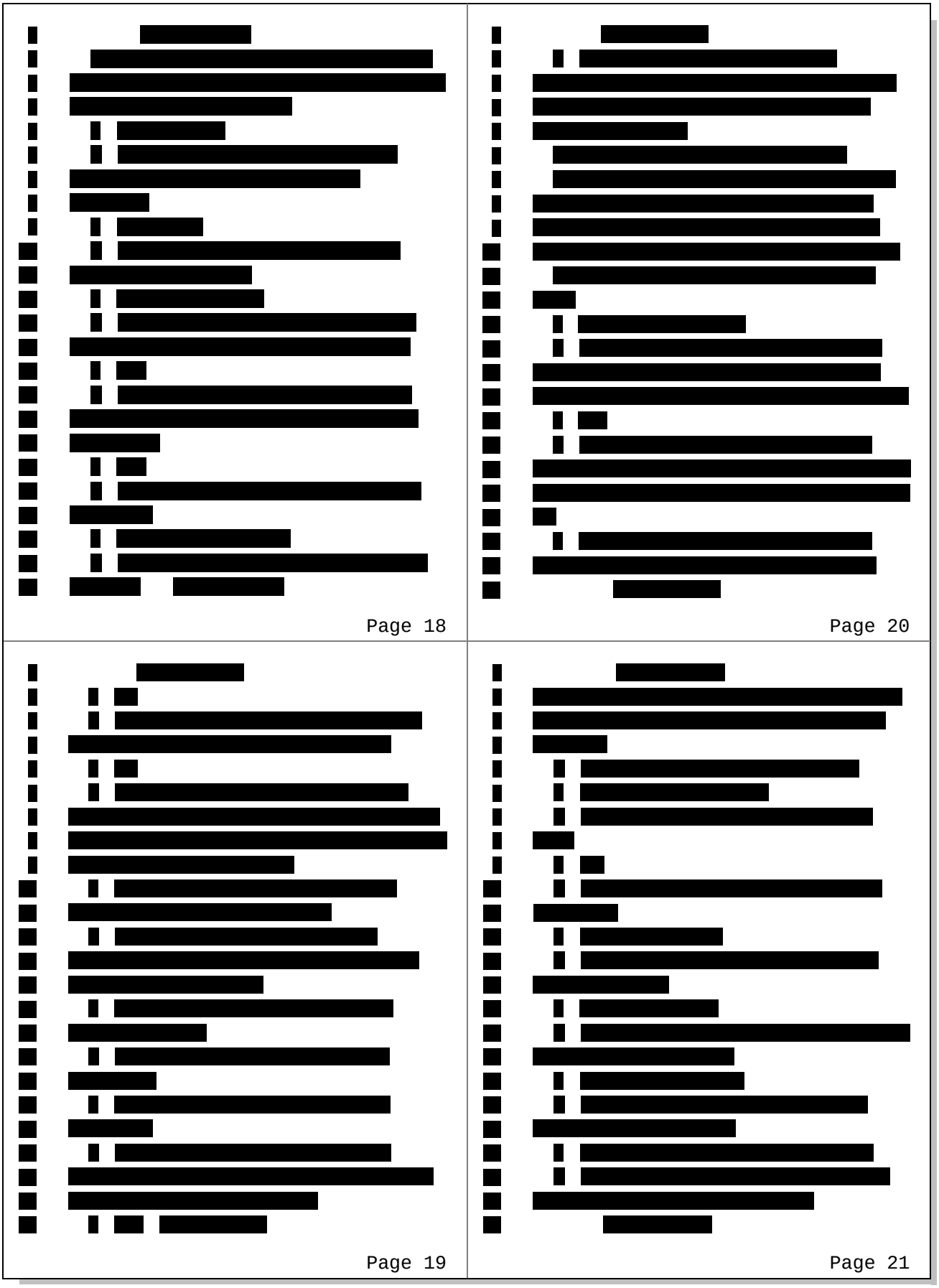
Q Is that bottom ash?

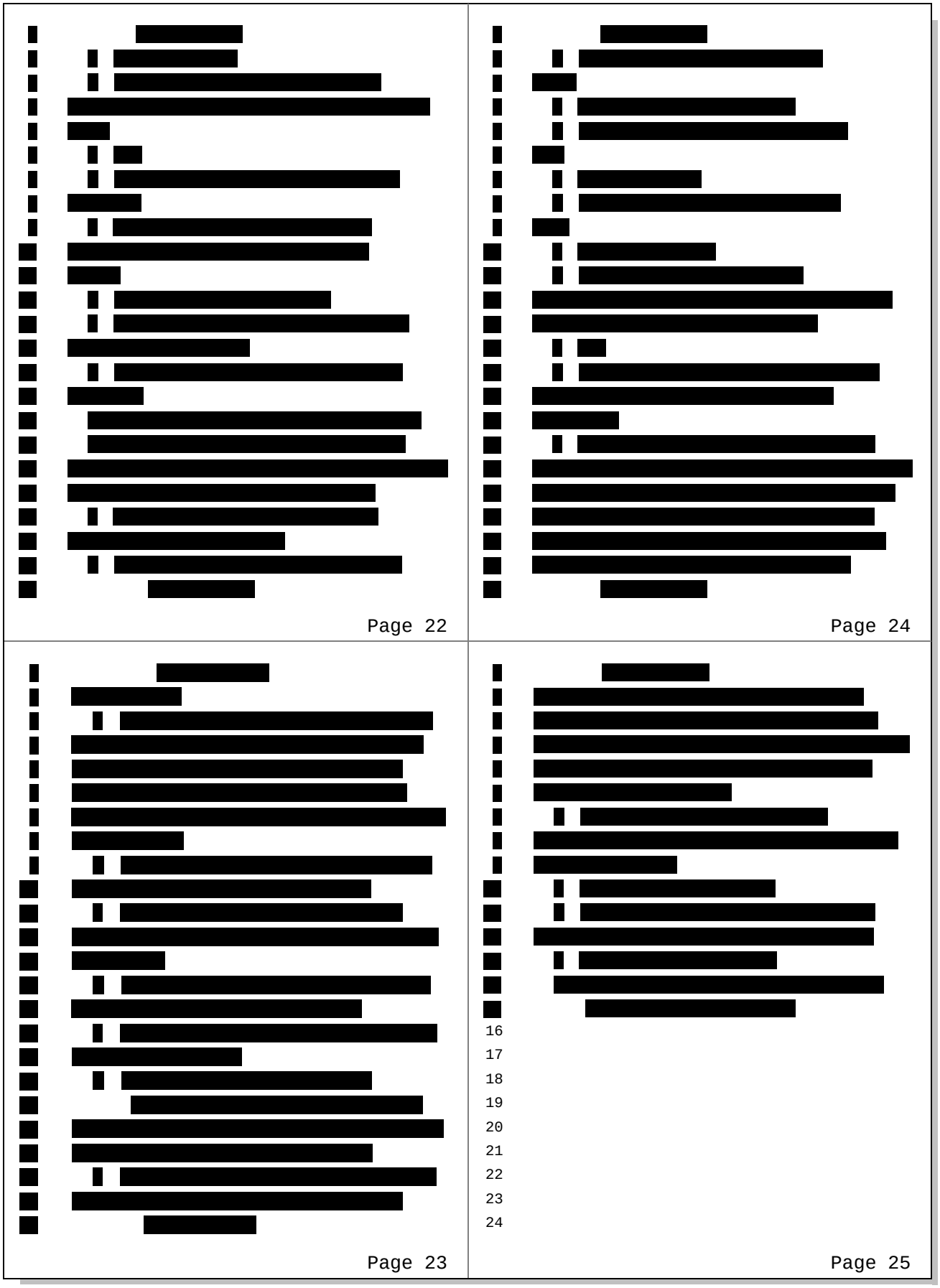
A It can be used that way and sometimes is used that way, but generally it is more specifically a sign to ash that comes out of cyclone furnaces.

Q Have you ever -- do you ever use the term slag interchangeably with ash?

A It has happened in the past, yes.

Q Now, I want to talk to you a little bit about the Will County facility. If you can open up, we will be in confidential starting right now for a few minutes.





MS. CASSEL: Q Now, I would like to show you what has been already marked as Deposition Exhibit No. 96. Sir, can you tell me if you have seen -- take a second to look at it and tell me if you have seen that document before?

A No, I have not.

Q I want to make use of a map. Sir, just to make sure we are all talking about the same thing here, do you see on that map where it refers to pond one and pond two at the bottom?

A Yes.

Q Those are the ponds that you were stating before were used for flue gas byproduct?

A Yes.

Q Is that a single pond, or is it two ponds, do you know?

A It is hard -- they have a tie between them, a pipe between them. Generally when one rode, the other one rode along with it. But they were physically two distinct ponds with a tie. A pipe between the two.

Q So the pipe ran between them then?

A The pipe was open and they would be kind of one pond, they would rise and fall together, but that

is my understanding.

Q Was the tie generally open to your knowledge when you were there?

A I believe so.

Q Do you know if it continues to be?

A I cannot speak to that.

Q Do you happen to know whether that pond is or those ponds are lined?

A I cannot speak to that either.

Q You said they are no longer in use to your knowledge, is that right?

A Yes.

Q Do you know if those ponds are or were when you were there ever inspected for leaks?

A We had suspicion that possibly they didn't know how to level control especially with those things, so there were suspicions there might have been underground leak between those ponds and the river, but we never confirmed that.

Q So no investigation was ever undertaken to check that out?

A No.

Q Do you know if they were ever inspected for structural integrity issues?

A I don't know that, no.

Q Just to clarify, was it ever inspected -- those ponds were they ever inspected for anything at all that you recall while you were at Will County?

A Not that I know, no.

Q I am guessing you don't know whether or not it is currently leaking, is that correct?

MS. NIJMAN: Objection to misstating prior testimony. No statement that he made it was currently leaking or it was ever leaking.

MS. CASSEL: I prefer I get his testimony.

THE WITNESS: Would you restate.

MS. CASSEL: Q I asked you whether or not do you know if it is currently leaking?

A I cannot speak to that.

Q Is that pond capped to your knowledge?

A I don't know.

Q Anything on top of it?

A I have not been there for two years.

Q Was it capped while you were there?

A What do you mean by capped?

Q Was there anything on top of it to, for example, prevent rain water from entering into

those ponds?

A No, they are open.

Q Now, let's move to the standby pond. Do you see where that identifies the standby pond on this map, sir?

A Yes.

Q You are familiar with that pond?

A Yes.

Q Do you know if that pond is lined?

A May have a lining in it, but I am not totally sure. We cleaned it once when I was there, but I cannot speak to definitively whether that would be.

Q Do you know if the standby pond is inspected for leaks at all?

A The operators when I was there would go to the clarifiers and inspect the clarifiers. They would also inspect the clarity of the standby pond. The standby pond level is actually higher by ten feet anything around it, so any leakage you would see the leakage going in the area around the pond.

Q Did you ever see any leakage around the pond?

A No.

Q Is that the type of inspection that would occur would be the official inspection?
A Most likely, yes.
Q Most likely yes, so you are not sure?
A They would drive around and look at the clarity and they would probably see a leak if there was one.
Q Beyond that are you aware of any other type of inspections that took place?
A No.
Q You said you cleaned that pond at one point when you were there. Can you describe what that entailed?
MS. NIJMAN: I object to the mischaracterization of prior testimony. He didn't clean it.
MS. CASSEL: Q That pond was cleaned once when you were there?
A Yes.
Q Can you describe what that entailed?
A It was drained, pumped down, a front end loader was used and they loaded the contents, the solid contents of the pond in the dump trucks.
Q Do you know where that -- was it all loaded

right next to the pond, or was it loaded into the truck inside the pond?
A There is a ramp that goes into the pond and the truck sits back on the ramp and the excavator or the front end loader would be in the pond itself.
Q Do you recall any damage to the pond at all that took place when that clean-out occurred?
A Actually if I remember it was not quite as full as we thought it would be as far as the solids.
Q Did you leave any solids in place there?
A Yes.
Q Did whoever cleaned out the pond leave solids there?
A Solids were left in place because it was so wet we could not get the solids out.
Q To your knowledge, have those solids been removed since that time?
A I have no knowledge of that.
Q I know you said -- I believe you said that you had never seen any leaks from that pond while you were at Will County, is that a correct statement?
A Yes.
Q Were you aware of any other type of situation in which water escaped from that pond when

you were there?
A No. Not aware of any situation like that.
Q You are not aware of leaching down below?
A I am not aware of that.
Q Is the standby pond covered in any way, or is it open to the sky?
A It is open to the sky.
Q Now, moving on to the south area basin, actually identified there as several south area basins, I believe?
A Yes.
Q This is still on Page 5743 of Deposition Exhibit No. 96 for the record. You are familiar with those south area basins?
A I am aware they exist.
Q Do you know if those are lined?
A I am not aware of that.
Q And you said they are inactive, they are not used right now?
A When I was there, they were not being used.
Q Right now you don't know?
A No.
Q When you were there, were those basins ever inspected for leaks?

A Not that I am aware of.
Q Were they ever inspected for structural integrity?
A Not that I am aware of.
Q Was there any method used to your knowledge to determine if those south area basins were leaking while you were at Will County?
A Not that I am aware of.
Q Again, do you know if water has escaped from those basins through any other mechanism other than leaking?
A Not that I am aware of.
Q Those basins, are they also open to the side?
A Yes.
Q Sir, there are other ponds at Will County. We have talked about some. To your knowledge, ash pond one north, is that retired?
A It was retired while I was there, yes.
Q What was the process used if you recall to retire that pond, was there anything done to the pond to retire it?
A The reason why it was retired, it was Units 1 and 2 that were retired, the slag from those

units didn't exist anymore because they were not being run, so there was no need for those two ponds to exist.

Q Was anything done physically to those ponds when they were ceased being used?

A One south was retired in place with no water going through it. I believe they continued to use one north as a flow-through for ash sluice water. Particularly in the wintertime they didn't want things to freeze up.

Q Do you know how long that one north was continued to be used for ash sluice water?

A It was not ash sluice water, it was ash recycled water.

Q Ash recycled water. Sorry.

A No, I cannot be sure of that, no.

Q Were there any barriers put in place, for example, for one south to halt the flow of any water into that?

A Yes, there is the overflow from that pond that was unnamed, a slag.

Q Does that appear on this map here, sir?

A What does that say? I cannot read it.

MS. NIJMAN: Retention basin.

THE WITNESS: I am not sure if the retention basin, that slag label that we used to pull out of that one report at the same time, but there was a pond right next to the number one north that held the major portion of slag that was sliding down those units. And then the overflow from that went into a trough, you can divert the water to one north or one south based on a slide like a piece of metal that would slightly cover the trough.

MS. CASSEL: Q Does that pond on this map appear to be where the pond that you are recalling is located?

A I thought the slag pond would be more to the east and almost parallel to one north.

Q That does not appear to reflect that?

A No.

Q So going back to one south just for a moment, you said that it was retired in place. Can you describe what you mean it was retired in place?

A They just stopped water flow to it, left it alone.

Q The ash was left in the bottom of the pond?

A Yes.

Q Do you know if that pond has been covered

up with anything?

A I cannot speak to it.

Q Was it covered up with anything when you were there?

A No.

Q Was anything planted in the ash?

A No. I mean there are weeds that probably grew in it, but there was nothing purposely planted, no.

Q To your knowledge, was it full of leaves, or plants?

A You mean full? It had plants in it maybe covering a large percentage of the pond maybe.

Q Do you know if those plants have been removed?

A I cannot speak to that.

Q Going back to one north, was ash also left in place at that pond after it ceased being used?

A Yes, it had ash left in it.

Q And has that pond been covered over with anything?

A No.

Q Do you know if that --

A Not that I know of.

Q And was that pond planted or seeded with anything while you were there?

A Not while I was there, no.

Q Did it also have things just growing in it?

A Yes.

Q Do you know if those have been removed?

A I cannot speak to that.

Q So other than the ponds we have already discussed and the ponds identified as one north, one south, two south and three south, do you know of any other ponds at the Will County facility that contained coal ash?

A No.

Q So now, sir, I would like to ask you a couple questions about a few other sites on that map. Do you see where right smack in the middle of the map there is a little oval -- and I apologize, I know it's a small map -- where it says slag dumping area, are you familiar with that area, sir?

A No.

Q Do you know whether it was used for slag dumping when you were at Will County?

A I don't recall that happening, no.

Q Do you know what it was used for?

A No.
Q To your knowledge, are there any pathways by which coal ash or slag would get to that area?
MS. NIJMAN: Objection, vague.
THE WITNESS: Do you want to restate the question?
MS. CASSEL: Q If you can understand it, then please go ahead and answer.
MS. NIJMAN: He just asked you to restate it.
MS. CASSEL: He asked if I wanted to.
THE WITNESS: Would you restate the question.
MS. CASSEL: Q Is there any mechanism by which ash would be transported to that particular area, slag dumping area?
A Not that I know of. Not part of the ash recycling system.
Q Do you know if what is located or what is called on that map called slag dumping area, do you know if that was lined?
A I cannot speak to it. I didn't even know it existed.
Q I am assuming that you also don't know that it was covered over or capped?
A No.

Q Now, moving on to a different area at the bottom or the right-hand corner of slag and bottom ash dumping area. Do you see where they identify that, sir?
A Yes.
Q Are you familiar with that area?
A Yes.
Q Do you know if slag or bottom ash were ever placed there during your time at Will County?
A That I can recall, no.
Q Do you know if they were ever placed prior to your time at Will County?
A I cannot speak to that.
Q Or subsequent to your time at Will County?
A I don't know.
Q Do you recall any individual instance where coal ash or slag either were placed or arrived in that area?
A No, the fly ash silo is nearby, but other than that, no.
Q Do you know whether or not there is slag or bottom ash in that area?
A No.
Q Do you know whether or not that area is

lined?
A I don't know that, no.
Q Do you know whether that area is capped?
A No, I don't know that.
Q Now, can you tell me to your knowledge are there any other ash storage or disposal areas located on the Will County property?
A I told you the fly ash silos are right near there. That is an ash storage device.
Q Are those ash silos, do they have -- are they lined on the bottom?
A They are actually above the ground, they are actually a metal silo, it's a dry system. The trucks go underneath them and they transfer the ash into the trucks.
Q So the ash isn't in contact with the ground?
A No.
Q When ash is transferred to the trucks, is it ever dumped onto the ground or -- I'll leave it there.
A Well, there's a possibility of some small amount of ash hitting the ground, but it is pneumatic system with a vacuum on it, there's a pipe that goes

into the truck and just dumps the ash. There is a vacuum device that is supposed to preclude dusting if that happens.
Q Do you recall that ever happening, where ash fell into the ground?
A Very small amounts, but it was over concrete. It was very small. It was usually cleaned up.
Q It was usually picked up. Do you recall an instance where it was not cleaned up?
A No.
Q Going back quickly to the slag and bottom ash dumping area on that map there, you said you were familiar with that area?
A Yes.
Q How are you familiar with that area?
A The road, the south road on the property goes by that area, so if I was to travel look at the discharge, including water discharges, I would have to take that route.
Q Is there anything else that that area is used for at the moment other than that road?
A They may have used it over time I think for laydown of equipment, different piece of equipment.

Q Had you heard that area previously described as the slag or bottom ash dumping area?
A No.
Q Now, you just told me about the fly ash silos. Are you familiar with any other locations on the Will County property where ash has been placed?
A No.
Q Now, I would like to ask you some questions about the liners at Will County. Are you familiar with the relining project at Will County pond three south?
MS. NIJMAN: I am just going to clarify for the record that the discussions he had with Mr. Lux concerned Waukegan and he will only be speaking to his knowledge of Will County.
MS. CASSEL: Understood.
Q Sir, I will restate. Are you familiar with the relining project of Will County pond 3S?
A I believe a plant relining project happened, yes.
Q Do you know when that happened?
A I believe in late 2000's.
Q Do you know what it was relined with?
A Not specifically. I would assume a plastic

liner.
Q Do you know the thickness of that liner?
A I don't.
Q Do you know if -- do you know anything about the preparation that went into the relining of pond 3S?
A Of which one?
Q Three south. We are talking pond three south.
A I know that they had to excavate the pond to get to the bottom of it to expose the lining, the existing lining. I know that the lining -- the previous lining was called Poz-O-Pac because I did some looking around to see what that was at one time. And one day when they were finished excavating the pond, out of curiosity I walked into it just to see what the Poz-O-Pac looked like. It basically looked like concrete. It was very good shape.
Q Do you know if any of that Poz-O-Pac was removed when they put in that new liner?
A I don't know.
Q Do you know if there was any fill between -- do you know if there were multiple layers of Poz-O-Pac used in that pond?

A I cannot speak to that. I just saw what was exposed when they were done. That's all I can speak to.
Q In your recollection it was fairly intact?
A It was in great shape. There was no cracks. It was in really good shape.
Q Now, do you know if there was any fill layer installed above that Poz-O-Pac when the new liner was installed?
A No. Let me say I was not involved in that project at all. I was aware it existed and going on. I was not involved in it.
Q I will ask you a few more questions to close the loop. I understand you probably won't know the answer. Do you know if any ash was left under the new liner when they put that in?
A I cannot speak to it.
Q Do you know if there was any cushion layer put over the new liner?
A I cannot speak to that.
Q Any warning layer, are you aware of that?
A I cannot speak to that.
Q Last question, do you know if there was any geotextile installed above the liner when they put

that in?
A I am aware they put a plastic liner in there. I couldn't tell you what the terminology was. I know when they were done there was a liner in that pond.
Q Moving to the relining of pond two south, sir, are you familiar at all with the relining project of Will County pond two south?
A I am aware it happened.
Q Do you know when that was?
A Again, early 2000's.
Q Did that take place when you were at Will County, to your recollection?
A I cannot remember. I remember three south. It might have happened after I left.
Q Do you know anything about the preparations that went into installing the liner there?
A No.
Q Did you go observe that pond as you had with three south?
A I cannot recall observing that one, so it is a possibility it might have happened after I left. I don't remember much about that pond at all.
Q Do you know anything about what was put

under or on top of the liner, the new liner at two south?

A Not aware of that.

Q Now, I am going to ask you a little bit about your recollection of dredging operation at Will County. Do you know what company conducted the dredging operations at Will County when you worked there?

A Could you be more specific about what you mean by dredging and where it occurred?

Q Sure. My understanding -- please correct me if I am wrong -- is that a company would come in and drain the pond and then remove at least some portion of the ash from those ponds. Is that a correct description?

A Yes. That's LaFarge, which is our contractor, and they had a responsibility as part of their contract to clean those ponds.

Q Do you know what equipment that they used to clean those ponds?

A As I recall, there was front end loader and dump trucks.

Q And dump trucks?

A Yes.

Q Were they the company that conducted the cleaning out of the ponds the whole time you were at Will County, to your knowledge?

A I believe so. I think they might have changed their name somewhere in the process, but the same basic group did that, yes.

Q Do you happen to know if that is the same company that was used to conduct the cleaning out after 2012?

A I know they hold a contract for the whole company, but that is an assumption on my part.

Q You don't know for sure?

A I don't know for sure.

Q Do you know whether LaFarge has changed the equipment that it uses to clean out those ponds?

A I don't know that.

Q Do you know exactly what they did when they cleaned out the ponds, would you be able to describe the process?

A I would assume that the front end loader --

MS. NIJMAN: Only if you saw it or no.

THE WITNESS: On occasion I would drive by and see it going on. I was not intimately involved with it. I was a passerby more than anything else. They

fill the front end loader bucket and dump it into a truck.

MS. CASSEL: Q Do you know if there was ash left on the ground when they would clean out the ponds?

A I cannot speak to that. I don't know.

Q To your knowledge, which I understand may not be complete, are there any differences between the current way they clean out the ponds at Will County and how they cleaned out the ponds when you were there?

A I cannot speak to that either.

Q Now, talk to you a little about inspections of liners at Will County. I understand based on your personal knowledge. To your knowledge, were the liners at Will County ponds inspected when you were there?

A I have no knowledge of that.

Q Of any type of inspection?

A No knowledge.

Q Were there any methods used to your knowledge to determine whether those ponds were leaking?

A I cannot speak to that.

Q Are you aware of any instances of damage to the liners at the Will County ash ponds?

A I am not aware of that, no.

Q Any of the ponds that we have discussed you are not aware of?

A I am not aware of any damage to the ponds. It was not my area.

Q Now, other than the suspicion of leak that you discussed earlier with regard to one of the ponds, are you aware of any other instance in which any of the ponds at Will County was leaking?

A No.

Q Do you know if any water in any of the ponds has escaped from those ponds in any other way other than a leak?

MS. NIJMAN: Objection, vague.

THE WITNESS: I am trying to remember. One north might have overflowed at one time.

MS. CASSEL: Q Do you recall any of the details of that circumstance?

A It might have -- I think it went over the road, went towards the Des Plaines River.

Q Was there any action taken when that overflow occurred?

A I think they added more so it would not overflow.
Q Was there any report generated of any sort when that took place?
A If it was water from that pond, it would probably be an unpermitted discharge because the water normally would go through the wastewater system with the clarifiers to the standby pond and out to the canal.
Q So would that have been reported to the Illinois Environmental Protection Agency?
A Most likely.
Q Do you recall at all when that happened?
A No.
Q You don't know for sure whether it was reported to IEPA?
A It probably did because that was not a permitted discharge, yes.
Q Any other instances?
A I cannot recall.
Q Sir, when a company dredges the ash, to your knowledge, is the ash pond drained prior to taking out that ash?
A There is a process called dewatering where

they do the best they can to pump down the water, the water that would normally go to it, and then they would open up the drain valve that goes to the overflow trough, we are talking about Will County now, and after that they will put pumps in various spots of the pond to get as much water as they could out.
Q Now, was there ever a time at Will County to your recollection that you saw water getting into the ash ponds after those ponds had been drained, dewatered?
A What kind of water? If it rained, it would be water going to it.
Q Was there any instance that you recall where ground water got into those ponds after they had been drained?
A I cannot speak to it. I don't remember that at all.
Q Do you know whether there were any protocols in place at Will County regarding how to remove water if water were to get into a pond after it has been drained?
A I don't see any reason why you want to worry about that if the ponds were tight.

Q For example, if it rains, you described that could be a situation in which water can get into a pond?
A Why would you want to remove the water? Makes no sense. They are designed to hold water.
Q So was the ash then -- so if they drain the ponds but not yet remove the ash and it rains, what would be done then?
A We would start the pump up again and remove the water with the pump.
Q Start the pump again?
A Yes.
Q Is there any other way that you recall in which water was taken out of those ponds other than through pumping?
A We pump and drain it. There's a drain valve that went to the overflow trough and we would drain it that way, and then we would put the pumps in and pump the water to the same trough.
Q The overflow trough, that is the pond that we have been discussing that was between one north and one south, is that correct?
A Each pond on the west end of the pond has an overflow trough. That is how the water it would

left the pond and flow over and then it would go in the trough and the trough would drain to the basement of the ash recycle building where there were ash recycle pumps. The pumps would pump the contents of that basement tank and go back in the building as ash recycled water.
Q Was there ever a time that you recall that that H trough overflowed?
A No, I mean it is designed for overflow. It is designed for overflow.
Q It drains down to it?
A It drains down to it, yes.
Q In terms of the pumping of the water, when those pumps were dewatered, was there any instruction manual concerning how to do that?
A Not that I am aware of, no.
Q Do you recall any instance where ground water was trapped under a liner in any of the pumps?
A I cannot speak to that, no.
Q Do you know if there are any mechanisms in place at Will County to detect if water is trapped under a liner?
A I cannot speak to that.
Q Do you know if those were in place when you

were there?
A No, I cannot speak to it. Not that I recall, that we never worried about that, so it was not an issue.
Q I think we are ready to move on unless you think it is time for a break. Why don't we keep going for a little bit longer and take a short break.
I would like to show you a document that has been marked as Deposition Exhibit No. 300. This appears to be an e-mail to you from Rebecca Maddox dated October 4, 2011 with a couple additional e-mails down the chain. Do you recall receiving this e-mail, sir?
A I am trying to recall right now.
I don't remember much of this. I do remember we used some ash to solidify some sewage treatment sludge. That is about all I can remember with this.
Q Do you remember -- you don't remember receiving this e-mail?
A No, I don't.
Q You have now reviewed it, is that right?
A Yes.
Q Does it appear that the bottom two e-mails

were forwarded to you as part of this chain?
MS. NIJMAN: Calls for speculation.
If you know.
THE WITNESS: I mean it appears to be the case.
MS. CASSEL: Q Can you tell me -- and if you cannot, you cannot -- can you tell me whether this appears to be a true and accurate copy of an e-mail?
A It appears to be.
Q Sir, do you see on the top e-mail that is directed to you where it says that LaFarge will remove the dewatered bottom ash sitting in the area we put the roll off boxes tomorrow, do you see that?
A Yes.
Q Are you familiar with the area where the, quote, "roll off boxes," were put at Will County at that time?
A No, I am not. I don't remember this at all. The only thing I remember about any kind of thing with LaFarge was using their fly ash to treat the sewage treatment sludge, solidify the sludge. We talked to Margaret Ruane to make arrangements for that sludge. I am not remembering anything about the bottom ash.
Q Just even aside from this e-mail, do you

know if there is an area at Will County where roll off boxes are based?
A We use roll off boxes for sewage sludge solidification. That is out there on the property.
Q Could you kindly identify on No. 96 where I think it is actually this page, 1574, could you identify where on the map you are saying the roll off boxes were kept.
MS. NIJMAN: To be clear, the roll off boxes he is aware of for his purposes.
MS. CASSEL: Q The roll off boxes you are aware of for your purpose.
A Probably right off the road here, right in this area. (Indicating.)
Q What does it state there, can you see?
A I was going to ask you for your glasses. No. It is not labeled anything.
MS. NIJMAN: It is where the words south tank farm are, not where the tank farm is, but where the actual letters appear.
MS. CASSEL: This is Page 5743.
Q So that is not in a pond?
A No.
Q Do you know if that area is lined?

A No. Just to give you process, we vacuumed out sewage sludge from the sewage sludge treatment plant which is located on the west end of the property. We move the boxes that we place the sludge in to that area, and then we brought in fly ash which we loaded from the fly ash silo, and then we by use of excavator move that fly ash from the truck into the box. We wanted to do this, but we couldn't dispose of the fly ash sludge in a wet state, we had to solidify the sewage sludge to get it to be -- to put it enough of a solid state that we can legally get rid of it.
Q Where was it taken to after that was done?
A I cannot recall, but I think maybe Dixon, but I am not sure.
Q Did that happen more than one time?
A Yes, but we solidified sewage sludge probably three or four times.
Q During your --
A During my time there.
Q The 13 years you were there. Do you know if those -- strike that.
I would like to just point your attention to a little further down this e-mail chain,

if you would. Going back to the first e-mail which presumably was directed to you, it appears to be directed to you, it says that LaFarge -- you see where it says LaFarge will remove the dewatered bottom ash 10-5. Do you know whether that, in fact, happened?

A Again, I don't remember this at all. I cannot speak to it.

Q During your tenure at Will County, where was dewatered bottom ash stored after it was removed from the ash ponds to your recollection?

A It was removed right from the ash ponds to wherever it was being taken for disposal.

Q You don't recall it ever being placed anywhere other than the ponds?

A No. Basically directly taken off the property.

Q Were you the person that worked directly with LaFarge at Will County concerning their clean-out at this point?

A No, I had nothing to do with them. I was aware they existed and was aware it was going on, but didn't deal with them too much at all.

Q Do you know who their main contact at the

facility was when you were there?

A Probably a shift supervisor that did that.

Q So it would have varied, the specific person would have changed over time?

A Yes.

Q Do you know if that person or those persons ever gave written or oral instructions to LaFarge regarding where to store dewatered ash?

A I cannot speak to it, no.

Q Are you aware of any written materials directing contractors as to where they should store dewatered ash?

A I am not aware of any of those.

Q Looking at the second e-mail in the chain, which is the e-mail apparently from Margaret Ruane to Beckie Maddox, it states that -- you see where it states, quote, "he has ordered five trucks to arrive 10/5 for the removal of all the material in the laydown area," the second sentence there?

A Yes.

Q Do you know -- are you familiar with the laydown area --

A No.

Q -- at Will County?

A No, I'm not.

Q Sir, did you have any other responsibilities or duties with regard to fly ash handling at the site?

A Not directly. I was aware it existed, the removal of fly ash existed. I remember the process using LaFarge trucks to remove the ash from -- the fly ash off the property. Occasionally would drive there and see that process occurring.

Q Were you involved with the sludge solidification process that you described earlier?

A It was part of the sewage treatment sludge solidification, I was involved with, yes.

Q Was that the only circumstance in which you were sort of directly overseeing management of fly ash?

A I wouldn't even call it management. I basically arranged for a truck through the contractor to receive some ash and they would take it and use it on the project. It was not really management. It was use of a byproduct.

Q Are you aware of any of the times, those four times, you said three or four times that it happened that any of the fly ash fell to the ground

or did not get into the trucks?

A No. Again, it was a process by which if it did fall it was cleaned up immediately, that I know of anyway. When we use the solidification, we usually cleaned up the sludge or cleaned up the ash on the ground and put it in the boxes.

Q Thank you. We can move on.

Now I would like to show you what has been marked as Deposition Exhibit No. 301. Please take a look at that. Can you tell me after you looked at it if you are familiar with this e-mail, sir?

A This looks like -- again I am not familiar with it. I don't remember. It looks like it is related to the last one, same time period. Other than that, no.

Q Does your name appear on that first e-mail as a recipient?

A Yes.

Q Do you remember if you read this e-mail at the time you received it?

A I cannot speak to that. I don't remember the e-mail. Hard for me to say.

Q Let's take a look if you would at the

second e-mail, appears to be the second e-mail in the chain, it appears to have been forwarded to you, sir, the e-mail that says "sorry for the delay in responding"?

A Yes.

Q Do you see where it says in the second sentence in that e-mail or third that it says they have to wait for the site to dry out after all the rain last week?

MS. NIJMAN: I just object to this exhibit. My understanding is that it actually is a two-page document. You don't have a second page.

MS. CASSEL: The second page, sorry, I don't know how that happened.

THE WITNESS: Would you restate what you were asking.

MS. CASSEL: Q I am actually asking about the second e-mail on the chain which is on the first page. Do you see where it says in the e-mail that begins with "sorry for the delay in responding"?

A Yes.

Q Do you see where it says they had to wait for the site to dry out after all the rain last week?

A I see that, yes.

Q Do you have an understanding of why they would have to wait?

A No, I don't.

Q Now, moving down to what appears to be the last e-mail in the chain, the one on the back.

A The one on the back of the page?

Q The one on the back of the page dated September 23, 2011 at 11:32 a.m. Do you see where it states in the second sentence that the 2S, the delivery of the sludge roll off boxes is scheduled for October 5, 2011 in the area where the 2S bottom ash is currently dewatering?

A Yes.

Q Can you describe to me or do you have an understanding of what dewatering means?

A Dewatering means reducing the moisture content of the materials so it can more easily be handled or disposed of.

Q Do you know where dewatering would take place or did take place?

A I still think this has something to do with my sewage sludge. They keep saying solidify fly ash. That is my best assessment of that.

Q That is fair. Do you have an understanding

a little further down the very last sentence in there, where it says -- you see where it says the status of the unlined 2S bottom ash pond?

A Yes, I see the sentence.

Q To your knowledge, was 2S lined at the time of this e-mail?

MS. NIJMAN: Asked and answered.

THE WITNESS: I cannot speak to it.

MS. CASSEL: Q Do you know of any instance at Will County where coal ash, whether it be bottom ash or fly ash, was placed on the ground?

MS. NIJMAN: Asked and answered.

THE WITNESS: I cannot think of any specific, no. It is possible, but I can't remember. To the best of my recollection, no.

MS. CASSEL: Q The few times that you do recall it being on the ground, to your recollection, it was cleaned up shortly thereafter?

A Yes. For example, in the sludge solidification that we did, whenever we did that, it was cleaned up right away.

MS. CASSEL: I think we are going to take a very brief break if that is okay. Five minutes. We will be back and get started again.

(Whereupon, a recess was taken.)

MS. CASSEL: Back on the record. I am now going to ask you some questions about the Waukegan facility. I would like to go back to confidential.



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MS. CASSEL: Q We are going to go to a newly marked exhibit which is Exhibit No. 302. Why don't you a take a second to take a peek at that and tell me if you are familiar with that document?

A I know the document existed because they did these at all the plants when they were sold in '98, '99, I have never looked at this document.

Q Never looked at it before, okay.

Now, 48718 I believe it is that one. Now, sir, do you see where on this map near the bottom left-hand corner it states -- it identifies the rectangular area of the former slag/fly ash storage area?

A Yes.

Q Are you familiar with that area at all?

A I know the area exists as far as where it is on the map, yes.

Q Have you heard anything about coal ash or slag being stored there?

A Nothing there. I have seen old pictures of that happening, yes.

Q Old pictures of that happening, okay.

A Right now it is nice grassy field.

Q So to your knowledge, there is no longer

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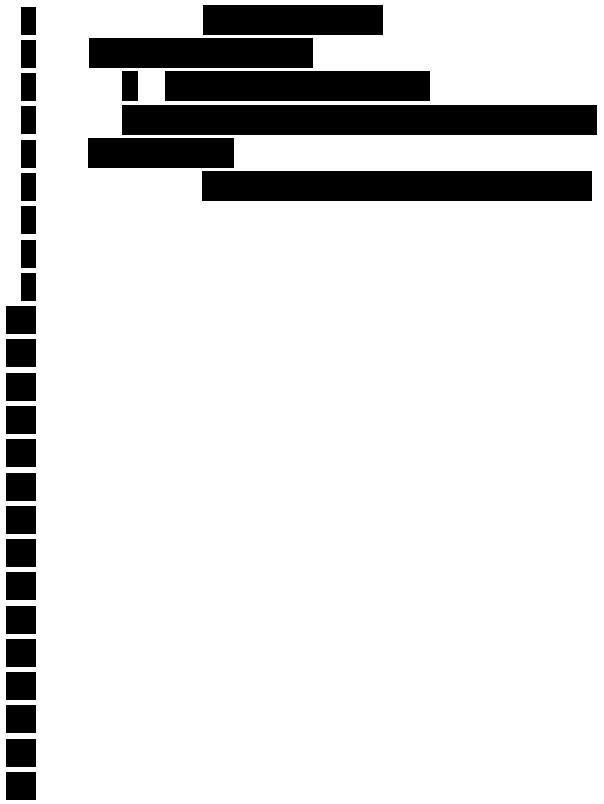

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coal ash or slag?

A No.

Q Stored there. It is your understanding that it was stored there in the past?

A I have seen that location with ash on it from pictures of the 1960's.

Q Is there anything else you have seen, or do you know where those pictures are located, do you know where you saw them?

A We have them on the site.

MS. CASSEL: Can we have those pictures produced?

MS. NIJMAN: I have given you all the pictures that we have.

MS. CASSEL: If we can identify what they are, that would be great.

Q Sir, is there any other -- other than those pictures, do you have any other basis for knowing there was ash stored on that site?

A No.

Q You said you thought it was in the sixties. Do you have any idea what the exact time frame is?

A I think 1963.

Q Do you know if that lasted for any longer

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than that single year?
A I cannot speak to that.
Q To your knowledge, is the ash or slag still there?
A I cannot speak to that either.
Q So you said at this point it's a grassy field?
A Yes.
Q Do you happen to know if there is a liner underneath where the ash is?
A I cannot speak to that.
Q Other than grass do you know if there is anything else covering that area at this point?
A That is all I know. It is a grass field.
Q So it is open to the sky?
A Yes.
Q Now, take a look if you would at top left-hand corner of this map. Do you see where it says former fly ash storage area?
A Yes.
Q Are you familiar with that area at all, sir?
MS. NIJMAN: Objection. You may not have been at these prior depositions, but an objection we have

to these reports is that it is not clear that the property boundary identified in any of these maps is the existing property boundary of the Midwest Gen facility, although I do note the area you are asking about is outside the Commonwealth Edison boundary here on this map.
MS. CASSEL: That is fair. I am still going to ask him about it.
THE WITNESS: I am not aware about fly ash being in that area.
MS. CASSEL: Q You are not aware of fly ash being in that area?
A Not aware.
Q Never in the past or in the present?
A I cannot speak to the past. I cannot speak to the present either. I have not seen any.
Q Have you heard anything at all relating to ash in that area?
A No.
Q Do you happen to know if that area is lined?
A No, I have no input about that at all.
Q Do you know if that area right now, do you know if that area is covered, or open to the sky?

A Open to the sky. It is actually a wetlands. Now not a listed wetlands, just water weeds.
Q Not formal wetland. Now, in the middle of the map let's see if I can find this, near the top right-hand corner it says ash dewatering AST, do you see where it says that near where it says former fire brigade training area.
MS. NIJMAN: What direction?
MS. CASSEL: Top right.
MS. NIJMAN: Ash dewatering AST, is what you are looking for?
MS. CASSEL: Yes.
Q Are you familiar with that area at all?
A I know where it is. I don't know what those are, though.
Q You don't know what AST stands for?
A No. AST normally means a storage tank, I think, but I don't think that exists any more. It is kind of hard to figure this out because some of the things don't exist. We have fly ash silos in that area right now, though.
Q In those fly ash silos would ash be in contact with the ground?

A No, it is in a silo that is transferred to a truck pneumatically.
Q Is that the same process as you described before where it might occasionally fall out?
A Same vendor, same everything.
Q Do you know whether there is ash on the ground in that area where the AST ash dewatering is identified?
A I think there may be some incidental ash spillage that is cleaned up. But the ground is gravel and the area underneath is pavement. So, no, I don't think there is any ash there. Speculation on my part.
Q Fair. Sir, do you see where it says former slag field basically right next to where it says ash dewatering?
A Yes.
Q Are you familiar with that area at all?
A I know where it is relative in your map. I am not familiar with the fact that it was used for a former ash field.
Q You have never heard that referred to as former ash field or, excuse me, slag field before?
A No.

Q You have no knowledge of slagging?
A No. I believe it's a parking lot now.
Q Do you happen to know if there are any other former ash storage areas at Waukegan other than those that we have already discussed?
A I am not aware of any.
Q Now, I would like to ask you a few questions about liner damage. Has the liner of the east pond been damaged since it was relined?
A I believe so. I have been told that there was some damage, I believe, in the one corner of the ash pond where the ramp is, there is some damage caused by a vehicle or a tractor.
Q Do you know when that took place?
A Guessing 2013, I believe.
Q Was that damage repaired?
A Yes, it was.
Q Do you -- you said it was caused by a vehicle?
A I have been told it was caused by a vehicle. Also talking about location of this is at very top of the pond well away from ash from the water lines.
Q And the liner itself was repaired?

A Yes.
Q Was anything done to prevent that type of damage from occurring in the future?
A I cannot speak to that. I think Chris Lux has been mainly in charge of that area. I assume he may have spoken to the vendor that was involved.
Q You don't have --
A I don't have that knowledge, no.
Q Are you aware of any other instances of damage to the east pond since it was relined?
A Currently we have a couple small holes, maybe less three inches in diameter that exist in the east pond.
Q Where in the east pond are those located?
A I was told they exist. I have never seen them. I was also told they are above the water line again. I have been told they have vegetation growing on them.
Q Over the water lines?
A Above the water lines.
Q Vegetation growing out?
A Yes.
Q Do you have any idea how long those had existed?

A No. Again, Chris Lux speculated to me we thought -- I spoke to you before about the process of dewatering -- they thought maybe a pump was placed there and damaged the lining.
Q When is the last time that a pump would have been placed there?
A I cannot speak to that. Maybe in the last few years. I cannot speak to that directly.
Q Do you know -- those have not yet been repaired, is that correct?
A No. We are having -- probably looking at repairing them in the middle of March. The issue is we have to be above a certain temperature to perform repairs. The chemicals that they use for this kind of repair only work above a certain temperature.
Q When were those holes discovered?
A I cannot speak to that.
Q Are there any protocols in use at Waukegan as to how to place pumps so as to avoid damage to the liners?
A I cannot speak to that. First of all, it was his speculation that was the cause. We don't think holes puncture like that would occur after normal use of the pond, so it is our speculation that

the pond -- it's a possibility that the pump -- replacement of the pump caused it, or the vibration of the pump running caused that.
Q To your knowledge, there is no protocol about where to place the pump in regard to avoid liner damage?
A No.
Q Or how to run a pump to avoid liner damage?
A Not that I am aware of.
Q When there is damage to a liner, are there any protocols regarding investigations or examinations of how that damage occurred?
A Leaks or damage to the liner are usually discovered via our inspection programs, and we have daily inspection by operators who circle the ponds. It could happen more than one time of the day, depending on the time of the year and the amount of daylight that exists. So they are the first line and they look daily, drive around the ponds and look, and then after they are cleaned there is usually an inspection that occurs, look around to see what is going on with the ponds. Obviously when they are cleaned and the operator is doing his daily round, the more of the pond that is exposed the more he

can see.
Q You cannot see the liner when it is covered with ash, is that correct?
A Correct.
Q Portions of the liner that are covered with ash?
A That is correct.
Q Is it fair to say that most of the time there is ash on at least some portions of the liner?
A The bottom part of the pond is actually lined with 12-inch layer of sand and six-inch layer of limestone so that would -- no, the ash does not exactly contact the bottom of the pond, the materials do that first and then the ash above that.
Q Are you aware of any instance in which the clean-out process has gone into or through the warning layer?
A I am unaware, but I do know we have been told that LaFarge received instructions they are to discontinue activity in the area where they actually get in the sand and limestone there.
Q Can you explain that?
A LaFarge has been told and instructed that their operators when they encounter the limestone or

sand that they discontinue their operation in that area.
Q So when they hit the warning layer, they are to stop dredging?
A Yes.
Q You are not aware at the time that they did?
A No.
Q Now, aside from the current damage that exists in the east pond and the 2013 instance that you mentioned, are you aware of any other instances where the east pond -- or not are you aware -- has there been any other damage to the east pond liner since the 2003 relining?
A I just told you what I know about the two things, the holes, the rips in the corner.
Q Do you know when LaFarge was instructed to stop dredging when they hit the warning layer?
A I believe -- actually I cannot speak to that, no. I just know as a general procedure when they conduct their activity in this pond they are told that.
Q You were not the person that told them that?

A No.
Q Do you know who was?
A No.
Q You spoke a little bit about the inspections, we discussed a little bit visual inspections. You said those are done every day, sometimes multiple times a day depending on the daylight. Who does those inspections?
A Operators.
Q They are only inspecting the part of the liner that they can see, is that correct?
A Yes.
Q Are there any other types of inspections of the liners that take place at Waukegan?
MS. NIJMAN: Other than what he testified to during dredging?
MS. CASSEL: Q Other than what you -- describe a little more to me what you said takes place in terms of the inspections?
A It is my understanding that at the end of the dredging, or I call it cleaning of the ponds, there is a visual inspection made to see if there are any issues.
Q That visual inspection, do they actually

remove the warning layer and the cushion layer, are they inspecting the liner directly?
A No. They are looking at mainly the sides and the areas that were cleaned.
Q So in addition to the daily visual inspection and the type of inspection that takes place when they are dredging the ponds or they dredged the pond, are you aware of any other type of inspection?
A I am not aware of anything else.
Q Do you know at other facilities other types of inspections used to investigate the integrity of the liner?
MS. NIJMAN: Like at Will County you mean?
MS. CASSEL: Or any of the other sites whether he knows that.
A I don't know that.
Q Have you ever heard of something called the continuity method?
A No.
Q Now, let's go to Deposition Exhibit 303, take a look at that, sir. The top one appears to be -- is this an e-mail from Chris Lux to Wayne Ollila?

A Yes.
Q Are you copied on that e-mail, sir?
A Yes, I am.
Q Are you familiar with this e-mail?
A I am aware this e-mail existed.
Q Do you recall receiving it?
A No.
Q Does it appear to be a true and accurate copy?
A Appears to be.
Q The e-mail that is down below that from Wayne Ollila to Chris Lux, was that forwarded to or were you copied on that e-mail?
A It does not appear to be. It looks like it was sent right to Christopher Lux. Do you agree?
Q Right. What I am asking you is in that top e-mail --
A It was part of the forwarded e-mail?
Q Exactly.
A I assume so. Appears to be, yes.
Q Do you see where in the below e-mail in the chain from Christopher Lux he says, "In a safety meeting with Todd, we discussed some possible rips in east ash pond and two rips in the ash pond liner."

Now, the damage in the east ash pond, possible rip in the east ash pond, is that the damage you were just discussing?
A I'm not sure. I do know there were holes there, that's what Chris told me about. I cannot speak to whether these rips were in the east pond. I can speak to the ones in the west pond.
Q Just quickly to close out on the east pond, is it possible that these are different rips from the ones you are discussing right now?
A I cannot speak to that.
Q Let's go to the two rips in the west ash pond. Can you tell me a little more about those?
A It is my understanding that there are two rips, one is about five-feet long and the other one is two-feet long. They are again visual and above the water line. Though the pond right now is out of service, so there is no ash contact in this area.
Q I'm sorry, there's no?
A There's no ash contact with these because they are well above the water line and the side of the pond. These also will be repaired by LaFarge when the weather is okay.
Q Do you know what caused those two rips in

the west pond?
A I am not aware.
Q Do you know when those two rips were discovered?
A I can assume it might be this e-mail.
Q You don't know?
A Categorically, no, I don't know that.
Q Do you know who discovered them?
A Wayne Ollila did here.
Q Appears to. You don't have an independent knowledge of that?
A No.
Q Those have not yet been repaired.
Do you know if any steps had been taken at this point to avoid that kind of liner damage in the future?
A Because I don't know the mechanism, I cannot speak to it.
Q Do you know if any additional steps had been taken to immediately identify that kind of liner damage in the future?
MS. NIJMAN: Other than the daily inspections?
THE WITNESS: Daily inspections and visual inspections.

MS. CASSEL: Q Above and beyond anything we have already discussed about how inspections take place in Waukegan?
A Restate that again.
Q Above and beyond the various types of inspections that we have discussed at Waukegan, the visual inspections on a daily basis and the one that is stretched out, are you aware of any other mechanisms that are in place to immediately identify liner damage?
A I am not aware of any.
Q Do you know if any steps had been taken to change the response to liner damage since these two rips occurred?
A No, I think multiple daily inspections, there are mechanisms that they usually talk to their supervisor or shift supervisor. In this case he actually went to Lux. Normally the supervisor would go right to Lux and make the same communication. They must be friends and he went directly to Lux. Lux is kind of the guy in charge of doing this.
Q So are you as part of your environmental compliance activities at Waukegan these type of liner rips get reported to you?

A Yes, I am made aware of them by copy of the e-mail.
Q That happens to your knowledge in any instance when there is a liner rip?
A Yes.
Q Is this a protocol in place to inform you of liner rips at Waukegan?
A I don't know if protocol. Understanding if it has anything to do with the ponds, Lux will usually always tell me.
Q Have you ever specifically asked Mr. Lux to tell you there is a problem?
A No, the management of the ponds is his responsibility.
Q In addition to these two rips from 2014 in the west ash pond, are you aware of any other instances of damage?
A No, just the holes I spoke to previously in the east pond.
Q For the west pond you are not aware of any other damage or rips?
A No.
Q Now I would like to take out Deposition Exhibit No. 304. Are you familiar with this document

at all, sir? You can take more time to review it if you need that.
A No.
Q Sir, if you would turn to the second page of this letter, which I believe is 12823. Do you see where under Item 2 it says in the last couple sentences of that "The relative stability of the sand and limestone layers should be examined by hand excavation of a portion of an exposed pond floor in the east pond while the area is accessible during current maintenance activities. It should also be checked when the west pond is dewatered and the sediment excavated as part of the routine maintenance." Do you see where it says that?
A Yes.
Q Are you familiar with whether or not those sand and limestone layers were examined by hand excavation of the exposed pond floors of those ponds at any time?
A I cannot speak to a specific instance of it, but the next sentence does speak to what I told you before about an inspection occurs after the pond is dewatered and cleaned out, so I have been told that does occur.

Q In terms of the stability of the pond walls -- excuse me -- the sand and limestone layers?
A Yes.
Q Is there any investigation of whether, for example, any limestone has migrated through the sand that you are aware of?
A Not that I am aware of.
Q Now, moving down to Item 4, I believe, the next page, Page 3 of that letter, still under Item 4, the last couple sentences in there, do you see where it says "adjoining pieces of batten should also be butted together to prevent gapping and subsequent leakage. The batten was not aligned or butted together at the change in plane on the sloped portion of the weir wall of the east pond sump."
Do you see where it says that?
A Yes.
Q Do you know whether or not the batten has been butted together at the change of plane in the sloped portion of the weir wall of the east pond sump?
A I cannot speak to it. Again, you know this is 2005, long before I was ever there.
Q Understand. Just asking about your

knowledge. Now, in Item 6 the last sentence of Item 6, do you see where it says the slope should be visually monitored to ensure the slope subgrade remains stable?
A Yes.
Q Do you know if the slopes are monitored to ensure that the slope subgrade remains stable?
A The slopes are visually monitored every day by the operators. I think any kind of substantial change they would report that. Also, again at the end of the cleaning, they would probably be looked at as well to see if there was any change.
Q You are saying they would probably be looked at?
A I think they would. That is part of the visual inspection to see if there is any kind of change or issue with the slopes. The slopes of the pond are probably the largest part of the visual inspection to a person driving by.
Q Do you know for sure if the operators were looking at that or looking specifically for any issues with the slope subgrade?
A I am not sure of that.
Q Have you ever been made aware of any

instance of any erosion of the slopes of the ponds?
A No.
Q Or any instability in the slopes of the ponds?
A No. Not that I can recall anyway. We had a tree growing up on the road. It was not part of the pond. But we had the tree removed.
Q And that is the only instance you can recall?
A Yeah.
Q Now, taking a look at where it says conclusions and recommendations, a bit below that, I am going to run through these and see whether you know these had been or continue to be taken care of. You see where it says under the first bullet point have the liner breach noted in Item 7, so there is a liner tear referred to in Item No. 7, was noted on the south side of the east pond.
Do you happen to know whether that liner tear was repaired?
A I cannot speak to it, no.
Q Now, in I believe this is bullet point two, it says during the above noted repair -- which we don't know what happened -- have the contractor

extend vertical batten near the structure on the north side of the pond to below grade at the anchor trenches. Do you know whether that took place?
A No, I cannot speak to that at all.
Q Do you know -- do you see where in Item 8 just above conclusions and recommendations it says "A wedge weld pressure test seam cut in the southwest corner of the west pond was not patched."
Do you see where it says that?
A Yes.
Q Do you happen to know --
MS. NIJMAN: It continues on, "this does not constitute a breach of the main portion of the liner."
MS. CASSEL: Q "But should be addressed by the repair crew when on site."
The question is whether it was addressed by the repair crew?
A I cannot speak to it.
Q Do you know whether looking at the next bullet point, do you see where it says "The access ramps should be reconstructed to ensure there is no future mechanical damage to the liner."
Do you know whether the access ramps

were reconstructed?
A I don't know. I cannot speak to it.
Q Do you see where it says "as a practice, no material should be dumped directly on the liner without a protective course on the liner. This protective course can be compromised of a heavy geotextile installed under a layer of clean fill or a suitable thickness concrete mattress constructed on top of the liner."
Do you know if there is either a concrete mattress on top of the liner or a geotextile under clean fill on top of the liner?
A No, I don't.
Q At either of the ponds?
A Cannot speak to it.
Q Do you know whether any material is dumped directly on the liner without any fill or concrete mattress or geotextile between the ash and the liner?
A We are told that the ash only contact the bottom part of the pond. That is where the limestone and sand is.
Q So ash does not ever contact the areas; it is never directly in contact with the liner, is that what you are saying?

A Yes. It's a possibility on the sides, I suppose. My understanding is that it is mainly contact the bottom, the weight of the ash contacts the bottom, vertical weight of it.
Q Has there ever been an instance to your knowledge where the ash was on the side slopes of the liner?
A As the pond fills, going from clean, as it fills I would assume -- I have seen where the ash maybe it is several feet thick and it does spread towards the sides of the liner. That's why we line the sides.
Q Do any of those -- does that fill, the sand or the cushion -- the cushioning layer or the warning layer does that go up the sides of the slopes of the pond?
A I cannot speak to that. I do know we have pylons to denote the start of the slope of the edges, and they would indicate to the person cleaning where those slopes are.
Q You are not aware of whether ash has ever gone beyond those pylon points up onto the slopes?
A I said as it fills they spread sideways, it contacts the sides, but again the weight of the ash

is basically on the bottom.
Q So you don't have a specific recollection as to whether or not it did or not?
A No.
Q Fair. Do you see where it says under the next bullet point on Bates Page 12825 Page 4 of the letter "perform regular inspections (semi-annual) of the anchor trench, particularly on the west pond, to monitor any additional settling that may occur."
A I see that.
Q Do you know whether those regular inspections --
A I cannot speak to it.
Q -- take place. Now, the next bullet point you see where it says, quote, "future design considerations should include geotextile between the sand base and overlying crushed limestone to preclude aggregate migration through the sand due to pressure, (i.e., from equipment traffic during pond clean out) which may cause the aggregate to be in direct contact with the underlying liner."
I think you already said you are not aware of any geotextile being placed between the sand and warning layer, is that correct?

A I am not aware that have.
Q Do you know if there is anything else between the sand and the aggregate warning layer above the liners?
A I have been told that the two layers exist, only two layers exist, the sand 12 inches of sand and six inches of limestone.
Q You may have already answered this, your counsel will object if you have, to your knowledge, are there any inspections to determine whether any of the aggregate warning layer is migrating down through the sand layer?
A Not that I know of.
Q I think we will move on from there. We have talked a little bit about the dredging at Waukegan -- Will County. I would like to ask you a little bit about the dredging practices at Waukegan. Can you tell me who does the dredging at Waukegan?
A LaFarge, same contractor for Will County.
Q And do you know if LaFarge is also the company that did the dredging at Waukegan prior to 2012?
A I really cannot speak to that. They have been the contractor for quite a long time for ash

handling, ash disposal, so I would say yes, I guess. I was not in Waukegan before. I cannot specifically say that. I just know they have a contract with the whole company to do the work.
Q For Midwest Gen, they have been the contractor?
A Yes.
Q Are you familiar with current -- can you tell me about current dredging practices at Waukegan?
A Yes. Like Will County, LaFarge uses heavy equipment, usually hydraulic excavator or front end loader, they load the ash on the trucks, the trucks take the ash off the property, and during the course of the -- during the course of the removal, we use those pumps I spoke of before to dewater various areas. A lot of time when you remove ash, the water will fill in, you need to pump that water away, so you can remove a drier product.
Q So is the ash moved around within the pond when they are draining them to clean them out?
A The pond is drained first and then they go in and get the driest portion first, and then as they expose, they go down they expose weathered ash and they attempt to dewater that by placing pumps in

strategic spots to get to the water.
Q The ash is dewatered inside the pumps?
A Yes.
Q How frequently are the ponds, the two ash ponds at Waukegan, cleaned out?
A I have been told 16 to 24 months.
Q Have they been cleaned out while you have been there?
A I think there was one being cleaned out right when I got there, in '12 I guess.
Q Do you know the volume of ash that is removed from those ponds?
A I don't.
Q Do you know whether ash is left in the ponds when they are dredging them?
A Specify amount. You cannot eat off the floor. There is always something left behind, it is incidental.
Q So there is a little bit of ash?
A 99 percent of the ash is gone.
Q Is there any particular area of the ash pond where there is more ash left in than others?
A I don't know if you see it on the maps, they are basically U-shaped and in the leg of the U

is usually where most of the ash drops out, so as you are flowing, as you have an U like this. (Indicating.)

Q Upside U?

A You have an U and the ash coming in on the one leg of the U.

Q The open part of the U?

A The open part. The ash is dropped out quicker because the velocity of the fluid it is getting less, that is when things drop out. You don't see a lot of ash going at the top of the U going back in the next leg. Usually we clean it out before that leg is filled.

Q So if there is ash left, it is generally left --

A On the inlet leg of the U.

Q Inlet side. Are you familiar at all or can you tell me about the dredging practices at Waukegan prior to 2012?

A Cannot speak to that. Cannot do it. I was not there. I have not seen it.

Q Did you speak with Chris Lux at all about that?

A I don't remember if he told me about that.

I have to tell you the practices that I have seen both at Will County and Waukegan are done exactly the same. We use front end loaders, excavators and dump trucks.

Q And the processes that you saw at Will County when you were at Will County are the same processes that you see currently at Waukegan?

A Yes.

Q The same contractor?

A The same company is responsible for it.

Q LaFarge. Is it generally the same equipment used to dredge?

A Same type of equipment, yes. An excavator, usually a tractor and front end loaders and dump trucks.

Q That equipment was used when you were at Will County and it is used now, that type of equipment?

A Yes.

Q Now, to your knowledge, is there anything different; has there been any changes in the dredging practices at all?

A I did speak before about the instructions that we give, I have been told we give to the

contractor, to stop or suspend his activity the warning layer at the bottom, so I don't know if it is different. That is an instruction that they have to serve.

Q Do you recall whether that instruction was given when you were at Will County?

A I cannot speak to that.

Q So you don't know how long they have been getting that instruction?

A No.

Q Let me move on to Exhibit No. 305. Take a few minutes to review that and then if you would let me know if you are familiar with that e-mail chain?

A I am familiar.

Q Is it true that you wrote the top e-mail on the chain?

A The first e-mail?

Q The 9:21 a.m., the first e-mail, the one that begins with "All: We discovered several piles of fly ash"?

A I wrote that.

Q This appears to be a true and accurate copy of that?

A It appears to be.

Q The top e-mail on this says, last of the chain, "thanks for following up on this matter"?

A I did that, yes.

Q His appears to be a true and accurate copy of that?

A Appears to be so.

Q Is it true that you were forwarded -- you received an e-mail from Chris Lux, the second e-mail in the chain that says "I sent this e-mail this morning." Did you receive that e-mail from Chris?

A Appears to be so, yes.

Q Do you recall -- was the e-mail that he sent, that Mr. Lux sent to you by Bob Segiet, Jerry Wade, McLaughlin, is that an e-mail that was forwarded to you by Chris Lux in the chain?

A Yes.

Q This appears to be -- all four of these e-mails in the chain appear to be true and accurate copies?

A Appears to be so, yes.

Q Now, let's look at the last e-mail from -- actually the first e-mail in the chain I should say.

A The one I wrote?

Q The one you wrote at 8:18 a.m. on September 12, 2014. You reference several piles of fly ash dumped on the ground, right?
A Yes.
Q Who discovered the piles that you referenced there?
A I believe an operator did and he called me and I went out and looked.
Q So you personally saw those piles?
A Yes.
Q How big were the piles?
A Probably six, eight feet in diameter, about four-feet high.
Q How many piles were there?
A Half a dozen.
Q What was in the piles, was there anything other than fly ash in the piles?
A Probably fly ash. As he said in this e-mail, that at the time we were having a big outage, we were rerouting ductwork and they removed the ductwork in order to do that. When they did the ductwork removal, they found ash inside the ductwork which they vacuumed, and they weren't probably given good instructions to where to put that and they just

dumped it in that area on their own.
Q So can you describe a little more this ductwork that was on the actual plant?
A Unit 7, which was in overhaul at the time, was undergoing an environmental improvement overhaul where we were rerouting the duct with the flue gas ductwork from hot side precipitator to a cold side precipitator, and we were saving a lot of money by leaving the precipitator alone and actually rerouting all the ductwork. We removed a lot of the old stuff and replace it with new ductwork.
Inside the old ductwork were accumulations of fly ash that had to be cleaned out before it was moved out of the way.
Q So this is the ductwork that had gone --
A By vacuuming it out and the vac truck probably went to this area and dumped this stuff out. Once again, they were not given good instruction on how to do that or where to do it. His e-mail points their responsibilities.
Q In terms of your finding out how this happened was the cause of that, did you personally investigate that, or how do you know that is what occurred in terms of the vacuum trucks?

A Well, actually I prompted it. I sent the employees, including Chris, because Chris being one of the people, one of the persons responsible as you already know and he took it from there and handled the contractors. I wanted to make sure I sent to all the employees because it was an understanding throughout the station to our employees that it is unacceptable to leave fly ash around.
Q Understood. In terms of the description you just gave me of how this occurred where it came from, I am trying to understand how you know that, did you yourself personally see vacuum trucks dumping it there, or how do you know that is what happened?
A Chris Lux told me.
Q He did that investigation?
A Yes.
Q Now, in addition to this e-mail to all employees, have you had any further discussions with any Waukegan employees about this incident?
A No.
Q Have you had any further discussions with them about what to do with fly ash?
A As you see in Chris' e-mail there, we have a lined dumpster to put flying ash in. It is taken

out to a landfill near Joliet called Laraway Road.
Q So have you personally discussed with employees the need to --
A I don't have direct contact. I don't manage employees, so it is done through my contact with their supervision.
Q Your contact with what?
A With their supervision. Again, this e-mail basically went to all management and union people.
Q So you told the management to put them in the dumpsters. Do you know whether the managers have talked to the employees, the operators?
A As a practice, we don't do that in Waukegan.
Q You don't do what? I'm sorry.
A Dump fly ash on the ground.
Q I am just trying to --
A This was -- a better word -- this was an aberration because we were doing this special work, this overhaul.
Q I appreciate you saying that. Right now what I'm trying to understand is whether or not you told the managers to talk to the employees about that. Do you know whether or not the managers did

have further discussions with the employees?
A I cannot speak to that.
Q You have not had any discussions with operators directly about why it was dumped in that particular location, the fly ash?
A No, I have not.
Q Do you know if Chris Lux or any managers have?
A I cannot speak to that.
Q Have you discussed this incident of the fly ash piles with anyone else at Midwest Generation?
A I cannot recall.
Q Do you know how long those piles had been there?
A No, I don't.
MS. NIJMAN: How long they were there?
THE WITNESS: I can tell you within the framework of the outage, probably one or two weeks, maybe three weeks.
MS. CASSEL: Q Prior to that?
A Prior to the discovery.
Q So you think they may have been around about two or three weeks?
A That is what I was told by Chris Lux, they

had done that work in the previous two to three weeks. I cannot say the date or time it actually happened.
Q Now, looking at the e-mail that Chris Lux sent at 9:01 a.m. that day, the third e-mail down, do you see where he says on the top of that, the next page on top of 44589, quote, "It is obvious that NRG Waukegan Station employees are still learning the do's and dont's of the fly ash disposal, so if anyone observes our station employees violating this guideline, please let me know ASAP."
Do you see where it says that?
A I do see that.
Q Did you agree at the time of this e-mail with his statement that it is obvious that the NRG station employees are still learning the do's and dont's of fly ash removal?
A "Agree' is not quite the word for it, but obviously an operator told me about that, so I thought it was indicative of a sense that it was the wrong thing to do.
Q So you did not necessarily agree with that statement, that they are still learning the do's and dont's of fly ash disposal?

A I cannot speak to the employees, each one knowing whether they do the right thing or not. My sense was I thought I had a good indication that an operator did tell me about them, so I thought that was a good thing for me to know he was sensitive to it.
Q That someone noticed it?
A Yes.
Q Do you think that is still -- do you think it is still the case, or do you think it was ever the case that Waukegan station employees were still learning the do's and dont's of the fly ash disposal at the station?
MS. NIJMAN: Calls for speculation.
THE WITNESS: I cannot speak to what is on their minds. I mean I sent the mail out to let people know, to recommunicate the fact it is unacceptable to do that.
MS. CASSEL: Q Going back to the same e-mail that Mr. Lux wrote on the page before, do you see where it says "the Hayes yard crew in the back forty by the coal pile runoff basin must be informed not to utilize the WM dumpsters at the west end of the gravel laydown area adjacent to the coal pile runoff

basin as regular garbage."
A Yes.
Q Are you aware of anyone ever using those designated dumpsters that were supposed to be for coal ash or any other garbage?
A At the time they had done that. We did discover some garbage. Pipefitters were doing welding back there for the same project I spoke of before, and in the power plant world if you see an open dumpster it's usually an open invitation to put something in.
Q Is there anything on the dumpster that indicates it is going to be for fly ash?
A It is put up against a ramp with a truck would come up and dump backwards in the dumpster. It would take a little bit of effort to do it. Again, an open dumpster is an invitation sometimes. We have to let them know it should not be done.
Q Do you know what they dump in there?
A No idea.
Q Do you know if it was Midwest employees, or just outside contractors?
A They were the ones out there working, so the assumption was they were the ones doing it. For

a Midwest employee to be doing it he would be going way out of his way to do it. Usually the proximity is the motivator for this kind of thing.

Q The e-mail you sent was to all Midwest Gen all Waukegan employees. Do you know if the outside contractors you were working with were also informed of where to dispose fly ash or any information?

A I would assume this e-mail covered it because he sent it to the people running the project.

Q So they were told not to use it as garbage bins and told only for fly ash?

A Right.

Q Did those contractors have anything to do with fly ash disposal?

A No. They were pipefitters doing welding on pipes for the project.

Q Do you know if the use of those dumpsters that were as I understand supposed to be used for fly ash, do you know if that interfered in any way with the ability to dump the fly ash there, did they run out of room, for example?

A No, not that I know of. I don't think so.

Q Did anyone tell you either way?

A No.

Q Those dumpsters that are designated for ash, are those lined dumpsters?

A Yes.

Q Are you aware of anyone using unlined dumpsters for coal ash in Waukegan?

A Not aware of that.

Q Have you ever been aware of coal ash being dumped on the ground at Waukegan before the instance that you described here in this September 12, 2014 e-mail?

A No. That area was clear when I first arrived.

Q So on that particular ground you are not. Anywhere else on the ground in the Waukegan facility?

A Nowhere else.

Q Have you ever heard of ash dumped on the ground subsequent to that action?

A No.

Q That September period?

A I was aware of these ones there.

Q But since that time?

A Not that I'm aware of.

Q Now, we have talked about you sent an e-mail to the operators or to the managers. Did you

take any other steps to prevent ash being dumped on the ground other than --

A Again, Waukegan employees are management and union, so that e-mail heading goes to all employees, including management.

Q So in addition to this e-mail that went out to all employees -- and thank you for clarifying that -- is there anything else that has been done?

A No.

Q Now, let's take a look at Deposition Exhibit No. 306. Are you familiar with this e-mail, sir?

A Yes.

Q You were the author of this e-mail?

A Yes.

Q Does this appear to be a true and accurate copy of that e-mail?

A Appears to be so.

Q You are referring in this e-mail to fly ash being transported to a landfill, is that correct?

A Yes.

Q What fly ash is getting transported?

A That would be the fly ash in the roll off boxes that we have been talking about.

Q In the roll off boxes, okay. This was not the fly ash that was on the ground?

A The ground, I brought in roll off boxes, that we put the stuff from the ground in the roll off boxes and took it to Laraway Road near Joliet.

Q It was on the ground and then put in roll off boxes and then taken off?

A Yes. Lined roll off boxes.

Q Lined. Do you know how many truckloads it took to haul away that ash?

A I can't remember.

Q Do you know how big the --go ahead.

A It was several. I think there were 20 yard boxes, I cannot recall, so I shouldn't speculate.

Q You don't remember the size of the boxes?

A No.

Q Do you know how big the trucks were?

A No.

Q Now, moving along I would like you to take a look at another e-mail, which is Exhibit No. 307. Take a minute to look at that. Once you do that, let me know if you are familiar with this e-mail?

A Yes.

Q Did you write this e-mail, sir?

A Yes.
Q Does it appear to be a true and accurate copy of the e-mail?
A Yes.
Q Here you state "I have scheduled three trucks from Kirschhoffer Truck Service to arrive Monday to start removal of the waste fly ash pile." Do you see where you say that?
A Yes.
Q Where was this waste fly ash pile that you are referring to?
A When I first got there, there was an old pile of junk, it had metal in it, some bottom ash, maybe some fly ash. That is the stuff I got rid of.
Q Bottom ash, fly ash?
A It is hard to say what it was, but we basically took the conservative route and labeled it a fly ash and took it down to Joliet.
Q Where on the property was it located? Maybe we can pull out the map again, that was 45817. This is Deposition Exhibit 302.
A Right here. Between right here. (Indicating.)
Q Which direction?

A To the west of the coal power runoff pond.
Q How big was that pile?
A About 20-foot diameter, maybe, six, seven feet high.
Q Was it near where it says construction debris?
A It was to the east of that.
Q You said it was 20?
A About 20 feet in diameter, six, seven feet high. Been there a long time.
Q You are not aware how long it had been there for?
A No.
Q How did you know it was there a long time?
A It looked rather weathered.
Q So from the looks of it?
A Right. It is my responsibility to get that stuff out of the pile and get it out and we did.
Q It had been there prior to your --
A It had been there for a while and I became aware of it and got rid of it.
Q Did anyone tell you how long it had been there?
A No.

Q Or just based on what you saw it looked old. Okay.
Was that pile located on any sort of tarp or liner, or was it on the ground?
A It was on the ground.
Q Do you know how many trucks it actually ended up taking to get rid of that pile?
A I don't recall that.
Q Do you know how many days that actually took?
A I don't recall that either.
Q This is a different pile of stuff than was discussed in September 2014?
A Yes.
Q Was it you that discovered this pile, or just operators knew it?
A I discovered it.
Q Did you say if it was just one single pile?
A It was. Again, it unfortunately had other debris in it besides ash. Had some steel in it and some other things.
Q Do you know how it got there?
A No.
Q Did you discuss the issue with any of the

Waukegan employees?
A No.
Q You never asked anybody why or how it got dumped there?
A No.
Q Did you discuss this pile or the removal of the pile with anyone else other than in this e-mail?
A No, that I can remember anyway.
Q Now, we talked about some fly ash, mixed fly ash and other things, piles on the ground that you found in March 2014.
MS. NIJMAN: I object to the characterization because he said they labeled it fly ash to be conservative.
MS. CASSEL: Q Were you aware --
A I couldn't speak to the actual content or constituents of it. More to be conservative, we took it out as fly ash because it's a different kind of landfill.
Q Did it appear to be fly ash to you?
A It was hard to say.
Q You did not have any tests done?
A There are no tests to differentiate between the two. Very difficult to differentiate between the

two ashes.
Q What you thought is bottom ash and fly ash?
A Yes.
Q So aside from these two incidents we talked about in March 2014 and September 2014, are you aware of any other instance where any sort of ash or slag was on the ground?
A No.
Q Are you -- other than observation, your conclusion or description of it as ash, is that based on observation alone?
A Right, visual.
Q To your eye it looked like ash?
A Yes.
Q Now, I would like you to take a look at another exhibit which is Exhibit 308. This is marked as Deposition Exhibit No. 308. Are you familiar with this e-mail, sir?
A Yes.
Q You authored this e-mail?
A Yes.
Q Does this appear to be a true and accurate copy of this e-mail?
A Yes.

Q If you can describe to me a little better what is being discussed in this e-mail?
A We had some fly ash that they had -- this was a spill from a fly ash hopper. They had a vac truck that wanted to dump it somewhere. I did not want them dumping on the ground. I rather have them dump in a lined pond, so I asked them to put it in with the bottom ash, one corner of the lined pond.
Q So where was the ash taken from?
A It was vacuumed off the floor from a roomful of fly ash hoppers.
Q Then once it was vacuumed it was in a vacuum truck?
A Vacuum truck and I didn't want them dumping it on the ground, so I had them dumping in a lined area.
Q So was it actually dumped into one of the lined areas?
A Yes. The pond was out of service.
Q So it was dumped into --
A The idea being you didn't want water to contact the fly ash.
Q So do you know which pond it was dumped into?

A I don't know. I don't remember. It was out of service pond.
Q Is it true that one of them is out of service at any time?
A Yes.
Q Only one is receiving --
A Right.
Q -- sluice?
A Yes.
Q When you refer -- you mentioned someone named Maria here. Who are you talking about?
A Maria Race.
Q Did you have conversation with Maria Race about this?
A Yes.
Q Did Maria make the suggestion about dumping it in an inactive pond?
A Yes.
Q Did you say anything to Maria prompting that suggestion?
MS. NIJMAN: Objection, vague.
THE WITNESS: I mean I called her to ask her for advice on how to handle it and that is what she gave me.

MS. CASSEL: Q Where did fly ash from Unit 7 go prior to this instance?
MS. NIJMAN: Objection, misstates prior testimony.
MS. CASSEL: Q Or what is U-7, what is that referring to?
A Unit 7.
Q It is Unit 7. So where does fly ash when you send it normally go?
A It goes to the fly ash silos now.
Q Are there other instances where there has been fly ash vacuumed up from hoppers?
A I cannot speak to that.
Q This is the only instance that you were aware of?
A The one instance I was aware of, yes. Again, as you go forward in the year we would start to use lined boxes to do this.
Q To remove the ash?
A To get the ash out of the property.
Q So this is prior to when those lined boxes were used?
A Yes, this is.
Q So were there any other instances in which

ash was dumped into ponds?
A Not that I know of. This is what I know about here.
Q How do you keep water from contacting the ash if it's in the inactive pond?
A We don't use the pond again until it is clean.
Q If it rains, wouldn't the water contact the ash?
A It is possible, yes.
Q I mean when those ponds are inactive, they are not covered over?
A No.
Q Now, we will move to Deposition Exhibit No. 309. Are you familiar with this e-mail, sir?
A Yes.
Q You recall receiving it?
A I do, yes.
Q Does it appear to be a true and accurate copy of the e-mail?
A Appears to be so, yes.
Q Sir, there is a report attached to the e-mails that were forwarded to you, is that right?
A Yes.

Q Did you review that report when you received it?
A I did, but I don't remember much of the particulars about it. I did see this report.
Q Does it appear to you as far as you recall to be a true and accurate copy of the report?
A Appears to be so, yes.
Q Do you know who arranged for the Valdes Engineering Company to do this ash pond berm visual assessment that is described in this report?
A Yes. It's addressed to Chris Lux. Since Chris Lux is on the e-mail, I would assume Chris Lux did it. He is the engineering manager. He has responsibility for dealing with engineering companies to do this kind of work.
Q So based on the name on here, but not based on independent knowledge, you think he's the one who did it?
A Yes.
Q Now, do you know why he would have or he did schedule this inspection?
A I don't.
Q Do you know whether prior to this inspection any inspections of the berms at the ponds

had been performed?
A No, I don't know that.
Q Now, taking a look at second page of the report, 44602, the inspection report do you see where it says "We reviewed our records on the ash ponds. Previous maintenance recommendations include installing a plank and rod soil stabilization system in 2002 and a recommendation for a similar repair in 2008 near station 14 plus 50."
Do you see where it says that?
A Yes.
Q Do you know whether or not a plank and rod soil stabilization system was installed?
A No, I don't.
MS. NIJMAN: I just object to the extent that two sentences later it says the location of the 2002 repair. It seems to discuss the same thing.
MS. CASSEL: I am asking about his knowledge, though.
Q A recommendation for a similar repair in 2008. Do you know whether a similar repair was made in 2008?
A No, I don't.
Q Do you know what station 14 plus 50 refers

to?
A No.
Q Now, on the next page, 44603, under recommendations, do you see where it states "We recommend performing annual inspections of the berm. We suggest performing the inspections in March or April before the trees and bushes leaf out."
Do you see that?
A Yes.
Q Do you know if those annual inspections are planned to take place? I am assuming -- well, has one taken place since this report?
A It's an annual inspection. It happened in '14. We are due for one in '15.
Q I wanted to ask if you plan to have annual inspections performed?
A Yes. That is the reason why the first part of the e-mail is for me to put that task in our environmental task tracking system to follow-up on that.
Q Is that INTELLECT Task?
A That is what we do, that is our tracking system. So I will get an e-mail and somebody tells me to schedule that, or I will get an e-mail and tell

somebody to do it.
Q You will get a reminder to make sure that is done?
A Yes.
Q Due by May 1st. So you should receive that by May 1st of next year?
A Yes.
Q I want to ask you a little bit about the liners at Waukegan. Are you familiar with the liner at Waukegan west pond predating its new lining, did you say it was 2004, or 2005?
A They were both, one was '03 and '05, I believe. East was first and west was second.
Q So do you know or are you familiar with the form of liner that was in place in Waukegan prior to that?
A I know it was called Hypalon. Beyond that, I don't know. I know it was replaced because the Hypalon was weathered.
Q Do you know whether it was Pox-O-Pac as well, or just Hypalon?
A I know it was Hypalon there. That is all I know about the lining there.
Q You don't know the composition or

thickness? I'm sorry, the composition you told me was Hypalon. Do you know about the thickness?
A Of the Hypalon, no.
Q Anything about the permeability of the Hypalon?
A No.
Q Do you know whether there was a warning layer above that Hypalon?
A I am not aware of that.
Q Or cushion layer?
A I do not know.
Q You don't know whether there was geotextile installed above that liner?
A I don't know.
Q Now, some questions about the current liner. Are you familiar with the current liner of the west pond?
A I am aware it was installed, yes.
Q Can you describe what you know about the liner?
A Polypropylene 60 millimeters thickness.
Q Polypropylene, is that known as HDP?
A High density polypropylene.
Q Do you know anything about the permeability

of that liner?
MS. NIJMAN: Only if you know. I object to the extent the witness is a layperson.
THE WITNESS: I am not an expert on the liner. We use because it is impermeable. That is just logic.
MS. CASSEL: Q Do you know whether or not the HDP liner has a warning layer above it?
MS. NIJMAN: I believe this was asked and answered.
THE WITNESS: Yes, we spoke before about the 12-inch sand layer and six-inch limestone.
MS. CASSEL: Q The sand is the cushion layer and the limestone is the warning layer?
A Yes.
Q And I believe we also discussed before that you don't know whether there is geotextile, is that correct, above either of those liners -- excuse me -- above the HDP liner?
A I don't know if there is. I was told only those two layers exist. That is my testimony.
Q I appreciate that. I recall that conversation now. I don't recall if I asked this about Waukegan, or Will County, your counsel will

remind me if I already asked it, do you know if there was ash left under the HDP liner at Waukegan west pond?
A I was told by Mr. Lux that there was soil underneath the liner, no ash. Just soil.
Q Is that for both west pond and east pond, or just the west pond?
A That is my understanding, both.
Q Have you participated in any conversation about relining the west pond in the future?
MS. NIJMAN: Objection to the extent it calls for a conversation with counsel, or in-house counsel with Midwest Generation.
MS. CASSEL: Q So outside of counsel, have you had any conversation?
A No, I have not.
Q Do you know does Midwest Gen have any process for determining whether or not if the pond should be relined?
MS. NIJMAN: Same objection.
THE WITNESS: Do I answer?
MS. NIJMAN: You can answer to the extent it does not involve conversation with counsel or in-house counsel.

THE WITNESS: Mr. Lux has spoken to me about this and said that we probably look at the frequency of failure of rips or tears to determine whether or not there would be relining.

MS. CASSEL: Q Has any analysis of the frequency of damage or repairs of this liner started?

A Again, I have been told it has not been an issue so far.

Q As I recall, all of our discussions about the liners at Will County those pertain to both the east and west pond in terms of there being a cushion layer and warning layer and you not knowing whether or not there is a geotextile layer there on top of the liner?

A You want to just ask about Waukegan?

Q I will go ahead and ask the same questions and I may have misspoken and said Will County instead of Waukegan. I will ask you the same questions and again counsel will remind i me if I have.

Now, the liner of the east pond prior to its relining, are you familiar with that old liner at the east pond?

A That is the Hypalon.

Q Do you know the thickness of that Hypalon

on the east pond?

A No.

Q Do you know the permeability?

A I do not.

Q Do you know whether there was a warning layer above the Hypalon?

A I do not.

Q Do you know whether there was a cushion layer above the Hypalon?

A I don't know.

Q Do you know whether there was any geotextile installed above the liner?

A I don't know.

Q Are you familiar with the current liner at the Waukegan east pond?

A Yes.

Q Is this an HDP liner?

A Yes. High density polyethylene.

Q And was this also 60 millimeters?

A That is my understanding, I was told 60 millimeters, and they are both lined with the same material.

Q Does that also apply to also having the sand layer and then the warning layer?

A Of limestone, yes.

Q That is at the east pond as well?

A Yes.

Q The warning layer is of limestone you said?

A Yes, 12 inches of sand and six inches of limestone.

Q Does the liner -- the current liner at the east pond, does it have a geotextile installed above it?

A No, it does not. All I know is the two layers we have are sand and limestone above the liner.

Q Again, aside from conversations you had with counsel, have you participated in any conversations about relining the east pond in the future?

A No.

Q Do you know if Midwest Generation has a process for determining if and when the east pond should be relined?

MS. NIJMAN: Same objection.

THE WITNESS: Just the frequency of incidents of repairs.

MS. CASSEL: Q Has that evaluation been done to

your knowledge?

A No. Mainly caused by man, not by the failure of the liner.

Q I am going to ask you a few questions, a couple other things on -- first I want to ask you about ground water monitoring. You said earlier -- correct me if I am wrong -- that you received or -- I'm sorry -- you are in charge of scheduling the sampling with the experts?

A KPRG is our contractor that does the sampling and sends the samples out for analysis. Once they get the analysis results, they do a report.

Q Do you receive the reports that they generate?

A Yes.

Q Do you review those reports?

A I go through them. I don't go through the data. I go through some of the cover letter normally.

Q So do you have any responsibilities related to those reports, what to do with them?

A No, I don't.

Q You don't have any responsibility related to the results or interpreting the results of those

reports?
A No.
Q Do you pass those reports on to anyone else at Midwest Generation?
A I think KPRG copies the people that need to see the report. I can't recall who is on the distribution list, but I am on the list.
Q You yourself don't forward them?
A No, I don't.
Q When you look at the cover letters, what are you looking for in the cover letters?
A To make sure the dates correspond to when this occurred, and that's about it.
Q You have not performed any analysis of the results of those ground water monitoring?
A No.
Q You have not interpreted that data at all?
A No.
Q Now I am going to ask you a few more questions about the Will County facility. We are getting close to it. We are almost there.
Now, we had discussed an area in the Will County site called the slag or what was identified on the map as the slag and bottom ash

dumping area. Do you recall that discussion?
A Yes.
Q You said you were familiar with that area, is that right?
A I knew where the area was that you pointed on.
Q Had you ever heard the term slag and bottom ash dumping area before?
MS. NIJMAN: Asked and answered.
THE WITNESS: No.
MS. CASSEL: Q We were discussing I believe it was termed a primary slag settling basin?
A Yes.
Q Correct me if I'm wrong, you described that as a pond next to between one north and one south?
A It's basically just east of one north, extends a bit further to the south of the end of that pond.
Q Can you describe to me again, did that receive only the overflow water from one north or one south, or did that also receive slag?
A The other way around. The initial -- the inlet to that pond was the water, the sluice water containing slag in Units 1 and 2, so as it hits the

pond, like I said before, the velocity slows down, the stuff settles out, and the overflow of that pond goes to the one north and one south.
Q So that is the primary place where the sluice goes, the first place where it goes?
A Right, yes.
Q And then is that settling basin also cleaned out as well?
A This primary one you just spoke of?
Q This one that we are talking about.
A Yes.
Q Do you know how frequently it is cleaned out?
MS. NIJMAN: You mean historically?
THE WITNESS: Those units have been retired for many years. Several years. Mid-2000's.
MS. CASSEL: Q Does it continue to be used?
A No.
Q When it was used, do you know how frequently it was cleaned out?
MS. NIJMAN: Calls for speculation.
THE WITNESS: Every other week.
MS. CASSEL: Q To your recollection, when was the last time it was used?

A I don't remember. It was mid-2000 it was retired.
Q Do you ever recall any leaks or leaches from the primary slag settling basin?
A No.
Q Do you recall any overflow knot into one end?
A No. That pond was designed for overflow to go to the trough and the trough would be diverted to the two ponds.
Q Was the trough lined?
A Concrete trough.
Q So it was not lined with anything?
A No.
Q So that trough would receive the overflow water after the initial bottom ash sluice had settled in that first pond and it went from that trough into --
A I make a distinction between slag and bottom ash here because in those days Units 1 and 2 grew slag. Slag is more saleable and has more commercial reuse than normal bottom ash.
Q You are saying it was called slag because it came from the cyclone boiler?

A Right. In those days they used to use it for roofing material, composite roofing material.
Q Do you know if there has ever been any soil boring taken of the area where that trough, the concrete trough was?
A No, I don't know that.
Q Do you know if there are any ground water monitoring wells in the area where the trough is?
A I cannot speak to that. I know those wells exist. I don't know where their locations are.
Q Is that trough still used for anything?
A I'm going to take a step back and say I have not been there in two years, so I can't speak to it.
Q When you were there, was that trough still being used?
A Once the units were retired, the trough was not used any longer.
Q When you were there last -- when you were there last, did that trough still exist, was it still there?
A Physically?
Q Yes.
A Yes.

Q The primary slag settling basin, was that lined?
A It was concrete basin.
Q Were you aware if it had any HDPE or Hypalon or Poz-o-Pac liner?
A Concrete basin.
Q Was that covered over after it ceased being used?
A I cannot speak to that.
MS. CASSEL: I think we have got one more. Do you mind if we take a quick break for three minutes.
(Whereupon, a recess was taken.)
MS. CASSEL: Q Sir, you discussed sort of a method for determining when the pond in Waukegan might need to be relined, and you said that would turn on the frequency of repairs.
Is there a certain threshold that would trigger the need to reline a pond?
A Not that we have determined yet.
Q Is there any other type of threshold that would trigger the need to?
A I have been told by the people who install the lining -- actually Chris told me that the people that install the lining, the lining was good for

50 years.
Q You are laughing about that?
A No. That's what they said.
Q They said it is good for 50 years.
There is no threshold of number of repairs or anything to your knowledge that would trigger the need to reline?
A As I spoke before, I believe -- I think Chris believes that the things we have seen so far are man-made and not inherent to the stability of the liner.
Q Now, final question about that primary slag settling basin that is no longer in use. Do you know if there is still slag in that basin?
A I cannot speak to that. I can tell you since it's saleable they probably got rid of it pretty quickly because it was worth something.
Q You don't know that as a fact?
A I don't know that.
MS. CASSEL: I think we are all set.
MS. NIJMAN: Reserve signature, please.

FURTHER DEPONENT SAITH NOT . . .

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
SIERRA CLUB, et al.)
)
)
Complainants)
)
vs.) NO: PCB No-2013-015
(Enforcement-Water)
)
MIDWEST GENERATION, LLC,)
)
Respondent.)

This is to certify that I have read the transcript of my deposition taken on the 20th day of February 2015 in the foregoing cause, and that the foregoing transcript accurately states the questions asked and the answers given by me, with the changes or corrections, if any, made on the Errata Sheet(s) attached hereto.

_____
FREDRICK VEENBAAS
Subscribed and sworn to
before me this day
of 20____.

Notary Public

STATE OF ILLINOIS)
) SS:
COUNTY OF COOK)

Linda McMahon being first duly sworn on oath, says that she is a Certified Shorthand Reporter, that she reported in shorthand the testimony given at the taking of said deposition and that the foregoing is a true and correct transcript of her shorthand notes so taken as aforesaid and contains all the testimony given by the deponent at said deposition.

And further, that she is not connected by blood or marriage with any of the parties to this action, nor is she a relative or employee or attorney or counsel of any of the parties, or financially interested directly or indirectly in the matter in controversy.

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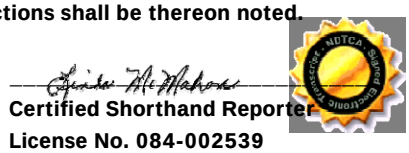

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March 16, 2015

Ms. Jennifer T. Nijman
Nijman & Franzetti
10 S. LaSalle
Chicago, Illinois

Re: SIERRA CLUB v. MIDWEST
DEPOSITION OF FREDRICK VEENBAAS

Dear Ms. Nijman:

Enclosed is your copy of the deposition of FREDRICK VEENBAAS which was taken on February 20, 2015.

As signature was reserved, please arrange for the deponent to review his transcript making any necessary corrections on the errata sheets. Then have him sign the deponent's signature page and have the signature notarized.

Please send the original errata sheets and signed deponent's certificate to MS. JENNIFER CASSEL , keep a copy for yourself, and please send a copy to me.

According to Illinois Supreme Court Rule 207(a), signature must be obtained within 28 days or the deposition may then be used fully as though signed. Therefore, your prompt attention in this matter is greatly appreciated.

Sincerely,

Linda McMahon, CSR
Sullivan Reporting Company

cc: Ms. Cassel

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Exhibit E7
(REDACTED)

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:	)	
	)	
SIERRA CLUB, ENVIRONMENTAL LAW AND POLICY CENTER, PRAIRIE RIVERS NETWORK, and CITIZENS AGAINST RUINING THE ENVIRONMENT,	)	
	)	**PCB No-2013-015**
Complainants,	)	**(Enforcement - Water)**
	)	
v.	)	
	)	
MIDWEST GENERATION, LLC,	)	
	)	
Respondent.	)	

The discovery deposition of RICHARD FRENDT, called by the Complainants, for examination, taken pursuant to notice, taken before CARYL L. HARDY, a Notary Public within and for the County of Cook, State of Illinois, and a Certified Shorthand Reporter of said state, taken at 10 South LaSalle Street, Suite 3600, Chicago, Illinois, at the hour of 9:56 a.m., on the 11th day of December, A.D., 2014.

APPEARANCES:

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MS. KRISTEN LAUGHRIDGE GALE,
Appeared on behalf of the Respondent.

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(The witness was duly sworn.)

MS. BUGEL: I apologize. Off the record for a second.

(Discussion had off the record.)

RICHARD FRENDT,

called as a witness herein, having been first duly sworn, was examined upon oral interrogatories, and testified as follows:

EXAMINATION

BY MS. BUGEL:

Q. Mr. Frendt, could you please state your name for the record.

A. Richard Frendt.

Q. And would you please spell that for the court reporter?

A. Frendt is F-r-e-n-d-t.

Q. Okay. And your place of employment?

A. Patrick Engineering.

Q. And the address of Patrick Engineering for the record?

A. 4970 Varsity Drive in Lisle, Illinois.

Q. And as I stated, my name is Faith Bugel. I'm a senior attorney with ELPC. I obviously am going to be asking you some questions today.

Have you ever given a deposition before?

A. I have.

Q. Okay. So you know this is a formal legal proceeding. You are under a legal obligation to answer the questions truthfully.

A. I do.

Q. And for the benefit of the court reporter, please answer out loud. Nods cannot be transcribed obviously. If you don't understand a question, please let me know, and I will rephrase the question. If you answer a question, we will assume you have understood it. Is that fair?

A. I understand.

Q. If you need a break, please let us know. We'll be happy to take as many breaks as people need.

And also, you will have an opportunity to read over the transcript at the end of the deposition and correct anything that was transcribed incorrectly. Okay?

A. All right.

Q. You understand all these directions?

A. I do.

Q. How long have you worked at Patrick

Engineering?
A. For ten years.
(Exhibit No. 163 marked for identification, 12-11-14.)
BY MS. BUGEL:
Q. And I am handing you what has been premarked as Exhibit 163. Are you familiar with that document?
A. Yes.
Q. And for the record, it is your -- would you call it your bio?
A. Yes.
Q. And you were involved in the preparation of this bio?
A. Yes.
Q. Okay. And does this appear to be a true and accurate copy of your bio?
A. I believe all of the statements on this are accurate, yes.
Q. Okay. And does this indicate you've been with Patrick Engineering since 2004?
A. Yes.
Q. Okay. Can you tell me, have you been in your current position, senior project manager, the

whole time you have been at Patrick Engineering?
A. I have always been a senior project manager with Patrick. In later years, I took on a larger role in which I manage all of the environmental projects for Patrick.
Q. What are your responsibilities?
A. I manage the environmental program at Patrick Engineering.
Q. And can you let us know about the project Patrick did for Midwest Generation? More specifically, how many years did that project go on?
MS. NIJMAN: Objection; vague.
BY THE WITNESS:
A. Can you specify the project you're referring to?
BY MS. BUGEL:
Q. I'll lay some foundation.
Were you involved in a Patrick project for Midwest Generation?
A. Yes.
Q. More than one?
A. Yes.
Q. Was there one specific project related to groundwater monitoring at multiple Midwest Gen

facilities?
A. Yes.
Q. Can you describe how long that project lasted?
A. I believe we began that project in late 2010 and continued that project through 2012.
Q. And were there additional projects -- strike that.
You've already indicated that Patrick had additional projects with Midwest Generation, correct?
A. Yes.
Q. Can you identify those additional projects?
A. One of the projects that we did for Midwest Generation was to assist them in the preparation of responses to draft NPDES permits that were issued at a number of their power stations.
Another project was to assist Midwest Generation in the development of a collection request by the USEPA.
There were a number of fairly small, very narrowly-defined projects in which we may have helped design and upgrade for one or more pieces of equipment at a particular power station.
Q. The USEPA collection request, was that

related to coal ash ponds?
A. That was the focus of the collection request, yes.
Q. Was Patrick Engineering involved in any additional -- any additional projects with Midwest Generation related to coal ash ponds?
A. I don't believe so, although I may be forgetting a small related project.
Q. I understand.
And you yourself were involved in the Patrick Engineering groundwater monitoring project for Midwest Generation; is that correct?
A. Yes.
Q. What role was -- I'm sorry. What role did you have in that project?
A. I managed that project for Patrick Engineering.
Q. Can you describe the type of activities that went with managing the project?
A. We developed a set of work plans to be implemented during the project. I staffed the implementation of those work plans which was primarily the installation and monitor- -- and monitoring of a series of monitoring wells.

And then I oversaw the development of reports which summarized the data that we got from that effort.

Q. You mentioned the development of reports. What information would be contained in those reports?

MS. NIJMAN: Objection; vague, overbroad.

BY THE WITNESS:

A. Are you talking about specifically data that was generated or historical information?

BY MS. BUGEL:

Q. Let's start with data.

A. Resulting -- the resulting data that would have been collected during those efforts would have included analytical laboratory data, groundwater elevation data, and some other ancillary data such as weather conditions, for example, when the data was collected.

Q. For the purposes of these reports, did that data need to be analyzed in any way?

A. All of the samples that we collected were sent to an analytical laboratory and, yes, analysis needed to be made on those samples.

Q. And did the analytical laboratory develop

a report of its analysis?

A. Yes.

Q. And did that report or those -- is it fair to call those lab results?

A. Yes.

Q. Did those lab results need to be analyzed for purposes of the report that Patrick was generating?

A. Yes. Those results were summarized and included in the text of the reports that we would generate. The original lab data report was also included in those reports.

Q. Did you play a role in summarizing those lab results and including that -- that analysis of the lab results in the reports that Patrick generated?

A. Yes.

Q. What role did you play?

A. I managed the effort.

Q. Could you be more specific in describing the tasks that would be involved in managing the effort that you just talked about?

A. I would generally have a staff engineer or geologist develop a draft of the report in which

they would summarize the data that came from the laboratory. I would review their reports. If I had comments or amendments to be made, I would make those amendments.

Q. Would you review their report for accuracy?

A. Yes. In terms of broad conclusion, yes.

Q. Would you review the report to ensure that you agreed with their analysis?

A. Yes.

Q. Did the analysis that was included in these reports include a comparison of the results of upgradient and downgradient wells?

MS. NIJMAN: I'm just going to object to the -- what reports again we're talking about. Are you just talking about the data monitoring reports?

MS. BUGEL: I'm talking about the reports that Patrick Engineering prepared for Midwest Gen that contained the groundwater monitoring results.

BY THE WITNESS:

A. I'm not sure that the text of the report specifically addressed up and downgradient issues, although that was a larger, long-term objective of the project.

Most of the data reports, especially the

early ones for which we had very few sampling events to rely upon, I don't think drew large conclusions as to what was up and downgradient.

BY MS. BUGEL:

Q. Patrick Engineering prepared quarterly reports containing the results of groundwater monitoring; is that correct?

A. That's correct.

Q. Did you also -- let me strike that.

Did Patrick Engineering also prepare annual reports?

A. Yes, we did.

Q. Would the annual reports contain any analysis of comparing results from upgradient and downgradient wells?

A. If such a comparison could be made, that was included. The only other thing different from the annual reports is a summary over time of results.

Q. And if a report did include a comparison of upgradient and downgradient wells, understanding that that was only select reports later in the process, were you involved in the comparison of the results from upgradient and downgradient monitoring

wells?
A. To the extent that those comparisons were made, I was involved, yes.
Q. Can you describe your role in that?
A. I would have reviewed that data.
Q. Would you have reviewed it for accuracy?
A. I would have reviewed the conclusions of up and downgradient wells drawn in the draft report.
Q. Would you have reviewed the conclusions to ensure that you agreed with them?
A. Yes. It's fair to say I agreed with the results that were included in the reports.
Q. Could you repeat that answer, please?
MS. NIJMAN: You can read it back.
(Record read.)
MS. BUGEL: Thank you.
BY MS. BUGEL:
Q. Do you know if Patrick Engineering ever performed a rigorous statistical analysis of upgradient groundwater quality for any of the facilities?
MS. NIJMAN: Object to vague and terminology.

BY THE WITNESS:
A. Can you be specific as to what you mean by "statistical?"
BY MS. BUGEL:
Q. We'll strike that question and we'll come back to it later.
You can set aside the exhibits that you're done with. We'll pile them here for the court reporter.
(Exhibit No. 134 marked for identification, 12-11-14.)
BY MS. BUGEL:
Q. I am handing you what has previously been marked as Exhibit 134. For the record, it is Bates numbers 8286 to 8287 -- I'm sorry -- through 8293. Are you familiar with this document?
A. Yes.
Q. And I realize it is unsigned, but do you see where your name appears on this document?
A. I do.
Q. And was this a proposal for -- it's a June 2010 USEPA Information Collection Request. Was this a proposal to perform a project for Midwest Generation?

A. Yes.
Q. And were you involved in developing this proposal?
A. I was.
Q. So is it accurate to say you've previously reviewed this document?
A. Yes, it is.
Q. Okay. And did Midwest Generation accept this proposal?
A. They accepted either this proposal or one very similar. Because this isn't signed, there may have been some adjustments to this draft, but it's fair to say they accepted one similar to it.
Q. And does that -- would it be accurate to conclude that Patrick Engineering then went on to perform the work for the June 2010 USEPA Information Collection Request for Midwest Generation?
A. Yes.
Q. Okay. Do you recall what tasks that involved?
A. I do. Those tasks differed, to some degree, from what is included in this proposal, though, since it changed dramatically over time as that project progressed.

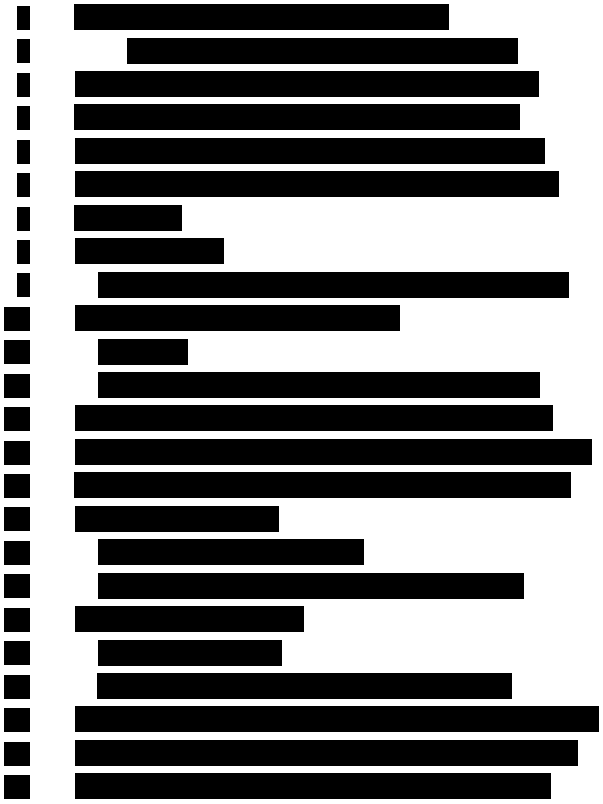
MS. NIJMAN: Can I just note for the record, Faith, that the attachments appear to be dated after the date of the letter, so I'm not sure they're part of the document.
MS. BUGEL: Okay. So we actually -- this was really just to lay foundation and we're not going to refer to anything else in this document.
MS. NIJMAN: Okay. But I don't want his statement that this is a true and accurate copy to include the attachments.
MS. BUGEL: Okay.
MS. NIJMAN: So if you're saying -- can you just clarify in the record which pages you were stating you have --
THE WITNESS: Yes. I'm only looking at the proposal page 1 and 2 of this document.
MS. BUGEL: Okay.
BY MS. BUGEL:
Q. And I don't think I ever even -- I asked if you -- this appeared to be a true and accurate copy, but just for the record now then, disregarding the attachments to this proposal, do pages 1 and 2, which is just the letter portion of the proposal, appear to be a true and accurate copy of the

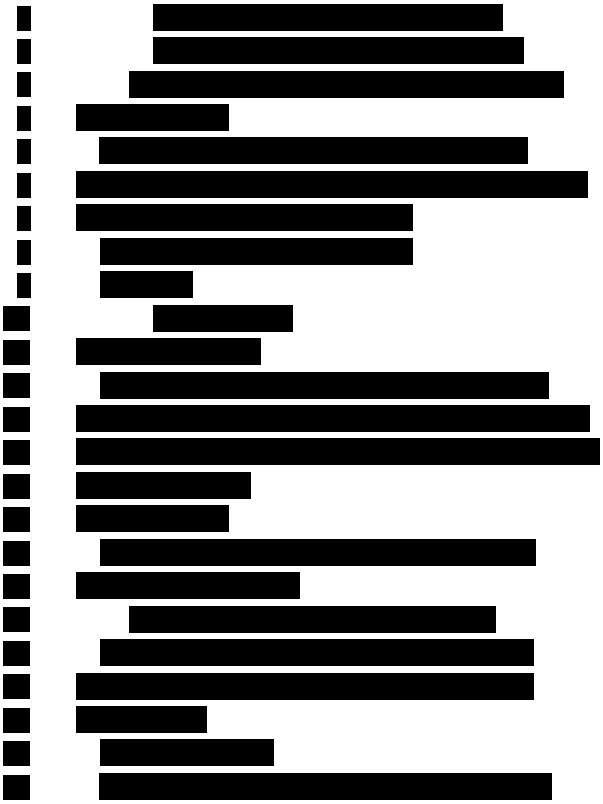
June 22nd document understanding that Midwest Gen -- that this may have been amended and updated and there may be a signed version?

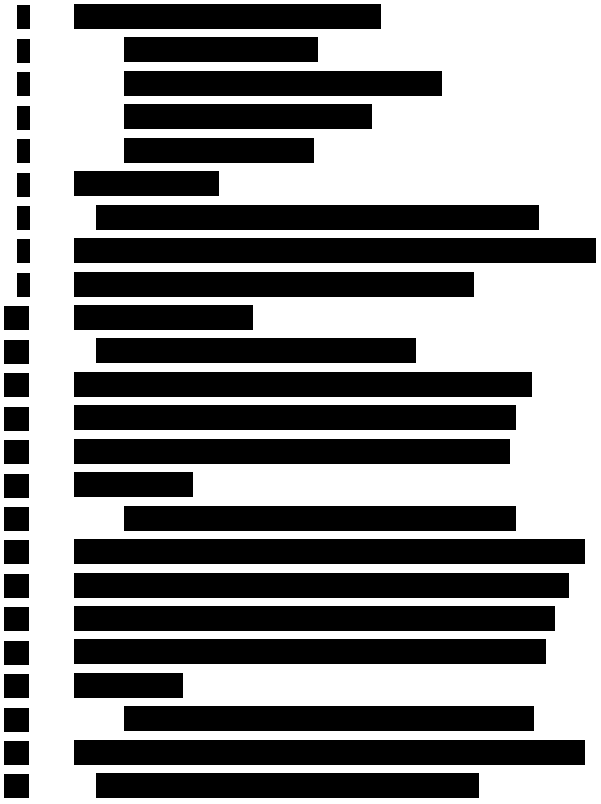
A. This appears to be a true and accurate version of a draft of the proposal, yes.

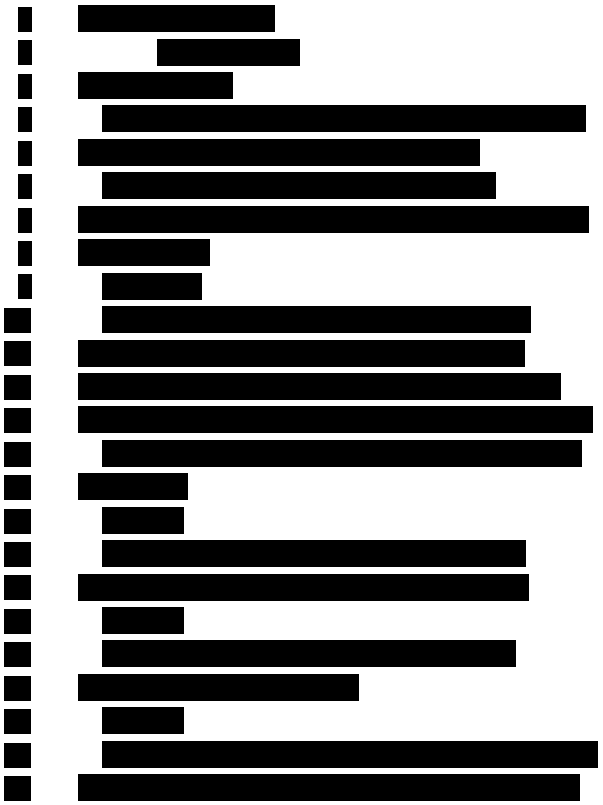
Q. Thank you.

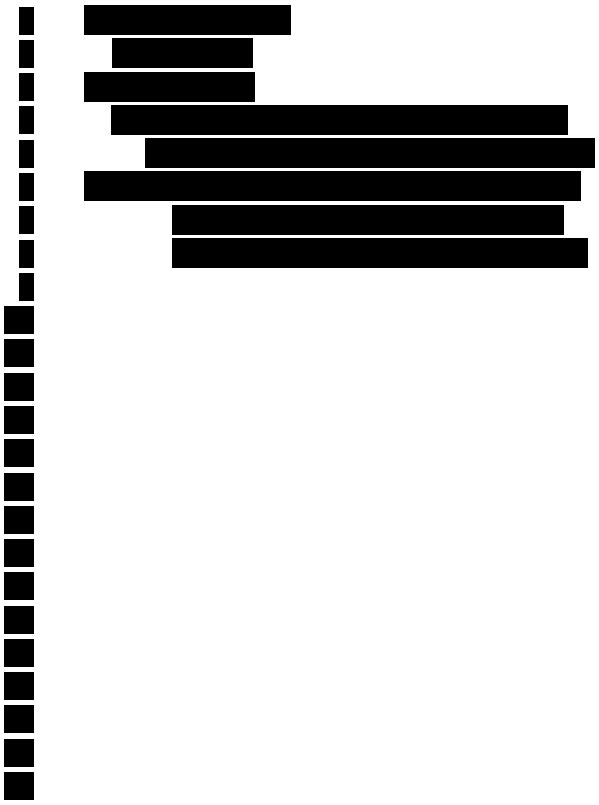
(Pursuant to agreement, pages 19 through 24 were placed under seal.)

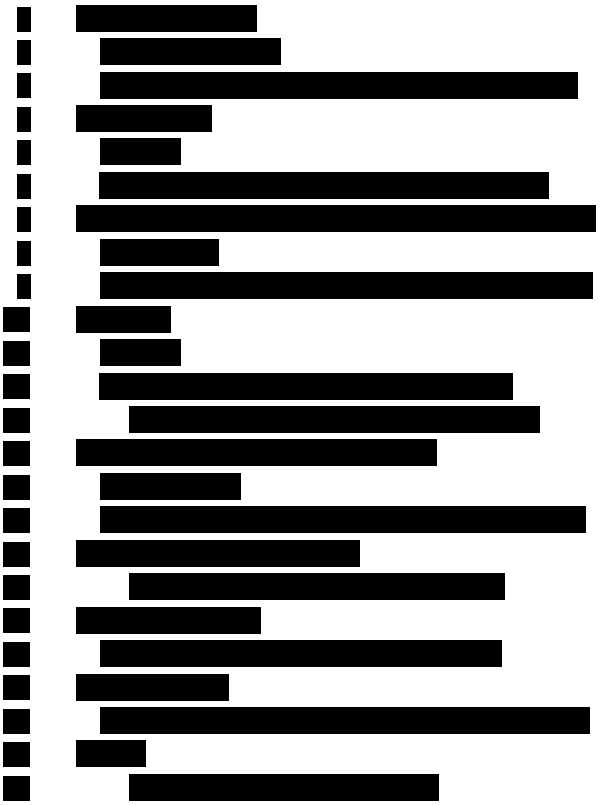












(Pursuant to agreement, pages 19 through 24 were placed under seal.)
(Exhibit No. 130 marked for identification, 12-11-14.)

BY MS. BUGEL:

Q. I am placing in front of you what has been previously marked as Exhibit 130. Are you familiar with this document?

A. Vaguely, yes. It appears to be an email that I sent to Maria Race.

Q. So you see where your name appears on this document?

A. Yes.

Q. And for the record, it's dated 1-7-2011 and begins on Bates number 14096. Do you see that?

A. Yes.

Q. Okay. Do you recall this document?

A. Generally, yes.

Q. And in the second paragraph, second sentence -- I'm sorry. Second paragraph, first sentence, do you see where it discusses the non-degradation standard?

A. Yes.

Q. And do you see the second sentence that

says: We want to maintain as much flexibility as possible in how we define that standard so that we can avoid an anomalous exceedance which isn't really statistically valid?
A. Yes.
Q. Do you see that?
A. Yes.
Q. Do you recall what you meant by that?
A. I think so.
Q. Can you explain, please?
A. Well, to explain, I'll have to explain what I mean by "non-degradation standard."
Q. Okay.
A. In general, our goal for these projects was to determine whether or not an ash pond was likely to be leaking or not. This was the focus of our investigation.
To determine that, we have to decide, in advance before we collect data, what would be a relevant set of parameters to base conclusions on. One possible approach to that problem is to install upgradient monitoring wells and downgradient monitoring wells up and downgradient of the ash pond in question and compare the analytical results

between those two sets of wells.
In a very simplistic system, if there's no difference between the upgradient well and the downgradient well, then we might be able to conclude, in a hypothetical case, that no impact from the ash ponds was determined.
In this particular case, I'm reflecting the confusing data that was actually generated by the investigations that we did perform insofar as up and downgradient were very difficult to define from site to site based upon the well information that we gathered so that something that may look upgradient may, in fact, be downgradient to the well and we wouldn't want to draw a conclusion on whether or not an ash pond is likely to be leaking on erroneous conclusions like that.
So that's why I mentioned that I want to make sure that these results would be statistically valid.
Q. Were you -- strike that.
Did you go on to define the standard as discussed in this second sentence?
A. We never ultimately reached a consensus on what a standard should be, nor did we refer to one

in the work plans or any of the reports we generated.
(Exhibit No. 131 marked for identification, 12-11-14.)
BY MS. BUGEL:
Q. I am passing you what has previously been marked as Exhibit 131. So if you turn to the attachments, it is those attachments that I would like to discuss with you. And I'm -- I do not believe your name appears on the email, so our focus is going to be on the attachments.
In looking at the attachments, are you familiar with those documents?
A. Generally, yes.
Q. And does your name appear on the attachments?
A. Yes.
Q. And it appears on the first one that somebody else signed for you?
A. Yes.
Q. Was that with your permission?
A. Yes.
Q. In the second one somebody else signed for you and the third. Is it fair to say that where

the attachments -- where someone signed for you, that was with your permission for all of them?
A. Yes.
Q. Okay. And you have reviewed these attachments before today?
A. Yes.
Q. Okay. And is it accurate to say that these are Patrick Engineering proposals for ash pond investigations at the four facilities which are Joliet and Will County and Waukegan and Powerton?
A. Yes.
Q. Okay. And do these appear to be true and accurate copies of those four proposals for those four facilities?
A. To the extent that I've reviewed them, yes.
Q. And because they are signed by both parties, would it -- does that mean these are the final proposals that were accepted?
A. It wasn't signed by both parties. It was simply signed by Patrick.
Q. Oh, okay.
A. But I do believe that they were accepted by Midwest Generation.
Q. Thank you for the correction.

Okay. So can we please turn towards Bates page 21481. In the middle of the second paragraph, do you see where it says: During that meeting, a conceptual approach to completing hydrogeologic assessments of MWG's ash ponds at a number of sites, including Joliet number 29, was presented by MWG and agreed to by the Illinois EPA?

A. Yes.

Q. Do you have any understanding of what that conceptual approach was?

A. Yes.

Q. Can you please explain?

A. It's essentially the conceptual approach that's presented in each of these proposals, but basically, to simplify, it included the installation of monitoring wells and some subsequent testing of those wells.

Q. Did you recommend any changes to Midwest Gen's conceptual approach in your proposal?

A. Can you tell me what Midwest Gen's conceptual approach was that I would be comparing this to?

Q. In the letter it says Midwest Gen presented a conceptual approach to IEPA in a

meeting, and what I'm wondering is if you recommended any changes from what they proposed in that meeting to what you proposed to Midwest Gen in this document.

MS. NIJMAN: Object to foundation and to form.

BY THE WITNESS:

A. I should clarify that the meeting you're referring to, those conceptual plans that had been prepared for IEPA were also prepared by Patrick, and I was present at that meeting.

MS. NIJMAN: There's the foundation.

BY THE WITNESS:

A. So -- and comparing those two things, yes, this reflects what we presented in the meeting and what IEPA conceptually agreed to in the meeting.

MS. NIJMAN: Thank you for helping them.

BY THE WITNESS:

A. If there are any differences, they would have been fairly minor. And there may be some minor differences that I'm forgetting, but generally the process was reached.

BY MS. BUGEL:

Q. And can you please turn to page 21485?

And do you see in this table where boron, sulfate, iron, manganese, and total dissolved solids are designated as coal combustion waste indicators?

A. Yes.

Q. Were you involved in selecting those constituents as coal combustion waste indicators?

A. I was involved to the extent that we wanted to match, as much as possible, the precedent that had been set at the Hudsonville site which is why at the top of this table it says "Hudsonville consistent" where the EPA had agreed on a parameter list with another power producer. This is a list that was designed to be consistent with what was agreed to by that power producer and the Illinois EPA at the Hudsonville site.

BY MS. BUGEL:

Q. Why did you want to match, as much as possible, the precedent set at Hudsonville?

A. We felt that because the Illinois EPA had already agreed to that parameter list that it would be likely that they would agree to this list at this site in a similar circumstance.

Q. Did you intend to do any comparison of these parameters -- these five parameters that we

just identified to Illinois groundwater protection standards?

A. Can you be specific as to what standards you're referring?

Q. Class I.

A. Class I drinking water standards in Illinois?

Q. Class I groundwater standards.

A. Groundwater standards...

At the time we wrote this document or what we eventually ultimately compared them to?

Q. Let's start with at the time you wrote this document.

A. I can't recall whether we specified a standard in this proposal. It appears we do -- we do mention those standards in -- at the bottom of page 2, so yes.

Q. Where at the bottom of page 2 did you see those standards?

A. The last sentence: Proposed analytes include the inorganic compounds listed in the Illinois Administrative Code, Title 35: Environmental Protection, part 620, Groundwater Quality, et cetera.

Q. And in your last response, you mentioned what you ultimately did. Can you explain what you ultimately did with those five parameters?
A. We ultimately did compare them to the 620 standards.
Q. Okay. Do you know if boron is an indicator parameter for any other kind of waste?
A. Other than what?
Q. Other than coal combustion waste.
A. I couldn't say.
Q. Do you know if sulfate is an indicator parameter for any other kind of waste?
A. Yes.
Q. If so, what?
A. A whole number of inorganic compounds; sulfuric acid, for example, some agricultural amendments that contain sulfur. I'm sure there are others.
Q. Do you know if manganese is an indicator parameter for any other kind of waste?
A. Yes, a very wide range, including simple petroleum hydrocarbons since manganese has an unusual redox potential reaction presence of a carbon substrate.

Q. You said a wide range. Anything else that you can identify?
A. Not that comes to mind, but carbon substrate would include literally thousands of compounds.
Q. And do you know if iron is an indicator parameter for any other kind of waste?
A. Many of the same indicators that manganese is an indicator for, especially with respect to its oxidation potential.
Q. And do you know if total dissolved solids are an indicator parameter for any other kind of waste?
A. Yes, many, many kinds of waste. municipal-treated sewage waste, for example, is a common example.
Q. In your experience, does groundwater affected by coal ash show elevated concentrations of all of these parameters?
MS. NIJMAN: Object to foundation and vague.
BY THE WITNESS:
A. I can't speak hypothetically on such a broad question. Can you be specific as to what

parameter you might be focusing on?
BY MS. BUGEL:
Q. The five parameters that we just talked about. Did you have experience doing groundwater monitoring for coal combustion waste contamination prior to this project, prior to working with Midwest Gen?
A. Yes.
Q. And in that experience, if -- did you ever detect coal combustion waste impacts to groundwater?
A. Could you repeat that question, please?
MS. BUGEL: Can you read the question back, please?
(Record read.)
BY THE WITNESS:
A. We detected what we theorized may be coal combustion waste products in groundwater, yes.
BY MS. BUGEL:
Q. And did you use the five parameters that we just identified from page 21485 as coal combustion waste indicators in that previous work?
A. I can't say 100 percent for sure. I believe that we would have used sulfate. And in the specific case I'm thinking of, it would have been

arsenic that were relevant to our investigations.
Q. In your previous work, have you ever used all five of these constituents together as coal combustion waste indicators?
A. We have sampled for all five of those previously. Are you asking whether we detected them?
Q. When you sampled for them previously, was that in groundwater that -- where there was a question as to whether it was impacted by coal combustion waste?
A. Yes.
Q. And when you sampled, did you detect all five in that groundwater?
A. We did not.
Q. Can you describe that project, please?
A. Not in detail since I don't recall the exact figures. I do believe that we found elevated sulfate and arsenic in downgradient locations at at least one specific site that I can recall in my career that weren't easily explainable other than as indicators of coal combustion waste.
Q. Were there any conclusions drawn in that project as to whether the groundwater was impacted

by coal combustion waste?
A. I believe there were at least tentative conclusions. And I believe our tentative conclusion was that it appeared likely that there had been impact in that one case.
Q. Can you name the case?
MS. NIJMAN: Not any client -- object to privileged and confidentiality for his purposes.
MS. BUGEL: Okay.
BY THE WITNESS:
A. Yes. I would prefer not to.
BY MS. BUGEL:
Q. I understand.
Aside from the project you just described, can you recall any other projects where you monitored -- I'm sorry -- where you were reviewing groundwater monitoring results for coal combustion waste impacts?
A. The current project in question, the Midwest Generation project.
Q. Any other projects than the current project and the one you just described with the arsenic and the sulfate?
A. None that I can recall.

Q. Can you please turn to page 21482. Looking at task three, the second sentence, do you see where it says: The survey crew will also concurrently measure the water elevation in all of the ash ponds and the Des Plaines River? Do you see where it says that?
A. Yes.
Q. Can you explain why this task was included?
A. Yes. This goes to determining groundwater flow direction and patterns at the site.
Q. How does ash pond and surface water elevation go to groundwater flow?
A. All of the monitoring wells that are installed as part of this project are measured for groundwater elevation on the same day that they are sampled.
To the extent possible, we like to compare that elevation to the elevation of the nearby river to determine the direction of groundwater flow.
In general, if we have higher elevations in monitoring wells, that generally means, all other things being simple and equal, that the groundwater is flowing from a higher elevation to a lower one. This isn't always the case, but given no other

data, this was a reasonable proposal.
Q. Is it accurate -- let me go back a second.
You indicated that on the same day that the sample is taken, the water elevations are measured at all of the monitoring wells; is that correct?
A. Generally, yes.
Q. How often is surface water elevation measured?
A. According to this proposal, we would have done that just once during the investigative process. And this may well be one of those minor deviations to the scope that we later made given that groundwater elevation in the river is also available from other sources, though maybe not exactly on the same days.
So I think in some cases for some sites, we actually relied on Illinois water survey data that's automatically collected in river gauges that are located along the river.
Q. And was the elevation data from the groundwater wells collected every time samples were taken?
A. From the wells themselves, yes.

Q. And how often were samples taken from the wells?
A. Quarterly generally, unless there was some reason a particular well couldn't be sampled.
Q. And how was that elevation data from the wells then used?
A. In our report, a table was generated which included the groundwater elevation data at each sampling location and was reported in the final report.
MS. BUGEL: Do we want to stop now?
MS. LAUGHRIDGE GALE: Yes. We've got five minutes.
(A recess was taken.)
(Mr. Zaharoff entered the deposition room.)
MS. BUGEL: Back on the record.
(Exhibit No. 133 marked for identification, 12-11-14.)
BY MS. BUGEL:
Q. I am placing in front of you what has previously been marked as Exhibit 133. Are you familiar with this document? The first page is obviously an email but also the attachment.

A. Generally, yes.
Q. And if we look at the attachment, Patrick Engineering prepared this Hydrogeologic Assessment Plan for Joliet Generating Station Number 29 --
A. Yes.
Q. -- is that correct?
A. Yes.
Q. And if you turn back to Bates page 13869, Rick, you forwarded this report to Maria Race by email?
A. Yes.
MS. BUGEL: And for the record, the date on the email is July 9th, 2010.
BY MS. BUGEL:
Q. And have you reviewed this Hydrogeologic Assessment Plan before today?
A. During its preparation, yes.
Q. And does this appear to be a true and accurate copy of that plan?
A. To the extent that I recall it, yes.
Q. And can you please turn to Bates page 13882. Does this show the proposed monitoring well locations for the Joliet station 29?
A. Yes.

Q. And do you know if all of the wells identified on this figure were, in fact, installed?
A. I believe they were installed, although there may have been some minor variation in what exactly their final placement would have been.
Q. Do you know if any additional wells, beyond the ones generally identified on this map, were installed?
A. I don't recall.
Q. And do you know if there were any other groundwater monitoring wells active or inactive on this property?
A. I'm unaware of any.
Q. And if you turn back to Bates page 13875, do you see the very first sentence on that page: MWG will install (11) -- the number eleven in parens -- permanent groundwater monitoring wells spaced approximately 150 feet apart around the perimeter of the ash disposal ponds? Do you see where it says that?
A. Yes.
Q. And then it goes on to say: The well locations have been selected so that both up and downgradient wells are represented. Do you see

where it says that?
A. Yes.
Q. Can you identify on Bates page 13882 the upgradient and downgradient wells?
MS. NIJMAN: From the time of this report?
MS. BUGEL: From the -- if -- let's start with from the time of this report.
BY THE WITNESS:
A. I should clarify that what we expected to find to be upgradient wasn't always what we found to be upgradient and downgradient.
I think in this case, we were anticipating the wells that are located to the northwest of each pond to be upgradient wells. The wells located on the southern line we expected to be downgradient wells.
There is a well that was installed just to the southwest of the northeastern pond that I think was in some question. That's generally what we expected to find, though, yes, given that our estimation -- and again, it was only an estimation at the time that we prepared this report. Our estimation of the groundwater flow direction was simply that it was generally to the southeast

towards the river.
BY MS. BUGEL:
Q. So can you explain -- I'm sorry. Strike that.
Did you then find the groundwater flow to be different from your estimation?
A. I haven't reviewed the elevations in years, and so the details may escape me, but I think in general, yes, we found some anomalies with the groundwater flow direction at the site.
(Exhibit No. 135 marked for identification, 12-11-14.)
BY MS. BUGEL:
Q. I'm placing what has been marked as Exhibit 135 in front of you beginning on Bates page 6964. Are you familiar with this document?
A. Generally, yes.
Q. And it was prepared by Patrick Engineering; is that correct?
A. Yes.
Q. And does it -- do you see where it says: A Hydrogeologic Assessment Report, Joliet Generating Station Number 29?
A. Yes.

Q. And do you see where it is dated February 2011 at the bottom of the page?
A. Yes.
Q. Were you involved in preparing this report?
A. I was.
Q. And have you previously reviewed this report?
A. At the time of its development, yes.
Q. Okay. Let's -- and does it appear to be a true and accurate copy?
A. To the extent that I have reviewed it, yes.
Q. Okay. Let's turn to page 6983. Do you have that page in front of you?
A. I do.
Q. And does this provide more information as to groundwater elevations?
A. Yes. Specific elevations during this one event, yes.
Q. And does it indicate groundwater flow?
A. It indicates the -- the elevations of groundwater during the event in which this took place which I believe was during the fall of 2010.
Q. Is there a blue arrow on this document?
A. Yes.

Q. What does that blue arrow indicate?
A. The blue arrow is to simplify, for the reader in general terms, which way the groundwater flows at the site, although it certainly is an oversimplification given the amount of data that we have at the site. But in general, groundwater flows towards the Des Plaines river which isn't much of a surprise.

Some slight surprise for us is that it has more of a southwesterly component than we might have otherwise expected.

Q. So did your understanding of which wells were upgradient change over time?
A. I would say our overall understanding of up and downgradient flow did change over time. And I don't think I would ever characterize our categorization of any given well as up or downgradient as definitive in any of those times.

So it wasn't as if in March I thought, well, ten was upgradient and in April I thought it was a different direction. It was simply that given the totality of the data, it was clear that the flow patterns at the site were much more complex than could be summarized by a blue arrow on

a figure.

So for a good example in this case, well one located on the same image that you have shown me I would reasonably have expected to be a downgradient well at the time we wrote the plan, but in point of fact, the data would imply that it's at least upgradient of the most northeasterly pond, at least during this one sampling event. And not all the same gradients were found in all of the same sampling events.

So that's just one example of some of the complexity of the flow patterns at the site.

Q. Were there any other wells that you excepted to be upgradient similar to Midwest -- MW 1 that you just pointed out that you later determined were not upgradient?

MS. NIJMAN: I'm going to object to the mischaracterization of his testimony. You can answer, if you understand.

BY THE WITNESS:

A. Yeah. We -- we originally thought well one would have been downgradient and not upgradient.

BY MS. BUGEL:

Q. Thank you.

A. And on the basis of this one event, we might reasonably conclude that it's upgradient. But I don't believe, even at the time of this report, we were comfortable saying that well one was an upgradient well either given that we know that the flow patterns in that river change; that flooding sometimes occurs. Sometimes gradients can be reversed.

So on the basis of one snapshot of data, I don't think we would have been comfortable saying anything yet about these wells.

Q. And we've talked a little bit about the reasons for having an upgradient/downgradient comparison. Is -- would it be accurate to say that the purpose for having upgradient wells is to develop background?
A. Not precisely. I'm not so much interested in background. Background implies a level of a particular compound which might be reasonably found everywhere. I'm not interested in background in this particular case.

I'm interested in what is directly upgradient of the ash ponds so that it can be compared to what might be found directly

downgradient to the ash pond, not necessarily compared to what the regional number of, say, arsenic might be which would be a more accurate description of what background is.

So although I might slip into that terminology accidentally, background is somewhat different than upgradient.

Q. Okay. Can you please turn to page 6972. Looking at the first full paragraph on that page -- the first paragraph on that page, the third sentence, do you see where it says -- and I don't know how to pronounce this -- antimony? Antimony?

A. Uh-huh.

Q. Antimony chloride, manganese sulfate, and total dissolved solids, paren, TDS, end paren, were detected in one or more monitoring wells at concentrations exceeding the part 620 class I groundwater quality standards.

Do you see where it says that?

A. Yes.

Q. And are some of these coal combustion waste indicators?

A. Well, some could be under certain

circumstances.

Q. Can you explain?

MS. NIJMAN: I'll object just to the extent that we've asked and answered. We've been through all these constituents and what the other causes might be of each of them. You can answer.

BY THE WITNESS:

A. When we look at indicator compounds for any sort of impact, we don't look at just the concentration of that one compound. We would also look at its presence in relationship to other compounds which might be also considered indicators. We might look at the ratio of those things.

We might look at the ratio of those things as it might be affected by the pH in the geochemistry at the site.

And in all cases, we would be looking at these things with the assumption that we have a decent understanding of hydrogeologic flow of the system.

So all of those things being generally true at this hypothetical site we're talking about, yes, some of these could be considered, but not all of them would be, no.

BY MS. BUGEL:

Q. But these results are not a hypothetical site, correct?

A. That's correct.

Q. Okay. These results are for the Joliet 29 site, correct?

A. Correct.

Q. So the -- did the presence of those five constituents -- did you draw any conclusion from the presence of those five constituents?

A. Not in February of 2011. I did not, no.

Q. And this goes to say: In some cases the highest concentrations of a given compound were found in upgradient wells.

Were you involved in the decision to include that sentence in this report?

A. I'm sure I was, yes.

Q. Do you have an understanding of why that sentence is there?

A. I'm sure that it's based on some piece of data that I reviewed, although I can't recall which wells I may have been referring to in this specific case now today.

Q. What relevance is there that the highest

concentrations of a given compound were found in upgradient wells?

A. Well, it shows that the system is much more complex than you might hope if you expect to find a simple answer from simply analyzing compounds in wells.

If you have a higher concentration upgradient of the ash ponds than you do in the downgradient wells, it's difficult to draw any strong conclusion about the ash ponds themselves and their relative contribution to groundwater.

Q. So that the presence of a higher concentration of a compound upgradient than downgradient did not lead you to the conclusion that the ash pond was not contributing to that concentration?

A. At the point that we reviewed this specific set of data, I don't think we drew any conclusions at all other than our system is complex and it's going to take more work than we thought, as very frequently happens in our business.

Q. Okay. And moving on to the second paragraph, second sentence of that paragraph, do you see where it says: To develop a

true statistically significant upgradient background concentration for the various compounds will require a number of sequential sampling events over time?

A. Yes.

Q. Did Patrick Engineering go on to do a number of sequential sampling events?

A. Yes.

Q. Enough to develop a true statistically significant upgradient background concentration?

A. For Joliet specifically, I don't believe we ever did develop a hard set of background numbers to be compared to. I don't believe that was ever done.

Q. Do you know if it was -- if Patrick did it for any of the other facilities?

A. I don't believe it was done for any of the facilities, but there may be some exceptions to that that I'm not recalling. But as I sit here today, I don't recall of any.

Q. Do you know if anyone else did this for those sites?

A. I don't know that.

Q. Okay. We can turn to the next exhibit.

You can set that aside.

I'm passing you an exhibit that's been previously marked as Exhibit 24. Referring -- let's just flip to the attachment first. I'm sorry. There are four attachments.

Starting on page 14158, Ash Pond Data Evaluation and Summary, are you familiar with that report -- I'm sorry -- that document?

A. Generally, yes.

Q. And turning to Bates 14162, Ash Pond Data Evaluation and Summary, Powerton Station, are you familiar with that document?

A. Generally, yes.

Q. And turning to Bates 14166, Ash Pond Data Evaluation and Summary for Waukegan Station, are you familiar with that document?

A. Generally, yes.

Q. Last one: Bates 14170, Ash Pond Data Evaluation and Summary, Will County Station, are you familiar with that document?

A. Generally, yes.

Q. And have you reviewed these documents previously?

A. Yes.

Q. And Patrick Engineering prepared these documents?

A. Yes.

Q. And you emailed these documents to Maria Race on February 10th, 2012; is that correct?

A. That's correct.

Q. And does this appear to be a true and accurate copy of that email and those attachments?

A. To the extent that I've reviewed it, yes.

Q. And the Ash Pond Data Evaluation and Summaries, were these draft documents as indicated by the "draft" stamp across the page?

A. Yes, they were.

Q. What were they drafts of?

A. I don't believe final versions of these were ultimately ever created. I believe these were the final -- well, they were the most recent and last versions of these documents.

But these documents were generated as a summary for Midwest Generation to facilitate a discussion about each of its sites.

Q. Okay. Let's turn to Bates page 14158. I'm looking at the heading Groundwater Evaluations and the second paragraph about halfway through that

paragraph: During the September and December 2011 sampling events, comma, groundwater elevations were slightly lower than the recorded river level, parenthetical, as compared to the other events, comma, where groundwater was higher than the river, close parenthetical. Do you see where it says that?

A. Yes.

Q. Okay. And it goes on to say: This appears to indicate that when the groundwater elevations are higher, groundwater at the site is discharging to the river, semi colon, when groundwater elevations are lower, comma, the river is recharging to the shallow aquifer. Do you see where it says that?

A. Yes.

Q. So when the river is recharging to the shallow aquifer, does it affect groundwater flow as monitored by the -- or as indicated by the groundwater monitoring wells?

MS. NIJMAN: Vague.

MS. BUGEL: I think I phrased that poorly.

THE WITNESS: Yeah. Could you restate that?

MS. BUGEL: Okay.

BY MS. BUGEL:
Q. When the river is recharging to the shallow aquifer, does this affect groundwater flow in the parts of the aquifer where there are groundwater monitoring wells?
A. Well, first, let me state that -- that we drew no firm conclusion as to whether or not that recharge to the shallow aquifer was happening.
In the hypothetical case that it does happen, it certainly affects flow on the site since it means the flow was from the river to the site.
But I think I say it appears to indicate that to acknowledge the fact that we may not have enough data to determine that and that especially if that's the case because of reg- -- I'm sorry -- seasonal fluctuations, four quarters of data is generally not enough to make a conclusion with respect to regional -- I'm sorry -- seasonal fluctuations since we're only looking at one year.
Q. Right. Okay.
Can you look at the very last sentence of the next paragraph which is on 14159. The direction of groundwater flow remains unchanged regardless of the elevation of the river and to the

groundwater table; do you see where it says that?
A. Yes.
Q. And did you agree with this sentence?
A. I did agree, yes.
Q. And can you explain how the groundwater flow would remain unchanged?
A. Yes. I admit I was probably somewhat unclear here. I'm trying to say that the wells to the farthest north at the site, I believe, were always found to be higher in elevation than the river.
So at least some flow across the site didn't change. And it may well be that just the wells in the shallow aquifer closer to the river actually undergo a reversal over time.
Q. And can you -- on the same page -- let's see. The very last paragraph under Analytical Results, can you take a minute to review that paragraph?
(Brief pause.)
BY THE WITNESS:
A. Yes.
BY MS. BUGEL:
Q. And -- I'm sorry. Let's just go up

one sentence. Do you see where it says: Boron exceeded the class I standard only in MW 11, an upgradient well?
A. Yes.
Q. And again, comma, the distribution of boron does not allow a strong conclusion to be drawn with respect to the integrity of the ash pond?
A. Yes.
Q. Can you explain why the distribution of boron did not allow a conclusion to be -- a strong conclusion to be drawn on that?
A. Well, I think a strong conclusion would require more than one compound result found in one well. To draw a strong conclusion of any degree, you would expect supporting data or multiple lines of evidence.
So although boron exceeded the standard only on one well, an upgradient one, we can't really draw any conclusion from that alone.
Q. And go up one paragraph, please. Do you see where it discusses monitoring well MW 9 located between two ash ponds?
A. Uh-huh.

Q. And it also contains the larger number of exceedances?
A. Yes.
Q. Why was it difficult to draw strong conclusions regarding the concentrations in that well?
A. Simply because we don't have a strong understanding of the hydrogeologic flow patterns at that location.
Q. Was this affected by that well's location between the two ash ponds?
A. I don't know what's affecting it other than the flow seemed to change over time.
(Exhibit No. 164 marked for identification, 12-11-14.)
BY MS. BUGEL:
Q. I am placing a document in front of you that has been
marked as Exhibit 164. If you just -- again, we'll only be talking about -- we'll start by talking about the text version of this. And I won't ask you to do a side-by-side comparison, but these two documents appear to be very similar in terms of the text. And what I'm wondering is having this

document in front of you, does that change your recollection about whether the Exhibit 24 was a draft of any other report?

A. I'm quite sure that the first document I reviewed was not a draft of this document or any groundwater monitoring report.

Q. Okay.

A. The format of all of our groundwater reports is, I think, exactly the same from quarter to quarter while the format and the types of conclusions drawn in that document is somewhat different.

Q. Okay. And would it surprise you then if the text of this document was in places verbatim repeated in Exhibit 164?

A. No.

Q. Okay. Okay. So with Exhibit 164 in front of you, are you familiar with this document?

A. Generally, yes.

Q. And does it contain your name and signature on it?

A. Yes.

Q. And it was drafted by Patrick Engineering?

A. Yes.

Q. And you were involved in the drafting of this document?

A. Yes.

Q. And does it appear to be a true and accurate copy?

A. To the extent I've reviewed it, yes.

Q. Okay. Does this document -- okay. Let's turn to page 2657 which contains -- do you see table 3 on Bates page 2675?

A. Yes.

Q. And does this indicate the exceedances that were found in well MW 9 during that sampling period?

A. Yes, over a number of sampling periods.

Q. Over a number. Thank you.

And generally what exceedances -- what constituents were there exceedances of?

A. According to this table, there were exceedances of manganese, sulfate, and total dissolved solids.

Q. Are you aware of any other industrial source that would produce exceedances of those parameters together?

A. In any situation? That's a very broad

statement. I -- I'm not specifically aware of any, but certainly they could exist.

Q. And again, these two documents, while one is not a draft of the other, were they generally discussing the same results over the same time period, do you know?

A. I can't recall if all of the sampling periods matched. I believe the first document was generated sometime in early 2012.

Q. It's dated -- it states January 2012 on it.

A. So generally, I would say yes.

Q. Okay. Can you turn to page 14159 of Exhibit 24 again.

MS. NIJMAN: Exhibit 24?

MS. BUGEL: Twenty-four, yeah.

THE WITNESS: Could you repeat the page?

MS. BUGEL: 14159.

BY MS. BUGEL:

Q. And the very last bullet on that page stated: Patrick could not find any statistically significant trends in the data which indicate that the exceedances are either historical in nature, comma, or more likely naturally occurring.

Do you see where it says that?

A. Yes.

Q. What did you mean -- I'm sorry. Do you have an understanding of what it meant by "historical in nature?"

A. I'm not quite sure, to be honest, what I meant by that. I'm assuming that means historical events at the site, but I can't say for sure.

Q. And is MW 11 an upgradient well?

A. I would need to review the document more to make that conclusion. It certainly -- we expected it to be on the basis of the data that we would collect, yes, but I haven't reviewed all of the hydrogeologic elevation data as I sit here, so I can't say for sure.

Q. And for -- to refresh your recollection, could you turn to Bates page 2664 of Exhibit 164?

A. Yes.

Q. Okay. And in looking at that page, would this indicate that MW 11 is upgradient?

A. It would indicate that it was during the fall 2010 event, at any rate. I'm sorry. The fall 2011.

Q. Thank you.

And is it fair to say that use of the term "upgradient" is relative to other wells?

A. In this case, that's true because the only elevation data we collected was from other wells.

Q. And do you have any idea of how far MW 11 is from the nearest ash pond?

A. I believe all of the wells were designed to be no more than 25 feet away from a boundary, although I may have that figure wrong. But during the development of the installation plans, we followed a similar protocol that's used for analyzing landfills where that is the requirement that the wells are installed no further than 25 feet away from the boundary.

So in some cases we may not have been able to practically reach that limit, but they're close to that, I believe.

Q. And is -- in this figure for this event, which was December 2011, is MW 11 upgradient of the ash pond that it's adjacent to?

A. Well, as you said earlier, I can only tell you whether it's upgradient of another well. It's -- it appears to be upgradient of all the other wells in the vicinity.

The yellow lines on this map are extrapolated given that we don't have data from those locations. So we don't actually have an elevation of groundwater beneath the ash pond, but I do agree that it's upgradient of the other wells in the vicinity.

Q. Did you draw any conclusion, based on the information you had at this time and included in this report, as to whether MW 11 could be impacted by the ash pond?

A. I don't think we drew any specific conclusion during this report, no.

Q. Okay. And I think we can set those aside and turn to -- let's turn to -- okay. Let's turn to Exhibit 130. Turning back to Exhibit 130, there's a discussion of the Powerton facility at the very end of the first paragraph. Do you see that sentence?

A. Yes.

Q. Do you have an understanding of which of the groundwater monitoring wells at Powerton are always upgradient?

A. As I sit here, I can't recall, no.

Q. And gradients need to be determined using

multiple wells; is that correct?

A. Yes.

Q. And one well by itself cannot have a gradient; is that correct?

A. That's correct.

Q. All right. Do you recall whether the gradients at Powerton changed over time?

A. They certainly changed over time.

Q. And do you recall of the wells at Powerton that you had predicted to be upgradient whether you found any evidence that they were, in fact, not upgradient?

MS. NIJMAN: We went through this discussion already.

MS. BUGEL: Not about Powerton.

MS. NIJMAN: Okay. I thought it was general. It was at the beginning when you were asking generally, but anyway, go ahead.

BY THE WITNESS:

A. Let me preface this by saying that Powerton we found to be the most complex hydrogeologic site of the ones that we analyzed, so it was certainly true that that occurred. Again, I don't think there was any particular time where we

said today we think this is an upgradient well and then three months later we changed our mind. I think we simply looked at the data over time which we expected, by the way, to be very complex knowing, as we did, how close it was to the river and knowing that some available information, before we even started this investigation, indicated that there were significant seasonal variations in gradients.

(Exhibit No. 140 marked for identification, 12-11-14.)

BY MS. BUGEL:

Q. I'm placing an exhibit in front of you that's previously been marked as Exhibit 140. Do you see the first page which is an email -- do you see your name on that document?

A. I do.

Q. And this is to Maria Race with a date of August 9th, 2012. Are you -- do you recall this email?

A. Generally, yes.

Q. Are you familiar with this email and the document attached to it?

A. Generally, yes.

Q. And in glancing -- I'm sorry. In glancing at the document attached to it, this was prepared by Patrick Engineering; is that correct?
A. Yes, though I should point out not by me.
Q. Okay. Thank you.
And even though it was not prepared by you, did you review this attachment?
A. At the time I sent it to Maria, yes.
Q. Okay. And does this appear to be a true and accurate copy of the email and attachment?
A. To the extent that I'm familiar with it, yes.
Q. Is it accurate to say that this is a figure showing where borings were done and a boring log?
A. Boring logs were included for investigation of the locations shown in the figure that leads this section, yes.
Q. Do you know why this investigation was being done?
A. Yes.
Q. Can you explain?
A. Yes. Quite apart from the environmental work that we have done for Midwest Generation, we do a good deal of civil and transportation design

work. This report was generated as part of an effort to install a railroad loop that is shown on the figure here. It's shown theoretically on the figure here, although it has since been installed. And there is a rail line running directly through the middle of what this figure shows today.
In order to determine how to construct a structural subbase for the rail line that would be sufficient to support railway traffic, we undertake what's called a geotechnical investigation which is an investigation of the subsurface materials to determine whether or not they'll compress or sheer to determine how best to design the subbase.
This is a summary of some of the information that was collected during that geotechnical investigation. It was not actually done with an environmental purpose in mind.
Q. And turning back to the email, can you look at the second sentence in the email where it says: Overall, comma, it was essentially what I remembered with ash being found up to around ten feet thick in places, paren, though not everywhere. Do you see that?
A. Yes.

Q. What were you remembering?
A. I was remembering that our company had worked on this project while I was doing other work. And although I wasn't directly involved, I was simply remembering that the results of this geotechnical investigation that were being performed with some of the staff that I occasionally use for my investigations. So I was peripherally aware of it, and that's what I'm referring to here.
Q. Was there any relevance to ash being ten feet thick in places?
A. Only --
MS. NIJMAN: Objection to vague. Relevance to what?
MS. BUGEL: I'll rephrase.
BY MS. BUGEL:
Q. Why did you include that statement in the email that ash was around ten feet thick in places?
A. I believe that it was on the basis of a conversation that I had with Maria relevant to the fact that we had done this geotechnical investigation and that it might be relevant for her. And I believe, although I can't remember specifically, that she asked generally what we

found. And I think in that first conversation, I related the fact that I think we found some places that had as much as ten foot thickness of ash present, but I wasn't sure.
So when I went back and actually found the report and forwarded it to her, I'm simply saying it is about what I recalled peripherally.
Q. And do you know if the train track was installed along the curving line with the dashes in it on this diagram?
MS. NIJMAN: Asked and answered.
BY THE WITNESS:
A. I can say that it was installed. Whether it follows the exact profile shown in this figure, I'm not sure. But it's generally according to the figure shown, yes.
BY MS. BUGEL:
Q. Was it installed -- okay. Sorry. Strike that.
And looking at page -- beginning on page 14227, the -- there's an entry that has the letters SP by it and it says: Black medium sand, trace coarse, trace fine, loose, poorly graded, angular, saturated, coal cinders. Do you see where

it says that?
A. Yes.
Q. Do you know what "coal cinders" means there?
A. I don't know what it's referring to. These would have been the notations taken by the geologist on site. As they log a boring, they use a standardized set of language to describe what they see. I'm not a geologist or a geotechnical engineer, so I can't speak to directly what that means.
Q. And would your answer be the same for cinders?
A. Yes.
Q. And slag?
A. Yes.
Q. Do you have any knowledge as to how thick the ash fill was where the train track was ultimately installed?
A. I do not.
Q. Okay. All right. We can put that aside.
MS. BUGEL: And let me just ask, do people want to stop for a break or for lunch or...
THE WITNESS: I'm fine. If you want to

follow --
MS. NIJMAN: It's up to you.
THE WITNESS: -- through, I'm fine to keep going.
MS. BUGEL: Okay.
(Exhibit No. 141 marked for identification, 12-11-14.)
BY MS. BUGEL:
Q. I'm placing in front of you what has previously been marked as Exhibit 141. And again, are you familiar with this report?
A. Yes, generally.
Q. And Patrick Engineering prepared this report?
A. Yes.
Q. And you were involved in the preparation of this report?
A. Yes.
Q. And did you review this whole report?
A. At the time we were developing it, yes.
Q. Does it appear to be a true and accurate copy?
A. To the extent I can see, yes.
Q. Okay. And turning to Bates page 7089 --

I'm actually -- wait a minute.
(Brief pause.)
BY MS. BUGEL:
Q. This is another where I'm going to ask you to get out Exhibit 24 again. I'm actually going to skip part of this and go to Exhibit 24 again.
MS. NIJMAN: Is there a page?
MS. BUGEL: I'm just skipping some questions here, so bear with me a second.
MS. NIJMAN: Okay.
BY MS. BUGEL:
Q. Can you turn to Bates page 14162.
MS. BUGEL: And that is, for the record, the Ash Pond Data Evaluation and Summary for Powerton Station.
BY MS. BUGEL:
Q. And this -- can you please look at the section titled Groundwater Elevations and the last sentence of the first paragraph: The water elevations in all of the ash ponds, excluding the large former ash pond to the east, are significantly higher than the surrounding groundwater elevations. Do you see where it says that?
A. Yes.

Q. Why did you include this statement in this report?
A. Primarily because we knew this to be a very complex site, especially with regard to water flow. We wanted to compare where the elevations of the ponds themselves were compared to groundwater, compared to other discharging bodies. It's just a way for us to understand better what we call the conceptual model of the site, how things may be flowing.
Q. And can you turn to page 14163. The very top of that page, first sentence: It is Patrick's opinion that both the topography and geology of this area create a localized groundwater high that is not necessarily attributable to leakage from the nearby wells; do you see where it says that?
A. Yes.
Q. Did you mean to say "leakage from the nearby ponds?"
A. Possibly. Let me review the first part of that paragraph.
(Witness reviewing.)
BY THE WITNESS:
A. Yes. It appears to refer to the area

around monitor wells six and eight which, I believe, are in the area that's referred to at the top of page 14163.

So I think I meant leakage from the nearby ash ponds since wells don't really leak --

BY MS. BUGEL:

Q. And can you --

A. -- usually.

Q. Anything can happen, right?

What did you base that conclusion on?

A. It appears that, to begin with, we based it on the geological material that was found in six and eight which were quite a bit different than what we found elsewhere on site. It appeared to be fill material and that very often if you have more permeable fill material surrounded by tighter clay soils, they can act as a sponge and draw water towards them.

So it's not unusual, in fill depression surrounded by tighter clays, to see higher groundwater elevations that are not actually representative of the direction of groundwater flow.

In the specific instance with regard to

Powerton, although I don't believe it was data that was generated at the time, we later determined that there's more than one groundwater unit at the site and that there are shallow units and deeper units and that analyzing flow patterns doesn't make any sense if you try to look at all of the wells together. We need to separate them into these different units to make sense of it.

This was something we didn't know at the time that I think actually would later more modify the opinion that we show here at the top of 163.

(Exhibit No. 142 marked for identification, 12-11-14.)

BY MS. BUGEL:

Q. Okay. And turning -- I'm passing you what's been marked as Exhibit 142. Can you turn to Bates -- well, let's just quickly ask, are you familiar with this report?

A. Generally, yes.

Q. And your signature and name appear on this report at page 3945?

A. Yes.

Q. And this document was prepared by Patrick Engineering?

A. Yes.

Q. And you were involved in the preparation of this?

A. Yes.

Q. And you've previously reviewed this document?

A. Yes.

Q. Okay. Does it appear to be a true and accurate copy?

A. To the extent I've reviewed it, yes.

Q. Okay. Can you please turn to Bates page 3951. I'm assuming, based on what you just said about the groundwater units at Powerton being slightly -- being separate units, that this depiction of groundwater flow with the blue arrow would not be accurate based on your current knowledge or knowledge since then?

A. I would need to review the text to see whether we excluded any wells from this analysis. If you give me a moment --

Q. Sure.

A. -- I might be able to answer the question.

(Witness reviewing.)

BY THE WITNESS:

A. Yes. On page 3944 of the text in the second paragraph of that report, we say that if wells six and eight are excluded from the analysis, the direction of groundwater flow is clearly found to be from south to north.

So the figure that you're looking at on page 3951 excludes the data collected from those wells which more appropriately would be looked at as a separate unit with potentially a different gradient.

The gradients make much more sense if those are eliminated which is another reason we considered them anomalies.

BY MS. BUGEL:

Q. Are there any other separate units besides the two you just mentioned at Powerton?

A. I'm not aware of any as I sit here today, but could there be other hydrogeologic units present at the site? That's certainly possible. It's a very complex site.

MS. BUGEL: Bear with me a second.

(Brief pause.)

BY MS. BUGEL:

Q. Can you please turn back to Exhibit 24 and page 14163. And looking -- looking at Analytical Results, the third paragraph down, beginning with manganese and chloride: Manganese and chloride parenthetical, both naturally-occurring compounds, close parentheses, were the only compounds that exceeded class I standards in MW 6 and MW 8, comma, providing further evidence that the ash ponds near these wells are not leaking. Parenthetical, no other more traditional coal constituent indicator compounds exceeded standards in these two wells, close parentheses. Do you see where it says that?

A. Yes.

Q. What was the basis for that statement?

A. Well, I haven't reviewed the data, but I -- I'm assuming that we did not see exceedances of other indicator compounds other than just manganese and chloride in those wells.

And given that manganese and chloride are both -- I would consider them somewhat weak indicators for coal combustion waste. Given that those are the only two things we found, at the time we wrote this, I found it unlikely that it was due

to coal constituents.

Q. And what did you mean when you said "leaking?"

A. Well, I think I'm just generally using a terminology that I was -- that was employed when we developed the objective for the project which was to determine whether or not it was likely that ash ponds were having an impact on local groundwater.

If they were, regardless of the particular mechanism which might be causing it, I think I just generally caused -- said that it was leaking.

Q. Do you -- this says "further evidence." Was there something you -- that that -- I'm sorry. This says "further evidence." Did that imply that there was previous evidence that the ash ponds near these wells were not leaking?

MS. NIJMAN: Other than the two paragraphs above that?

MS. BUGEL: He can answer. I mean, if it's the two paragraphs above it, it's the --

BY THE WITNESS:

A. I would certainly include those two paragraphs as well, yes. And there may have been other things. I don't discuss a great deal

hydrogeologic conditions here. So back in the section where we discussed groundwater elevations, there's data there as well.

So taking the totality of what we know about groundwater flow, what we know about contaminant or constituent concentrations at the site, and their relative concentrations as found in the wells, the totality of it would indicate to us that that was not leaking at that point.

Q. And can you please turn to Bates 14164. And the very first bullet point on this page: There does not appear to be any notable downgradient groundwater impact expect potentially at MW 7, period. Further evaluation of the nature and extent of any downgradient groundwater impact will be possible upon completion of the sixth sampling event and a statistical analysis of upgradient groundwater quality. Do you see where it says that?

A. Yes.

Q. What impact were you referring to there starting on the first sentence?

A. Well, the sentence refers to downgradient groundwater impact at well seven.

Q. Okay.

A. So I'm assuming it's restricted to that, although I don't recall the data that led us to that conclusion and what it said.

Q. And did you go on to draw -- did you go on to get any additional evidence regarding MW 7 and the potential that you mentioned there?

A. Yes. There was further sampling done at the site, yes. I believe we -- we went as far as the first quarter of 2013, I believe, yes.

Q. Do you recall whether that went on to clarify whether there was an impact at well seven?

A. I can't recall specifically, with respect to well seven, whether that conclusion was drawn.

Q. Did you go on to do the sixth sampling event that you mention here?

A. I believe we did. I think we did an early -- I believe we did a spring 2013 sampling event.

Q. But you did not do a statistical analysis of upgradient groundwater quality; is that correct, at Powerton?

A. We may have done that analysis. I don't recall whether we did a statistical analysis of that or not.

Q. And looking under Next Steps, the first bullet point mentions surveying the ash ponds. Do you know if that survey was done?
A. I know that we did not do it.
Q. Do you know --
A. Whether or not someone else did I don't have any knowledge of.
Q. Do you know if there was anything done to determine the ash pond elevations?
A. Yes. The ash pond elevations have been, for some time at Powerton or were at the point that we put this together, estimated on some periodic frequency by the plant personnel using a variety of methods, some of them involving a staff located in the pond itself; not quite as accurate as you may get from a survey and yet maybe accurate enough to draw conclusions from.
So I believe that the ash pond elevations that the plant would take as a normal, routine operational process continued to take place, but that was outside the scope of Patrick Engineering.
Q. We were discussing MW 6 and MW 8 earlier and the fact that they were an independent unit -- or I'm sorry -- a groundwater unit. What data did

you get that led you to that conclusion besides what's in this report?
A. The conclusion drawn in this report was only based on the data in this report, so that was all of the data that was used. It was a combination of the elevation data, the boring log constituent data, and what we know about regional groundwater flow.
Q. The last bullet point mentions groundwater level transducers. Do you know if they were installed?
A. They were not installed by Patrick.
Q. Do you know if they were installed by anyone?
A. I don't.
Q. And the tracer test, was that performed, to your knowledge?
A. It wasn't performed by Patrick. And again, I don't know whether any other tracer tests were done outside of Patrick.
Q. Okay. I think we can set aside Powerton. You can set those exhibits aside.
We can grab Exhibit 24 again. Let's turn to page 14167. This is the Ash Pond Data Evaluation

and Summary for Waukegan Station. Do you see where it says that at the top?
A. Yes.
Q. Okay. And --
MS. NIJMAN: On top of 14166.
THE WITNESS: 166 is where the top is...
MS. BUGEL: Oh, thank you. 14166.
MS. NIJMAN: What page do you want him to look at?
MS. BUGEL: I'm turning just to 14166 --
MS. NIJMAN: Okay.
MS. BUGEL: -- where it says Ash Pond Data Evaluation. I just want to confirm, for the record, that is where that title appears. Okay.
BY MS. BUGEL:
Q. And under groundwater elevations, the second-to-last sentence, do you see where it says: Similarly, the non-active pond is maintained at an elevation well below the natural groundwater elevation?
MS. NIJMAN: I'm sorry. You're on which paragraph?
MS. BUGEL: The very last paragraph.
MS. NIJMAN: Okay.

BY MS. BUGEL:
Q. The parenthetical: Less than eight feet, comma, with no observable leakage into the pond, do you see where it says that?
A. Yes.
Q. Do you have experience with ponds in the non-active state?
MS. NIJMAN: Generally?
BY THE WITNESS:
A. I'm not sure what you mean by that question. I've seen this pond.
BY MS. BUGEL:
Q. Okay.
MS. NIJMAN: Are you talking about other than Midwest Gen, just generally?
MS. BUGEL: I'll rephrase the question.
BY MS. BUGEL:
Q. Do you -- let me rephrase that.
Do you know what pond at Midwest Gen this was referring to?
A. At the time this was written, no. They -- they alternate -- there's two ponds. One is always active. One is not. I don't recall which one was active the day this was written.

Q. And did you observe the ponds at Waukegan when they were in a non-active state?
A. Yes. Well, one of them, at any rate, yes.
Q. Okay. How many visits did you make to Waukegan?
A. I've probably been there a dozen times or so.
Q. And how often did you observe the ponds when you were visiting?
A. On most occasions, I think I observed the ponds.
Q. Okay. And when you observed the ponds, was there always one pond in a non-active state?
A. Always.
Q. Okay.
A. And maybe to further clarify, when I say there was no observable leakage, that wasn't just by observation I was referring to. I was also indicating the plant personnel whom we would interview at all of these sites also indicated to us that they didn't see any leakage into the pond.
Q. What -- what evidence would you look for to determine whether there was observable leakage?
A. If the non-active pond had any active

leakage in it, the non-active pond is actually located below the natural groundwater elevation at the site, so you would expect to see it start to fill in without anyone pumping anything to it. This did not occur.

So when sluice was not being directed to the non-active pond, the elevation of those ponds always remained low and never needed to be pumped out. This condition is unique to Waukegan.

Q. Was there any ash left in the non-active pond at any time when you observed them?
A. Yes. The purpose of making one of the ponds non-active is so that it can be dredged, but there's always some degree of ash left in the bottom of the pond thicker in some areas that are harder to access than others.

So yes, I did see some level of ash.

Q. And the very last sentence says -- can you review the last paragraph? I want to just give you an opportunity to review that whole paragraph.

(Witness reviewing.)

BY THE WITNESS:
A. Yes.
BY MS. BUGEL:

Q. The very last sentence says: Both of these observations are consistent with the fact that these ponds are lined with an HDPE liner, comma, and do not appear to be hydraulically reconnected with groundwater at the site. Do you see where it says that?
A. Yes.
Q. And if there was leakage into the non-active ponds, would you then assume that the pond was hydraulically connected to the groundwater?
A. Yes. In other words, if you saw the elevation in the pond which has nothing being pumped to it rise consistent with the level of the lake, for example, then you would make an assumption that they're hydraulically connected.

And the same would be true of the active pond which generally is maintained at a much higher level than groundwater. Without pumping out of the pond, if that level were to drop or responding with a drop in lake elevations, you would say those were inactive.

We didn't see either of those conditions, and yet we did see a very strong correlation with groundwater elevations and the lake telling us

those are very clearly hydraulically connected but not to the ponds themselves.

So because of the unique situation that Waukegan has, some of the strongest evidence that they are, in fact, not leaking is provided not by analytical data but the hydraulic data.

Q. Can you turn to page 14167 and the third bullet on that page under Conclusions. This bullet says: The groundwater elevation data show that MW 5 is an upgradient well. The elevated concentrations of compounds of interest in MW 5 appear to be the result of the well being installed in a former ash disposal area and not a result of the leakage from the current ash ponds. Do you see where it says that?
A. Yes.
Q. What was the basis for this statement?
A. Well, there's a number of lines of evidence that led us to this conclusion.

The first, very strong line of evidence is the hydraulic data that we just discussed.

A second would be the age of the liners installed in those ponds which they contained the newest and most technologically advanced liners

available.
In addition to that, there's the analytical data. Analytical data clearly showed a much higher concentration upgradient than downgradient of any constituent. And although the geologic and hydrogeologic conditions are complicated at some of Midwest Gen's sites, this isn't one of them. This is a very straightforward site hydrogeologically.
So water does flow from the west side of that site towards the lake in a fairly consistent manner. The exact direction might fluctuate a little bit, but generally that is the flow.
So we're very confident here in knowing that well five is definitely an upgradient well and one through four are definitely downgradient wells.
So comparing those analytical results would give us further information that it's not an ash pond and not an active ash pond problem that's causing it.
Q. Do you recall the elevated concentrations of compounds of interest mentioned here?
A. The specific concentrations I do not.
Q. And were more recent groundwater monitoring

reports consistent with your conclusion that the elevated concentrations at MW 5 are a result of the former ash disposal area?
A. Are you asking me whether the 2013 data was consistent with that conclusion?
Q. Well, this was in -- I think it might be the 2012 data --
A. Oh, I'm sorry. The 2012 data.
Q. -- because this is -- this was January 2012 and I believe based on 2011 data.
A. I can't recall all of the exact data, but I -- I -- I would be willing to say that I believe that the data that we found in MW 5 was virtually always considerably higher than what we found downgradient. I don't recall an event that that did not occur. Maybe one did that I don't recall, but I don't recall some.
Q. And how did you come to know about this former ash disposal area?
A. When we saw the concentrations that we found in well five, they were elevated enough -- and, in fact, I think they're elevated higher than most of the other wells that we have at any of the sites -- that we asked a little bit further

questions about why we would expect that here given that we knew what the flow pattern was.
And some investigation -- maybe it's -- it's not right to call it an investigation, but we had some conversations with Midwest Gen personnel to say is there anything else that could be causing a result like this.
And there were a couple of recollections of at least some documents which showed a former disposal area, although I don't think we ever talked to anybody who had actually observed it or knew where it was.
So we don't know the boundaries and I don't know for sure we're even experiencing a result of that here, but that's why we wrote this conclusion the way we did.
Q. Do you know anything else about the former ash disposal area?
A. I do not.
Q. Did anyone tell you when it was used?
A. No. To the best of my recollection, no one had any specific knowledge of it at all other than the fact that it may have existed and someone, I think, recalled seeing it in a former document.

But past that, I don't think there was any specific information.
Q. Do you know if there's any ash remaining in the former ash disposal area?
A. I don't even know if there is a former disposal area.
Q. Are you aware of any other source that could have caused the elevated concentrations of compounds of interest in well five?
A. I'm not aware of any specific source.
Q. And well five is upgradient of MW 1 through MW 4; is that correct?
A. Yes.
Q. And well five is upgradient of the west ash pond?
A. Yes.
Q. And if the west ash pond were leaking, would you expect to see the impact at well five?
A. No.
Q. Do you know if -- okay.
(Exhibit No. 143 marked for identification, 12-11-14.)
BY MS. BUGEL:
Q. I'm handing you a document that has been

previously marked as Exhibit 143. Are you familiar with this document?
A. Yes.
Q. And Patrick Engineering prepared it?
A. Yes.
Q. And your name and signature appear on it?
A. Yes.
Q. And you were involved in the preparation of this document?
A. Yes.
Q. Does it appear to be a true and accurate copy?
A. Yes.
Q. Okay. Can you please turn to Bates page 5271. Does this indicate where the monitoring wells were installed at the Waukegan site?
A. Generally, yes.
Q. Do you know if any wells were installed after these well -- monitoring wells one through five?
A. I believe another well was installed but not by Patrick. And I can't tell you the exact location, but I believe that another -- at least one other well has been installed.

(Exhibit No. 149 marked for identification, 12-11-14.)
BY MS. BUGEL:
Q. I'm passing you an exhibit that has been previously marked Exhibit 149. The first page is an email from you to Andrea Rhodes and Bill Buscher with Maria Race cc'd. Do you see that?
A. Yes.
Q. It's dated 4-29-2013. Your name appears on this email; is that correct?
A. Yes.
Q. And you were forwarding a report to Illinois EPA; is that correct?
A. Yes.
Q. And if you turn to the attachment, there is a letter and it is -- your name and signature appear on this. Do you see that?
MS. NIJMAN: On the letter?
BY THE WITNESS:
A. Yes.
BY MS. BUGEL:
Q. And this was prepared by Patrick Engineering; is that correct?
A. Yes.

Q. Are you familiar with these documents?
A. Generally, yes.
Q. And you've reviewed them prior to today?
A. At the time of its development, yes.
Q. And they appear to be true and accurate copies?
A. They appear to be.
Q. Okay. Can you please turn to page 6 -- well, let's -- starting at 16433, there's a monitoring well location map. Do you see that?
A. Yes.
Q. And does that document additional wells at Waukegan?
A. Yes.
Q. And are those -- they're MW 6 and 7; is that correct?
A. Yes.
Q. Do you know who installed them?
A. I think KPRG installed those two wells.
Q. All right.
A. But -- I might be mistaken, but I believe that that's the case.
Q. And did you review the groundwater monitoring results from wells one through seven?

A. Yes.
Q. Specifically the groundwater monitoring results contained in this report?
A. Yes, at the time.
Q. And did you compare the results of MW 6 and 7 to MW 5?
A. I don't know if we did it as a part of the report, but I'm sure we looked at all of the data, yes.
Q. Did it have any effect on your conclusion that the impacts seen at MW 5 were a result of it being located in the former ash disposal area?
A. Well, I should say, first of all, I'm not sure that that was my firm conclusion. I think I concluded it may have been.
Q. Okay.
A. And I don't know that the data would have changed my mind on that at all.
Q. We can set that aside. 124 we always -- I'm sorry. Exhibit 24 we go back to, so keep that handy.
(Exhibit No. 151 marked for identification, 12-11-14.)
BY MS. BUGEL:

Q. I'm passing you an exhibit that has previously been marked as Exhibit 151. Are you familiar with this report?
A. Yes.
Q. This plan, more aptly.
And Patrick Engineering prepared it?
A. Yes.
Q. And you were involved in the preparation of this?
A. Yes.
Q. Okay. And you've reviewed it prior to today?
A. Yes.
Q. And does it appear to be a true and accurate copy?
A. Yes.
Q. Okay. And looking at Bates page 13934, does this accurately depict -- and I realize this is really -- after -- the copying in black and white didn't do it any favors, but does this accurately depict the groundwater monitoring wells that were installed at Will County?
A. I think it's close. I'm not sure that all wells, again, were placed exactly where they're

shown in this plan document, but generally I think, yes.
Q. But wells -- and I think it only goes as high as MW 10. Wells MW 1 through MW 10 were, in fact, installed?
A. I believe they were, yes.
Q. And do you know if any wells were installed after 2010?
A. I don't recall any additional wells, but I can't say with certainty.
Q. And we've talked a lot about upgradient and downgradient, so I will try to be brief, but do you know if the arrow depicting groundwater flow accurately depicts groundwater flow at the site?
A. I think it does not.
Q. Can you explain why?
A. The groundwater flow direction shown on this document was based on, in absence of all site data, simply the elevation of the Des Plaines River which flows past the site to the west and the sanitary canal which passes the site on the east. And in general, the Des Plaines River has a higher elevation than the canal.
So given no other information, we made a

guess that groundwater flow probably follows that pattern and simply goes beneath that strip of land to the east. That's not at all what we found during the investigations.
Q. Can you explain what you did find?
A. The elevations -- well, one moment. I don't want to...
(Brief pause.)
BY THE WITNESS:
A. The groundwater elevations that we observed in many of the wells that we installed on site were higher than either the Des Plaines River or the canal which leaves us with a very, very complex set of questions on what's actually happening at the site.
BY MS. BUGEL:
Q. Okay. And then I'm going to pass you something that might help out with this discussion. Wait a minute. Wrong one. You get the fancy yellow sticker.
(Exhibit No. 152 marked for identification, 12-11-14.)
BY MS. BUGEL:
Q. I'm passing you an exhibit that has been

previously marked as Exhibit 152. Are you familiar with this document?
A. Yes, I think so.
Q. And if you turn the page, did Patrick Engineering prepare this document and attachments?
A. Yes.
Q. And your name appears as a signature on Bates page 16687?
A. Yes.
Q. And you were involved in the preparation of this document?
A. Yes.
Q. And you've reviewed it prior to today?
A. Yes.
Q. Does it appear to be a true and accurate copy?
A. Yes.
Q. Let's turn to Bates page 16693. Acknowledging that this is a snapshot of an event, can you explain what this shows as to the groundwater flow at the site?
A. Yes. This shows one possible interpretation of the groundwater elevation data that we collected at the site. And I should point

out that it's one of many possible interpretations.
But just looking at this one, you can see it's a very complex set of flow patterns for such a narrow strip of land.
So whenever I see something this complex, I'm immediately somewhat skeptical that we actually know what's happening here. But on the basis of just one set of data and trying to show a flow pattern which is what we represented to the Illinois EPA we would do for each event, this was the best interpretation we could come up with.
Q. And do you recall if the flow pattern varied from sampling event to sampling event?
A. It certainly did, yes.
Q. And can you generally describe how it varied?
A. I can generally say that this picture looks very, very different in a lot of the other reports.
Q. How does it look different?
A. You know, I can't recall specifically which wells flipped back and forth, but a good number of them did.
Q. Okay. So does that mean some wells that

were upgradient wells for some sampling events could be downgradient wells for other sampling events?
A. I think what it means more generally is that the concept of up and downgradient doesn't apply to Will County; that it's not reasonable to look at up and downgradient even in an instant of time. It's just far too complex to do that.
Q. Today we've talked about other complex sites in terms of groundwater flow. Not Waukegan. Waukegan is not complex; is that correct?
A. Right.
Q. You just said the concept of up and downgradient doesn't apply to Will County. Are there other facilities where that's true for -- among the four Midwest Gen facilities?
A. I don't think that's true for Waukegan. I think that there may be places at Powerton where it's not applicable, but I think, depending on which water unit you look at at Powerton, it can still be true.
So, for example, in at least one groundwater unit, there does appear to be fairly consistent southerly to northerly flow at

Powerton, but in some localities, it may not make sense to think about up and downgradient.
For Joliet, I think it generally makes sense to talk about up and downgradient understanding the caveat that sometimes the river actually flows towards the site and that those conditions change over time.
Will County I place in a different category altogether; one, because the hydrogeologic conditions are so complex but also because the strip of land we have to analyze is so narrow that there really aren't many other places we can put wells near the ash ponds to analyze them.
And given that that's the best we can do, I'm not sure we can say a whole lot definitively upon the basis of hydrogeologic data alone.
Q. And is there any well at Will County that was upgradient and always upgradient?
MS. NIJMAN: We're talking about -- based on this report?
MS. BUGEL: Over time.
BY THE WITNESS:
A. Always.
MS. NIJMAN: Over his time?

MS. BUGEL: Yes.
BY THE WITNESS:
A. I don't recall.
BY MS. BUGEL:
Q. Okay. Turning back to Exhibit 24, could you please turn to Bates page 14170. On that page referring to the very last sentence -- second-to-the-last sentence on the page, last full sentence, do you see where it says in the second half of that sentence: The groundwater elevations are all higher than either of the surface waters as the direction of groundwater is generally found to be from the northeast to the southwest.
I understand we may need to put that aside, but going on to the next sentence, do you see where you say: It is unknown whether the presence of this groundwater mound between the river and the CSSC is due simply to natural mounding due to recharge or is partially related to leakage from the ash ponds themselves.
Do you see where you said that?
A. Yes.
Q. And I realize your understanding of what was going on at Will County evolved over time.

Would you still say that there's a groundwater mound there?

MS. NIJMAN: At the time of this?

MS. BUGEL: No. Now.

MS. NIJMAN: He has not looked at this.

MS. BUGEL: Sorry. Okay.

MS. NIJMAN: He's no longer involved.

MS. BUGEL: Okay.

BY MS. BUGEL:

Q. Based on what you learned while you were involved, is it your -- was it your understanding that there was a groundwater mound?

A. Based upon the data that had been generated up to this point, I couldn't say is the best way to phrase it. I didn't know which is exactly what I would say here.

No other information has come into my possession that would change that opinion, but at the time that this was written, no, I would say I don't know. Because it's so complex, that kind of condition could be due to several different things, and I have no way of knowing which one it is.

Q. And turning to the Bates page 14172, do you see the second bullet point? It comes right

before Next Steps. Do you see that?

A. Yes.

Q. And do you see where it discusses boron and sulfate concentrations are higher in nearly all of the downgradient wells when compared to MW 1 indicating that the ash ponds are potentially impacting downgradient water? Do you see where it says that?

A. Yes.

Q. And then you go on to say: However, given the limited number of upgradient wells at the site; (one, if mounding is considered), no firm conclusion can be drawn with respect to groundwater analyzed at the site. Do you see that?

A. Yes.

Q. Did -- okay. Going back to the first sentence, your conclusion that the ash ponds are potentially impacting downgradient groundwater, based on subsequent sampling that Patrick Engineering conducted, did your understanding of that change?

A. Based upon sampling results, no. My -- my recollection is that generally the analytes that we found in the various wells generally were

consistently found in the same wells from event to event. And while groundwater elevations changed considerably, the presence of specific compounds didn't really change very much. That was a finding that we found at, in fact, all of the sites.

Q. And did you form any more determinative conclusion as to whether the ash ponds were impacting downgradient groundwater?

MS. NIJMAN: At this time?

MS. BUGEL: Subsequent to this report based on the data and testing and analysis that Patrick Engineering was involved in.

MS. NIJMAN: I'm going to object only if it involves a discussion with counsel if it was an opinion for counsel based on the CCA. So if you have a separate opinion, you can answer at this time.

THE WITNESS: Okay.

BY THE WITNESS:

A. The -- any opinions I had subsequent to an opinion put in this document would have been just had with counsel and Midwest Gen, so -- I understand that to be privileged, so I would have to restrict my answer just to what my opinion was at the time

that this had been generated.

BY MS. BUGEL:

Q. Okay. And in Next Steps, the very last bullet point you discuss definitive data and a tracer test using bromide. Do you see where it mentions that?

A. Yes.

Q. Was any tracer test performed by Patrick Engineering?

A. No.

Q. Can you turn back to page 14171. Analytical results, second paragraph, second sentence in that paragraph: Based upon the current model of groundwater flow at the site, only MW 1 appears to be a true upgradient well; do you see where it says that?

A. Yes.

Q. And did MW 1, in your understanding, consistently be a true upgradient?

A. I can't remember the specific data. I would assume that the reason I put this sentence in the report is that it probably was. It appeared to be anyway.

Q. At --

A. At the time that we put this together.
Q. At the time of this report.
But you can't recall whether MW 1 in subsequent groundwater flow models was not upgradient?
A. I can't recall that, no.
Q. And for this site, did you ever do a statistical analysis of upgradient groundwater quality?
A. No. I know that we did not on this one.
MS. BUGEL: I have two pages of questions left which is --
MS. NIJMAN: You have four minutes.
MS. BUGEL: Okay.
BY MS. BUGEL:
Q. And do you recall -- boron concentrations...
Middle of the second paragraph: Compared to MW 1, concentrations of boron were higher --
MS. NIJMAN: I'm sorry. What page are you on?
MS. BUGEL: 14171. And when counsel has to ask, I think I should get a little extra time.
MS. NIJMAN: Not if you're not clear on

the record to the witness. He didn't have the document open either.
MS. BUGEL: It was right where we left off.
BY MS. BUGEL:
Q. Compared to MW 1, concentrations of boron were higher in all of the other wells. Concentrations of sulfate were higher in seven of the other wells. TDS was higher in five out of nine of the other wells. Manganese was higher in four out of -- in four out of the other wells. And chloride was higher in only two of the other wells.
Starting with boron, do you recall what the boron concentrations in the downgradient wells were?
A. No, I don't.
(Exhibit No. 144 marked for identification, 12-11-14.)
BY MS. BUGEL:
Q. Okay. I'm placing what has previously been marked as Exhibit 144. Turning to Bates page 6225 -- that's the first page. Let's see. Bates page 6244 through 6248 contain the lab results in the event that that refreshes your recollection.

A. You want me to review --
MS. NIJMAN: What would you like him to look at?
MS. BUGEL: Boron concentrations in wells MW 2.
BY MS. BUGEL:
Q. Do you see the boron concentrations on that page?
A. In well two?
Q. Yes, in well two.
A. Yes.
Q. They range from 1.6 to 2.3. And turning the page, I think we will go -- why don't we look at MW well seven? Do you see the boron concentrations on that page?
A. Yes.
Q. And some of them are as high as 4.7, five, 5.7, 5.0. Do you see those ranges?
A. Yes.
Q. Do you have an understanding of whether concentrations that high can occur naturally?
MS. NIJMAN: I'll object to the characterization of them being high.

BY THE WITNESS:
A. I'm not an expert in sources of boron and how they occur naturally, although I know that they do occur naturally. I can't speak to -- to whether that would be consistent or not.
BY MS. BUGEL:
Q. And turning back to the paragraph on page -- in Exhibit 24 on page 14171, you focused your comparison on boron, sulfate, TDS, manganese, and chloride; is that correct?
A. Yes.
Q. Why did you focus on these five constituents for the comparison?
A. I imagine I focused on them because we had found actual constituents in the wells and exceedances for those compounds.
Q. And do you see where you say in the second-to-last sentence: The results of these comparisons could be used to argue that the ash ponds are potentially impacting downgradient groundwater at the site?
A. Yes.
Q. Do you see that?
A. Yes.

Q. What was the basis for this statement?
A. The levels of concentrations taken just by themselves.
Q. And did you focus on these also because they are coal combustion waste indicators?
A. They all can be.
Q. And subsequent to this report, did you get any other evidence -- did you see any other evidence that went to -- that indicated that ash ponds were impacting downgradient groundwater at the site?
A. Well, again, any other opinions I would have formed past this point, I would say, were made in conjunction with Midwest Gen's counsel.
Q. And turning to page 14172, second bullet point on that page, midway through that paragraph: Boron and sulfate concentrations are higher in nearly all of the downgradient wells when compared to MW 1 indicating that the ash ponds are potentially impacting downgradient water; do you see where it says that?
A. Yes.
Q. What was the basis for this statement?
A. Just the fact that boron and sulfate in certain circumstances can be used as indicators of

combustion waste. And if all the other conditions hold true; for example, we understand the hydrogeologic conditions in the site and the downgradient concentrations are higher than the upgradient concentrations and we have a likely source for these compounds between those two points, then you may be able to draw that conclusion.

I don't draw the conclusion specifically here only because I think we don't have a very good understanding of what the hydrogeologic conditions are here.

MS. BUGEL: I have one very brief -- five questions remaining.

MS. NIJMAN: Okay. We will extend the time period as a courtesy.

MS. BUGEL: Thank you. I appreciate that.

BY MS. BUGEL:

Q. Did -- is it correct that after the first quarter of 2013, Patrick no longer prepared groundwater -- quarterly groundwater reports for Midwest Gen?
A. I think 2013 was the last time we sampled it, yes.

Q. And at the same time, did your involvement in any groundwater sampling and analysis end with Midwest Gen?
A. Of those four sites, yes.
Q. And do you know the reason for your work with Midwest Gen ending?
A. Well, our contract expired, for one thing, so we -- in fact, I think our contract expired at the end of 2012, so we put in a -- I think a proposal. In fact, I'm quite sure we did a proposal for one quarterly sampling to be done in 2013.
Q. And did you do a proposal for any other work subsequent to the first quarter of 2013?
A. To Midwest Generation?
Q. Yes.
A. Yes. We continue to work for them in a number of different areas.
Q. Did you do a proposal to continue to do the groundwater sampling for them subsequent to the first quarter of 2013?
A. No. I think that was the last proposal we did.
Q. Why did you not do any additional proposals?
A. Because after that, KPRG had won that work.

Q. KPRG what?
A. I believe KPRG took over the sampling to the extent that it was done after that.
Q. Do you have an understanding of why they took over?
A. No, not specifically, other than that our contract ended.

MS. BUGEL: Okay. I have no further questions.

MS. NIJMAN: Thank you.

Reserve.

(AND FURTHER DEPONENT SAITH NOT.)

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF:)
)
SIERRA CLUB, et al.,)
)
Complainants,)
) PCB No-2013-015
v.)
)
MIDWEST GENERATION, LLC,)
)
Respondent.)

I hereby certify that I have read the foregoing transcript of my deposition given on December 11, 2014, at the time and place aforesaid, consisting of Pages 1 through 121 inclusive and I do again subscribe and make oath that the same is a true, correct and complete transcript of my deposition so given as aforesaid.

Please check one:
_____ I have submitted errata sheet(s)
_____ No corrections were noted

_____
RICHARD FRENDT

SUBSCRIBED AND SWORN TO
before me this___ day
of _____, A.D., 2014.

_____
Notary Public

STATE OF ILLINOIS)
) SS.
COUNTY OF COOK)

I, CARYL L. HARDY, Certified Shorthand Reporter No. 084-3896, Notary Public in and for the County of Cook, State of Illinois, do hereby certify that previous to the commencement of the examination, said witness was duly sworn by me to testify the truth; that the said deposition was taken at the time and place aforesaid; that the testimony given by said witness was reduced to writing by means of shorthand and thereafter transcribed into typewritten form; and that the foregoing is a true, correct, and complete transcript of my shorthand notes so taken as aforesaid.

I further certify that there were present at the taking of the said deposition the persons and parties as indicated on the appearance page made a part of this deposition.

I further certify that I am not counsel for nor in any way related to any of the parties to this suit, nor am I in any way interested in the outcome thereof.

I further certify that this certificate applies to the original signed and certified transcripts only. I assume no responsibility for the accuracy of any reproduced copies not made under my control or direction.

IN TESTIMONY WHEREOF I have hereunto set my hand and affixed my notarial seal this 23rd day of December, A.D., 2014.



Caryl L. Hardy, CSR

My Commission Expires
February 1, 2016

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December 23, 2014

Ms. Jennifer T. Nijman
Nijman Franzetti, LLP
10 South LaSalle Street, Suite 3600
Chicago, Illinois 60603

Re: Sierra Club vs. Midwest Generation
Case No. PCB No-2013-015

Dear Ms. Nijman:

Enclosed please find a copy of the deposition transcript of Richard Frendt which was taken on December 11th, 2014.

As signature was reserved, please arrange for the deponent to review his transcript making any necessary corrections on the errata sheets. Then have him sign the deponent's signature page and have the signature notarized.

Please send the original errata sheets and signed deponent's certificate within 28 days of today to Ms. Faith E. Bugel, keep a copy for yourself, and please send a copy to me. If they are not returned by said date, upon request an affidavit will be provided pursuant to the procedure outlined in Rule 207(a) of the Illinois Supreme Court Rules and the deposition will be completed and will be "used as fully as though signed."

Thank you for your cooperation in this matter. If you have any questions, please do not hesitate to call me.

Sincerely,

Caryl L. Hardy

cc: Ms. Faith E. Bugel

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Exhibit F

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:	)	
	)	
SIERRA CLUB, ENVIRONMENTAL LAW AND POLICY CENTER, PRAIRIE RIVERS NETWORK, and CITIZENS AGAINST RUINING THE ENVIRONMENT	)	
	)	**PCB 2013-015**
Complainants,	)	**(Enforcement – Water)**
	)	
v.	)	
	)	
MIDWEST GENERATION, LLC,	)	
	)	
Respondent.	)	

RESPONDENT, MIDWEST GENERATION, LLC'S SUPPLEMENTAL RESPONSE TO COMPLAINANTS' FIRST SET OF INTERROGATORIES

Respondent, Midwest Generation, LLC, ("Midwest Generation"), through its attorneys Nijman Franzetti, LLP, issues its supplemental response to Complainants', Sierra Club, Environmental Law and Policy Center, Prairie Rivers Network, and Citizens Against Ruining the Environment, First Set of Interrogatories, (the "Requests"), as follows:

GENERAL OBJECTIONS

Each of the Answers and Responses is made subject to and incorporates the following objections. Respondent reserves the right to object to the admissibility of any of the documents produced pursuant to the Responses, in whole or in part, at trial in this action on any grounds including but not limited to materiality, relevance, confidential business information and privilege.

1. Midwest Generation objects to the "Coal ash" definition to the extent it includes coal ash that is not stored or transferred to the Coal ash units at the Joliet 29, Powerton, Waukegan, and Will County Stations.

2. Midwest Generation objects to the Requests to the extent that they seek information that is subject to the attorney-client privilege or the work product privilege. To the extent that any privileged information is inadvertently provided in these responses or any documents produced, such provision shall not constitute waiver of the privilege or immunity as to any such information and Complainants shall return any such information upon request.

3. Midwest Generation objects to any Instruction that seeks to impose a duty or burden on Midwest Generation beyond that required by the Illinois Pollution Control Board ("Board") Rules, the Illinois Code of Civil Procedure.

ANSWERS TO INTERROGATORIES

INTERROGATORY NO. 7: Identify all known Coal ash units, including but not limited to ponds, impoundments, or landfills, that have ever been used to store or dispose of Coal ash at each plant, including both active and inactive or abandoned coal ash units, and for each Coal ash unit:

a. State whether the unit was or is lined, and if so, when the original liner and any replacement liners were installed and the type of the original and any replacement liners;

b. State whether all Coal ash has been removed from that unit, and if so, when and by whom that removal was performed; and

c. State whether MWG has ever become aware of any Breach of, or damage to, any liner, and if so, what actions were taken to address those breaches or damage.

ANSWER: Midwest Generation objects to Interrogatory No. 7 because it is overly broad, unduly burdensome, is not limited in time, and seeks material covered by the work product and attorney-client privilege. Additionally, Midwest Generation objects to this interrogatory as requesting information already provided in the responses to the document

requests and in the depositions. Without waiving its objections and subject to a protective order, Midwest Generation states the following:

Joliet 29 Station has three active ash ponds and, based on information and belief, there are two historical ash areas. The three active ash ponds, Ash Ponds 1, 2, and 3, are lined with a High Density Polyethylene (HDPE) liner. They were originally constructed in 1978 with a poz-o-pac liner. MWG installed HDPE liners in Ash Ponds 1 & 2 in 2008 and installed an HDPE liner in Ash Pond 3 in 2013. Coal ash is removed from Ash Ponds 1 & 2 approximately every one to two years. Ash Pond 3 is a finishing pond, and coal ash was removed from Pond 3 in 2013. Coal ash is removed from the ponds by Beemsterboer. A breach in the liner in Ash Pond 3 above the water line occurred in February 2015, and was repaired as soon as the weather allowed in 2015. MWG has no knowledge of lining under the historical ash areas, or if there is a breach or damage to any liner under the historical areas. Coal ash was removed from the historical area on the southwest side of the property by KPRG in 2005 and 2007. Other than the two removals in 2005 and 2007, MWG has no knowledge of any removals of coal ash from the historical areas.

Powerton Station has three active ash ponds (the Ash Surge Basin, the Ash Bypass Basin, and the Secondary Ash Settling Basin), and uses one basin as a temporary holding spot (the Metal Cleaning Basin). The three ash ponds, and the basin are lined with a HDPE liner. The Ash Surge Basin and the Metal Cleaning Basin were originally constructed in 1978 with a poz-o-pac and hypolon liner. MWG has no knowledge of the original construction date of the Ash Bypass Basin or the Secondary Ash Settling Basin. Both the Secondary Ash Settling Basin and the Ash Bypass Basin originally had a hypalon liner. In 2010, the Metal Clean Basin and the Ash Bypass Basin were relined with HDPE liners. In 2013, the Ash Surge Basin and the Secondary Ash Settling Basin were relined with HDPE liners. Coal ash is removed from the Ash Surge Basin,

the Ash Bypass Basin and the Secondary Ash Settling Basin approximately every six to eight years. Coal Ash is removed from the Metal Cleaning Basin approximately annually. The Coal Ash is removed by Harsco Minerals, Capital Minerals and the Station. There were periodic tears at the top of the hypalon liners, above the water line, in the Ash Settling Basin Ash Bypass Basin, Metal Cleaning Basin, all of which were promptly repaired. On information and belief, the Powerton Station also has three areas that historically contained ash: the limestone basin, an area south of the ash bypass basin, and the former ash pond. The limestone basin is lined on the bottom with a poz-o-pac liner and a hypolan liner on the sides. Coal ash was temporarily stored in the limestone basin in the past, and it is not presently used for storage of coal ash. On information and belief, ash was removed from the limestone basin in 2004, but MWG been unable to locate information regarding the removal. On information and belief, there were breaches at the top of the hypalon liner on the sides of the limestone basin. On one occasion, between approximately 2002 and 2004, MWG installed temporary plastic lining in the limestone basin. Coal ash was also temporarily stored in an area south of the ash bypass basin in the winter of 2001, but has not been stored at that location since and no ash is at that location now. On information and belief, in 2001 Reed Minerals removed the ash in that area for beneficial use. Additionally, MWG has no knowledge of the lining under the area south of the ash bypass basin or if there was a breach any lining underneath the area. On information and belief, the former ash pond area is a historical ash area and there is no liner below the former ash pond. MWG has no knowledge if there is a breach or damage to any liner under the former ash pond, or if ash has been removed from the former ash pond.

Waukegan Station has two active ash ponds, both of which are lined with a HDPE liner, and, based on information and belief, a historical ash area. The ash ponds were originally

constructed in 1978 and lined with a hypalon liner. In 2003, the East Pond was relined with an HDPE liner, and in 2005, the West Pond was relined with an HDPE liner. Coal ash is removed approximately annually from the ash ponds by Lafarge North America. Minor breeches in the upper portions of the liners, due to equipment use above the water line, have occurred and have been promptly repaired. Recently, there was a tear in the top of the East Ash Pond in 2013 and a tear in the East and West Ponds in 2014. On information and belief, both tears were promptly repaired as soon as weather allowed. MWG has no knowledge of the lining under the historical ash area, whether coal ash was removed from the historical ash area, or if there is a breach or damage to any liner in the historical ash area.

Will County Station has two active ash ponds (Ponds 2S and 3S) and two inactive ash ponds (Ponds 1N and 1S). All four ash ponds were originally constructed in 1977 with a poz-o-pac liner. In 2009, Pond 3S was relined with an HDPE liner, and in 2013, Pond 2S was relined with an HDPE liner. Coal ash is removed from the ash ponds by Lafarge North America approximately annually. MWG is aware of a tear in the HDPE liner in 3S in 2012, which was promptly repaired in 2012, and there was also a crack in the second layer of poz-o-pac under Pond 3S in 2009. The Retention Basin, a concrete basin, also historically contained ash, and on information and belief the ash was removed approximately daily. The Retention Basin is no longer used for any processes related to ash, and no longer contains any ash. There is also a historical slag stockpile near the Retention Basin. In 2015, MWG removed approximately 1,800 tons of slag from the stockpile. Currently, the area contains an ash pile. A 1999 Phase II Report, conducted for a previous site owner, identified historic areas including a slag and bottom ash dumping area and a slag dumping area. MWG has no knowledge whether such areas were lined,

whether coal ash was removed from the areas, or if there is a breach or damage to any liner in the areas.

Responsive documents are also at Bates MWG13-15_1 -176, MWG13-15_8415-11492, MWG13-15_11493-13421, MWG13-15_17637-17973, MWG13-15_18823-MWG13-15_18990, MWG13-15_16770-18938, MWG13-15_28404-29796, MWG13-15_45621, MWG13-15_44770, MWG-13-15_48636-48639; M. Kelly deposition, pp. 26, 28, 31 40, 41, 42, 53, 54, 59, 77, 75 94, 112; J.DiCola Deposition, pp. 44, 103, 105, 106, 108, 109; C. Lux Deposition, p. 20; R.Maddox Deposition, pp. 90-93, 120-121.

Dated: June 10, 2015

Respectfully submitted,

Midwest Generation, LLC.

By: /s/ Jennifer T. Nijman
One of Its Attorneys

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Under penalties as provided by law pursuant to Section 1-109 of the Code of Civil Procedure, the undersigned certifies that the statements set forth in the Midwest Generation, LLP Responses to Complainants' Interrogatories and Requests to Admit dated September 2, 2014 and March 31, 2015 and supplemented on June 10, 2015, except as to matters therein stated to be on information and belief and as to such matters the undersigned certifies as aforesaid that it verily believes the same to be true.

I have personal knowledge of the facts stated herein.

FURTHER AFFIANT SAYETH NOT.



Maria Race

Exhibit G

Expert Report of John Seymour, P.E.

I have prepared this Expert Report on behalf of Midwest Generation, LLC (MWG) to present my opinions and to address the two expert reports issued by M. James R. Kunkel in the Matter of:

SIERRA CLUB, ENVIRONMENTAL LAW AND POLICY CENTER, PRAIRIE RIVERS NETWORK, and CITIZENS AGAINST RUINING THE ENVIRONMENT
Complainants,
v
MIDWEST GENERATION, LLC,
Respondent
PCB 2013-0015

Section 1: INTRODUCTION

1.1. Background

Since 1999, MWG has operated four electric generating stations at issue in this matter: the Joliet #29 Generating Station ("Joliet #29") located in Joliet, Will County, Illinois; the Powerton Generating Station ("Powerton") located in Pekin, Tazewell County, Illinois; the Waukegan Generating Station ("Waukegan") located in Waukegan, Lake County, Illinois; and the Will County Generating Station ("Will County") located in Romeoville, Will County, Illinois. Prior to 1999, the stations were operated by other entities and pre-1999 documents identify historic areas where ash was placed.[1]

Each of the generating stations includes active ash ponds as an integral part of the generating stations' wastewater treatment systems (MWG Facility NPDES Permits).[2] All of the ash ponds are permitted pursuant to MWG's NPDES permits (IL0064254, IL0002232, IL0002259, and IL0002208) and operate pursuant to the limits, terms, and conditions of the permits. All of the active ash ponds at the MWG facilities are fully lined with 60 mil-thick high density polyethylene (HDPE) liners.

In 2010, MWG voluntarily agreed to Illinois EPA's request to perform hydrogeological assessments around the ash ponds at its generating stations.[3] On June 11, 2012, based on the results of the hydrogeological assessments, Illinois EPA issued Violation Notices (VN) to MWG alleging violations of

[1] MWG13-15_8502-8536, MWG13-15_11966-12040, MWG13-15_29502-29532, MWG13-15_25139-25167
[2] MWG's Answer and Defenses to Second Complaint, Answers to Complaint ¶¶1, 3, 5, 7
[3] MWG13-15_364; MWG13-15_384; MWG13-15_407; MWG13-15_421

groundwater quality standards purportedly caused by the ash ponds.[4] The VNs listed exceedances of the groundwater quality standards for specific constituents at each station, such as chloride, antimony, and boron.[5]

MWG responded to the VNs, disputing that the ponds were the cause of groundwater exceedances.[6] MWG explained that the ash ponds are not disposal sites because the ash is routinely removed and that the alleged groundwater exceedances were inconsistent and did not show a connection to the ash ponds. Illinois EPA and MWG agreed on a Compliance Commitment Agreement (CCA) for each MWG station to resolve the VNs.[7]

As the CCAs were finalized,[8] Complainants filed a Complaint against MWG alleging open dumping violations, violations of Section 12 of the Illinois Environmental Protection Act, and violations of the Pollution Control Board groundwater regulations (35 Ill. Adm. Code 620.115, 620.301(a), and 620.405). Complainants later amended their Complaint to include historic filled areas on the sites. In support of their Complaint, Complainants presented two reports by James R. Kunkel.[9]

1.2. Contents of Opinion

I have reviewed the Kunkel reports and provide my assessment and opinions, below. In addition, I reviewed operational information, monitoring data, construction data and other documents for each of the stations to develop my opinions. Each of my opinions is supported by a reasonable degree of scientific certainty. The following outlines my approach to support my opinion:

- Section 2: Overview of Opinions
- Section 3: Credentials of John Seymour, P.E.
- Section 4: Summary of Current Conditions and Conceptual Site Models (CSM)
- Section 5: Opinion 1—MWG's Actions are Appropriate for the Sites and are Protective of Human Health and the Environment
- Section 6: Opinion 2—The Remedial Approach Provided in the Kunkel Remedy Report is Not Warranted

[4] MWG13-15_328-358
[5] MWG13-15_328-358
[6] MWG13-15_364-437
[7] MWG13-15_553-572, 553-575
[8] MWG13-15_795-806
[9] Kunkel, 2015a and 2015b

- Section 7: Opinion 3—Kunkel Underestimates the Costs to Implement the Unwarranted Cleanup
- Section 8: Reservation
- Section 9: Signature
- Section 10: Acronyms
- Section 11: Works Cited
- Figures and Tables
- Appendix A: John Seymour Curriculum Vitae
- Appendix B: Surface Water Risk Characterization

Section 2: Overview of Opinions

Opinion 1: MWG's Actions are Appropriate for the Sites and are Protective of Human Health and the Environment.

It is my opinion that MWG's actions at each plant site are appropriate for the measured groundwater impacts and are protective of human health and the environment. This opinion is based on the following:

- An approach that eliminates the exposure pathways to address the potential groundwater impacts is appropriate.
- Establishment of administrative controls such as Groundwater Management Zones (GMZ) and/or Environmental Land Use Controls (ELUC) are effective remedial approaches to reduce the exposure of potential groundwater impacts, are remediation industry-accepted approaches, and are approved State of Illinois methods.
    - GMZs are specified for sites undergoing corrective actions under Title 35, IAC Sections 620 (Bureau of Water) and 740 (Bureau of Land).
    - A minimum of 10 sites in Illinois currently have GMZs established by the IEPA Bureau of Water. IEPA Bureau of Water has not reported any groundwater violations for sites with GMZs.
    - The IEPA Bureau of Land has implemented on the order of 100 ELUCs.[10]
    - ELUCs and GMZs allow control of groundwater use along the exposure pathways by eliminating the ingestion pathway and dermal contact pathway while corrective action is underway.
        - The groundwater ingestion pathway is eliminated by restricting the installation of potable water wells in the area of the GMZs and ELUCs.
        - The dermal contact pathway is eliminated by restricting the access of the industrial properties to only trained workers.
- All of the active ponds were relined to eliminate a potential exposure pathway.
    - The relining of the CCR Ponds with 60-mil thick HDPE is an industry-accepted remediation approach to reduce the potential for groundwater impacts.

[10] The IEPA Bureau of Land also has approved GMZs for many sites.

- The relining of the CCR Ponds was completed and inspected by an independent third party under construction quality assurance protocols and documented to be completed in accordance with the design documents or subsequently inspected by a qualified third party.

- The lined ponds are properly operated and maintained, which is the industry-accepted standard approach to preclude groundwater impacts. The operation and maintenance is being completed under consistent protocols.
- Groundwater monitoring is an accepted method to assess a remedial approach.
- I reviewed recent groundwater monitoring data and literature on liners to identify if liner defects were likely and if leaks of leachate through alleged liner defects could be impacting groundwater at the subject sites. It is my opinion that groundwater concentrations are not the result of leaks of leachate from the ash currently stored in lined ponds, as outlined below.
    - The leachate from bottom ash currently stored in ash ponds contains constituents at levels that do not exceed IEPA Class I groundwater standards based on neutral leaching analyses of site-specific samples, indicating that the bottom ash in the ponds is not a source of impact to groundwater.
    - The characteristics of ash leachate were identified based on site-specific impounded ash data or on published leachate data from ponds of subbituminous CCR sourced from the Powder River Basin (PRB) in Wyoming that is the source of coal ash from the Plants.
    - The profiles of the constituents in the groundwater do not match the profiles of leachate constituent indicators in the ponds at all four plant sites. This is based on a comparison of the occurrence of groundwater constituents detected in 2014 compared to minimum and maximum sets of indicators of leachate from ash stored in ponds.
- Groundwater conditions do not pose risks to surface water based on Illinois Water Quality Standards and Illinois Water Quality Criteria that are issued by the State of Illinois to be protective of human health and the environment. An assessment of human and ecological receptors in surface water indicates that there is no risk to the surface water environment at each site based on regulatory risk standards and standards of practice for risk assessments. The potential surface water risks were evaluated using a screening level

approach that compared concentrations in groundwater to Illinois Water Quality Standards (WQS) or Water Quality Criteria (WQC).

- Historical ash in fill materials outside of the ponds is not a source and is not a risk to human health and the environment.
    - Ash generated by coal combustion may be classified as CCB when there is beneficial use determined by IEPA as established in 415 Illinois Compiled Statutes 5/3.135. It is analogous to compare the current condition of CCB to the current IEPA criteria. In my opinion, the presence of CCB outside of the pond areas is acceptable for engineering considerations when compared to Illinois requirements.
    - Data obtained from recent samples of ash used as fill from multiple sites show that leachate from the ash meets IEPA Class I standards based on leaching from a soil-like environment.

Opinion 2: The Remedial Approach Provided in the Kunkel Remedy Report is Not Warranted.

It is my opinion that the remedial approach in the Kunkel Remedy Report, which is removal of all CCRs and the ash ponds, is not warranted. In addition to Opinion 1, removal is unwarranted because:

1. based on the concentrations of COIs that have been observed in groundwater around the ponds, MWG's remedial approach is protective of human health and the environment;
2. the concentrations of bottom ash indicator constituents from leachate do not match the groundwater chemistry. This shows that the constituents in groundwater are not from the ponds, the ponds are functioning in accordance with the design, and the ponds do not need to be removed;
3. there is no evidence that historical coal ash outside of the ash ponds is a current source of groundwater impact that needs to be removed; and
4. Kunkel did not follow the Illinois procedures for investigations and remedial activities.

Further, there are many inaccuracies in the Kunkel Expert Report on Ground-Water Contamination that, in general, incorrectly imply that groundwater is more threatened than supported by the data.

The following is provided to demonstrate this opinion:

- The ash ponds do not need to be removed because they are for wastewater treatment purposes and are not landfills for permanent ash disposal.
- The ash ponds are not a source of groundwater impacts because they are lined with 60-mil high density polyethylene (HDPE), which was the accepted standard of the ash pond lining industry, and there is no evidence that the liners are leaking. The liner construction quality is consistent with the ash pond lining quality management standards for long-term use.
    - The liner subgrade was inspected for sharp surfaces prior to installation of the HDPE liner and a protective geotextile was installed below the HDPE liner to avoid the potential for puncture.
    - Available literature on liners concludes that tears usually occur upon placement of overlying cushion and warning materials. MWG avoided this issue by inspecting the HDPE liner for leaks typically after installation of a protective sand cushion layer using the state of the practice electronic leak detection survey technologies.
    - Warning and cushion layers are installed above the HDPE liners to protect them from accidental contact and damage during future dredging operations.
    - The quality of construction was documented by an independent engineering firm that attested that the construction met the project drawings and specifications and manufacturer's recommendations, or subsequently inspected by a qualified third party.
- Operation and maintenance (O&M) of the ash ponds will avoid future leaks because O&M are conducted in accordance with consistent operating procedures that include:
    - Periodic dredging of settled bottom ash is carefully performed using excavators. If the excavator bucket were to encounter the stone warning layer, which is located over the protective layer, which in turn is located over the HDPE liner, it would be obvious to the operator who is instructed to stop excavating. If the HDPE liner was encountered, white HDPE material would be visually observed in the bucket by the excavator operator who would stop work.
    - Previous tears observed in the ash pond liners have been above the impounded water surface with one exception. Tears above impounded water would not be expected to result in leaks. Only one tear was discovered in a pond liner that was below the level of impounded ash and water at the Will County Ash Pond 3S; this

tear occurred when no water was in Ash Pond 3S and was repaired prior to refilling water to the level of the tear in the ash pond. All observed tears were repaired.

- Kunkel incorrectly concludes that all of the former ash ponds leaked and the current ash ponds are leaking. He asserts that the groundwater elevations are above the bottom of the ponds or pond water surface and in turn causing bottom heave. He is incorrect on several bases. First, an uplift pressure argument is relative to the top of the bottom liner. Second, an uplift argument is an issue for soil liners, not geomembrane liners that are at all of the ponds. Third, groundwater levels are not often above the top of the bottom liners and when they are above the bottom liner there are other opposing forces or controls to eliminate uplift.
- Kunkel incorrectly asserts that hydrostatic uplift is causing liner failure for multiple ash ponds. Kunkel does not account for the fact that the hydrostatic uplift pressures at the two ponds where the groundwater levels are above the bottoms of the ponds are resisted by the weight of the sand and protective layers and the weight of overlying pond water.
- Kunkel is incorrect by alleging that there is groundwater mounding at Joliet #29. Kunkel alleges that mounding is occurring by selecting the single highest water level value at MW-9. Yet, the years of data shows the average water level in MW-9 is lower than MW-8, rebutting any notion of a groundwater mound.
- Kunkel is incorrect by alleging that there is groundwater mounding at Waukegan. Kunkel alleges that mounding is occurring based on high groundwater elevations below the pond. My analysis of groundwater contours indicates that the contours reflect the surrounding surface topography.
- Kunkel incorrectly portrays background concentrations by using state-wide data for groundwater at the Joliet #29, Waukegan, and Will County sites. It is my opinion that this approach is inappropriate and also fails to account for those sites where upgradient groundwater is impacted prior to migrating on-site.

Opinion 3: In Addition to Being an Unwarranted Remedy, Kunkel's Remedy Cost Opinion Underestimates the Costs to Implement the Unwarranted Cleanup.

Even if the unwarranted remedy recommended by Kunkel were to be implemented, the Kunkel Remedy Report significantly underestimates the cost of his proposed cleanup.

- Kunkel's proposed remedy fails to incorporate the costs of disposal at a permitted landfill. I estimated the disposal costs associated with Kunkel's proposed remedy to be on the order of $178,000,000 in total for all four sites. This increases the total estimated cost of the unwarranted remedy by 68 percent.
- Kunkel's proposed remedy, consisting of removal of ash-impacted soil and backfilling, results in significant disruptions of the electricity generation facilities. As examples:
    - Kunkel's estimates include areas below equipment such as switchyards, coal handling and transfer equipment, and cooling water conveyance and treatment equipment. Given Kunkel's estimates of the areas and thicknesses of coal ash in these areas, equipment would be down on the order of years at each plant, during which time the plants will experience significant outages and extensive costs to dismantle and reassemble equipment and underground utilities, roadways, etc. and would cause lost service to public and industrial users.
    - The cost to remove and replace the equipment is not included in the cost estimate.
- Kunkel's proposed remedy results in significant impacts to the surrounding communities, including dust, noise, and traffic. Of particular concern is the increased risk of vehicle crashes involving large trucks.
    - Based on Kunkel's estimates of volume of ash-impacted soils, off-site disposal is anticipated to create on the order of 17,000,000 miles of large truck traffic for the four sites.
    - The large amount of truck traffic would be a significant nuisance to the neighboring communities from:
        - The increased road dust and increased road traffic; and
        - The human health risk of large truck crashes (1.42 fatalities per 100,000,000 miles). Based on the above mileage estimate, the human health risk of Kunkel's proposed remedy is on the order of ¼ fatalities and 4.6 injuries based on large traffic crashes alone.

- Therefore, the risk of removal of all coal ash and trucking to an offsite facility is not supported by the risk of leaving the existing materials in place, which is essentially no risk to human health and the environment.

- Kunkel's proposed remedy also fails to consider the impact of vehicle carbon dioxide emissions on climate change. I estimate the carbon dioxide emissions from the large truck traffic and excavation equipment to be on the order of 30,000 tons.

Section 3: Credentials of John Seymour, P.E.

3.1. Introduction

I am a geotechnical engineer with nearly three decades of experience in the U.S., Canada, Spain, Guatemala and Korea in the areas of site remediation, high-rise building deep foundations, and construction management. I have focused on waste management and remediation (Superfund (CERCLA) and RCRA) projects for 25 years, with significant involvement in 17 sites providing professional services in the areas of project management, project coordination (client representative), site characterization, feasibility studies, bench/pilot studies, civil/geotechnical design, construction quality assurance (CQA), and operation and maintenance.

I have completed field studies including geologic and hydrogeologic studies, aquifer testing, seismic surveys, landfill settlement tests, and the characterization of volatile organic compounds (TCE and by-products), semi-volatile organic compounds, PCBs, metals, and saline groundwater intrusion. In addition, I have geotechnical engineering experience with the design and construction of deep foundations, including drilled piers, tie backs, foundation grouting and soil improvement programs, and diaphragm (slurry) walls.

My full curriculum vita is attached as Appendix A.

3.2. My relevant experience

I have provided coal combustion residuals (CCRs) engineering services, regarding management of fly ash, bottom ash and flue gas desulfurization (FGD) waste for ponds and landfills. These services have included geotechnical and environmental evaluations of waste disposal expansions, operations and closure, disposal permit application preparation, for eight U.S coal power generation clients. Overall I have provided relevant consulting engineering services for 7 CCRs ponds and 14 CCR landfills and provided records review, evaluation and engineering scope of work development for 4 additional CCR ponds. I have translated some of this experience into 11 technical papers and completed 2 research guidance documents on CCR ponds (co-investigator), and provided 10 technical presentations at conferences including at conferences focusing on CCR management. The specific types of services I have provided are: investigation of the subsurface soils and bedrock (geology) at CCR disposal sites; CCR waste characterizations in various settings; characterization of site hydrogeology through use of monitoring wells and piezometers and conducting aquifer hydraulic testing; engineering feasibility

studies of potential configurations of new ash disposal facilities and expansion of existing ash disposal facilities, including economic evaluations; design engineering management for geotechnical, stormwater, wastewater treatment, and remediation projects; characterization of the nature and extent of contamination and associated risks; construction quality assurance/quality control (QA/QC) plans and implementation; and project management and construction management.

3.3. Materials Reviewed

In order to develop my opinions in this matter, with the assistance of my staff, I reviewed site histories, analyzed facts, reviewed monitoring data, conducted assessments and calculations of risks, and assessed potential impacts. The documents I relied upon are cited within this report.

Section 4: Summary of Current Conditions and Conceptual Site Models

4.1. Joliet #29

4.1.1. Site Description, Site History, and Neighboring Properties

The Joliet #29 site is located along the Des Plaines River in Section 19, Township 35 North, Range 10 East, in the City of Joliet, Will County, Illinois.[11] The Joliet #29 site encompasses approximately 271 acres.[12] The current land use is for coal-fired steam electric power generation.[13] The facility has two generating units each consisting of two boilers and twin turbines that were installed in 1965 to 1966.[14] The Joliet #29 site is in an industrial area; the former Caterpillar, Inc. manufacturing facility is adjacent to the west and there are additional industrial facilities to the north and east.

4.1.2. Description of CCR Management

Fly ash generated by coal combustion is collected using electrostatic precipitators and then transported off-site for beneficial reuse.[15] Bottom ash from the boilers is mainly conveyed automatically by an enclosed pipe system across the Des Plaines River to a permitted landfill.[16] Prior to October 12, 2015, a small fraction of the bottom ash slurry (approximately 5 to 10 percent) was pumped to Ash Pond 1 or Ash Pond 2 for settling when the conveyor system is offline.[17] Subsequently, Ash Pond 1 has been taken out of service and all ash has been removed.[18] Ash Pond 3 is used as a finishing pond for the effluent and is considered to receive a *de minimus* amount of ash.[19] Bottom ash is collected from ash ponds and is transported off-site for disposal in a permitted landfill. Treated water is either recycled or discharged to the Des Plaines River under a National Pollutant Discharge Elimination System (NPDES) Permit.[20]

The following summarizes the approximate dimensions and capacities of Joliet #29 ash ponds[21]:

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[11] Patrick, 2010a
[12] MWG13-15_25147
[13] In addition, an industrial wastewater treatment plant formerly existed at the site.
[14] MWG13-15_25147
[15] MWG13-15_25154
[16] MWG13-15_25152; Deposition of Jim DiCola, p. 49
[17] Deposition of Jim DiCola, p. 49.
[18] Teleconference with Pete O'Day
[19] Teleconference with Harrison Estepp; MWG13-15_49742-MWG13-15_49753
[20] MWG13-15_18155; MWG13-15_44279
[21] MWG13-15_30-32

- Ash Pond 1: 168 feet by 419 feet with a depth of 19 feet; capacity is approximately 2,000,000 cubic feet (ft^3)
- Ash Pond 2: 168 feet by 419 feet with a depth of 19 feet; capacity is approximately 2,000,000 ft^3
- Ash Pond 3: Non-rectangular shape with length 340 feet and widths varying between 80 feet and 220 feet; capacity is approximately 1,100,000 ft^3

Construction history and information is provided in Section 5.3.2.1.

4.1.3. Geological Setting

The regional geology beneath the Joliet #29 site consists of approximately 5 to 30 feet of sandy loam, underlain by Silurian Dolomite to approximately 176 feet below ground surface, and Maquoketa shale from approximately 176 to 241 feet below ground surface based on water well logs. The Maquoketa shale is an aquitard that separates the shallow groundwater in the unconsolidated units and the Silurian dolomite from the underlying aquifers.[22]

MWG submitted the results of a potable water well investigation to the Illinois EPA by letter dated July 15, 2009 that identified 17 potable/industrial use wells located within a 2,500-foot radius of the Joliet #29 ash ponds. [23] Only two of the wells (Numbers 19 and 4) are located downgradient from the ash ponds. Both of these industrial use wells are owned by MWG, are drilled at 1,525 feet below ground surface, and are screened below the Maquoketa shale, the primary aquitard separating shallower aquifers from the screened interval of the MWG wells. [24] These wells have consistently been in compliance with the potable water regulations.[25]

Groundwater flow in the shallow, unconsolidated aquifer is mainly controlled by the Des Plaines River with groundwater flowing towards the river during most periods of the year. [26] Groundwater flow in the deeper aquifers is controlled by the regional hydraulic gradient in these aquifers, which is to the northeast. [27]

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[22] Patrick, 2011a
[23] Patrick, 2011a
[24] Patrick, 2011a; MWG13-15_293-305
[25] MWG13-15_293-305
[26] Patrick, 2011a
[27] Patrick, 2011a

4.1.4. Site-Specific Lithology

I reviewed boring logs and summarize the following lithology generally observed at Joliet #29: fill of varying soil materials was observed near the surface at most locations; at certain borings, ash or cinders were observed in fill materials. Within the vadose zone, unsaturated soils included fine to coarse sand and gravel, limestone fragments, clay, silty clay, and sandy silt. In the shallow aquifer, saturated soils included fine to coarse sand and gravel, limestone fragments, and silty clay. Limestone bedrock was recorded at one boring (B-MW-6) at a depth of 38.5 feet bgs.[28]

4.1.5. Site-Specific Groundwater Elevations

Groundwater elevations at the 11 monitoring wells at the Joliet #29 site (see Figure 4-1) during the period of record varied between 503.94 feet above MSL (at monitoring well MW-4 in May 2013) to 512.33 feet above MSL (at monitoring well MW-2 in September 2012) as summarized in Table 4-1. The highest groundwater elevation is typically found at monitoring well MW-11 during the period of record. The lowest groundwater elevation is typically found at either monitoring well MW-1 or MW-5.[29] Based on my review of the groundwater elevations, groundwater generally flows south to the Des Plaines River.

4.1.6. Site-Specific Groundwater Conditions

I reviewed groundwater concentrations at monitoring wells at the Joliet #29 site, and it is my opinion that there is no groundwater plume. Constituents of interest (COI) that were observed at concentrations exceeding IEPA Class I groundwater standards are listed in Table 4-2. The data shows that there is no spatial trend in COI concentrations in the direction of the groundwater flow. Furthermore, the observed COI concentrations intermittently exceed IEPA Class I groundwater standards. Without evidence that there is spatial or temporal consistency in groundwater impacts, it is my opinion that there is no plume at the Joliet #29 site. Without the existence of a plume, there is no support that there is a source area remaining at the site that could be remediated to reduce groundwater concentrations.

Groundwater conditions at Joliet #29 are impacted by upgradient off-site sources; for example, chloride was found upgradient away from the Joliet ash pond area. See Section 6.5.7.

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[28] Patrick, 2011a

[29] MWG13-15_48653-55

4.2. Powerton

4.2.1. Site Description, Site History, and Neighboring Properties

The Powerton site is located along the Illinois River in Section 9, Township 24 North, Range 5 West in the City of Pekin, Tazewell County, Illinois.[30] The Powerton site encompasses approximately 1,710 acres, which includes 1,440 acres of Powerton Lake.[31] The current land use is for coal-fired steam electric power generation. The facility has two active electric generating units (Units 5 and 6) that were installed in 1971 to 1973.[32]

Neighboring properties include a cabinetry manufacturer and railroad to the east and wooded and agricultural areas to the north, west, and south.[33]

4.2.2. Description of CCR Management

Fly ash generated by coal combustion is collected using electrostatic precipitators and then transported off-site for mine reclamation.[34] Bottom ash from the boilers is mixed with water to form a slurry that is pumped to dewatering bins where the water is decanted and sent to the Ash Surge Basin for settling.[35] Bottom ash is collected from ash ponds and is sold and transported off-site by a third-party.[36] Treated wastewater is either recycled or discharged under an NPDES permit.

The following summarizes the approximate dimensions and capacities of Powerton ash ponds[37]:

- Ash Surge Basin: 960 feet by 250 feet with a depth of 14 feet; capacity is approximately 4,100,000 ft^3
- Secondary Ash Settling Basin: approximately 320 feet by 220 feet with an estimated depth of 10 feet; capacity is approximately 590,000 ft^3
- Ash Bypass Basin: approximately 256.5 feet by 135 feet; capacity is approximately 264,900 ft^3

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[30] Patrick, 2011b
[31] MWG13-15_8509
[32] MWG13-15_8516
[33] MWG13-15_8517
[34] MWG13-15_49655
[35] MWG13-15_7401
[36] Deposition of Mark Kelly, p. 41
[37] MWG13-15_20-23; MWG13-15_10983

- Metal Cleaning Basin: 350 feet by 120 feet with a depth of 12 feet; capacity is approximately 720,000 ft^3

Construction history and information is provided in Section 5.3.2.2.

4.2.3. Geological Setting

The regional geology beneath the Powerton site consists of approximately 100 to 125 feet of unconsolidated deposits (mainly alluvial sands and gravels with some minor clay), underlain by the Carbondale Formation, which consists of alternating layers of limestone, shale, coal, and underclay. Groundwater flow in the shallow, unconsolidated aquifer is largely controlled by the Illinois River with groundwater flowing towards the river during most periods of the year.[38]

MWG submitted the results of a potable water well investigation to the Illinois EPA by letter dated July 15, 2009 that identified six wells located within a 2,500-foot radius of the Powerton ash ponds. None of these wells are located downgradient from the ash ponds. Two of these wells supply Powerton with water, which have consistently been in compliance with the potable water regulations.[39]

4.2.4. Site-Specific Lithology

I reviewed boring logs and summarize the following lithology generally observed at Powerton: fill materials consisting of fine to coarse sand, gravel, silty clay, and topsoil were observed near the surface; in certain borings, coal cinders were also observed in fill materials. Within the vadose zone, unsaturated soils included the fill materials previously described, fine to coarse sand and gravel, clayey silt, silty clay, silt, and clay. In the shallow aquifer, saturated soils included fine to coarse sand and gravel, trace silt, and clay.[40]

4.2.5. Site-Specific Groundwater Elevations

Groundwater elevations at the 16 monitoring wells at Powerton (see Figure 4-2) during the period of record have varied between 429.94 feet above MSL (at monitoring well MW-3 in December 2012) to 451.84 feet above MSL (at monitoring well MW-12 in May 2013) as summarized in Table 4-3. The highest groundwater elevations are typically found at either monitoring well MW-6 or MW-12 in a shallow, localized saturated clay/silt unit during the period of record. The lowest groundwater elevations are typically found at either monitoring well MW-3 or MW-4 in a more

[38] Patrick, 2011b
[39] Patrick, 2011b; MWG13-15_293-305
[40] Patrick, 2011b

extensive sand unit underlying the clay/silt unit.[41] Based on my review of the groundwater elevations, there are two groundwater units at the site that are hydraulically connected: 1) groundwater in the sand unit generally flows north to the Illinois River, and 2) groundwater in the clay/silt unit flows west toward Powerton Lake.

4.2.6. Site-Specific Groundwater Conditions

I reviewed groundwater concentrations at monitoring wells at the Powerton site, and it is my opinion that there is no groundwater plume. COI that were observed at concentrations exceeding IEPA Class I groundwater standards are listed in Table 4-4. The data show that there is no spatial trend in COI concentrations in the direction of the groundwater flow in either the sand unit or the clay/silt unit. Furthermore, the observed COI concentrations intermittently exceed IEPA Class I groundwater standards. Without evidence that there is spatial or temporal consistency in groundwater impacts, it is my opinion that there is no plume at the Powerton site. Without the existence of a plume, there is no support that there is a source area remaining at the site that could be remediated to reduce groundwater concentrations.

Groundwater conditions at Powerton are impacted by upgradient off-site sources; for example, nitrate is found upgradient, which is not related to COIs found on the Powerton site. See Section 6.5.7.

4.3. Waukegan

4.3.1. Site Description, Site History, and Neighboring Properties

The Waukegan site is located in Section 15, Township 45 North, Range 12 East in the City of Waukegan, Lake County, Illinois. The Waukegan site encompasses approximately 194 acres. The current land use is for coal-fired steam electric power generation. The facility has two active electric generating units (Units 7 and 8) constructed in 1958, and 1962, respectively.[42]

Neighboring properties include the Johns Mansville Company, which is an active Superfund site, to the north, the former site of the General Boiler Company, and the former site of the

[41] MWG13-15_48722-25
[42] MWG13-15_12003-12018

Greiss-Pfleger Leather Tanning Facility to the west, and the North Shore Water Reclamation District publicly owned treatment works to the south.[43]

The Greiss-Pfleger Leather Tanning Facility operated on land hydraulically upgradient of the Waukegan Generation Station. In 2003, at the neighboring property owner's request, MWG established an Environmental Land Use Control (ELUC) on the western side of its property as an institutional control to prevent against exposure to historically contaminated soil and groundwater that has migrated onto MWG's Waukegan site as the result of past industrial activities on the former Greiss-Pfleger Tannery Site.[44] The Greiss-Pfleger Tannery utilized the chromium tanning process, which consisted of nine steps and involved numerous chemicals including sodium sulfate, diethylamine, sulfhydrate, cyanide salts, sulfuric acid, and borax.[45] Analytical results of the groundwater at/from the tannery indicate that certain inorganic constituents, including arsenic, boron, chromium, lead, and mercury, have migrated onto the Waukegan property.[46] Presently there is a switchyard and substation at the former Greiss-Pfleger Tannery site.

4.3.2. Description of CCR Management

Fly ash generated by coal combustion is collected using electrostatic precipitators and then transported off-site for beneficial reuse.[47] Bottom ash from the boilers is mixed with water to form a slurry that is pumped to ash ponds to be treated by settling.[48] Bottom ash is collected from ash ponds and is transported off-site for beneficial reuse.[49] Treated water is either recycled or discharged to a wastewater treatment plant.[50]

The following summarizes the approximate dimensions and capacities of Waukegan ash ponds[51]:

- West Ash Pond: Non-rectangular with length of 972.5 feet and width up to 437.5 feet with a depth of 22.5 feet; capacity is approximately 7,700,000 ft^3

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[43] MWG13-15_12003-12018, MWG13-15_48644
[44] MWG13-15_12713–12738
[45] MWG13-15_47089
[46] MWG13-15_217-222, MWG13-15_46600, MWG13-15_45512 and MWG13-15_50086-50092
[47] MWG13-15_12017
[48] MWG13-15_12017
[49] MWG13-15_49679-49700
[50] MWG13-15_7392
[51] MWG13-15_13-15

- East Ash Pond: Non-rectangular with length of 972.5 feet and width up to 437.5 feet with a depth of 22.5 feet; capacity is approximately 6,500,000 ft^3

Construction history and information is provided in Section 5.3.2.3.

4.3.3. Geological Setting

The regional geology beneath the Waukegan consists of approximately 100 feet of sand deposits, underlain by Silurian Dolomite to approximately 360 feet below ground surface, underlain by the Maquoketa shale. The Maquoketa shale is an aquitard that separates the shallow groundwater in the unconsolidated units and the Silurian dolomite from the underlying aquifers. Groundwater in the shallow, unconsolidated aquifer flows towards Lake Michigan, located primarily to the east. Groundwater flow in the deeper aquifers is controlled by the regional hydraulic gradient in these aquifers, which is to the northeast.[52]

MWG submitted the results of a potable water well investigation to the Illinois EPA by letter dated July 15, 2009 that identified eight potable/industrial use wells located within a 2,500-foot radius of the Waukegan ash ponds. There are no potable use wells downgradient of the ash ponds.[53]

4.3.4. Site-Specific Lithology

I reviewed boring logs and summarize the following lithology generally observed at Waukegan. Fill materials consisting of silty clay, clayey silt, gravely clay, silt, sand, fine to coarse gravel, crushed rock, crushed limestone, and cobbles were observed near the surface; in certain borings, coal cinders and ash was observed in fill materials. Within the vadose zone, unsaturated soils included the fill materials previously noted, and fine to coarse sand. In the shallow aquifer, saturated soils included fine to coarse sand and gravel. [54]

4.3.5. Site-Specific Groundwater Elevations

Groundwater elevations at the seven monitoring wells at Waukegan (see Figure 4-3) varied between 579.27 feet above MSL (at monitoring well MW-2 in December 2012) to 584.56 feet above MSL (at monitoring well MW-6 in May 2014) as summarized in Table 4-5. The highest groundwater elevation is typically found at either monitoring well MW-5 or MW-6 during the period of record. The lowest groundwater elevation during each quarterly monitoring event varied between the

[52] Patrick, 2011c
[53] Patrick, 2011c; MWG13-15_293-305
[54] Patrick, 2011c

following monitoring wells: MW-1, MW-2, MW-4, or MW-7.[55] Additional upgradient monitoring wells have been installed and monitored at the Waukegan Site in response to the migration of inorganic constituents from the former Greiss-Pfleger Tannery site. Based on my review of the groundwater elevations, groundwater generally flows east to Lake Michigan. Site-wide groundwater contours for the Waukegan site are provided on Figure 4-4. See Section 6.5.7.

4.3.6. Site-Specific Groundwater Conditions

I reviewed groundwater concentrations at monitoring wells at the Waukegan site, and it is my opinion that there is no groundwater plume. COI that were observed at concentrations exceeding IEPA Class I groundwater standards are listed in Table 4-6. Furthermore, the observed COI concentrations intermittently exceed IEPA Class I groundwater standards.

Groundwater conditions at Waukegan are impacted by upgradient and off-site sources; for example, boron was detected exceeding IEPA Class I groundwater standards in upgradient wells from the former Greiss-Pfleger Tannery site. See Section 6.5.7.

4.4. Will County

4.4.1. Site Description, Site History, and Neighboring Properties

The Will County site is located between the Chicago Sanitary and Ship Canal and the Des Plaines River in Section 2, Township 36 North, Range 10 East, in the City of Romeoville, Will County, Illinois. The Will County site encompasses approximately 215 acres and is used for coal-fired steam electric power generation.[56] The facility has one active electric generating unit (Unit 4) constructed in 1963. Neighboring properties include a former drum restoration operation to the northwest,[57] the Citgo Lemont Refinery to the northeast, Hanson Materials (f/k/a Material Service Corp.) to the south, and a ComEd switchyard to the west. [58]

4.4.2. Description of CCR Management

Fly ash generated by coal combustion is collected using electrostatic precipitators and then transported off-site for beneficial reuse.[59] Bottom ash from the boilers is mixed with water to form

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[55] MWG13-15_48908-09
[56] MWG13-15_29509
[57] MWG13-15_13242- 13421
[58] MWG13-15_29509
[59] MWG13-15_29516

a slurry that is pumped to Ash Ponds 2S or 3S for settling.[60] Bottom ash is collected from ash ponds and is transported off-site for beneficial reuse. The slurry water is recycled back into the Station for treatment. In 2010, Midwest Generation ceased using Ash Ponds 1N and 1S, and no additional ash or ash slurry is deposited in those ponds; furthermore, the water levels of Ash Ponds 1N and 1S are not allowed to exceed one foot above the base.

The following summarizes the approximate dimensions and capacities of Will County ash ponds:[61]

- Ash Pond 2S: 350 feet by 178 feet with a depth of 7 feet; capacity is 510,000 ft^3; and
- Ash Pond 3S: 322 feet by 234 feet with a depth of 7 feet; capacity is 530,000 ft^3.

Construction history and information is provided in Section 5.3.2.4.

4.4.3. Geological Setting

The regional geology beneath the Will County site consists of approximately 1 to 5 feet of unconsolidated deposits or fill, underlain by Silurian Dolomite to approximately 140 feet below ground surface; the Silurian Dolomite is underlain by the Maquoketa shale. The Maquoketa shale is an aquitard that separates the shallow groundwater in the unconsolidated units and the Silurian dolomite from the underlying aquifers. Groundwater flow in the shallow aquifer is largely controlled by the Des Plaines River and the Chicago Sanitary and Ship Canal with groundwater flowing towards either of the surface water channels during most periods of the year. Groundwater flow in the deeper aquifers is controlled by the regional hydraulic gradient in these aquifers, which is to the southeast.[62]

MWG submitted the results of a potable water well investigation to the Illinois EPA by letter dated July 15, 2009 that identified nine potable wells within a 2,500-foot radius of the Will County Station ash ponds, seven of which are upgradient of the Station. Two of these wells are located between the Des Plaines River and the Chicago Sanitary and Ship Canal. Both of these wells are drilled more than 1,500 feet below ground surface and are screened below the Maquoketa shale, the primary aquitard separating shallower aquifers from the screened interval of the wells.[63]

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[60] MWG13-15_29516
[61] Schwartz, 2005
[62] Patrick, 2011d
[63] Patrick, 2011d; MWG13-15_293-305

4.4.4. Site-Specific Lithology

I reviewed boring logs and summarize the following lithology generally observed at Will County. Fill materials consisting of fine to coarse sand, gravel, silt, and silty sand were observed near the surface; in certain borings, coal cinders and ash were also observed in fill materials. Within the vadose zone, unsaturated soils included the fill materials previously noted, coarse sand, fine to coarse gravel, clayey gravel, clay, silty clay, and silt. In the shallow aquifer, saturated soils included fine to coarse gravel, coal cinders, coal dust, weathered limestone, sand, silt, silty clay, and clay. Weathered limestone bedrock was encountered between 7 and 12 feet bgs.[64]

4.4.5. Site-Specific Groundwater Elevations

Groundwater elevations at the 10 monitoring wells at Will County (see Figure 4-5) have varied between 579.13 feet above MSL (at monitoring well MW-10 in August 2013) to 583.87 feet above MSL (at monitoring well MW-2 in June 2011) as summarized in Table 4-7. The highest groundwater elevation during each quarterly monitoring event varied between the following monitoring wells: MW-1, MW-2, MW-3, MW-5, and MW-9. The lowest groundwater elevation during each quarterly monitoring event for the period of record was found at monitoring well MW-10.[65]

Based on a review of the groundwater elevations, groundwater generally flows west to the Des Plaines River on the western portion of the site and is understood to flow east to the Chicago Sanitary and Ship Canal on the eastern portion of the site.

4.4.6. Site-Specific Groundwater Conditions

I reviewed groundwater concentrations at monitoring wells at the Will County site, and it is my opinion that there is no groundwater plume. COI that were observed at concentrations exceeding IEPA Class I groundwater standards are listed in Table 4-8. The data show there is no spatial trend in COI concentrations in the direction of the groundwater flow. Furthermore, the observed COI concentrations intermittently exceed IEPA Class I groundwater standards. Without evidence that there is spatial or temporal consistency in groundwater impacts, it is my opinion that there is no plume at the Will County site. Without the existence of a plume, there is no support that there is a source area remaining at the site that could be remediated to reduce groundwater concentrations.

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[64] Patrick, 2011d
[65] MWG13-15_48850-2

Shallow groundwater conditions at the Will County site are impacted by surface water elevation fluctuations of the Des Plaines River and the Chicago Sanitary and Ship Canal. See Section 6.5.7.

Section 5: Opinion 1—MWG's Actions are Appropriate for the Sites and are Protective of Human Health and the Environment

It is my opinion that MWG's actions for the sites are appropriate for the measured groundwater impacts and are protective of human health and the environment.

5.1. An Elimination of Exposure Pathways is Appropriate

A standard approach that accounts for receptors to address the potential groundwater impacts at the sites is appropriate. An approach that eliminates the exposure pathways has been implemented by completion of a site characterization, comparison of groundwater analytes with State of Illinois water quality standards, and evaluation of the potential exposure routes. This resulted in a decision to reline the ash ponds and implement administrative controls of groundwater use to preclude the exposure to groundwater. Groundwater monitoring is conducted to assess changes in groundwater quality.

The following sections elaborate on the key points associated with the exposure pathways approach:

Section 5.2: Establishment of Administrative Controls is an Effective Remedial Approach

Section 5.3: Active Ponds are Lined to Eliminate a Potential Exposure Pathway

Section 5.4: Groundwater Monitoring is Appropriate to Demonstrate that Groundwater Exposure Pathways are Mitigated

Section 5.5: Recent Groundwater Concentrations are Not the Result of Ash Stored in Lined Ponds

Section 5.6: Groundwater Conditions Do Not Pose Risks to Surface Water Receptors Based on a Risk Screening Assessment

Section 5.7: Historical Ash in Fill Materials Outside of the Ponds is Not Adversely Impacting Groundwater

Section 5.8: Bottom Ash in Inactive Ponds is Not a Source of Groundwater Concentrations

5.2. Establishment of Administrative Controls is an Effective Remedial Approach

5.2.1. Summary of Implementation of Administrative Controls at the Four Sites

A remedial approach has been implemented that includes administrative controls to eliminate the groundwater exposure pathway for ingestion and dermal contact for specific areas. MWG has completed establishing GMZs and/or ELUCs at the four sites as summarized below.

- At Joliet #29, a GMZ has been established over the portion of the site containing the ash ponds extending from the north to the limit of a road and south to the intake canal. Additionally, there is an ELUC on the western side of the property, which MWG installed at the request of Caterpillar to address soil and groundwater contamination originating on Caterpillar property.[66]
- At Powerton, a GMZ has been established over the portion of the site containing the ash ponds extending to the east and south to the limits of a railroad, west to a canal and north to the Illinois River. Furthermore, an ELUC has been implemented to cover the area of the Powerton property that is contained by the GMZ.
- At Waukegan, the Former Tannery Site ELUC was established in a portion of the property, and an additional ELUC has been implemented to cover the remaining Waukegan property to the east that includes the ash ponds.
- At Will County, a GMZ has been established over the portion of the site containing the ash ponds extending west to the Des Plaines River and east to the Chicago Sanitary and Ship Canal. Furthermore, an ELUC has been implemented to cover the area of the Will County Station property that is contained within the GMZ, except for that portion of the GMZ area which is owned by the former property owner.

5.2.2. Demonstration that Administrative Controls are Effective

ELUCs and GMZs are used to eliminate groundwater exposure pathways by eliminating groundwater ingestion pathway and dermal contact pathways while corrective actions are underway. The groundwater ingestion pathway is eliminated by restricting the installation of potable water wells near the ash ponds. The dermal contact pathway is eliminated by restricting the access of the industrial properties to qualified workers.

[66] Carlson, 2010

Administrative controls, including GMZs and ELUCs, are remediation-industry accepted approaches. IEPA has the authority for establishing GMZs as specified in Title 35, Illinois Administrative Code (IAC) Sections 620 and 740.

IEPA has the authority for establishing ELUCs as specified in Title 35, IAC Section 742. The significance of the GMZ with respect to groundwater quality standards is described in 35 IAC Section 620.450 Alternative Groundwater Quality Standards: "Prior to completion of a corrective action described in Section 620.250(a), the standards as specified in Sections 620.410, 620.420, 620.430, and 620.440 are not applicable to such released chemical constituent, provided that the initiated action proceeds in a timely and appropriate manner." In other words, the concentrations of COIs constituents of interest can be higher than the groundwater quality standards within the GMZ.

Within Illinois, a minimum of 10 sites currently have GMZs established by the IEPA Bureau of Water.[67] IEPA Bureau of Water has not reported any groundwater violations for sites with GMZs.[68] Within Illinois, a minimum of 100 sites currently have ELUCs established by the IEPA Bureau of Land.[69]

Thus, it is my opinion that establishment of a GMZ or an ELUC is an effective method to reduce the potential risk for groundwater impacts, are remediation-industry-accepted approaches, and are approved by State of Illinois environmental protection procedures.

5.3. Active Ponds are Lined to Eliminate a Potential Exposure Pathway

A remedial approach has been implemented to address the ponds as a potential source of groundwater impacts that includes the installation of HDPE liners, decommissioning some ash ponds and properly operating and maintaining active ponds.

5.3.1. Summary of Pond Relining and Pond Decommissioning Actions

Midwest Generation has completed remedial actions that include liner installation or pond decommissioning at the four sites as summarized below. It is my opinion that MWG's actions are a reasonable and appropriate remedial approach for addressing groundwater conditions.

[67] Telecommunication with IEPA Groundwater Protection Program Hydrogeology Unit Manager
[68] Telecommunication with IEPA Groundwater Protection Program Hydrogeology Unit Manager
[69] Telecommunication with IEPA Site Remediation Program staff member

- At Joliet #29, construction permits were obtained to reline Ash Ponds 1, 2, and 3 with 60-mil thick, high density polyethylene ("HDPE") liners, and the work has been completed. Ash Pond 1 was taken out of service on October 12, 2015.
- At Powerton, construction permits were obtained to reline the Ash Surge Basin, the Secondary Ash Settling Basin, Metal Cleaning Basin, and Bypass Basin, with 60-mil thick, HDPE liners, and the work has been completed.
- The Powerton East Yard Run-off Basin is not part of the ash sluicing flow system and is not used for ash storage.[70]
- At Waukegan, the East Ash Pond and West Ash Pond were relined with HDPE liners in 2003 and 2004, respectively.
- At Will County, Ash Ponds 1 North (1N) and 1 South (1S) were removed from service in 2010.[71] All process water has been diverted from ponds 1N and 1S to existing Ash Ponds 2 South (2S) and 3 South (3S). A dewatering system was implemented in 2013 that is designed to not allow water to exceed a depth of one foot above the bottom of Ponds 1N and 1S.[72]
- Construction permits were obtained to reline Will County Station Ash Ponds 2S and 3S with 60 mil thick, HDPE liners, and the work has been completed.

5.3.2. Pond Liners are Effective at Precluding Groundwater Impacts

I reviewed the design specifications and construction documentation for current pond liners used for active ash ponds at the sites, as summarized in Sections 5.3.2.1 through 5.3.2.4. The current pond liners are consistent with remediation-industry-accepted approaches, which are further described in Section 5.3.2.5. I reviewed the construction quality assurance and quality control (QA/QC) documentation in Section 5.3.2.6. Properly operating and maintaining lined ponds are the industry-accepted approach to preclude groundwater impacts; based on my review of site-specific records in Section 5.3.2.7, operation and maintenance is being conducted under appropriate and consistent protocols. It is my opinion that the current pond liners are effective to preclude quantifiable groundwater impacts, as described further below.

[70] Mark Kelly Deposition pp 113-4
[71] Fredrick Veenbaas Deposition p. 33-34
[72] MWG13-15_29339; MWG13-15_560-563

5.3.2.1. Joliet #29 Active Ash Pond Liners

The following summarizes information regarding ash pond history and construction elements:

- Ash Pond 1 (see Figure 5-1 for a typical construction cross-section)[73]
  - Originally constructed in 1978 with the following layers (from top to bottom):[74]
    - Bituminous seal coat
    - Poz-o-Pac[75]—12 inches thick
    - Compacted granular material—12 inches thick
  - Relined in 2007 under IEPA Water Pollution Control Permit (WPCP) No. 2007-EB-4091 with following layers (from top to bottom):[76]
    - New crushed limestone warning layer—6 inches thick
    - New sand cushion layer—12 inches thick
    - New geotextile cushion—12 ounces per square yard
    - New HDPE liner—60 mil thick
    - New geotextile cushion—16 ounces per square yard
    - Existing Poz-o-Pac—12 inches thick
- Ash Pond 2 (see Figure 5-2 for a typical construction cross-section)
  - Originally constructed in 1978 with the following layers (from top to bottom)[77]
    - Bituminous seal coat
    - Poz-o-Pac—12 inches thick
    - Compacted granular material—12 inches thick
  - Relined in 2008 under IEPA WPCP No. 2007-EB-4091 with following layers (from top to bottom):[78]
    - New crushed limestone warning layer—6 inches thick
    - New sand cushion layer—12 inches thick
    - New geotextile—12 ounces per square yard
    - New HDPE liner—60 mil thick
    - New geotextile cushion—16 ounces per square yard

[73] "Typical" is a term of engineering practice that identifies the construction features that are most commonly observed; in this case, throughout the pond.

[74] Schwartz, 2005

[75] The density of Poz-o-Pac is 136.9 pounds per cubic foot. (MWG13-15_30-32)

[76] MWG13-15_18053; MWG13-15_18133-18189; MWG13-15_49362-49507

[77] Schwartz, 2005

[78] MWG13-15_18053; MWG13-15_18133-18189; MWG13-15_49362-49507

        - Existing Poz-o-Pac—12 inches thick

- Ash Pond 3 (see Figure 5-3 for a typical construction cross-section)
    - Originally constructed in 1978 with the following layers (from top to bottom):[79]
        - Bituminous seal coat
        - Poz-o-Pac—12 inches thick
        - Compacted granular material—12 inches thick
    - Relined in 2013 under IEPA WPCP No. 2013-EB-1191 with following layers (from top to bottom):[80]
        - New crushed limestone warning layer—12 inches thick
        - New sand cushion layer—24 inches thick
        - New geotextile cushion—16 ounces per square yard
        - New HDPE liner—60 mil thick
        - New geotextile cushion—16 ounces per square yard
        - Existing Poz-o-Pac—12 inches thick
- Generally, bottom ash is conveyed across the Des Plaines River to a permitted landfill on the south side of the Des Plaines River.[81] Prior to October 12, 2015, a small fraction of the bottom ash (approximately 5 to 10 percent) was pumped into Ash Pond 1 or 2 for settling when the conveyor system requires maintenance.[82] Ash Ponds 1 and 2 were dredged every one to two years, and the ash is disposed off-site.[83] Ash Pond 1 was taken out of service as of October 12, 2015; Ash Pond 2 is still in service.[84] Ash Pond 3 is used as a finishing pond for the effluent and is considered to receive a *de minimus* amount of ash.[85] (See Section 4.1.2.)
- Joliet #29 is planned to be converted to natural gas fuel combustion. Ash Pond 1 has been emptied of ash as of October 12, 2015 and is no longer in service.[86] Ash Pond 2 will remain

[79] Schwartz, 2005
[80] MWG13-15_44275-44278; MWG13-15_33867-33997
[81] Deposition of Jim DiCola, p. 49
[82] Deposition of Jim DiCola, p. 49
[83] Jim DiCola Deposition, pp. 103-106
[84] Teleconference with Pete O'Day
[85] MWG13-15_49742-49753
[86] Teleconference with Harrison Estepp; Teleconference with Pete O'Day

in service until the station is converted to natural gas fuel combustion in Spring 2016.[87] Thereafter, it is anticipated that Ash Pond 2 will be decommissioned.[88]

5.3.2.2. Powerton Active Ash Pond Liners

The following summarizes information regarding ash pond history and construction elements:

- Ash Surge Basin (see Figure 5-4 for a typical construction cross-section)
  - Originally constructed in 1978 with the following layers (from top to bottom)[89]
    - Bituminous seal coat
    - Poz-o-Pac—12 inches thick on the bottom
    - Compacted granular material—thickness not specified
    - Additionally, a Hypalon® liner was installed on the sides[90]
  - Relined in 2013 under IEPA WPCP No. 2013-EB-1213 with following layers (from top to bottom):[91]
    - New crushed limestone warning layer—6 inches thick
    - New sand cushion layer—12 inches thick
    - New geotextile—16 ounces per square yard
    - New HDPE liner—60 mil thick
    - New geotextile cushion—16 ounces per square yard
    - Existing Poz-o-Pac—12 inches thick
  - The Ash Surge Basin is the primary ash basin for Powerton. Ash is removed from the basin every six to eight years.[92]
- Secondary Ash Settling Basin (see Figure 5-5 for a typical construction cross-section)
  - Prior to the 2013 relining, the Secondary Ash Settling Basin had a Hypalon® liner.[93]
  - Relined in 2013 under IEPA WPCP No. 2013-EB-1065 with following layers (from top to bottom):[94]

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[87] Teleconference with Harrison Estepp
[88] Teleconference with Harrison Estepp
[89] Schwartz, 2005
[90] Mark Kelly Deposition, p. 40
[91] MWG13-15_9583-9643; MWG13-15_10812-10815; MWG13-15_33998-34157
[92] Mark Kelly Deposition, p. 41
[93] Mark Kelly Deposition, p. 26-27
[94] MWG13-15_34158-34267

        - New crushed limestone warning layer—6 inches thick
        - New sand cushion layer—12 inches thick
        - New HDPE liner—60 mil thick
        - New geotextile—16 ounces per square yard
        - New sand layer—12 inches thick
        - Underdrain system that removed groundwater during construction and can be used during pond cleanout.
    - The Secondary Ash Settling Basin is considered a low volume ash pond because historically it received approximately 3 feet of ash in approximately 30 years.[95]
- Metal Cleaning Basin (see Figure 5-6 for a typical construction cross-section)
    - Originally constructed in 1978 with the following layers (from top to bottom):[96]
        - Bituminous seal coat
        - Poz-o-Pac—12 inches thick
        - Hypalon® liner along the sloped sides[97]
        - Compacted granular material—12 inches thick
    - Relined in 2010 under IEPA WPCP No. 2009-EB-2748 with following layers (from top to bottom):[98]
        - New crushed limestone warning layer—6 inches thick
        - New sand cushion layer—12 inches thick
        - New geotextile—12 ounces per square yard
        - New HDPE liner—60 mil thick
        - New geotextile—16 ounces per square yard
        - Existing Poz-o-Pac—12 inches thick
    - The Metal Cleaning Basin is not a part of the ash sluice system. It is used during outages for collection of fly ash from high-pressure blasting on the external part of tubes, and as a temporary lay-down area during cleanouts at Powerton. The ash is removed annually.[99]
- Bypass Basin (see Figure 5-7 for a typical construction cross-section)

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[95] Teleconference with Mark Kelly
[96] Schwartz, 2005
[97] Mark Kelly Deposition, p. 53
[98] MWG13-15_49099-49256; MWG13-15_10209-10212
[99] Mark Kelly Deposition pp. 54-6

- Prior to the 2010 relining, the Bypass Basin was lined on the sides with Hypalon® and lined on the bottom with Poz-o-Pac.[100]
- Relined in 2010 under IEPA WPCP No. 2010-EB-0664 with following layers (from top to bottom):[101]
  - New crushed limestone warning layer—6 inches thick
  - New sand cushion layer—12 inches thick
  - New geotextile—12 ounces per square yard
  - New HDPE liner—60 mil thick
  - New geotextile—16 ounces per square yard
  - Prepared subgrade—thickness not specified
- The Bypass Basin only receives ash when Powerton is emptying the Ash Surge Basin.[102] The Bypass Basin is emptied every six to eight years. [103]

5.3.2.3. Waukegan Active Ash Pond Liners

The following summarizes information regarding ash pond history and construction elements:

- West Ash Pond (see Figure 5-9 for a typical construction cross-section)
  - Originally constructed in 1977 with a Hypalon® liner.[104]
  - Relined in 2004 with following layers (from top to bottom):[105]
    - New crushed limestone warning layer—6 inches thick
    - New sand cushion layer—12 inches thick
    - New HDPE liner—60 mil thick
    - Prepared subgrade—thickness not specified
- East Ash Pond (see Figure 5-8 for a typical construction cross-section)
  - Originally constructed in 1977 with a Hypalon® liner.[106]
  - Relined in 2003 with following layers (from top to bottom):[107]

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[100] Mark Kelly Deposition p. 58; MWG13-15_9783
[101] MWG13-15_49099-49256; MWG13-15_30421-30424
[102] Mark Kelly Deposition p. 57
[103] Mark Kelly Deposition. pp. 59 & 61
[104] Schwartz, 2005; Christopher Lux Deposition p. 14
[105] MWG13-15_12827-12845; MWG13-15_411
[106] Schwartz, 2005; Christopher Lux Deposition p. 18
[107] MWG13-15_12827-12; MWG13-15_411

- New crushed limestone warning layer—6 inches thick
- New sand cushion layer—12 inches thick
- New HDPE liner—60 mil thick
- Prepared subgrade—thickness not specified

5.3.2.4. Will County Active Ash Pond Liners

The following summarizes information regarding ash pond history and construction elements:

- Ash Pond 2S (see Figure 5-10 for a typical construction cross-section)
  - Originally constructed in 1977 with the following layers (from top to bottom):[108]
    - Bituminous seal coat
    - Poz-o-Pac—36 inches thick
  - Relined in 2013 under IEPA WPCP 2008-EB-1166 with following layers (from top to bottom):[109]
    - New crushed limestone warning layer—6 inches thick
    - New sand cushion layer—12 inches thick
    - New geotextile—12 ounces per square yard
    - New HDPE liner—60 mil thick
    - New geotextile cushion—16 ounces per square yard
    - Existing Poz-o-Pac—30 inches thick
    - Additionally, the sides of the basin have a concrete geocell to further protect the liner.
- Ash Pond 3S (see Figure 5-11 for a typical construction cross-section)
  - Originally constructed in 1977 with the following layers (from top to bottom):[110]
    - Bituminous seal coat
    - Poz-o-Pac—36 inches thick
  - Relined in 2009 under IEPA WPCP 2008-EB-1166 with following layers (from top to bottom):[111]
    - New crushed limestone warning layer—6 inches thick

[108] Schwartz, 2005
[109] MWG13-15_34268-34433; MWG13-15_48604-48605
[110] Schwartz, 2005
[111] MWG13-15_33867-33997; MWG13-15_48604-48605

- New sand cushion layer—12 inches thick
- New geotextile—12 ounces per square yard
- New HDPE liner—60 mil thick
- New geotextile cushion—16 ounces per square yard
- Existing Poz-o-Pac—30 inches thick

- Ash Pond 2S and 3S alternate receiving bottom ash (only one pond is in ash service at a time).[112]

5.3.2.5. The Pond Liners are Consistent with Remediation-Industry-Accepted Approaches

I reviewed the pond construction information and compared it to remediation-industry guidance documents for liners. It is my opinion that the current pond liners are consistent with remediation-industry-accepted approaches.

USEPA's Guide for Industrial Waste Management (2012) provides technical considerations for employing liner systems where needed to protect groundwater from contamination and includes the selection of geomembranes, such as HDPE liners, to ensure that the liner system will function as designed. Liners have been studied extensively for purposes of designing landfills and ponds and evaluating leaching rates through the liners. Use of numerical models is common practice for estimating the rates of infiltration through soils, waste and liners, and a 60-mil thick HDPE is appropriate for the design of ash ponds (USEPA, 2012).

Overlying fill layers are typically a material that drains like sand, such that placement of materials over the liner avoids puncturing or tearing (USEPA, 2012). Cushion geotextiles are also often used to protect geomembranes against puncture (NAS, 2007). Thus, for purposes of potentially coarser subgrade materials where a composite liner is not constructed, my opinion is that a subgrade cushion, as used by MWG, is an appropriate method to protect against subgrade punctures.

Basin maintenance activities are anticipated to have potential loads and stresses associated with heavy construction equipment above the HDPE liners. Evaluation of the overburden stress on a geomembrane can be calculated using the methods and equations of Narejo and Corcoran

[112] Rebecca Maddox Deposition p. 18

(1996). NRT calculated the overburden stresses on behalf of MWG and found that the resulting stress on HDPE with 18 inches of soil cover would be within the range of conservative design standards.[113]

5.3.2.6. Construction Quality Assurance and Quality Control

Construction quality assurance (CQA) for HDPE geomembrane liners follows two classes of protocols: (1) material testing, installation quality control, and finished product destructive testing; and (2) non-destructive electrical leak location surveys after liners have been installed and covered with a protective material (Darilek and Laine, 2001). Electrical leak location surveys at the completion of liner installation discover more leaks than testing-based protocols because they are conducted after all potential construction damage has occurred but also prior to placement of overlying materials such as protective materials or waste layers. When the electrical leak location survey is conducted after liner installation, the density of leaks discovered in 2.0 millimeter (approximately 79 mil) HDPE was 0.2 leaks per hectare (approximately 0.08 leaks per acre, or 1 leak per 12 acres) based on 170,190 square meters (approximately 42 acres) of liners that had CQA with electrical leak location surveys (Forget et al., 2005). The electrical leak location surveys identify leaks prior to the completion of all liner construction project, so identified leaks are repaired prior to completion of the liner construction project. In summary, when HDPE liners are installed with CQA, the numbers of liner defects or tears are significantly reduced from values cited by Kunkel. Furthermore, there was no correlation between the number of leaks and geomembrane thickness for liner systems (Forget, et al., 2005).

I reviewed the CQA documentation or a third party inspection report for the installation of HDPE liners for the following ash ponds:

- Joliet #29 Ash Ponds No. 1[114], No. 2[115], and No. 3[116]
- Powerton Ash Surge Basin[117], Secondary Ash Settling Basin[118], Metal Cleaning Basin[119], and Bypass Basin[120]
- Waukegan East and West Ash Ponds[121]

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[113] MWG13-15_49296-49298
[114] MWG13-15_49362-49507
[115] MWG13-15_49362-49507
[116] MWG13-15_33867-33997
[117] MWG13-15_33998-34157
[118] MWG13-15_34158-34267
[119] MWG13-15_49099-49256
[120] MWG13-15_49099-49256
[121] MWG13-15_12827-12845

- Will County Ash Ponds 2S[122] ; additionally, I reviewed the specifications and construction notes for the Will County Ash Pond 3S relining project.[123]

The CQA for the above liner installations demonstrate a high level of quality because of the following reasons:

- The pond linings were designed by Natural Resource Technology, Inc., and inspected by Natural Resource Technology, Inc. for Joliet #29, Powerton, and Will County Stations, and inspected by KPRG for Waukegan.
- All relining construction was completed under a construction quality assurance protocol that included inspections by an independent third party.
- The liner installer inspected the subgrade and certified that it was acceptable for installation of the HDPE liner as discussed below.
- The inspections included traditional leak detection tests of welds and seams as the liner was installed.
- After completion of seaming and covering the liner with a sand cushion layer, the liner had an additional electronic leak detection survey of the surface conducted by a third party (Leak Location Services, Inc.).[124]
- Any defects that were discovered were repaired before ponds were placed in service.
- Each relining construction project was certified by the installer (CAAW Systems, LLC) as complying with the project drawings and specifications and manufacturer recommendations.
- At the Waukegan East and West Ash Ponds, an independent review of the liner quality assurance documentation was performed and found no evidence that leaks would be present below the surface water line of the pond. [125]

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[122] MWG13-15_34268-34427

[123] MWG13-15_29165-29259; MWG13-15_34517-34550; MWG13-15_29023-29081; MWG13-15_29102-29104

[124] At the Powerton Secondary Settling Basin, an electronic leak detection survey was conducted prior to the placement of the sand cushion layer. At the Waukegan East and West Ash Ponds, an independent review of the liner quality assurance documentation was performed and found no evidence that leaks would be present below the surface water line of the pond.

[125] MWG13-15_12827-12845

5.3.2.7. Operation and Maintenance is Being Conducted under Appropriate and Consistent Protocols

I reviewed operation and maintenance activities for MWG's ash ponds and noted the following that demonstrate that these activities are being conducted under appropriate and consistent protocols.

- The operation of the ponds primarily includes maintaining water level controls in the ponds, daily inspections, groundwater monitoring, discharge monitoring, and removal of bottom ash. Weekly inspections of the ash ponds are now recorded by personnel.[126]
- Protocols are in place to conduct the daily operations that include utilization of experienced plant and corporate operations, engineering, and environmental management personnel. Depositions of Mr. Lux[127], Mr. Kelly[128], Ms. Maddox[129], Mr. DiCola,[130] and Mr. Veenbaas[131] indicated that, in summary, daily inspections of the ponds are completed and if any unusual conditions are observed, the shift supervisor is notified and the repairs are implemented.
- Protocols are in place with the ash cleanout contractors.
    - LaFarge North America, Inc. removes the ash from the Will County and Waukegan ash ponds. Pursuant to the contract, LaFarge must perform all services in a competent manner, in compliance with all standards for the services, and comply with all rules, policies, and procedures.[132] Moreover, in the recently executed contract, LaFarge employees and subcontractors must comply with all policies, procedures, and directives, to remove ash using methods to avoid damage to the liner and to make timely repairs when damage is observed. Thus, before every removal, LaFarge meets with its employees and subcontractors to discuss the best practices to remove the ash, identify all of the markers for the bottoms and edges of the basins, and describe the color of the warning layer. Moreover, equipment is used to remove ash primarily on and near the bottom where the liner is protected by the crushed stone and sand cushion layers and not on the side slopes where the geomembrane liner is exposed. Operators are instructed to stop excavating should

[126] MWG13-15_49756-49760; MWG13-15_50095-50148
[127] Christopher Lux Deposition, p. 41
[128] Mark Kelly Deposition, p. 87
[129] Rebecca Maddox Deposition, pp. 73, 145
[130] James DiCola Deposition, p. 114
[131] Frederick Veenbaas Deposition, p. 81
[132] MWG13-15_13032; MWG13-15_49679-49700

a hard layer be encountered that would indicate the protective layer. Additionally, LaFarge managers are onsite continuously during the removal to supervise work to avoid any damage to the liner systems. The protocol for managing incidents includes reporting to LaFarge supervisors followed by reporting to a supervisor at the station and to the station administration.[133]

- The Powerton personnel remove the ash from its ponds with its equipment and deposits the ash into trucks owned and operated by Capital Sales.[134] Prior to ash removal, the Powerton shift supervisor has a pre-work meeting to discuss the proper process of removing ash. In the meeting, the personnel supervisor reminds the personnel of the locations of the warning posts, the warning layer below the ash, and a description of the liner. Additionally, the personnel supervisor reminds each operator not to tear or damage the liner during removal. The protocol for managing incidents includes reporting to the personnel supervisor and to the Powerton Chemical Specialist who is responsible for conducting liner repairs.[135]
- The Joliet #29 contracts with an ash removal contractor on an as-needed basis using a competitive bidding process. The Joliet #29 ash removal project manager holds a kick-off meeting prior to starting work to discuss protocols for proper removal of ash. The meeting includes a description of the ponds, identification of the warning posts, the warning layer, and a description of the liner. The Station project manager inspects work throughout the ash removal process to confirm the work is acceptable. The protocol for managing incidents includes reporting to the Station project manager who would stop work that could cause damage to the liner. Ash would be removed from the vicinity of the damaged location. The Station project manager is responsible for conducting liner repairs.[136]

A demonstration of the effectiveness of the operations protocols is the fact that tears or damages to the HDPE liners have been detected based on inspections and promptly repaired as soon as weather conditions allowed. I reviewed tears or damages that have occurred as of September 2015, and observed that all tears were above the water line of the pond or occurred when the water had been

[133] Teleconference with Mitch Nowicki
[134] Deposition of Mark Kelly, p. 61
[135] Teleconference with Mark Kelly; MWG13-15_48636-48639
[136] Teleconference with Harrison Estepp

drained from the pond.[137] Tears above the water line occurred more frequently because of exposure to mechanical equipment at the facilities. Tears below the water line were not observed are not likely given the documented longevity of HDPE liners and because the areas are protected from exposure to equipment. There is no evidence that the liners are deficient or that infrequent liner tears are a source of groundwater impacts.

5.4. Groundwater Monitoring is Appropriate to Demonstrate that Groundwater Exposure Pathways are Mitigated

Groundwater monitoring is appropriate to demonstrate that groundwater exposure pathways are mitigated and to assess the remedial approach. MWG has specified groundwater monitoring programs for each facility. Groundwater monitoring consulting professionals at KPRG are regularly tracking groundwater conditions, and the results are reported to the IEPA. The results during the period of record show that the groundwater exposure pathways are consistently mitigated, and there is no evidence that further remedial action is required.

5.5. Recent Groundwater Concentrations are Not the Result of Ash Stored in Lined Ponds

I reviewed recent groundwater monitoring data to identify if theoretical leaks of leachate through possible liner defects (as posited by Mr. Kunkel) could be impacting groundwater at the subject sites. It is my opinion that the groundwater concentrations are not the result of leakage from the HDPE-lined ponds.

5.5.1. Typical Characteristics of Leachate for the Ash Stored in Ponds at the Sites

I reviewed the characteristics of leachate that are typical for the ash currently stored in ponds at the sites and selected appropriate constituent indicators. The characteristics of ash leachate are based on site-specific impounded ash data (Section 5.5.1.1) or on published leachate data from ponds of subbituminous CCR sourced from the Powder River Basin (PRB) in Wyoming that is the source of coal for the Plants (Section 5.5.1.2). I reviewed the data, and constituent indicators for leachate from ash currently stored in ponds include at a minimum: barium, boron, and sulfate, and at a maximum: antimony, arsenic, barium, boron, cadmium, chromium, cobalt, copper, manganese, nickel, selenium, silver, sulfate, and zinc (Section 5.5.1.3).

[137] MWG13-15_48563, KPRG 2005c, MWG13-15_11574, 11581, Veenbaas Deposition, p. 78-79,87-90, MWG13-15_14177, Maddox Deposition, p. 94-95, MWG13-15_48636-48639

5.5.1.1. Site-Specific Data and Discussion of Leachate Characteristics for Ash Stored in Site Ponds

Four samples of bottom ash from ponds at Powerton, Waukegan, and Will County were collected between 2004 and 2010 and characterized for leaching under neutral pH conditions (see Table 5-1). ASTM D3987-85 provides a standard test method for the leaching of materials to obtain an aqueous solution under specified testing conditions, including neutral pH of 7 (ASTM, 1985). Analytical neutral leachable procedure (NLET) results for these four bottom ash ponds show metals, sulfate, and total dissolved solids. The following analytes have been detected in bottom ash neutral leaching samples from the ponds:

- barium at concentrations up to 0.27 mg/L, which are less than the IEPA Class I groundwater standard of 2.0 mg/L;
- boron at concentrations up to 2.0 mg/L, which are equal to or less than the IEPA Class I groundwater standard of 2.0 mg/L;
- sulfate at a concentration of 49 mg/L, which is less than the IEPA Class I groundwater standard of 400 mg/L; and
- total dissolved solids at a concentration of 200 mg/L, which is less than the IEPA Class I groundwater standard of 1,200 mg/L.

The analytical results for bottom ash neutral leaching samples from the ponds can be extended to all the site ponds because all bottom ash at all of the four MWG generating stations is from the combustion of coal sourced from the PRB in Wyoming. The analytical results for bottom ash neutral leaching samples show that the leachate in ponds does not have the potential to cause groundwater impacts above IEPA Class I groundwater standards.

5.5.1.2. Published Leachate Data from CCR Ponds for Subbituminous Coal

I identified a report that published leachate data from CCR ponds for subbituminous coal, which is characteristic of coal sourced from the PRB in Wyoming that is the source of coal for the Plants.[138] Analyses for leachate samples from existing CCR facilities were characterized in an Electric Power Research Institute (EPRI) report (EPRI, 2006). The EPRI leachate results for leachate from other facility ponds containing CCR from subbituminous/lignite coal sources are summarized in Table 5-2.

[138]MWG13-15_12847

5.5.1.3. Constituent Indicators for Leachate from Ash Stored in Ponds

Because there are differences between the set of constituents that leach based on site-specific data and published leachate data, I developed two sets of constituent indicators for leachate from ash currently stored in ponds. The first set is the minimum set of constituent indicators that would be expected under neutral conditions. This minimum set of constituent indicators is defined as the constituents that were observed in NLET analyses of bottom ash stored in site ponds. The second set is the maximum set of constituent indicators that may be expected based on other facility leachate data published by EPRI (2006). This maximum set of constituent indicators is defined as all constituents observed in analyses of leachate samples from other facility ponds containing CCR from subbituminous/lignite coal sources (see Table 5-2).

I reviewed the summary of leachate data in Table 5-3, and constituent indicators for leachate from ash currently stored in ponds include at a minimum: barium, boron, and sulfate, and at a maximum: antimony, arsenic, barium, boron, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, sulfate, and zinc.

5.5.2. Recent Groundwater Concentrations do Not Match Constituent Indicators for Leachate from Ash Stored in Ponds

I compared the occurrence of constituents during groundwater monitoring events in the most recent year, 2014, to the minimum and maximum sets of constituent indicators of leachate from ash currently stored in ponds. Conceptually, if all the constituents detected in groundwater samples from a monitoring well match the constituents detected in leachate from ash currently stored in ponds, and if constituents *not* detected in groundwater samples match the constituents *not* detected in leachate from ash currently stored in ponds, then it would be probable that leachate from ash currently stored in ponds is impacting groundwater. To evaluate whether or not groundwater concentrations match leachate constituent indicators, I calculated the percentage of constituents detected at each groundwater monitoring well that match constituent indicators of leachate from ash currently stored in the ponds ("matching percentages"). I restricted my analysis to the most recent full year of groundwater monitoring, 2014, to account for seasonal variations in constituent concentrations and to reflect groundwater concentrations after MWG's pond relining and pond decommissioning had been completed.

In summary, if the constituents match then it is likely that the leachate from the ash is impacting the groundwater. If the constituents *do not* match then it is likely that the leachate *is not* impacting the groundwater.

My results are tabulated in Tables 5-4 and 5-5 and are summarized as follows:

- At Joliet #29, the percentage of constituents at groundwater monitoring wells that match constituent indicators of leachate from ash currently stored in the ponds ranges from
    - 11 percent to 37 percent based on the minimum set of indicators, and
    - 37 percent to 53 percent based on the maximum set of indicators.
- At Powerton, the percentage of constituents at groundwater monitoring wells that match constituent indicators of leachate from ash currently stored in the ponds ranges from
    - 5 percent to 37 percent based on the minimum set of indicators, and
    - 32 percent to 58 percent based on the maximum set of indicators.
- At Waukegan, the percentage of constituents at groundwater monitoring wells that match constituent indicators of leachate from ash currently stored in the ponds ranges from
    - 16 percent to 26 percent based on the minimum set of indicators, and
    - 42 percent to 58 percent based on the maximum set of indicators.
- At Will County, the percentage of constituents at groundwater monitoring wells that match constituent indicators of leachate from ash currently stored in the ponds ranges from
    - 21 percent to 37 percent based on the minimum set of indicators, and
    - 37 percent to 53 percent based on the maximum set of indicators.

The low matching percentages demonstrate that there are substantial and widespread mismatches between the characteristics of recent groundwater analyzed near the ash ponds and the characteristics of leachate from ash currently stored in the ash basins. Thus, it is my opinion that the recent groundwater impacts are not a result of the ash currently stored in ponds at the sites, but instead are more likely than not a result of historical uses at the sites and the surrounding industrial companies and conditions.[139]

[139] IEPA, 2015 and MWG13-15_29975-29776.

5.6. Groundwater Conditions Do Not Pose Risks to Surface Water Receptors Based on a Risk Screening Assessment

5.6.1. Overview

I worked with my staff to develop an appropriate methodology to assess the exposure to surface waters from groundwater impacts at the sites. We assessed the potential for human health and ecological risks from an assumed exposure to constituents of interest (COIs) in groundwater associated with each of the four sites that may migrate to surface water. These evaluations are conservative as they assume a complete exposure pathway exists between groundwater COIs and receptors in the adjacent surface water bodies, and do not fully analyze attenuation or dilution mechanisms. The screening assessment also considers background and upgradient source COIs that are not from the ponds, thereby overestimating the risk from the pond operations. It is my opinion that groundwater conditions do not pose risks to surface water receptors based on the risk characterization included in Appendix B and described below.

5.6.2. Definition of Risk

"No unacceptable risks" means that the site-specific groundwater concentrations are less than Illinois Water Quality Standards (WQS) or Water Quality Criteria (WQC), which are considered to be protective of human health and the environment in surface water.[140] These WQS/WQC incorporate toxicological (i.e., cause-and-effect) data as well policy-based assumptions, including the state-determined acceptable risk level.

This evaluation includes a refinement step that considers the exceedance location (relative to other wells and receiving water bodies), magnitude, and frequency. If these lines of evidence support that "no unacceptable risks" are likely at the point-of-exposure (i.e., the lake or river), then it is concluded that there is an unlikely potential for risk.

5.6.3. Results of Risk Evaluation

The following summarizes the results of the evaluation. A complete evaluation is in Appendix B attached to this opinion.

Joliet #29: antimony, boron, manganese, and TDS do not pose unacceptable risks because concentrations are lower than WQS/WQC. Concentrations of chloride, sulfate, and iron

[140] WQS are defined in 35 IAC 302, Subpart B (Joliet #29, Powerton, and Will County) and E (Waukegan). WQC are derived by the IEPA under authority of 35 IAC 302, Subpart B.

exceeded WQS/WQC on occasion; however, further evaluation of site-specific conditions indicated an unlikely potential for risk from these COIs.

Powerton: boron, chloride, nitrate, selenium, sulfate, and TDS do not pose unacceptable risks because concentrations are lower than WQS/WQC. Concentrations of arsenic, iron, lead, manganese, thallium, and pH exceeded WQS/WQC on occasion; however, further evaluation of site-specific conditions indicated an unlikely potential for risk from these COIs.

Waukegan: the results of the risk evaluation are complicated by groundwater impacts at the Waukegan site, including groundwater impacts resulting from the migration of inorganic constituents from upgradient and offsite sources. Antimony and manganese do not pose unacceptable risks because concentrations are lower than WQS/WQC. Concentrations of arsenic, chloride, and pH exceeded WQS/WQC on occasion; however, further evaluation of site-specific conditions indicated an unlikely potential for risk from these COIs. Concentrations of boron, iron, sulfate, and TDS exceeded WQS/WQC in wells to the west and southwest of the ponds (MW-05 through MW-09). Importantly, there are no unacceptable risks for boron, iron, sulfate, and TDS in wells MW-01 through MW-04, which represent the most downgradient wells at the site (see Figure 4-4). MW-01 through MW-04 appear to be downgradient of MW-05, MW-06, MW-08, and MW-09, indicating attenuation is occurring. Although no wells are directly downgradient of MW-07, there is no data to indicate that similar attenuation is not occurring in this area.

Will County: antimony, boron, chloride, manganese, and TDS do not pose unacceptable risks because concentrations are lower than WQS/WQC. Concentrations of sulfate and pH exceeded WQS/WQC on occasion; however, further evaluation of site-specific conditions indicated an unlikely potential for risk from these COIs.

5.7. Historical Ash in Fill Materials Outside of the Ponds is Not Adversely Impacting Groundwater

Ash generated by coal combustion may be classified as coal combustion by-product (CCB) and used for purposes of fill material when there is beneficial use determined by IEPA (see Section 5.7.1). Current data obtained from recent ash samples and groundwater collected from multiple sites show that leachate from the historical ash in fill materials meets IEPA Class I groundwater standards based on leaching from a soil- like environment (see Section 5.7.2). It is my opinion that the current

conditions of the existing weathered ash are not contributing to groundwater exceedances at the four sites based on leaching analyses of actual ash fill at the sites.

5.7.1. Coal Ash may be Classified as Coal Combustion Byproducts to Allow Beneficial Use

Structural fill and import fill ("fill") at the sites was placed historically, as long as 38 years ago. Ash generated by coal combustion may be classified as CCB when there is beneficial use determined by IEPA as established in 415 Illinois Compiled Statutes 5/3.135. Although the current IEPA criteria were not applicable when the CCB was placed, it is analogous to compare the current condition of CCB to the current IEPA criteria. Additionally, the design and construction of coal ash structural fills is a standard practice, and procedures for using coal combustion products, including fly ash, bottom ash, and boiler slag, to achieve desired geotechnical properties are described in ASTM E2277-14 (2014). In my opinion, the presence of CCB outside of the pond areas is considered an acceptable use when compared to Illinois requirements and the standard ASTM practice.

5.7.2. Investigations of Potential Leaching Characteristics of Historical Ash in Fill Materials at Sites

Data obtained from recent samples of ash used as fill from multiple sites show that leachate from the ash in its current condition meets IEPA Class I standards based on leaching from a soil-like environment (NLET method). These data were obtained during a 2004 investigation at Powerton, a 2005 investigation at Joliet #29, and a 2015 investigation at Will County, as discussed further below. Based on these data, it is reasonable to conclude that historical ash areas at all four MWG sites are not a source of groundwater impacts. Significantly, there is no evidence to conclude, as Kunkel does, that the ash areas are a source.

5.7.2.1. Joliet #29 Investigation

On behalf of Midwest Generation, in June 2005 KPRG performed an investigation of historical ash in fill materials at the Joliet #29 site. This investigation included the collection of historical ash samples from 15 soil borings at the Joliet #29 site. Historical ash samples were analyzed using a neutral leachable procedure (NLET) for metals. KPRG's report found the following conclusions:[141]

- "The ash deposits are consistent and homogenous consisting of interlayered fly ash and bottom ash/slag from the coal combustion process."

[141] KPRG, 2005a

- "The NLET metals data from sample location GP-14A displayed elevated levels of lead and copper at concentrations at least two times higher than the Class I groundwater standard." This area was later further delineated and excavated (see below).
- "The NLET metals data from the remaining 16 sample locations indicate with a high degree of statistical certainty that the criteria established in 415 ILCS 5/3.135 (formerly 415 ILCS 5/3.94) a-5(B) are met and that the material may be considered CCB relative to this criterion...."[142]

A supplemental investigation was performed in the vicinity of GP-14A in November 2005. Eight additional historical ash samples were collected from soil borings and analyzed using NLET for metals. The June 2005 and November 2005 samples were used to delineate the extent of excavation in the vicinity of GP-14A. Approximately 1,062.88 tons of fill material containing historical ash was excavated and disposed off-site at a landfill during the week of November 21, 2005. The excavation was backfilled using surficial materials near the excavation area. Following the excavation, the historic ash in the area met the CCB criteria under 415 ILCS 5/3.135.[143]

Thus, it is my opinion that leachate from historical ash in fill materials at Joliet #29 is not adversely impacting the groundwater.

5.7.2.2. Powerton Investigation

On behalf of MWG, Andrews Environmental Engineering, Inc. (AEEI) performed an investigation in May 2004 of historical ash in fill materials at Powerton[144]. A total of eight historical ash samples were collected from test pits in the Limestone Runoff Basin. Samples were analyzed for NLET metals using ASTM D3987-85. Selenium was detected in two NLET samples and chromium was detected in one NLET sample at concentrations greater than the IEPA Class I groundwater standards. All other metals in the NLET results from the eight ash samples were less than the IEPA Class I groundwater standards.

I reviewed selenium and chromium concentrations in groundwater at Powerton, and only selenium was detected at one location (MW-14) above IEPA Class I groundwater standards during the period of record.[145] Groundwater concentrations measured during the most recent full year of

[142] Of the remaining 16 sample locations, 14 sample locations were located at Joliet #29.
[143] KPRG, 2005c
[144] AEEI, 2004
[145] MWG13-15_48711-48843

quarterly groundwater monitoring in 2014 were all below IEPA Class I groundwater standards, indicating no impacts of selenium or chromium. Thus, it is my opinion based on this analysis, that leachate from historical ash in fill materials at Powerton is not adversely impacting the groundwater.

5.7.2.3. Will County Investigation

On behalf of MWG, KPRG performed an investigation in June and August 2015 of historical ash in fill materials at Will County.[146] This investigation included the collection of 20 historical ash samples from 20 soil borings at the Will County site. Historical ash samples were analyzed using a neutral leachable procedure (NLET) for metals. KPRG's report documented the following conclusions:

- "The ash deposits are consistent and homogenous consisting bottom ash/slag from the coal combustion process."
- "There were no outlier samples, and all samples collected were used in the calculations."
- "The NLET metals data from the 20 sample locations indicate with a high degree of statistical certainty that the criteria established in 415 ILCS 5/3.135 (formerly 415 ILCS 5/3.94) a-5(B) are met and that the material may be considered CCB relative to this criterion for engineering/beneficial reuse."
- "The data set is sufficiently large to support the statistical evaluations based on the variance and specific regulatory threshold relationships."

Thus, it is my opinion that leachate from historical ash in fill materials at Will County is not adversely impacting the groundwater.

5.8. Bottom Ash in Inactive Ponds is Not a Source of Groundwater Concentrations

Data obtained from recent samples of bottom ash accumulated in ash ponds from multiple sites show that leachate from the bottom ash meets IEPA Class I standards based on leaching from the pond environment (NLET) (see Section 5.5.1.1). Based on these data, it is reasonable to conclude that bottom ash accumulated in inactive ash ponds are not a source of groundwater concentrations.[147]

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[146] KPRG, 2015

[147] The Will County inactive ash ponds 1N and 1S have been modified to prevent more than one foot of standing water. This pond modification will reduce the volume of potential leachate at the Will County inactive ash ponds.

Section 6: Opinion 2—The Remedial Approach Provided in the Kunkel Remedy Report is Not Warranted

It is my opinion that the remedial approach in the Kunkel Remedy Report, which is removal of all CCRs and the ash ponds, is not warranted because:

1. the concentrations of COIs that have been observed in groundwater around the ponds are low, such that MWG's remedial approach to protect human health and the environment is in accordance with Illinois standards (Section 6.1);
2. the bottom ash indicator constituents from leachate do not match the groundwater chemistry, indicating that the constituents in groundwater are not from the ponds, the ponds are functioning in accordance with the design, and the ponds do not need to be removed (Section 6.2), and
3. there is no evidence that coal ash currently outside of the ash ponds is a source of groundwater impacts (Section 6.3).

Further, Kunkel did not follow the Illinois procedures his opinions concerning remedial activities. After the completion of a site investigation, groundwater and soil remediation objectives would need to be developed that consider exposure routes and would be protective of human health and the environment. The selection of remedial technologies needs to consider the feasibility of implementation, whether the technologies will perform satisfactorily and reliably, and whether remediation objectives will be achieved within a reasonable period of time (Section 6.4).

I also found many inaccuracies in the Kunkel Report on Ground-Water Contamination that, in general, portray conditions that imply that groundwater is more threatened than is actually supported by the data.

The following is provided in support of Opinion 2:

- Ash ponds are for wastewater treatment purposes and are not landfills for permanent ash disposal (Section 6.5.1).
- Ash ponds are lined with 60-mil HDPE, which is the accepted standard of the ash pond lining industry. Further, the liner construction quality is consistent with the ash pond lining quality management standards for long-term use based on available construction documentation. (Section 6.5.2)

- O&M of the ash ponds are conducted in accordance with consistent operating protocols. (Section 6.5.3)
- Kunkel incorrectly concludes that all of the former ash ponds leaked and the current ash ponds are leaking. He asserts that the groundwater elevations are above the bottom of the ponds or pond water surface and in turn causing bottom heave. His analysis is incorrect on several bases. First, an uplift pressure argument is relative to the top of the bottom liner. Second, an uplift argument is an issue for soil liners, not geomembrane liners that are at all of the ponds. Third, groundwater levels are rarely above the top of the bottom liners and when they are above the bottom liner there are other opposing forces or controls to eliminate uplift. (Section 6.5.4)
- In addition to errors in Kunkel's groundwater elevation analysis, Kunkel fails to consider the weight of the Poz-o-Pac liner (where present), sand cushion, and limestone warning layers. An appropriate hydrostatic uplift calculation should include at a minimum the weight of sand cushion layers and limestone warning layers that provide downward forces that counteract the upward hydrostatic uplift force. The presence of bottom ash and pond water provide further downward forces that counteract the upward hydrostatic uplift force. (Section 6.5.5)
- Groundwater mounding that the Kunkel Groundwater Contamination Report concluded was an indication of an ongoing leak has not been observed at Joliet #29 monitoring well MW-9. Kunkel alleges that mounding is occurring at Joliet 29 because the groundwater elevation in downgradient MW-9 is higher than upgradient MW-8. However, the majority of the data show that the average water level in MW-9 is lower than MW-8. (Section 6.5.6)
- Kunkel incorrectly portrays background concentrations by using state-wide data for groundwater at the Joliet #29, Waukegan, and Will County sites. It is my opinion that this approach is inappropriate and fails to account for those sites where upgradient groundwater is impacted prior to migrating on-site. (Section 6.5.7)

6.1. MWG's Remedial Approach to Protect Human Health and the Environment is in Accordance with Illinois Standards

Kunkel states that his professional analyses and opinions have an "emphasis on remedy options which, if implemented, would stop or minimize the continuing ground-water contamination

from MWG's ash ponds and/or other coal ash disposal areas at the four power plant sites."[148] Kunkel alleges that "[t]he remedy for continued long-term ground-water contamination at the four power plant sites is removal of the leaking ash ponds as well as all or a portion of the coal ash which has been deposited outside the ash ponds. The conclusions in my previous report ([Kunkel Groundwater Contamination Report]) form the bases for this remedy report."[149]

I conclude that further source remediation is not warranted. Observed COI concentrations in groundwater around the ponds are low, such that MWG's remedial approach to protect human health and the environment is in accordance with Illinois standards.

- Bottom ash indicator constituents from leachate do not match the groundwater chemistry (see Section 5.5).
- There is no evidence that historical ash in fill materials outside of the ash ponds is a source of groundwater impacts based on leaching analyses of the existing weathered ash in fill materials and observed groundwater concentrations (see Section 5.7.2).
- Administrative controls eliminate the completion of the groundwater ingestion pathway and dermal exposure pathway (see Section 5.2).
- Groundwater conditions do not pose unacceptable risks to surface water receptors (see Section 5.6).

6.2. Bottom Ash Indicator Constituents from Leachate Do Not Match the Groundwater Chemistry

Kunkel alleges that boron, sulfate, and manganese are valid indicators of groundwater contamination because "EPRI and IEPA deem them to be of concern at all four of the power plant sites and they are typically present in high concentrations in coal ash leachate...." However, the sources cited by Kunkel (EPRI, 2012; Kosson, 2009; and IEPA, 2010) are not specific to the four MWG sites. As demonstrated in Section 5.5.1.3, constituent indicators for leachate from ash currently stored in ponds include at a minimum: barium, boron, and sulfate, and at a maximum: antimony, arsenic, barium, boron, cadmium, chromium, cobalt, copper, manganese, nickel, selenium, silver, sulfate, and zinc. In order to compare the constituents in the ponds with the groundwater conditions, a more complete selection of constituent indicators should be used.

[148] Kunkel Remediation Report, Page 2
[149] Kunkel Remediation Report, Page 2

Kunkel includes removal of the ash ponds as part of his remedy and alleges that "[p]oor liner construction is an initial cause of liner defects which results in leaking ponds and release of contaminated fluids into the underlying ground water."[150] This allegation would imply that recent groundwater concentrations would be substantially impacted by the leachate from bottom ash currently stored in ash ponds. If this were true, constituents that are indicator chemicals for the ash currently stored in ash ponds would match the constituents actually observed in groundwater near the ponds. However, bottom ash indicator constituents from leachate do not match the groundwater chemistry (see Section 5.5). Thus, constituents in groundwater are not from the ponds and the ponds are functioning in accordance with the design.

I conclude that the ponds do not need to be removed.

6.3. There is No Evidence That Historical Coal Ash Outside of the Ash Ponds is a Source of Groundwater Impacts

Kunkel's proposed remedy includes removal of coal ash historically deposited outside the ash ponds, which includes coal ash "utilized in the construction of roadways, pond dikes and also for general land leveling at all four power plants."[151] He further states, without supporting data, that "[t]his coal ash is subject to leaching by rainfall and snowmelt, rising and falling ground-water levels, and this leachate is transported downward causing contamination of the ground water."[152] However, Kunkel's remediation approach is inconsistent with construction practices in Illinois and ASTM standards. The appropriate approach in Illinois for the evaluation of ash used beneficially as fill is to conduct leaching evaluations on actual fill at the sites (see Section 5.7.1). There is no evidence that historical ash in fill materials outside of the ash ponds is a source of groundwater impacts based on leaching analyses of the existing weathered ash in fill materials and observed groundwater concentrations (see Section 5.7.2). I conclude that there is no evidence supporting Kunkel's allegation that leachate from ash used as fill is causing groundwater contamination.

[150] Kunkel Remediation Report, Page 2
[151] Kunkel Remediation Report, Page 2
[152] Kunkel Remediation Report, Page 2

6.4. Kunkel did Not Follow the Illinois Procedures for Investigative and Remedial Activities

Kunkel alleges that "adequately addressing the contamination at the four sites requires the complete removal of the existing ash ponds and selected areas of coal ash deposited outside the ash ponds as the remedy. Coal ash from the ash ponds, coal ash used in construction activities at each site and the coal ash deposited on the ground surface outside the existing ash ponds must be placed in an appropriate landfill for the four MWG power plant sites."[153] However, Kunkel did not follow the Illinois procedures for the investigative and remedial activities. After the completion of a site investigation, groundwater and soil remediation objectives would need to be developed that consider exposure pathways and would be protective of human health and the environment. The selection of remedial technologies needs to consider the feasibility of implementation, whether the technologies will perform satisfactorily and reliably, and whether remediation objectives will be achieved within a reasonable period of time. Kunkel did not demonstrate that any of these steps were followed when he alleged that his proposed remedy is required.

- Removal of all ash from the sites is not feasible when all costs and site disruptions are considered (Section 7), and
- Ponds and historical ash are not sources of groundwater impacts (see Sections 5.3 and 5.5); thus removal of all ash will not achieve groundwater remediation objectives.

It is my opinion that Kunkel's remedy is inappropriate based on the Illinois procedures for investigative and remedial activities.

6.5. Responses to Specific Inaccuracies in Kunkel's report on Groundwater Contamination

I noted various inaccuracies in Kunkel's report on Ground-Water Contamination that imply that groundwater is more threatened than supported by the data. The following presents my responses to specific inaccuracies.

[153] Kunkel Remediation Report, Page 3

6.5.1. Ash Ponds are for Wastewater Treatment Purposes and are not Landfills for Permanent Ash Disposal

Kunkel alleges that there "has been and continues to be ground-water contamination from MWG's ash ponds and/or other coal ash disposal areas at the four power plant sites."[154] However, the ash ponds are not coal ash disposal areas as implied by Kunkel. The ash ponds are integral components of the wastewater treatment process for the generating facilities.[155] Furthermore, ash is routinely excavated and beneficially used off-site as evidenced in billing records from waste removal contractors, such as Lafarge.[156] It is my opinion that the vast majority of the potential for leachate from ash generated by the generating stations is appropriately managed by wastewater treatment using lined ash ponds and off-site disposal or beneficial reuse of the separated ash.

6.5.2. Ash Ponds are not Leaking and Construction Quality is Consistent with the Ash Pond Lining Quality Management Standards for Long-Term Use

Kunkel broadly alleges that at all four generating stations have "ash ponds whose liners have leaked and continue to leak due to poor liner construction techniques...."[157] However, Kunkel fails to provide evidence of the leaking for any of the ash ponds at any of the sites. Instead, Kunkel relies on an inapplicable study of other sites to assume leaks are occurring at the MWG ponds.[158] It is my opinion that the MWG ash ponds are not leaking because they are lined with 60-mil HDPE, which is the accepted standard of the ash pond industry. Further, the liner construction quality is consistent with the ash pond lining quality management standards for long-term use based on my review of construction quality assurance documentation. Specifically:

- The liner subgrades were inspected for sharp surfaces prior to installation of the HDPE liner and protective geotextile was installed below the HDPE liners to avoid the potential for puncture (see Section 5.3.2.5 and 5.3.2.6).
- The HDPE liners were inspected for leaks after installation of a protective sand cushion layer using the state of the practice electronic leak detection survey technologies (see Section 5.3.2.5 and 5.3.2.6).

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[154] Kunkel Ground-Water Contamination Report, page 2.

[155] MWG13-15_16907-63; MWG13-15_18115-31; MWG13-15_24935-54; MWG13-15_10926-10947

[156] MWG13-15_36-65

[157] Kunkel Ground-Water Contamination Report, page 2.

[158] Kunkel cites Schroeder (1994), which does not consider the frequency of leaks when certain construction quality assurance protocols are followed. See Section 5.3.2.6 for applicable studies.

- Warning and cushion layers are installed above the HDPE liners to protect them from accidental contact and damage during future dredging operations (see Sections 5.3.2.1 through 5.3.2.5).
- The quality of construction was documented by an independent engineering firm that attested that the construction met the project drawings and specifications and manufacturer's recommendations (see Section 5.3.2.6).

Thus, I conclude that it is inaccurate to portray ash ponds as "continuing to leak" when there is no evidence that the current HDPE liners are leaking. Additionally, in my opinion, the CQA documentation indicates the HDPE liner construction is of high quality.

6.5.3. O&M of the Ash Ponds are Not Expected to Cause Leaks and O&M are Conducted in Accordance with Consistent Operating Procedures

Kunkel alleges that at all of the generating stations, ash pond have liners that "have leaked and continued to leak due to ... poor coal ash removal/maintenance practices...."[159] Furthermore, Kunkel alleges that "[r]elining the ash ponds will not reduce the potential for liner damage and subsequent liner leakage as long as dredging of coal ash continues as in the past."[160] However, I conclude that ash removal and maintenance practices are good, and O&M of the ash ponds are not expected to cause leaks based on my review of O&M documentation and practices. Specifically:

- Periodic dredging of settled bottom ash is carefully performed using excavators. If the excavator bucket were to encounter the stone warning layer, which is located over the protective layer, which in turn is located over the HDPE liner, it would be obvious to the operator who is expected to stop excavating. If the HDPE liner were encountered, white HDPE material would be visually observed in the bucket by the excavator operator who would stop work. Based on my review of the O&M documentation, damage of the HDPE liner below the water level during dredging has not been observed at any ash pond (see Section 5.3.2.7).
- Kunkel specifically alleges that "[a]sh pond dredging using heavy equipment likely will damage the plastic liners given the thin (1 ft thick) protective sand layer and 6-in thick warning layer on top of the liners. Typically, at least two feet or more of protective layer is

[159] Kunkel Ground-Water Contamination Report, page 2
[160] Kunkel Ground-Water Contamination Report, page 2

required on top HDPE if heavy equipment is utilized." However, Kunkel did not provide any load bearing analysis that the protective and warning layers would be insufficient for heavy equipment traffic loads. It is my opinion that the protective and warning layers are sufficient based on my review of the overburden stress analysis conducted by NRT for 18 inches of soil cover over the liner (see Section 5.3.2.5).

- Most tears observed in the ash pond liners have been above the impounded water surface (see Section 5.3.2.7). All tears were promptly repaired as allowed by favorable weather conditions. Tears above impounded water would not be expected to result in leaks. The only tear that was potentially below the water line occurred when no water was in the ash pond and was repaired prior to refilling water to the level of the tear in the ash pond.

6.5.4. Groundwater Elevations above the Bottoms of Ash Ponds are Temporary or Seasonal Conditions

Kunkel alleges that at Powerton, "...ash pond water surface elevations are periodically below ground-water table elevations..."[161]; at Waukegan, "...ash pond bottom liners are always below the surface-water elevations in Lake Michigan and also the ground-water table..."[162]; and at Will County, "Ground-water and Des Plaines River surface-water elevations are always above the bottom of the liners..."[163] These statements are misleading and inaccurate. First, an uplift pressure argument is relative to the top of the bottom liner. Second, an uplift argument is a potential issue for soil liners, not geomembrane liners that are at all of the ponds. Third, groundwater levels are not often above the top of the bottom liners and when they are above the bottom liner there are other opposing forces or controls to eliminate uplift.

Uplift pressure under a geomembrane liner is not an indication of failure. In the event that uplift pressures were to occur, the geomembrane would lift vertically out of position and would have to be inspected and repaired prior to service. This would only occur absent weight and pressure from pond materials (section 6.5.5), and has never been reported at any of the ponds.

To demonstrate the inaccuracy of Kunkel's uplift proposition, I evaluated the groundwater elevation and pond bottom data. The data show the following:

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[161] Kunkel Ground-Water Contamination Report, page 3
[162] Kunkel Ground-Water Contamination Report, page 3
[163] Kunkel Ground-Water Contamination Report, page 4

- Joliet #29 Ash Ponds 1, 2, and 3—groundwater elevations in nearby monitoring wells have always been below the ash pond bottom elevations during the period of record.
- Powerton Ash Surge Basin: The groundwater elevations during the entire period of record at nearby monitoring wells MW-8, MW-11, MW-12, and MW-15 have been below the bottom liner elevation of 452.0 feet above MSL (see Figure 5-2).
- Powerton Secondary Ash Settling Basin: The groundwater elevations during the entire period of record at nearby monitoring well MW-6 have been below the bottom liner elevation of 440.0 feet above MSL (see Figure 5-3). The groundwater elevations at nearby monitoring well MW-7 have been above the bottom of the pond during only 2 of 16 quarterly groundwater monitoring events. However, the groundwater in this area can be controlled by the underdrain system that can relieve uplift pressures when the pond is dewatered and groundwater elevations are high.
- Powerton Metal Cleaning Basin: Groundwater elevations during the entire period of record at nearby monitoring wells MW-13, MW-14, and MW-15 have been below the bottom liner elevation is 457.5 feet above MSL (see Figure 5-4).
- Powerton Ash Bypass Basin: The groundwater elevations during the entire period of record at nearby monitoring wells MW-9 and MW-12 have been below the bottom liner elevation of 459.0 feet above MSL (see Figure 5-5)..
- Waukegan West and East Ash Ponds: Design documentation[164] has demonstrated that the bottom of the ponds is at approximately elevation 585.5 feet above MSL (see Figure 5-6). Groundwater elevations during the entire period of record at nearby downgradient monitoring wells MW-1 through MW- 4 and in upgradient monitoring well MW-5 were a minimum of 579.3 up to a maximum of 584.5 ft MSL which are all below the bottom of the ponds.
- Will County Ash Ponds 2 South and 3 South: The bottom liner elevation is 580.5 feet above MSL (see Figure 5-7). Groundwater elevations have been above the bottom of the pond during the period of record at nearby monitoring wells MW-5, MW-6, and MW-9, and monitoring well MW-10 during 6 of 16 quarterly groundwater monitoring events.

Therefore, groundwater levels are above the bottom liner at only three of the eight ponds which Kunkel claims have uplift pressures. However, for all ponds, the uplift pressures are offset

[164] MWG13-15_49285

by the weight of water in the ponds when they are full. For two ponds, uplift pressures are offset by the weight of overlying cushion and protective layers (See Section 6.5.5), and one pond has a groundwater underdrain to offset uplift pressures.

6.5.5. An Appropriate Analysis of Hydrostatic Uplift Involves Consideration of Counteracting Downward Forces

Kunkel alleges that at Powerton, "[a]sh pond water surface elevations are periodically below ground-water table elevations which likely has resulted, and will likely result in the future, in hydrostatic uplift and liner failure...."[165] Similarly, Kunkel alleges that at Waukegan, "ash pond bottom liners are always below ... the ground-water table which results in hydrostatic uplift pressures which likely has caused, and will likely cause in the future, liner leaks..."[166] Additionally, Kunkel alleges at Will County, "[g]round-water ... elevations are always above the bottom of the liners which likely has caused, and likely will cause in the future, hydrostatic uplift and liner failure." However, Kunkel does not support his allegations with any site-specific calculations or analysis.

In addition to errors in Kunkel's analysis (see Section 6.5.4), Kunkel fails to consider the weight of the Poz-O-Pac, sand cushion, and limestone warning layers. An appropriate hydrostatic uplift calculation should include at a minimum the weight of Poz-O-Pac, sand cushion layers, and limestone warning layers that provide downward forces that counteract the upward hydrostatic uplift force. The presence of bottom ash and wastewater provide further downward forces that counteract the upward hydrostatic uplift force. I calculated the following net resultant hydrostatic uplift forces present when only the pond liner system is present and nearby groundwater elevations are at a maximum. These calculations are for the three ash ponds where groundwater elevations are temporarily or seasonally higher than the bottom elevations and are summarized as follows:

- Powerton Secondary Ash Settling Basin: There is a net resultant uplift force when the pond is empty. This was demonstrated during pond relining when the Illinois River was at an unusually high level causing groundwater levels to rise, and in turn causing inflow into the excavations. The inflow was controlled by a drainage system. During cleanout, the drainage system is available to eliminate hydrostatic uplift. While the ponds are full, however, there

[165] Kunkel Ground-Water Contamination Report, page 3
[166] Kunkel Ground-Water Contamination Report, page 3

is no hydrostatic uplift because of the downward force of water which is 180 to 700 pounds per square foot (psf)[167], depending on the groundwater level.

- Will County Ash Pond 2S: Uplift force is entirely counteracted by the weight of the Poz-O-Pac, sand cushion, and limestone warning layers, with a net resultant downward force of 195 psf.
- Will County Ash Pond 3S: Uplift force is entirely counteracted by the weight of the Poz-O-Pac, sand cushion, and limestone warning layers, with a net resultant downward force of 195 psf.

6.5.6. Kunkel's Conclusion of Groundwater Mounding at Joliet #29 Monitoring Misrepresents Actual Groundwater Elevations

Kunkel alleges that at Joliet #29 "ash Pond 3 must have been leaking because the ground-water elevation in MW-9 was higher (505.66) than that in MW-8 (505.22) which is generally up-gradient from MW-9." However, I reviewed groundwater elevations measured at Joliet #29 monitoring wells MW-8 and MW-9 during the period of record between 2010 and 2014. Groundwater elevations at MW-8 were higher than groundwater elevations at MW-9 during 11 of 16 quarterly groundwater monitoring events (69 percent). Furthermore, the average groundwater elevation at MW-8, 505.67 feet above MSL, was higher than the average groundwater elevation at MW-9, 505.65 feet above MSL, during the period of record. Kunkel selected the largest value for the difference in groundwater elevations between MW-9 and MW-8 to prove a conclusion, yet the overall data do not support the conclusion.

The groundwater elevations across the approximately 18 acres of the site covered by the monitoring well network vary by 0.5 ft on average (see Table 4-1). The measurement accuracy of a typical groundwater level monitor is approximately 0.05 ft. It is my opinion that the accuracy of the readings combined with the narrow differences and variations of groundwater elevations indicate that any mounding would be too subtle to detect.

Therefore, it is my conclusion that the data do not show any mounding.

[167] Calculated based on normal pool elevation of 453 ft, average groundwater elevation of 441.5 ft and maximum groundwater elevation of 450 ft.

6.5.7. Kunkel's Conclusion of a Liner Leak at Waukegan is Actually an Expression of Surface Topography

Kunkel prepared groundwater contour maps and concluded that "The "ridge" in the ground-water contours at the ash ponds may indicate a liner leak in the west ash pond,...". I prepared a groundwater contour map (Figure 4-4) of data from May and June 2014 using the information from the Waukegan monitoring wells and ELUC wells. I conclude that the area where a "ridge" was shown in Kunkel's maps is more muted and simply a reflection of the ground surface topography which dips to the north, east and south from the area of the ash ponds. This groundwater "mirroring" of ground surface topography would be expected in an aquifer that is primarily granular (more permeable) material that responds relatively quickly to infiltration and lateral migration. The groundwater mirroring is consistent with the additional information that the ponds are not leaking.[168] (See 5.5.2).

6.5.8. Background Constituent Concentrations Should be Based on Contemporary Data from Upgradient Wells

Kunkel alleges that he compared measured groundwater quality concentrations to "site background water quality."[169] However, Kunkel instead relies on "specific Illinois ground-water quality data which are representative of background on a state-wide level" for Joliet #29, Waukegan, and Will County. It is my opinion that this approach is inappropriate and misrepresentative for sites where upgradient groundwater is impacted prior to migrating on-site (see Sections 4.2.1 and 4.3.1). In particular, Kunkel claims that "indicator pollutants in [Powerton] MW-16 are similar to the IEPA (2013) background network wells for sand and gravel aquifers." However, Kunkel limits his assessment to boron, manganese, and sulfate as the "indicator pollutants" and does not consider other constituents that also comprise background concentrations. It is my opinion that it is inaccurate to portray background concentrations at a state-wide level as representative of background at the sites where there are upgradient monitoring data.

An appropriate approach would be to evaluate background concentrations based on site specific data such as monitoring wells installed at the upgradient site boundaries in locations without the presence of ash materials in fill.

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[168] IEPA, 2015 and MWG13-15_29775-29776

[169] Kunkel Ground-Water Contamination Report, page 7.

- Joliet #29—monitoring wells MW-8, MW-10, and MW-11 are near the upgradient site boundary, and the boring logs show that these three wells are not installed in ash fill. Groundwater quality at these three locations are not consistent:
    - MW-8 has historical exceedances of chloride and sulfate above IEPA Class I groundwater standards.[170]
    - MW-10 has historical exceedances of chloride above the IEPA Class I groundwater goal. [171]
    - MW-11 has historical exceedances of boron and chloride above IEPA Class I groundwater standards. [172]

  Thus, background groundwater concentrations at Joliet #29 reflect sources other than the ponds and historical ash fill based on site-specific data because monitoring wells near the upgradient site boundary exceed IEPA Class I groundwater standards prior to migrating below the ponds.

- Powerton—monitoring wells MW-1, MW-9, and MW-16 are near the upgradient site boundary, and the boring logs show that MW-1 and MW-16 are not installed within ash fill. The groundwater concentrations at MW-1 and MW-16 have historical exceedances for nitrate above the IEPA Class I goal and pH has historical exceedances that are both above and below the acceptable IEPA Class I range of goals. [173] MW-16 groundwater also detected barium, boron, chloride, and sulfate. MW-1 groundwater also detected barium, boron, chloride, fluoride, manganese, nitrate, and sulfate. MW-9 groundwater also detected barium, boron, chloride, fluoride, manganese, selenium, and sulfate. Thus, background concentrations at Powerton reflect sources other than the ponds and historical fill areas based on site-specific data because monitoring wells near the upgradient site boundary detect or exceed IEPA Class I groundwater standards prior to migrating below the ponds.
- Waukegan—monitoring wells MW-6 and MW-8 are near the upgradient site boundary, and the boring logs show that MW-6 is not installed within ash fill. An estimate of site-wide groundwater contours for the Waukegan site are provided on Figure 4-4. Groundwater concentrations at MW-6 have several historical exceedances for boron and manganese

[170] MWG13-15_48647-48710
[171] MWG13-15_48647-48710
[172] MWG13-15_48647-48710
[173] MWG13-15_48711-48843

above IEPA Class I groundwater standards.[174] Additionally, wells installed for the neighboring and upgradient ELUC, including ELUC MW-10, ELUC MW-11, ELUC MW-12, ELUC MW-14, and ELUC MW-15, show elevated levels for boron and manganese above IEPA Class I groundwater standards.[175] Thus, background concentrations at Waukegan reflect sources other than the ponds and historical fill areas based on site-specific data because monitoring wells near the upgradient site boundary exceed IEPA Class I groundwater standards prior to migrating below the ponds.

- Will County—shallow groundwater conditions at the Will County site are impacted by the Des Plaines River and the Chicago Sanitary and Ship Canal. Groundwater hydraulic gradients are confounded by surface water influences with some groundwater migrating toward the Des Plaines River and some groundwater understood to be migrating toward the Chicago Sanitary and Ship Canal. Thus, background concentrations at Will County cannot be established based on site-specific data. Additionally, due to the unique groundwater conditions at the Will County site, it is not appropriate to use background groundwater quality based on a state-wide level for the Will County site.

[174] MWG13-15_48902-48958
[175] MWG13-15_50086-50092

Section 7: Opinion 3—Kunkel Underestimates the Costs to Implement the Unwarranted Cleanup

It is my opinion that the Kunkel Remedy Report significantly underestimates the cost of Kunkel's proposed cleanup to remove all ash ponds and all CCRs in fill at the plants.

- Kunkel's proposed remedy fails to incorporate the costs of disposal at a permitted landfill (see Section 7.1).
- Kunkel's proposed remedy does not account for significant and costly disruption at the generating plants (see Section 7.2).
- Kunkel's proposed remedy results in significant impacts to the surrounding communities, including dust, noise, and traffic (see Section 7.3). Of particular concern is the increased risk of vehicle crashes involving large trucks.
- Kunkel's proposed remedy fails to consider the impact of vehicle carbon dioxide emissions. I estimate the emissions from the large truck traffic to be on the order of 203,840,000 kilograms of carbon dioxide (see Section 7.4).

7.1. Costs of Soil Disposal at a Permitted Landfill

Kunkel's cost estimate for his proposed remedy includes the costs associated with excavation, hauling, and backfill. However, Kunkel fails to include the cost of soil disposal at a permitted landfill, which is essential to his proposed remedy. In my experience, the disposal cost for impacted soil has a unit price of approximately $20 per ton. Assuming a disposal cost of $20 per ton, and using the unit tonnage estimates provided by Kunkel, I estimated the disposal costs associated with Kunkel's proposed remedy as follows:

- Joliet #29—$14,000,000 (708,657 tons)
- Powerton—$93,000,000 (4,645,190 tons)
- Waukegan—$53,000,000 (2,661,395 tons)
- Will County—$18,000,000 (910,525 tons)
- Total Disposal Costs: $178,000,000

Thus, the disposal costs for his proposed remedy increases his estimated cost for excavation, hauling, and backfilling (approximately $260,000,000 total of all four sites site-wide) by 68 percent.

7.2. Kunkel's Proposed Remedy Results in Significant and Costly Disruptions of the Electricity Generation Plants

Kunkel includes estimates of the areas and volumes of ash-impacted soils that he asserts should be removed from the four sites (see Kunkel's Table 6 and Figures 1 through 4 in the Remedy Report). The data are summarized as follows:

- Joliet #29—Top 1.4 feet of soil over 251 acres (566,925 cubic yards of ash-impacted soil)
- Powerton—Top 6.6 feet of soil over 349 acres (3,716,152 cubic yards of ash-impacted soil)
- Waukegan—Top 5.3 feet of soil over 249 acres (2,129,116 cubic yards of ash-impacted soil)
- Will County—Top 2.1 feet of soil over 215 acres (728,420 cubic yards of ash-impacted soil)

As shown on figures within Kunkel' report, the cost estimates include areas below equipment such as switchyards and coal handling and transfer equipment. Removing soil from these areas of the sites would cause substantial operational disruptions, including extended temporary shutdowns, of the generating stations. Before any excavation could occur, MWG would need to decommission and remove or bypass all of the overlying equipment. Power generating stations are fixed structures, and it is not simple to remove and replace equipment.

Following disassembly of equipment, excavation of the soil would require additional time. I identified the allegedly impacted areas with critical generating equipment, and I estimated the acreages so that I could in turn estimate the duration of excavation activities in those areas. The estimates of the durations of excavation activities are as follows:

- Joliet #29 (see Figure 7-1):
    - Electrical switchyard—approximately 3.2 acres
    - Coal handling and transfer equipment—approximately 2.8 acres
    - Depth of soil excavation proposed by Kunkel—1.4 feet
    - I estimate once the equipment are decommissioned or removed or bypassed, that each of these areas could be excavated within one week based on a typical soil excavation production rate of 5,000 cubic yards per day for large projects.

- Powerton (see Figure 7-2):
    - Electrical switchyard—approximately 11.2 acres
    - Coal handling and transfer equipment—approximately 2.2 acres
    - Depth of soil excavation proposed by Kunkel—6.6 feet
    - I estimate that once the equipment are decommissioned or removed or bypassed, the electrical switchyard area and coal handling and transfer equipment area could be excavated within four weeks and one week, respectively, based on a typical soil excavation production rate of 5,000 cubic yards per day for large projects.
- Waukegan (see Figure 7-3):
    - Electrical switchyard—approximately 6.8 acres
    - Coal handling and transfer equipment—approximately 3.9 acres
    - Depth of soil excavation proposed by Kunkel—5.3 feet
    - I estimate that once the equipment are decommissioned or removed or bypassed, the electrical switchyard area and coal handling and transfer equipment area could be excavated within two weeks and one week, respectively, based on a typical soil excavation production rate of 5,000 cubic yards per day for large projects.
- Will County (see Figure 7-4):
    - Electrical switchyard—approximately 9.6 acres
    - Coal handling and transfer equipment—approximately 13.3 acres
    - Depth of soil excavation proposed by Kunkel—5.3 feet
    - I estimate that once the equipment are decommissioned or removed or bypassed, the electrical switchyard area and coal handling and transfer equipment area could be excavated within three weeks and four weeks, respectively, based on a typical soil excavation production rate of 5,000 cubic yards per day for large projects.

Following excavation, the equipment would also need to be reassembled and tested. In some cases, disassembled equipment may not be of sufficient quality to reassemble. For these parts, disassembled parts would need to be demolished and disposed or recycled off-site, and the parts would need to be replaced.

Importantly, Kunkel fails to account for the additional and significant costs to disassemble, reassemble, and test the switchyards and coal handling and transfer equipment. Those

costs include the additional personnel and contractors to safely disassemble and reassemble the equipment and additional material costs to safely store the equipment during excavation.

Moreover, the generating units cannot be operated without being supplied coal, and the electrical switchyard is necessary for distributing power. The generating stations would be offline for an extended period of time and would in turn incur significant costs associated with the loss of revenue from the offline generation units. These equipment cannot be practicably bypassed to continue to operate the generating units; furthermore, there is not sufficient space at the sites to disassemble electrical switchyard equipment and the coal handling and transfer equipment simultaneously. Fully disassembling, reassembling, and testing the electrical switchyard equipment and the coal handling and transfer equipment would be on the order of two to five years for each site.[176]

Kunkel's estimation entirely fails to consider the outage costs and loss of revenue during the extended period required to conduct his proposed remediation. During this time, many people, such as plant workers and coal producers, will be out of employment suffering a loss of income that has a trickle-down effect on the local communities.

7.3. Additional Impacts to the Surrounding Communities

In addition to the substantial disruptions to operations of the generating units, the surrounding community would be adversely impacted by the increased risk of vehicle crashes involving large trucks, increased travel times, reduced air quality from diesel exhaust, increased noise, and increased dust.

Protection of the community from adverse effects during implementation of the alternative is a factor that bears upon assessing the reasonableness of Kunkel's proposed remedy. Of particular relevance for these subject sites and the remedy proposed by Kunkel is the increased risk of vehicle accidents involving large trucks.

The U.S. Department of Transportation, National Highway Traffic Safety Administration (NHTSA) reports traffic data for large trucks that are involved in crashes resulting in fatalities or injuries. Based on traffic data for 2013, which is the most recent year of data reported by NHTSA, large trucks accounted for 4 percent of all registered vehicles but accounted for 9 percent of all vehicles involved in fatal crashes (NHTSA, 2015). In 2013, 3,964 people were killed and 95,000 people were injured in

[176] Teleconference with Mark Kelly and Rachel Maddox; teleconference with Fred Veenbaas; teleconference with Pete O'Day

crashes involving large trucks; 71 percent of these fatalities were occupants of other vehicles involved in the crash (NHTSA, 2015). The Insurance Institute for Highway Safety (IIHS) identified the main problem of large truck fatalities as the vulnerability of people traveling in smaller vehicles (IIHS, 2015).

In 2013, 0.73 percent (36.86 fatalities and 690 injuries per 100,000) of registered trucks were involved in a crash resulting in fatalities or injuries (NHTSA, 2015). The involvement rate in 2013 based on the mileage traveled by large trucks was 1.42 fatalities and 27 injuries per 100,000,000 miles (NHTSA, 2015).

I estimated the transportation requirements for hauling ash-impacted soil and import fill based on typical remediation practices for transportation and disposal.

- Trucks for hauling soil and fill have 20-cubic yard capacities;
- One truckload of clean import fill is needed for each truckload of ash-impacted soil disposal;
- Trucks used for disposing ash-impacted soil should not be used for importing clean fill, so trucks return empty after disposing or importing fill;[177]
- Assuming a disposal site for ash-impacted soil is 15 miles away from each site, the round-trip distance is 30 miles per trip;
- Assuming the source of clean import fill to replace the removed soil is 10 miles away from each site, the round-trip distance is 20 miles per trip; and
- For each cubic yard of ash-impacted soil to be excavated, the resulting transportation requirements for the project work is on the order of 2.5 miles per cubic yard ([30 miles per round-trip of ash-impacted soil disposal + [20 miles per round-trip of fill imported] / [20 cubic yards per round trip].

Based on the number of weeks for soil hauling activities developed for the hypothetical scenario, this results in the following total mileage:

- Joliet #29—More than 1,400,000 miles of large truck travel
- Powerton—More than 9,300,000 miles of large truck travel
- Waukegan—More than 5,300,000 miles of large truck travel
- Will County—More than 1,800,000 miles of large truck travel

[177] If trucks were lined with disposal plastic liners or were decontaminated at disposal facilities, trucks could transport soil for disposal and import fill in a single round trip. If these additional costs to the project were incurred to eliminate one leg of the truck route, the mileage may be reduced by approximately 30 percent.

Using Kunkel's proposed remedial approach results in more than 17,000,000 miles of large truck travel for the four sites in total. Using the 2013 mileage-based probability of a fatality involving a large truck based (1.42 fatalities and 27 injuries per 100,000,000 miles), a risk of 0.25 traffic fatalities and 4.6 injuries would be expected for the large truck traffic generated by Kunkel's proposed remedial approach under the hypothetical scenario.

Therefore, I conclude the risk of removal of all coal ash and trucking to an offsite facility is not supported by the risk of leaving the existing materials in place, which is essentially no risk to human health and the environment.

7.4. Estimate of Carbon Dioxide Emissions Associated with Kunkel's Proposed Remedy

Large trucks and heavy construction equipment generate emissions of carbon dioxide from the combustion of fossil fuels (typically diesel for large trucks and heavy construction equipment). Kunkel's assessment of his proposed remedy fails to include this significant impact of vehicle carbon dioxide emissions. The mass of carbon dioxide emitted from large trucks can be easily estimated using emissions factors and the total miles of large trucks as demonstrated below.

USEPA recently developed emissions factors based on Table 2-15 from the *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2012*, and based on vehicle-miles data for highway vehicles from Table VM-1 of the Federal Highway Administration Highway Statistics 2012 (USEPA, 2014). The transportation emissions factor for medium- and heavy-duty trucks is 1.456 kilograms per vehicle-mile. Based on the estimated large truck mileage in Section 7.2 (17,000,000 miles), the resulting carbon dioxide emissions are approximately 24,800,000 kilograms (equivalent to approximately 27,000 tons).

USEPA estimated the rate of carbon dioxide emissions from a large excavator at 440 pounds per hour. Kunkel estimated the total volume of excavated soil site-wide for the four sites as 7,140,613 cubic yards. Assuming a typical soil excavation production rate of 500 cubic yards per hour for large projects, the total hours of excavation is approximately 14,000 hours of operation for an excavator. This resulting carbon dioxide emissions are approximately 6,160,000 pounds (equivalent to approximately 3,080 tons).

The total carbon dioxide emissions for Kunkel's proposed remedy is approximately 30,000 tons, which is conservative because it does not include emissions from other heavy construction equipment used at the sites, disposal facilities, and import fill sources.

Section 8: Reservation

Due to the delay in the production of documents relied upon by Dr. Kunkel, I am reserving the ability to supplement my opinions in response to any documents or bases for Dr. Kunkel's reports that are presented by the Complainants. In addition, my opinions may be supplemented based on future changes in the construction or operation of the generating stations and in response to any future changes in groundwater conditions observed at the sites.

Section 9: Signature

This report contains 165 pages, including figures, tables, and appendices.



John Seymour, P.E.

2 November 2015

DATE

Section 10: Acronyms

Acronym	Definition
AEEI	Andrews Environmental Engineering, Inc.
CCA	Compliance Commitment Agreement
CCB	Coal combustion by-product
CCR	Coal combustion residual
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended
COI	Constituent of Interest
CQA	Construction quality assurance
CSM	Conceptual Site Model
ELUC	Environmental Land Use Control
EPA	Environmental Protection Agency
EPRI	Electric Power Research Institute
FGD	Flue gas desulfurization
GMZ	Groundwater Management Zone
HDPE	High density polyethylene
IAC	Illinois Administrative Code
IEPA	Illinois Environmental Protection Agency
IIHS	Insurance Institute for Highway Safety
ILCS	Illinois Compiled Statutes
MSL	Mean Sea Level
MWG	Midwest Generation, LLC
NHTSA	National Highway Traffic Safety Administration
NLET	Neutral Leaching Extraction Test
NPDES	National Pollutant Discharge Elimination System
PRB	Powder River Basin
RCRA	Resource Conservation and Recovery Act of 1976, as amended
TCE	Trichloroethylene
TDS	Total dissolved solids
USEPA	United States Environmental Protection Agency
VN	Violation Notice
WPCP	Water Pollution Control Permit
WQC	Illinois Water Quality Criteria
WQS	Illinois Water Quality Standard

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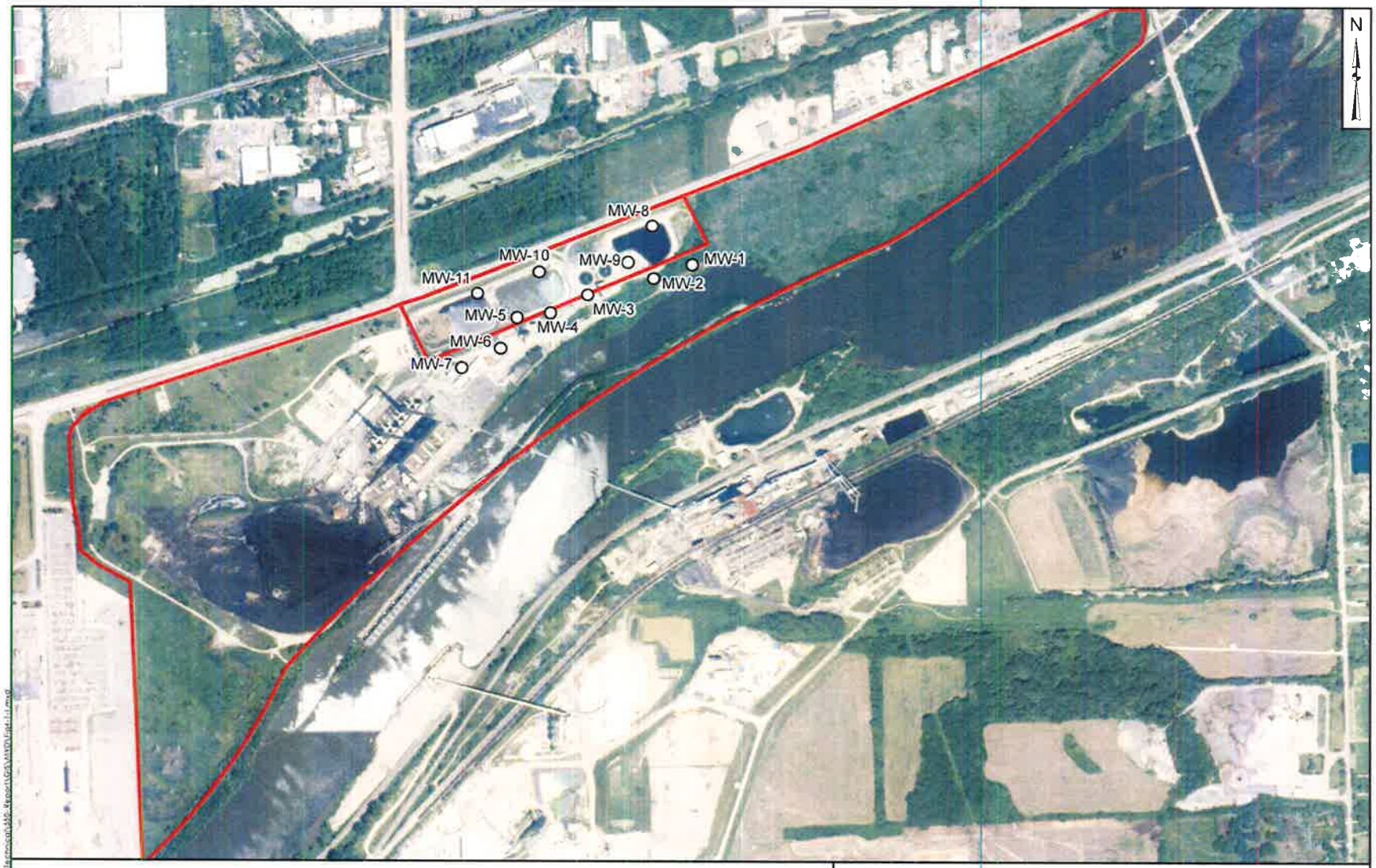
FIGURES



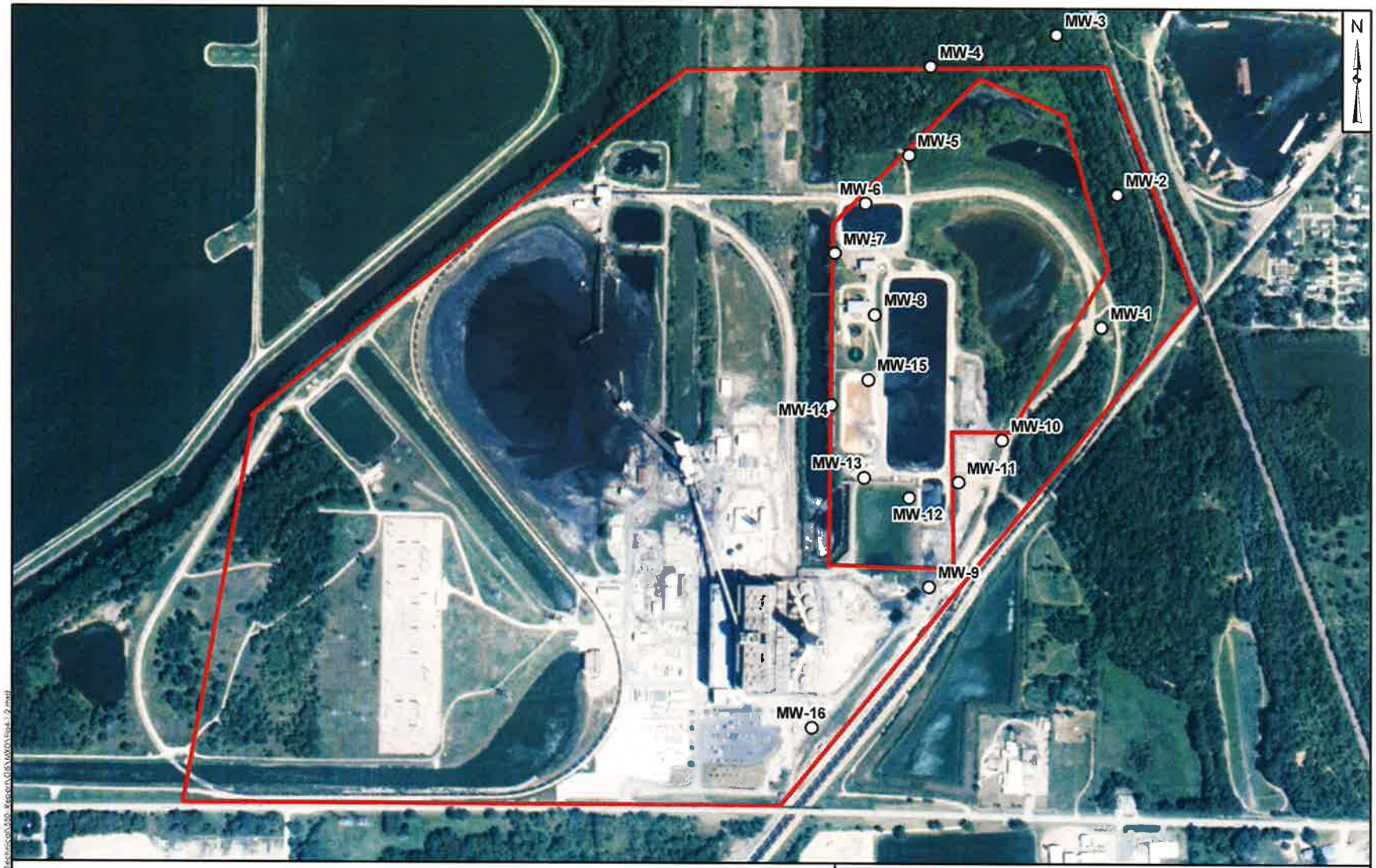
Legend

○ Monitoring Well

Note: Locations are approximate and based on MWG, 2015a.

1,000 500 0 1,000 Feet

Joliet #29 Station Monitoring Wells **Joliet, Illinois**	Geosyntec consultants	Figure **4-1**
October 2015	Chicago	



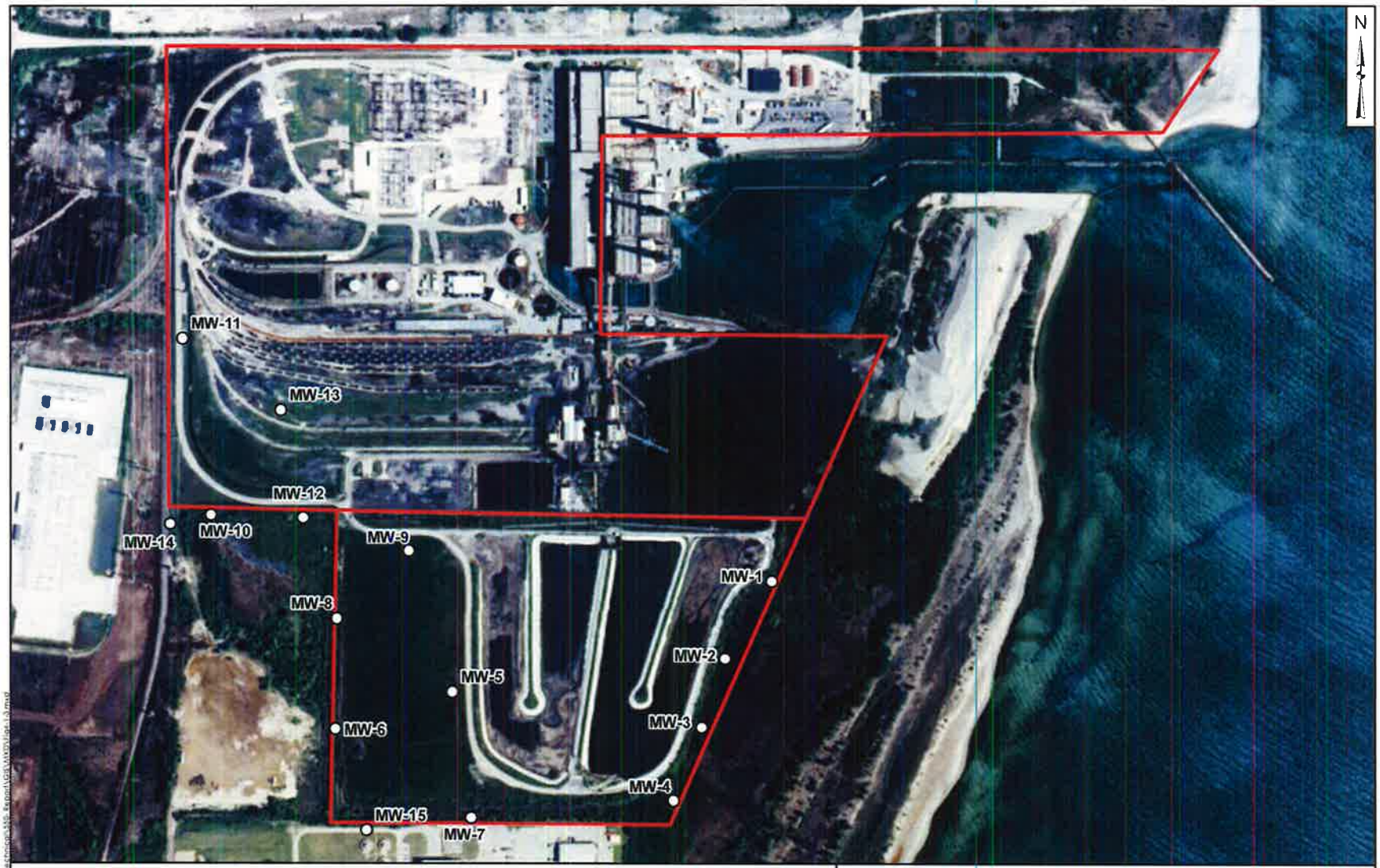
Legend

- Approx. Site Area and Ponds
- Monitoring Well

Note: Locations are approximate and based on MWG, 2015b.

1,000 500 0 1,000 Feet

Powerton Station Monitoring Wells **Pekin, Illinois**	Geosyntec consultants	Figure **4-2**
October 2015	Chicago	



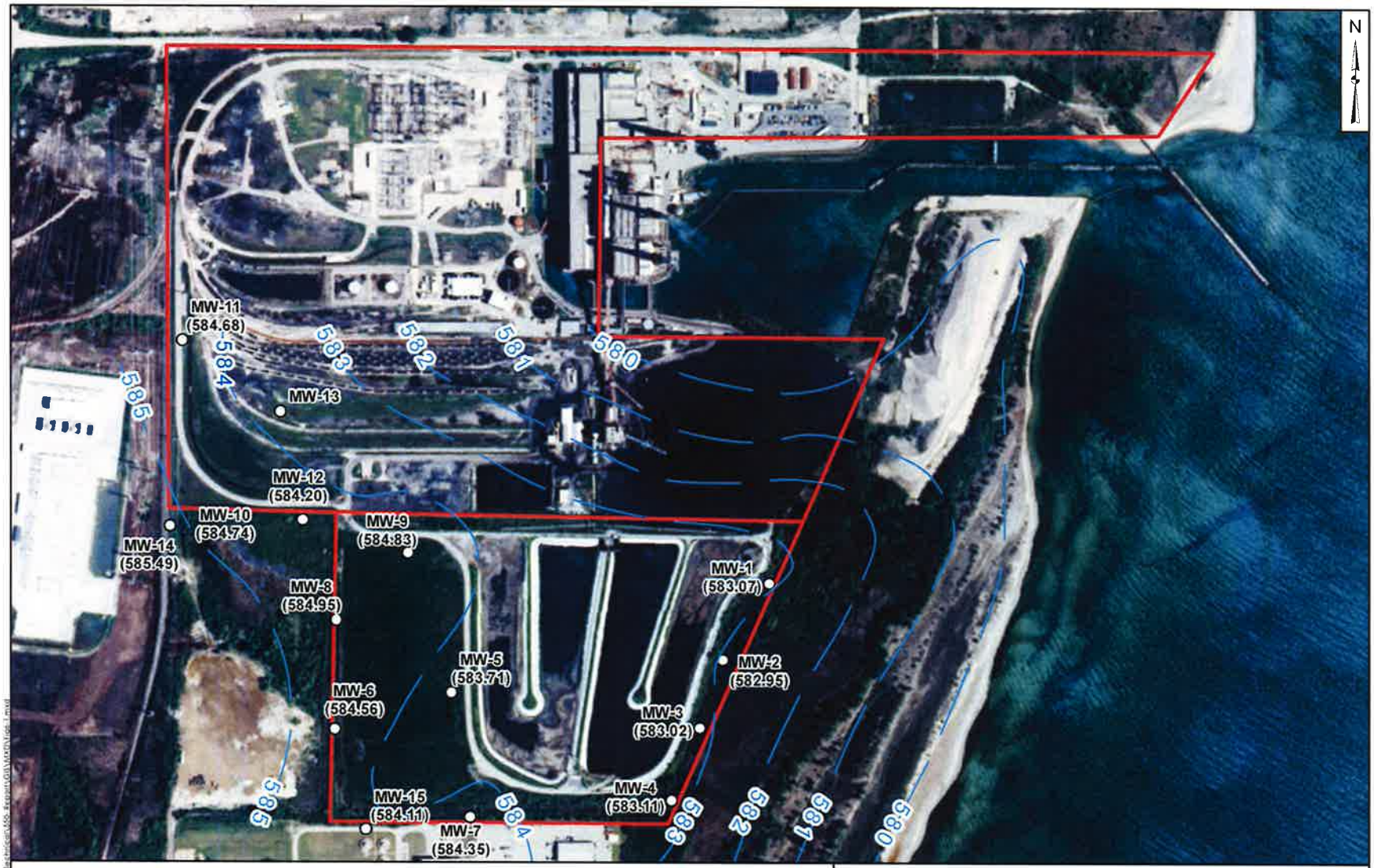
Legend

- O Monitoring Wells
- Approx. Site Area and Ponds

Notes: Locations are approximate and based on MWG, 2015c and MWG13-15_44135.

800 400 0 800 Feet

Waukegan Station Monitoring Wells **Waukegan, Illinois**	Geosyntec consultants	Figure **4-3**
October 2015	Chicago	



Legend

- Monitoring Well (May or June 2014 Groundwater Elevation in Feet Mean Sea Level)
- Approx. Site Area and Ponds
- Approximate Groundwater Elevation Contours for May and June 2014 (feet Mean Sea Level)

Notes: Locations are approximate and based on MWG, 2015c and MWG13-15_44135.

Groundwater elevation contours are based on June 2014 and May 2014 groundwater elevations reported in MWG, 2015c and MWG13-15_44128.

800 400 0 800 Feet

Waukegan Station Groundwater Elevation Contours

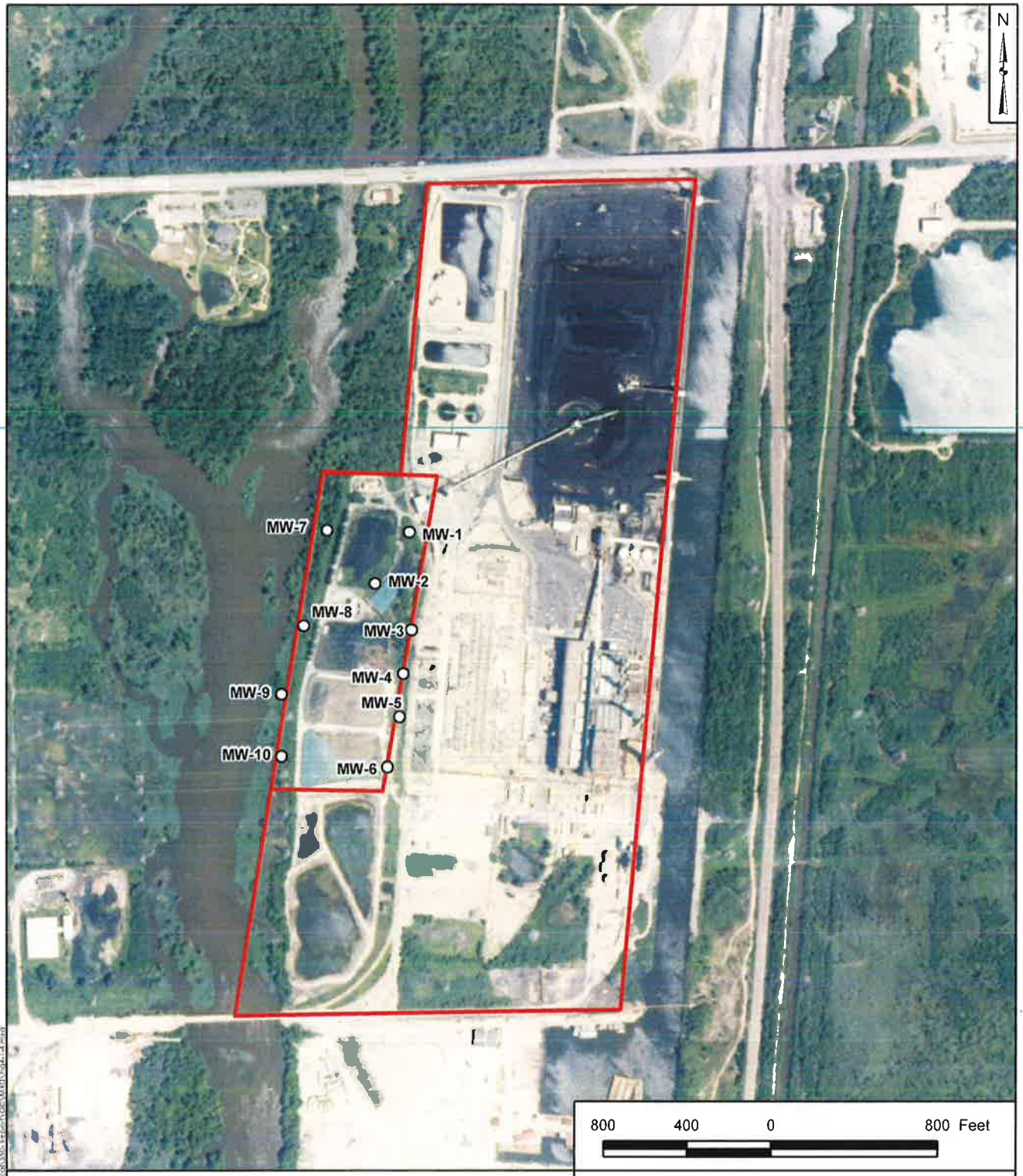
Waukegan, Illinois

October 2015

Geosyntec consultants

Chicago

Figure **4-4**



Legend

- Monitoring Wells
- Approx. Site and Ponds

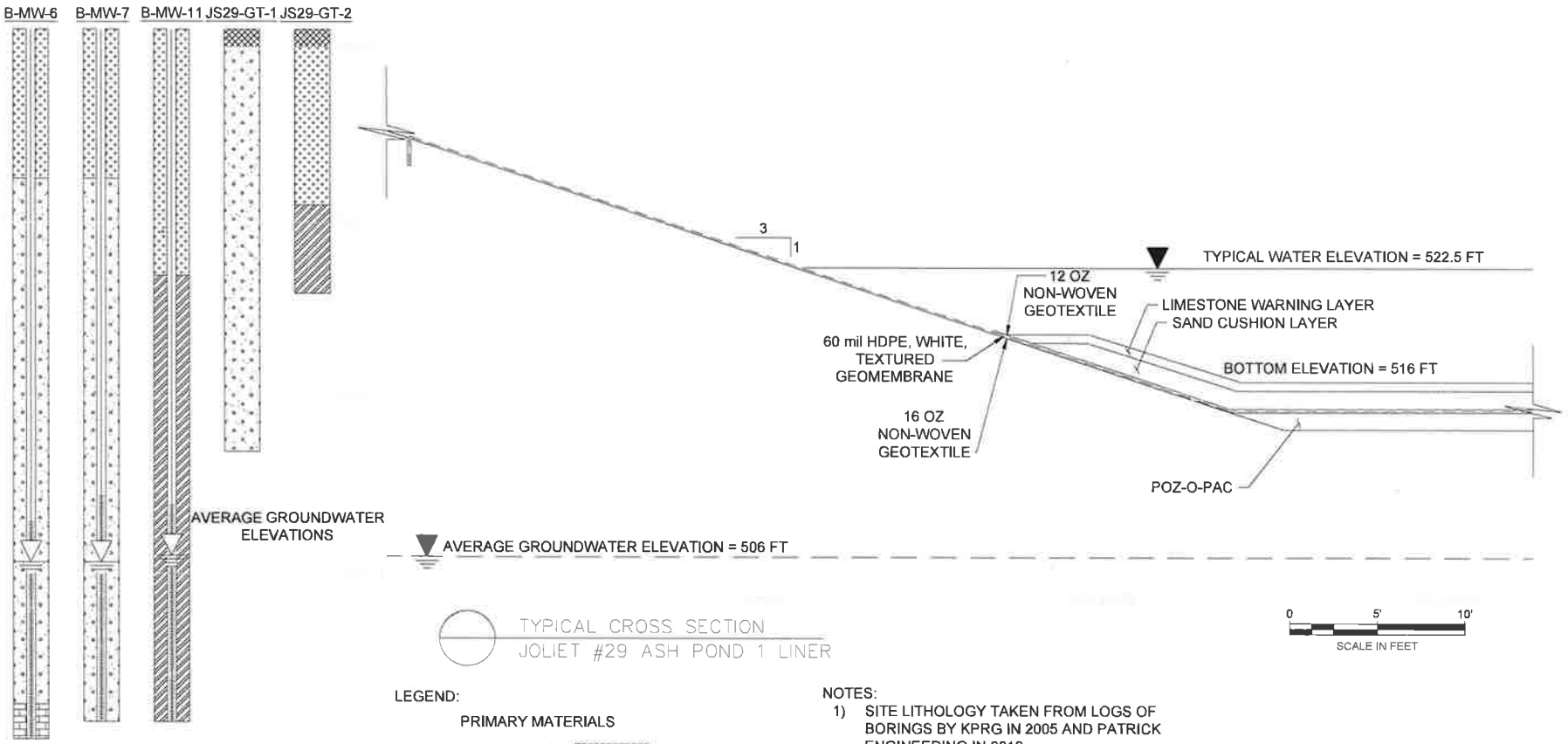
Note: Locations are approximate and based on MWG, 2015d.

Will County Station
Monitoring Wells
Romeoville, Illinois

Geosyntec consultants

Chicago | October 2015

Figure **4-5**



TYPICAL CROSS SECTION
JOLIET #29 ASH POND 1 LINER

0 5' 10'
SCALE IN FEET

NEARBY LITHOLOGY
JOLIET #29 ASH POND 1

LEGEND:

PRIMARY MATERIALS

- FILL W/ ASH
- FILL
- SAND & GRAVEL
- SAND & SILT
- SILT & CLAY
- LIMESTONE BEDROCK

NOTES:

1) SITE LITHOLOGY TAKEN FROM LOGS OF BORINGS BY KPRG IN 2005 AND PATRICK ENGINEERING IN 2010.

2) GROUNDWATER ELEVATIONS BASED ON OBSERVED GROUNDWATER ELEVATIONS AT MONITORING WELLS MW-6, MW-7, AND MW-11 DURING THE PERIOD OF RECORD (SECOND QUARTER 2011 THROUGH FIRST QUARTER 2015).

3) THE MAXIMUM GROUNDWATER ELEVATION WAS 509.3 FT MSL AT MONITORING WELL MW-11 DURING SECOND QUARTER 2011.

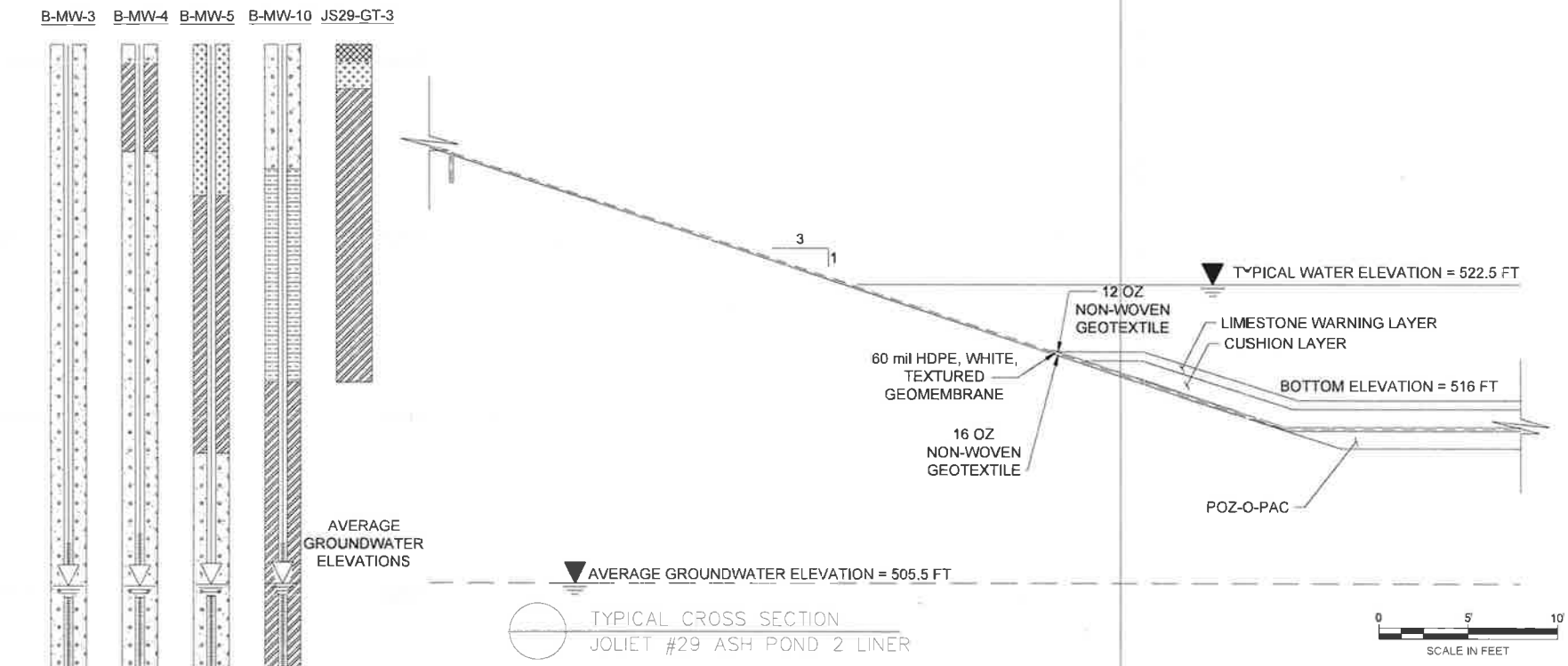
JOLIET #29
TYPICAL CROSS-SECTION OF ASH POND 1
LINER AND NEARBY LITHOLOGY

Geosyntec consultants

FIGURE
5-1

PROJECT NO: CHE8303 | OCTOBER 2015

G:\CWP\CHE8303-MIDWESTGEN-CONFIDENTIAL\500 - TECHNICAL\550- REPORT\CAD\JOLIET ASH POND 1



LEGEND:

PRIMARY MATERIALS

- FILL W/ ASH
- FILL
- SAND & GRAVEL
- SAND & SILT
- SILT & CLAY
- LIMESTONE BEDROCK

NOTES:

1) SITE LITHOLOGY TAKEN FROM LOGS OF BORINGS BY KPRG IN 2005 AND PATRICK ENGINEERING IN 2010.

2) GROUNDWATER ELEVATIONS BASED ON OBSERVED GROUNDWATER ELEVATIONS AT MONITORING WELLS MW-3, MW-4, MW-5, AND MW-10 DURING THE PERIOD OF RECORD (SECOND QUARTER 2011 THROUGH FIRST QUARTER 2015).

3) THE MAXIMUM GROUNDWATER ELEVATION WAS 508.2 FT MSL AT MONITORING WELL MW-10 DURING SECOND QUARTER 2011.

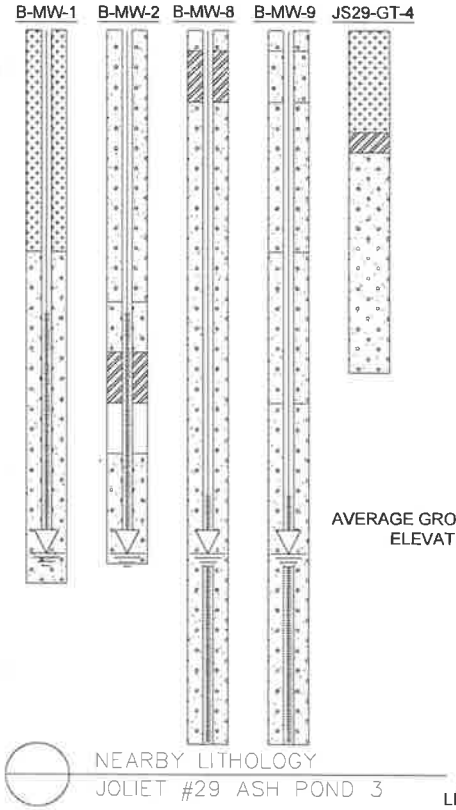
JOLIET #29
TYPICAL CROSS-SECTION ASH POND 2
LINER AND NEARBY LITHOLOGY

Geosyntec consultants

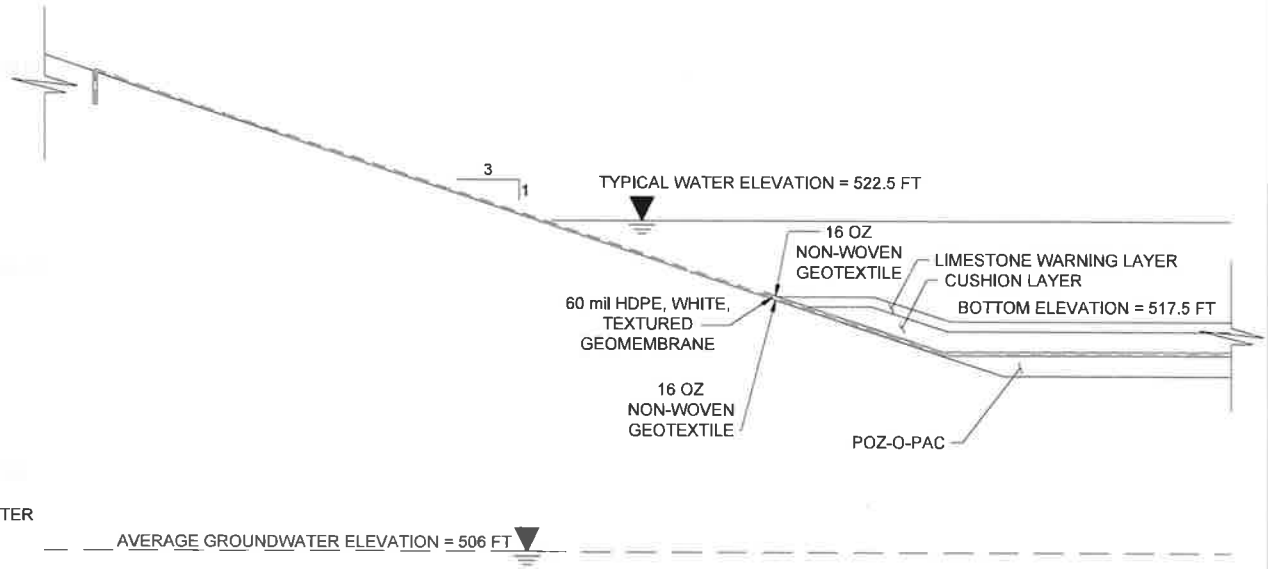
FIGURE 5-2

PROJECT NO: CHE8303 | OCTOBER 2015

G:\CWP\CHE8303 - MIDWESTGEN - CONFIDENTIAL\500 - TECHNICAL\550 - REPORT\CAD\JOLIET ASH POND 2



NEARBY LITHOLOGY
JOLIET #29 ASH POND 3

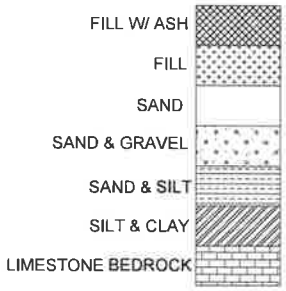


TYPICAL CROSS SECTION
JOLIET #29 ASH POND 3 LINER

0 5' 10'
SCALE IN FEET

LEGEND:

PRIMARY MATERIALS



NOTES:

1) SITE LITHOLOGY TAKEN FROM LOGS OF BORINGS BY KPRG IN 2005 AND PATRICK ENGINEERING IN 2010.

2) GROUNDWATER ELEVATIONS BASED ON OBSERVED GROUNDWATER ELEVATIONS AT MONITORING WELLS MW-1, MW-2, MW-8, AND MW-9 DURING THE PERIOD OF RECORD (SECOND QUARTER 2011 THROUGH FIRST QUARTER 2015).

3) THE MAXIMUM GROUNDWATER ELEVATION WAS 512.3 FT MSL AT MONITORING WELL MW-2 DURING THIRD QUARTER 2012.

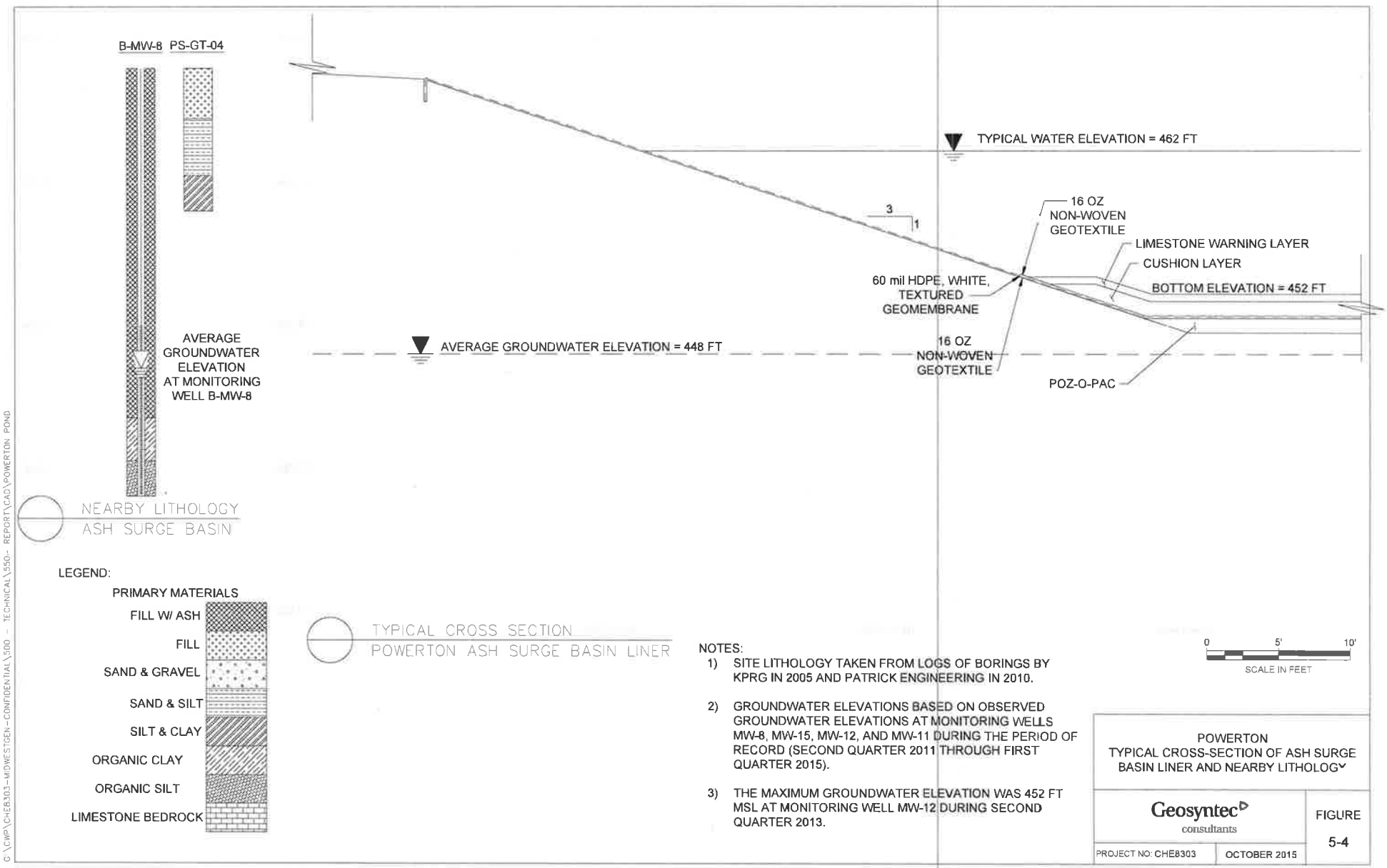
JOLIET #29
TYPICAL CROSS-SECTION OF ASH POND 3
LINER AND NEARBY LITHOLOGY

Geosyntec consultants

FIGURE
5-3

PROJECT NO: CHE8303 | OCTOBER 2015

G:\CWP\CHE8303-MIDWESTGEN-CONFIDENTIAL\500 - TECHNICAL\550- REPORT\CAD\JOLIET ASH POND 3



NOTES:

1) SITE LITHOLOGY TAKEN FROM LOGS OF BORINGS BY KPRG IN 2005 AND PATRICK ENGINEERING IN 2010.

2) GROUNDWATER ELEVATIONS BASED ON OBSERVED GROUNDWATER ELEVATIONS AT MONITORING WELLS MW-8, MW-15, MW-12, AND MW-11 DURING THE PERIOD OF RECORD (SECOND QUARTER 2011 THROUGH FIRST QUARTER 2015).

3) THE MAXIMUM GROUNDWATER ELEVATION WAS 452 FT MSL AT MONITORING WELL MW-12 DURING SECOND QUARTER 2013.

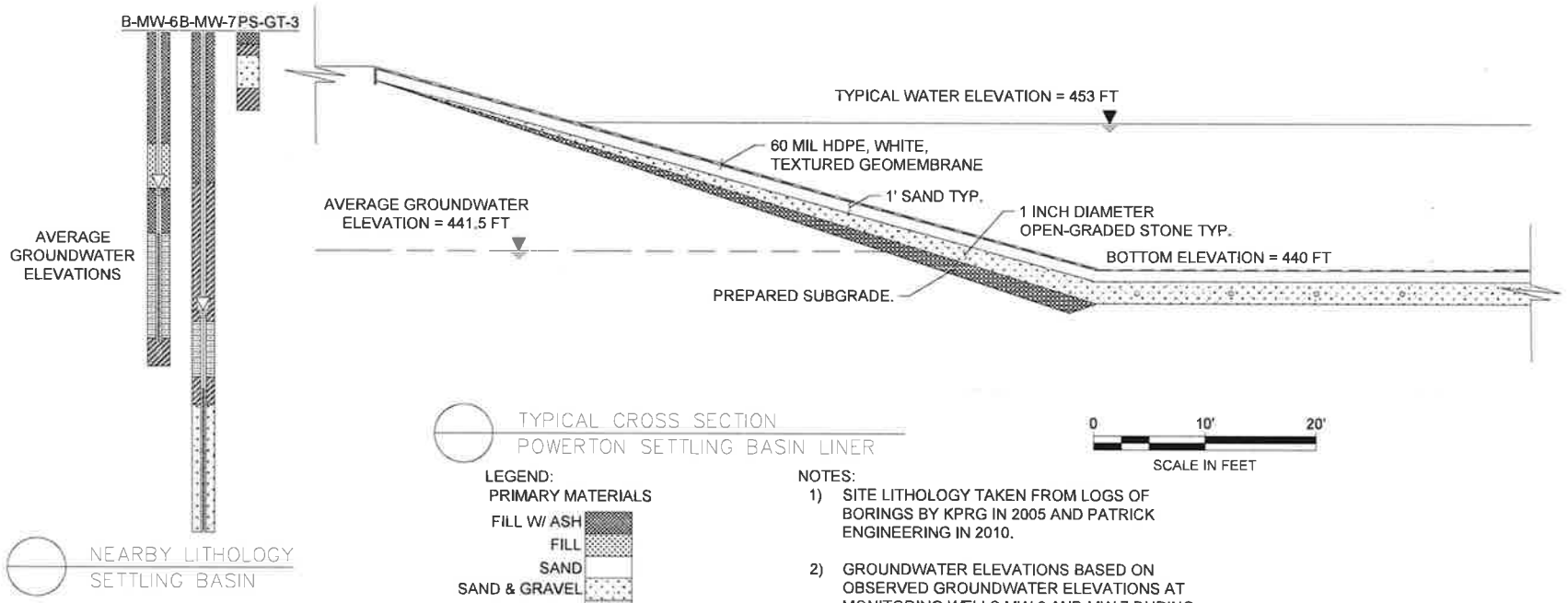
POWERTON
TYPICAL CROSS-SECTION OF ASH SURGE BASIN LINER AND NEARBY LITHOLOGY

Geosyntec consultants

PROJECT NO: CHE8303 | OCTOBER 2015

FIGURE 5-4

G:\CWP\CHE8303-MIDWESTGEN-CONFIDENTIAL\500 - TECHNICAL\550- REPORT\CAD\POWERTON POND



NOTES:

1) SITE LITHOLOGY TAKEN FROM LOGS OF BORINGS BY KPRG IN 2005 AND PATRICK ENGINEERING IN 2010.

2) GROUNDWATER ELEVATIONS BASED ON OBSERVED GROUNDWATER ELEVATIONS AT MONITORING WELLS MW-6 AND MW-7 DURING THE PERIOD OF RECORD (SECOND QUARTER 2011 THROUGH FIRST QUARTER 2015).

3) THE MAXIMUM GROUNDWATER ELEVATION WAS 450 FT MSL AT MONITORING WELL MW-6 DURING FIRST QUARTER 2014.

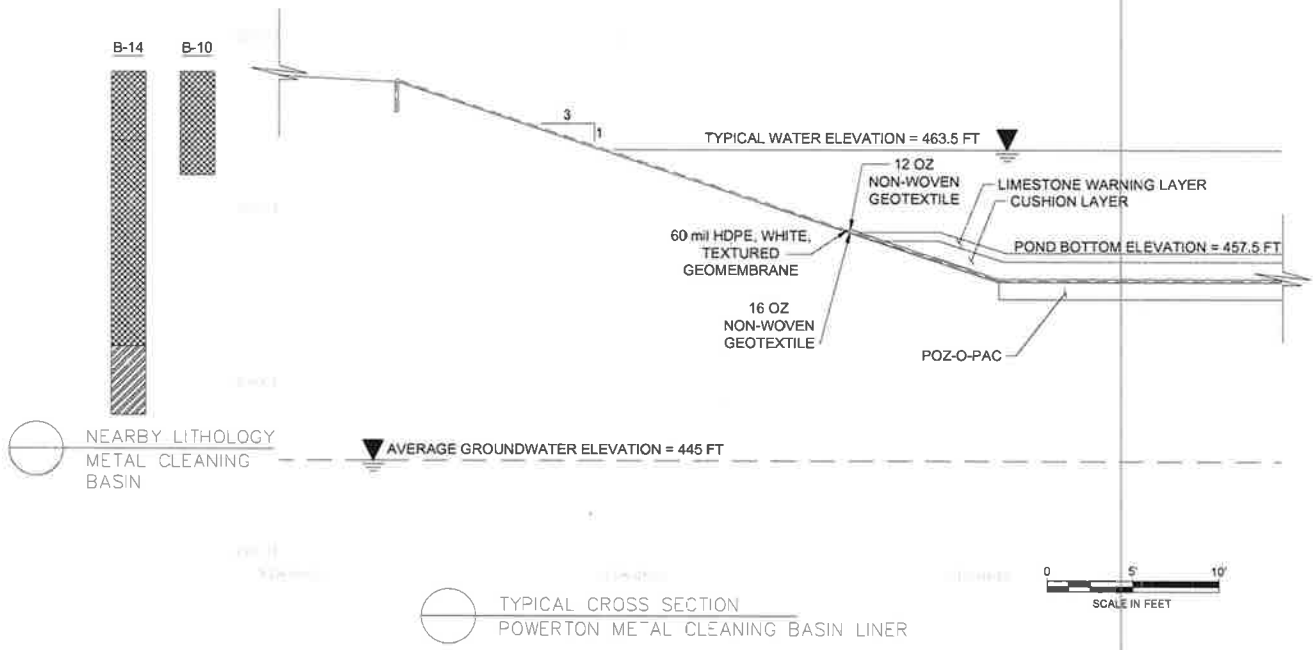
POWERTON
TYPICAL CROSS-SECTION SECONDARY
ASH SETTLING BASIN LINER AND NEARBY
LITHOLOGY

Geosyntec consultants

FIGURE
5-5

PROJECT NO: CHE8303 | OCTOBER 2015

G:\COMP\CHE8303-MIDWESTGEN-CONFIDENTIAL\300 - TECHNICAL\350 - REPORT\CAD\SECONDARY ASH SURGE



TYPICAL CROSS SECTION
POWERTON METAL CLEANING BASIN LINER

NOTES:

1) SITE LITHOLOGY TAKEN FROM LOGS OF BORINGS BY ENSR IN 1998

2) GROUNDWATER ELEVATIONS BASED ON OBSERVED GROUNDWATER ELEVATIONS AT MONITORING WELLS MW13, MW-14, AND MW-15 DURING THE PERIOD OF RECORD (SECOND QUARTER 2011 THROUGH FIRST QUARTER 2015).

3) THE MAXIMUM GROUNDWATER ELEVATION WAS 449.5 FT MSL AT MONITORING WELL MW-15 DURING SECOND QUARTER 2013.

LEGEND:

PRIMARY MATERIALS

- FILL W/ ASH
- FILL
- SAND & GRAVEL
- SAND & SILT
- SILT & CLAY
- ORGANIC CLAY
- ORGANIC SILT
- LIMESTONE BEDROCK

POWERTON
TYPICAL CROSS-SECTION OF METAL CLEANING BASIN LINER AND NEARBY LITHOLOGY

Geosyntec consultants

FIGURE 5-6

PROJECT NO: CHE8303 | OCTOBER 2015

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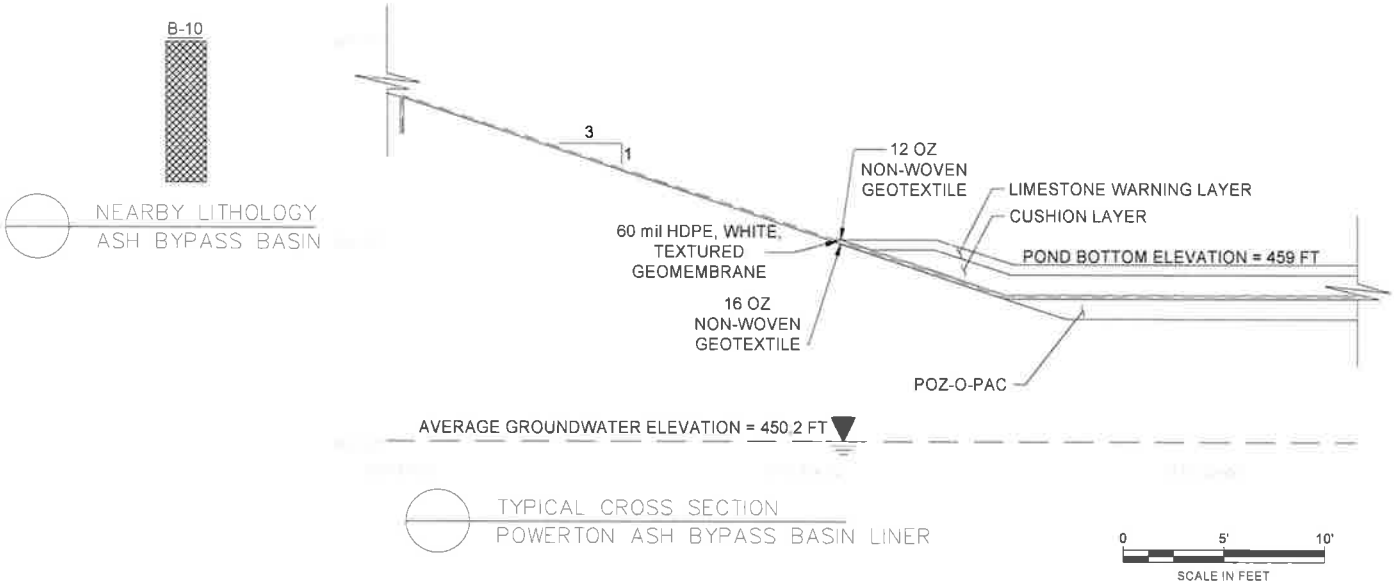
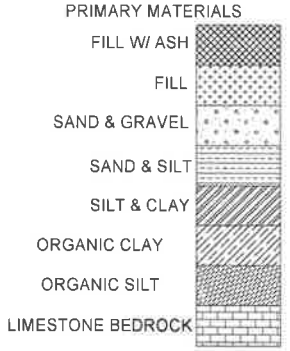


NOTES:

1) SITE LITHOLOGY TAKEN FROM LOGS OF BORINGS BY ENSR IN 1998.
2) GROUNDWATER ELEVATION BASED ON OBSERVED GROUNDWATER ELEVATIONS AT MONITORING WELL MW-12 DURING THE PERIOD OF RECORD (SECOND QUARTER 2011 THROUGH FIRST QUARTER 2015).
3) THE MAXIMUM GROUNDWATER ELEVATION WAS 452 FT MSL AT MONITORING WELL MW-12 DURING SECOND QUARTER 2013.

LEGEND:



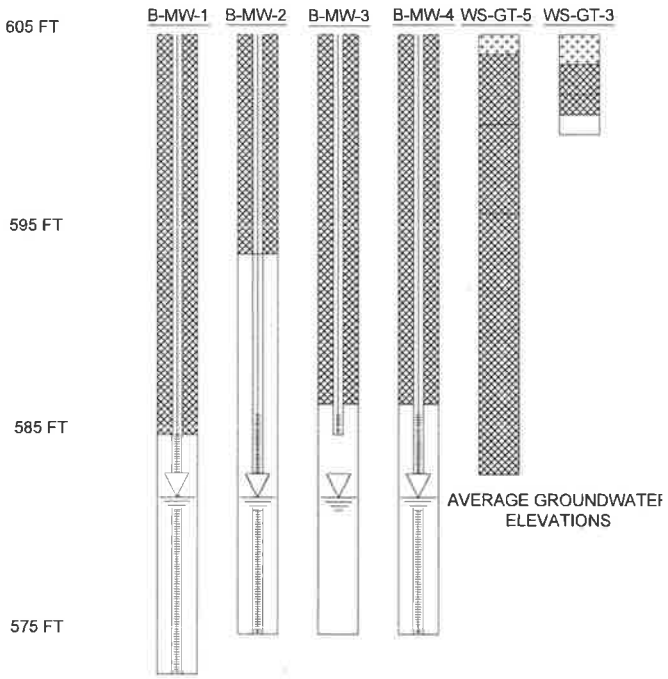
POWERTON
TYPICAL CROSS-SECTION OF ASH BYPASS BASIN LINER AND NEARBY LITHOLOGY

Geosyntec consultants

PROJECT NO. CHE8303 | OCTOBER 2015

FIGURE 5-7

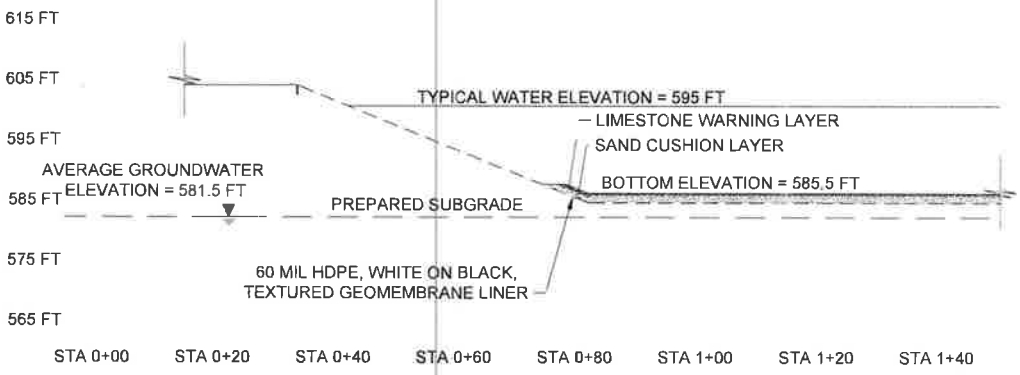
C:\CAP\CHE8303-MIDWESTGEN-CONFIDENTIAL\500 - TECHNICAL\550- REPORT\CAD\ASH BYPASS BASIN



NEARBY LITHOLOGY
WAUKEGAN EAST ASH POND

0 5' 10'

SCALE IN FEET



TYPICAL CROSS SECTION
WAUKEGAN EAST ASH POND LINER

0 20' 40'

SCALE IN FEET

LEGEND:

PRIMARY MATERIALS

- FILL W/ ASH
- FILL
- SAND
- SAND & GRAVEL
- SAND & SILT
- SILT & CLAY
- LIMESTONE BEDROCK

NOTES:

1) SITE LITHOLOGY TAKEN FROM LOGS OF BORINGS BY KPRG IN 2005 AND PATRICK ENGINEERING IN 2010.
2) GROUNDWATER ELEVATIONS BASED ON OBSERVED GROUNDWATER ELEVATIONS AT MONITORING WELLS MW-1, MW-2, MW-3, AND MW-4 DURING THE PERIOD OF RECORD (SECOND QUARTER 2011 THROUGH FIRST QUARTER 2015).
3) THE MAXIMUM GROUNDWATER ELEVATION WAS 583.4 FT MSL AT MONITORING WELL MW-4 DURING SECOND QUARTER 2011.

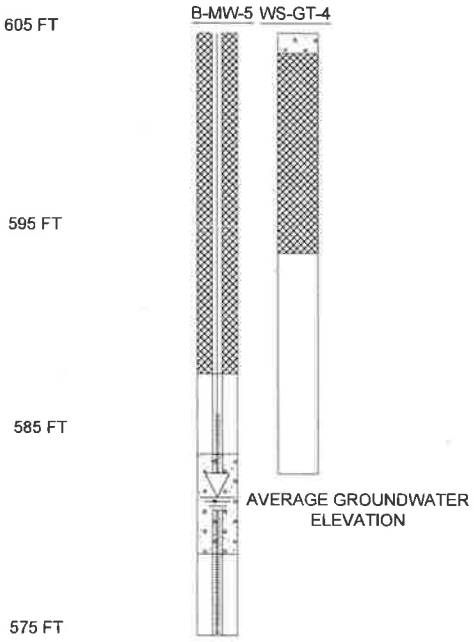
WAUKEGAN
TYPICAL CROSS SECTION OF EAST ASH POND LINER AND NEARBY LITHOLOGY

Geosyntec consultants

FIGURE 5-3

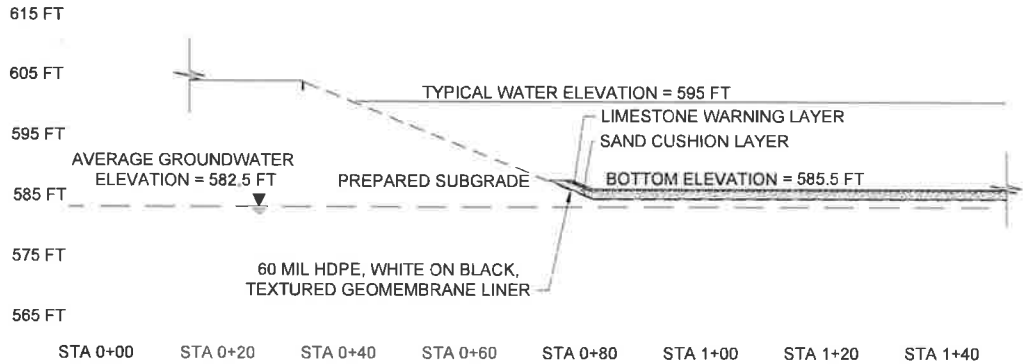
PROJECT NO: CHE8303 | OCTOBER 2015

C:\CWP\CHE8303-MIDWESTGEN-CONFIDENTIAL\500 - TECHNICAL\550- REPORT\CAD\WAUKEGAN EAST



NEARBY LITHOLOGY
WAUKEGAN WEST ASH POND

0 5' 10'
SCALE IN FEET

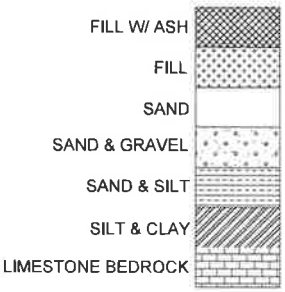


TYPICAL CROSS SECTION
WAUKEGAN WEST ASH POND LINER

0 20' 40'
SCALE IN FEET

LEGEND:

PRIMARY MATERIALS



NOTES:

1) SITE LITHOLOGY TAKEN FROM LOGS OF BORINGS BY KPRG IN 2005 AND PATRICK ENGINEERING IN 2010.

2) GROUNDWATER ELEVATIONS BASED ON OBSERVED GROUNDWATER ELEVATIONS AT MONITORING WELL MW-5 DURING THE PERIOD OF RECORD (SECOND QUARTER 2011 THROUGH FIRST QUARTER 2015).

3) THE MAXIMUM GROUNDWATER ELEVATION WAS 584.5 FT MSL AT MONITORING WELL MW-5 DURING SECOND QUARTER 2011.

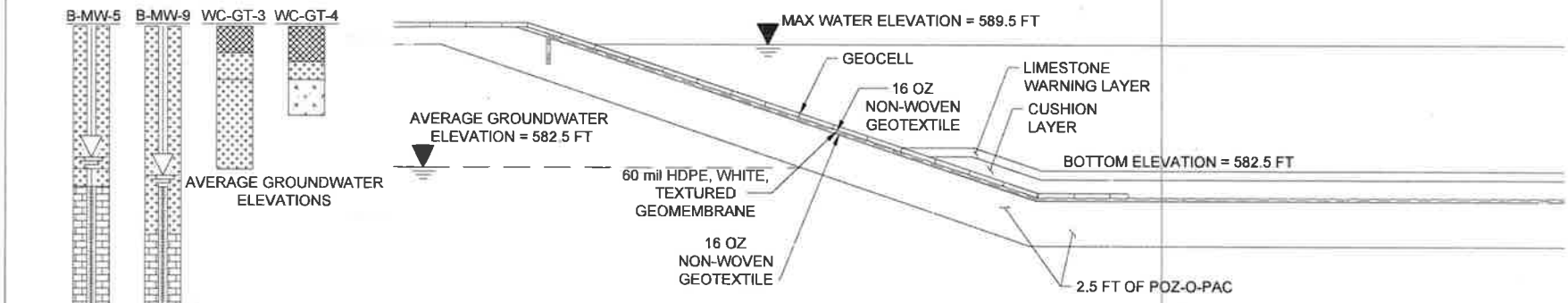
WAUKEGAN
TYPICAL CROSS SECTION OF WEST ASH POND LINER AND NEARBY LITHOLOGY

Geosyntec consultants

FIGURE 5-9

PROJECT NO: CHE8303 | OCTOBER 2015

G:\CAD\CHE8303-MDWESTGEN-CONFIDENTIAL\500 - TECHNICAL\550 - REPORT\CAD\WAUKEGAN WEST



NEARBY LITHOLOGY
WILL COUNTY SOUTH POND 2 LINER

TYPICAL CROSS SECTION
WILL COUNTY SOUTH POND 2 LINER

0 5' 10'
SCALE IN FEET

LEGEND:

PRIMARY MATERIALS



NOTES:

1) SITE LITHOLOGY TAKEN FROM LOGS OF BORINGS BY KPRG IN 2005 AND PATRICK ENGINEERING IN 2010.

2) GROUNDWATER ELEVATIONS BASED ON OBSERVED GROUNDWATER ELEVATIONS AT MONITORING WELLS MW-4, MW-5, AND MW-9 DURING THE PERIOD OF RECORD (SECOND QUARTER 2011 THROUGH FIRST QUARTER 2015).

3) THE MAXIMUM GROUNDWATER ELEVATION WAS 583.5 FT MSL AT MONITORING WELL MW-9 DURING FIRST QUARTER 2012.

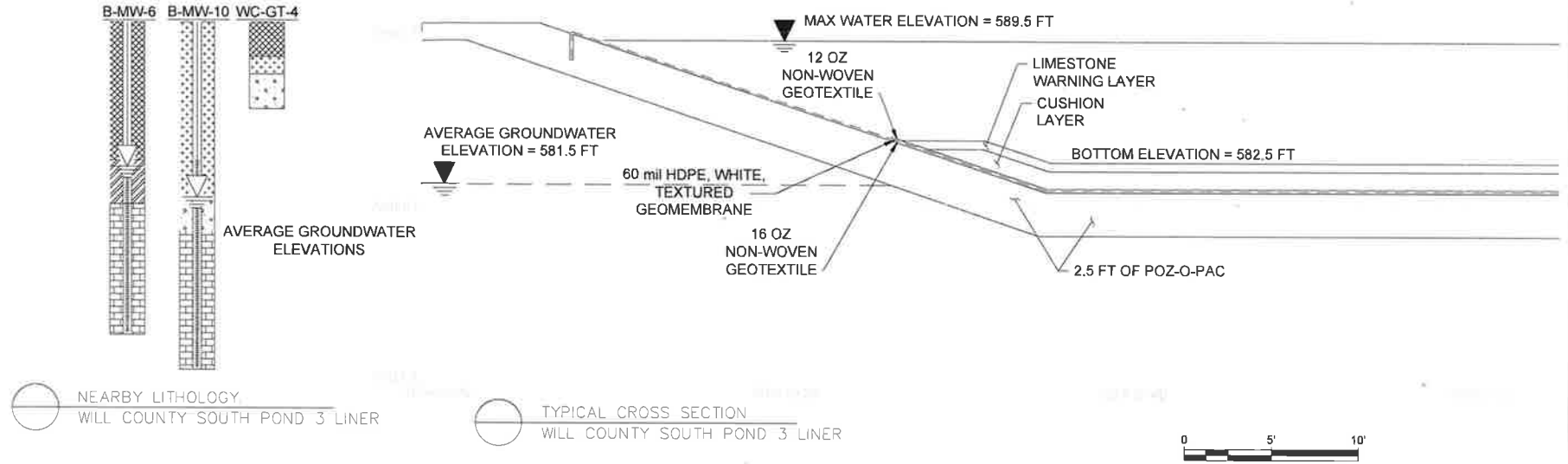
WILL COUNTY
TYPICAL CROSS-SECTION OF SOUTH ASH POND NO. 2 AND NEARBY LITHOLOGY

Geosyntec consultants

FIGURE 5-10

PROJECT NO: CHE8303 | OCTOBER 2015

G:\CWP\CHE8303-MIDWESTGEN-CONFIDENTIAL\500 - TECHNICAL\550 - REPORT\CAD\WILL COUNTY POND 2



LEGEND:

PRIMARY MATERIALS



NOTES:

1) SITE LITHOLOGY TAKEN FROM LOGS OF BORINGS BY KPRG IN 2005 AND PATRICK ENGINEERING IN 2010.

2) GROUNDWATER ELEVATIONS BASED ON OBSERVED GROUNDWATER ELEVATIONS AT MONITORING WELLS MW-6 AND MW-10 DURING THE PERIOD OF RECORD (SECOND QUARTER 2011 THROUGH FIRST QUARTER 2015).

3) THE MAXIMUM GROUNDWATER ELEVATION WAS 582.5 FT MSL AT MONITORING WELL MW-6 DURING SECOND QUARTER 2011.

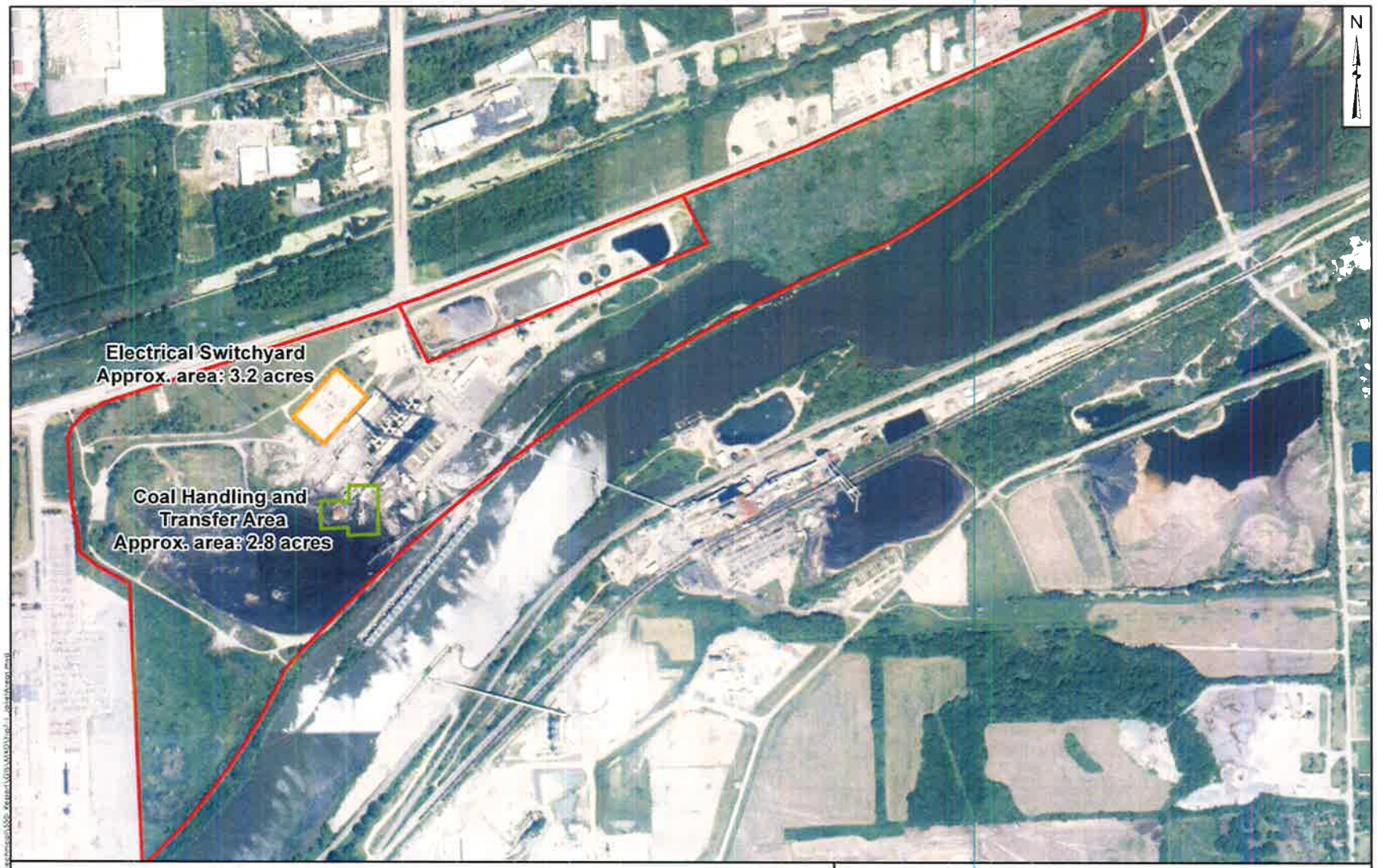
WILL COUNTY
TYPICAL CROSS-SECTION OF SOUTH ASH POND NO. 3 AND NEARBY LITHOLOGY

Geosyntec consultants

FIGURE 5-11

PROJECT NO: CHE8303 | OCTOBER 2015

G:\CWP\CHE8303-MIDWESTGEN-CONFIDENTIAL\500 - TECHNICAL\550- REPORT\CAD\WILL COUNTY POND 3



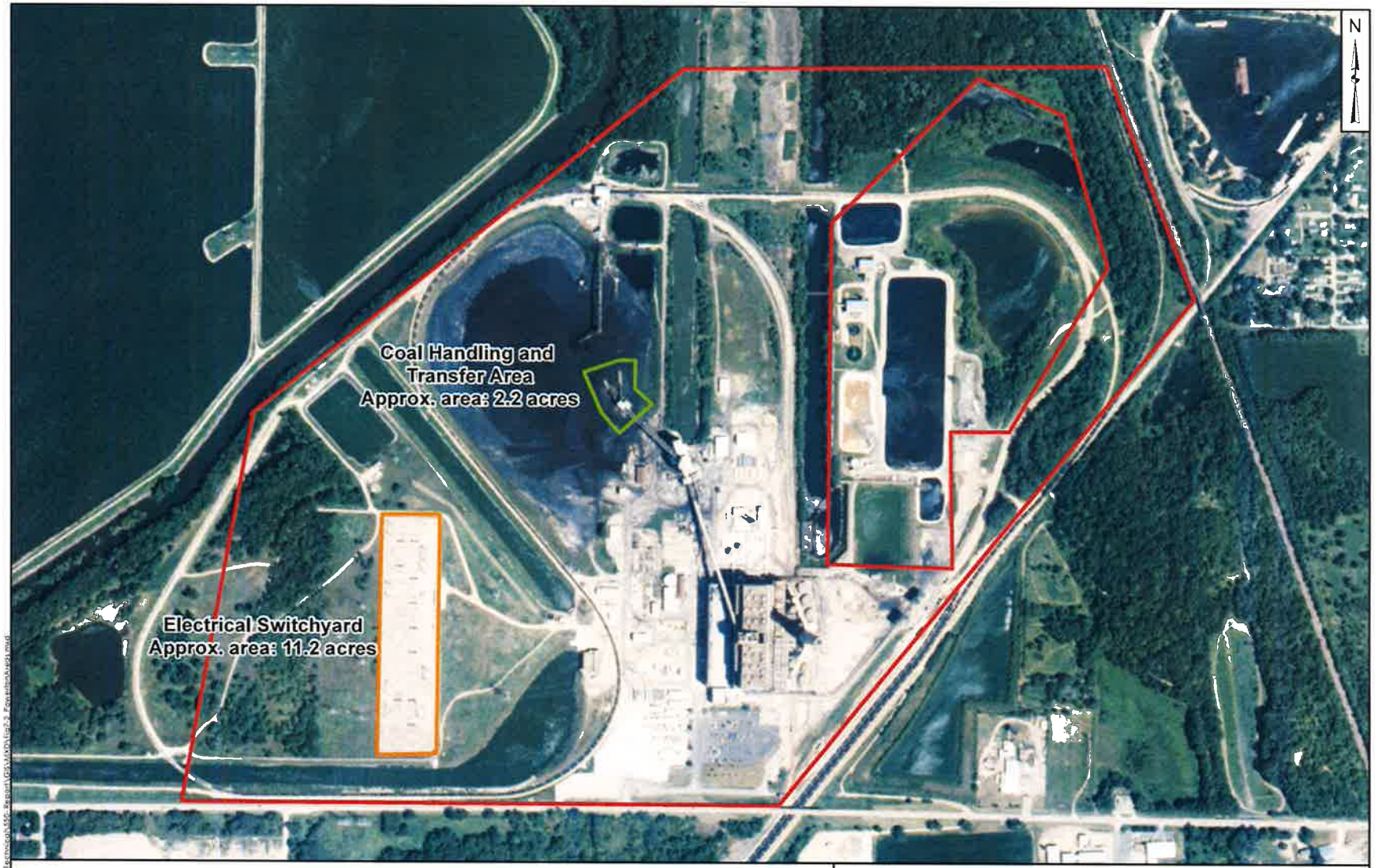
Legend

- Coal Handling and Transfer Area
- Electrical Switchyard
- Approx. Site Area and Ponds

Note: Locations are approximate and based on aerial photographs.

1,000 500 0 1,000 Feet

Joliet #29 Station Equipment Areas **Joliet, Illinois**	Geosyntec consultants	Figure **7-1**
October 2015	Chicago	



Legend

- Coal Handling and Transfer Area
- Electrical Switchyard
- Approx. Site Area and Ponds

Note: Locations are approximate and based on aerial photographs.

1,000 500 0 1,000 Feet

Powerton Station Equipment Areas **Pekin, Illinois**	Geosyntec consultants	Figure **7-2**
October 2015	Chicago	



Legend

- Coal Handling and Transfer Area
- Electrical Switchyard
- Approx. Site Area and Ponds

Note: Locations are approximate and based on aerial photographs.

800 400 0 800 Feet

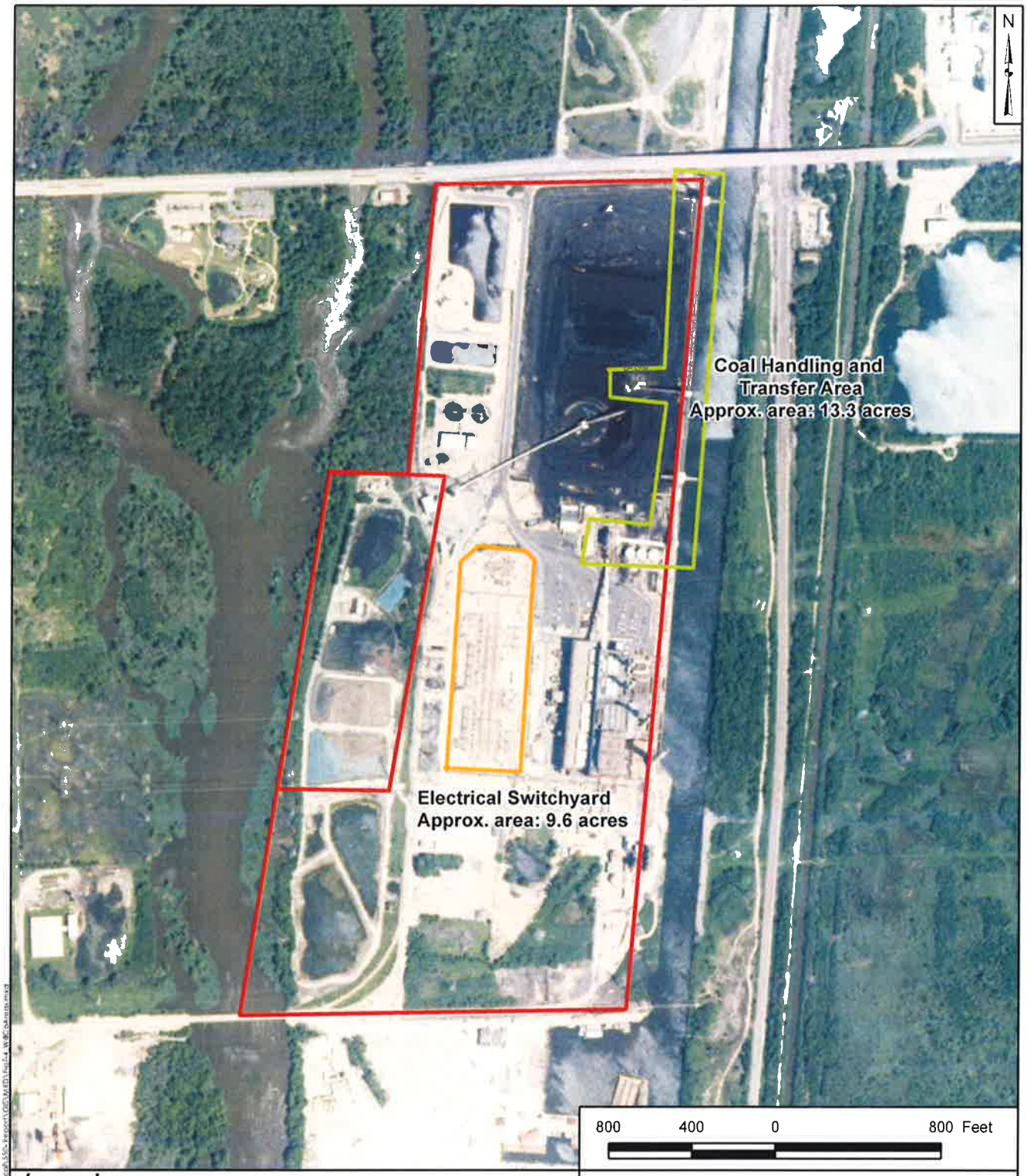
Waukegan Station Equipment Areas
Waukegan, Illinois

October 2015

Geosyntec consultants

Chicago

Figure
7-3



Legend

- Coal Handling and Transfer Area
- Electrical Switchyard
- Approx. Site and Ponds

Note: Locations are approximate and based on aerial photographs.

Will County Station
Equipment Areas

Romeoville, Illinois

Geosyntec consultants

Chicago | October 2015

Figure **7-4**

J.SEYMOUR EXPERT REPORT

TABLES

Table 4-1
Groundwater Elevations at Joliet No. 29 Generating Station

Date	Groundwater Elevations [1] (feet above MSL)											Statistics (feet above MSL)			
	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	Site-Wide Average	Minimum	Maximum	Range
6/14/2011	507.69	507.62	507.97	507.93	507.87	507.83	507.83	507.91	507.88	508.19	509.29	508.00	507.62	509.29	1.67
9/14/2011	505.21	505.13	505.17	505.15	505.05	505.19	505.21	505.25	505.22	505.23	505.49	505.21	505.05	505.49	0.44
12/7/2011	505.39	505.36	505.38	505.34	505.23	505.36	505.37	505.49	505.46	505.43	505.77	505.42	505.23	505.77	0.54
3/15/2012	505.47	505.43	505.45	505.43	505.32	505.45	505.46	505.57	505.53	505.51	505.80	505.49	505.32	505.80	0.48
6/19/2012	505.23	505.18	505.23	505.21	505.11	505.26	505.28	505.32	505.29	505.28	505.51	505.26	505.11	505.51	0.40
9/19/2012	510.52	512.33	505.12	505.11	505.06	505.26	505.26	505.22	505.66	505.16	505.35	506.37	505.06	512.33	7.27
12/20/2012	505.42	505.33	505.25	505.25	505.22	505.25	505.24	505.40	505.36	505.30	505.44	505.31	505.22	505.44	0.22
3/5/2013	505.30	505.31	505.38	505.39	505.24	505.37	505.40	505.45	505.50	505.41	505.66	505.40	505.24	505.66	0.42
5/23/2013	505.81	505.82	505.87	503.94	506.03	506.06	506.17	505.91	505.91	505.99	506.46	505.82	503.94	506.46	2.52
7/22/2013	504.94	505.10	505.16	505.13	505.09	505.28	505.27	505.17	505.22	505.28	505.44	505.19	504.94	505.44	0.50
10/15/2013	504.93	505.05	505.04	505.07	504.99	505.12	505.13	505.13	505.10	505.10	505.32	505.09	504.93	505.32	0.39
2/21/2014	NM	505.99	505.29	505.99	505.97	506.10	506.16	505.94	505.30	505.35	506.19	505.83	505.29	506.19	0.90
5/1/2014	505.73	505.73	505.70	505.71	505.56	505.71	505.71	505.84	505.82	505.80	506.20	505.77	505.56	506.20	0.64
8/18/2014	506.75	506.05	506.26	506.28	506.10	506.22	506.27	506.19	506.18	506.41	507.14	506.35	506.05	507.14	1.09
10/23/2014	505.80	505.79	505.82	505.86	505.65	505.75	505.79	505.78	505.82	505.89	506.28	505.84	505.65	506.28	0.63
2/10/2015	NM	505.17	505.19	505.19	505.12	505.23	505.24	505.18	505.22	505.27	505.49	505.23	505.12	505.49	0.37

Abbreviations:
"MSL" = mean sea level
"NM" = not measured

Notes:
1. Groundwater elevations were reported in the First Quarter 2015 groundwater monitoring reports submitted by MWG to IEPA (MWG, 2015a).

Table 4-2
Summary of Joliet #29 Constituents of Interest

Constituent of Interest
Antimony
Boron
Chloride
Iron
Manganese
pH
Sulfate
TDS

Note:

1. Constituents of Interest are based on concentrations reported in the First Quarter 2015 groundwater monitoring reports submitted by MWG to IEPA (MWG, 2015a).

Table 4-3
Groundwater Elevations at Powerton Generating Station

Date	Groundwater Elevations [1] (feet above MSL)																Statistics (feet above MSL)			
	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	Site-Wide Average	Minimum	Maximum	Range
9/19/2011	439.95	433.27	432.73	431.63	432.77	445.71	433.40	446.76	443.64	439.99	440.49	449.88	446.06	448.13	448.29	NA	440.85	431.63	449.88	18.25
12/12/2011	439.78	434.78	433.88	433.28	434.13	446.30	434.64	446.85	443.08	440.01	440.51	450.03	447.39	448.28	449.16	NA	441.47	433.28	450.03	16.75
3/19/2012	442.40	437.48	436.94	434.93	435.71	446.17	436.04	447.66	443.78	442.03	441.63	451.18	437.72	448.11	447.82	NA	441.97	434.93	451.18	16.25
4/4/2012	441.39	436.92	435.67	434.15	434.93	445.81	435.10	447.27	443.49	441.06	441.03	450.83	436.84	445.28	446.73	NA	441.10	434.15	450.83	16.68
6/25/2012	437.84	433.69	432.86	432.38	433.23	445.99	433.77	447.06	442.55	438.39	439.54	450.38	437.79	443.71	446.78	NA	439.73	432.38	450.38	18.00
9/18/2012	435.37	431.30	430.71	430.34	430.99	445.63	431.39	446.70	440.29	436.06	437.31	449.95	437.73	446.80	447.49	NA	438.54	430.34	449.95	19.61
12/12/2012	435.06	431.12	429.94	430.28	430.98	447.37	431.38	447.23	439.77	435.79	437.09	449.18	437.40	444.89	446.71	441.16	438.46	429.94	449.18	19.24
2/27/2013	439.56	436.02	436.39	434.36	434.93	448.45	435.30	448.53	441.69	439.50	439.79	451.07	437.99	447.29	448.48	442.56	441.37	434.36	451.07	16.71
5/29/2013	446.35	444.38	444.87	443.93	444.11	443.12	449.93	447.82	449.35	446.90	447.35	451.84	445.45	448.37	449.36	449.74	447.05	443.12	451.84	8.72
7/29/2013	441.71	434.84	434.87	432.86	433.63	449.46	433.88	448.53	444.99	441.21	441.49	449.45	437.59	447.59	448.70	446.17	441.69	432.86	449.46	16.60
10/21/2013	435.98	431.64	430.91	430.60	431.41	448.12	432.19	447.12	441.05	436.73	437.95	447.83	437.56	444.92	447.70	442.54	439.02	430.60	448.12	17.52
3/6/2014	442.20	442.74	442.23	442.09	442.36	449.65	442.61	447.89	444.36	442.64	443.65	451.45	443.96	446.32	447.52	444.36	444.75	442.09	451.45	9.36
5/27/2014	442.00	440.91	440.70	439.49	439.99	447.32	439.81	446.86	444.82	442.23	443.02	450.22	442.19	446.55	447.14	445.54	443.67	439.49	450.22	10.73
8/28/2014	439.33	436.20	434.72	435.10	436.01	447.00	438.63	446.35	443.42	440.07	441.27	449.49	440.82	445.81	446.52	443.83	441.54	434.72	449.49	14.77
10/29/2014	441.92	439.27	439.45	436.01	436.33	446.49	435.75	446.16	444.08	441.45	441.37	449.21	438.47	445.55	446.22	444.76	442.03	435.75	449.21	13.46
2/23/2015	441.45	435.54	436.26	432.09	432.97	447.80	433.66	446.67	443.11	440.88	440.57	451.43	437.57	441.69	446.41	443.74	440.74	432.09	451.43	19.34

Abbreviations:
"MSL" = mean sea level
"NA" = not available because monitoring event is before the well construction

Notes:
1. Groundwater elevations were reported in the First Quarter 2015 groundwater monitoring reports submitted by MWG to IEPA (MWG, 2015b).

Table 4-4
Summary of Powerton Constituents of Interest

Constituent of Interest
Arsenic
Boron
Chloride
Iron
Lead
manganese
Nitrogen/Nitrate
pH
Selenium
Sulfate
TDS
Thallium

Note:

1. Constituents of Interest are based on concentrations reported in the First Quarter 2015 groundwater monitoring reports submitted by MWG to IEPA (MWG, 2015b).

Table 4-5
Groundwater Elevations at Waukegan Generating Station

Date	Groundwater Elevations [1] (feet above MSL)							Statistics (feet above MSL)			
	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	Site-Wide Average	Minimum	Maximum	Range
6/13/2011	583.34	583.31	583.34	583.35	584.55	NA	NA	583.58	583.31	584.55	1.24
9/13/2011	581.14	581.19	581.18	581.19	582.66	NA	NA	581.47	581.14	582.66	1.52
12/6/2011	581.15	581.22	581.22	581.23	582.82	NA	NA	581.53	581.15	582.82	1.67
3/14/2012	581.18	581.23	581.22	581.20	582.98	NA	NA	581.56	581.18	582.98	1.80
6/18/2012	580.86	580.89	580.92	580.88	582.22	NA	NA	581.15	580.86	582.22	1.36
9/28/2012	579.65	579.73	579.68	579.55	581.13	NA	NA	579.95	579.55	581.13	1.58
12/19/2012	579.42	579.27	579.45	579.34	580.65	580.89	579.57	579.80	579.27	580.89	1.62
3/7/2013	580.35	580.50	580.49	580.36	582.18	582.63	580.83	581.05	580.35	582.63	2.28
6/6/2013	582.38	582.34	582.38	582.38	583.44	583.58	582.61	582.73	582.34	583.58	1.24
7/25/2013	581.40	581.34	581.41	581.33	582.60	582.71	581.28	581.72	581.28	582.71	1.43
11/4/2013	581.32	581.23	581.29	581.13	582.03	582.71	580.80	581.50	580.80	582.71	1.91
3/10/2014	581.94	581.84	581.88	581.87	582.88	583.83	582.04	582.33	581.84	583.83	1.99
5/16/2014	583.07	582.95	583.02	583.11	583.71	584.56	584.35	583.54	582.95	584.56	1.61
8/21/2014	581.81	581.76	581.87	581.69	582.36	582.70	581.13	581.90	581.13	582.70	1.57
11/6/2014	582.01	581.91	581.97	581.86	582.54	582.92	581.39	582.09	581.39	582.92	1.53
2/17/2015	582.42	582.21	582.22	582.14	582.38	583.39	581.14	582.27	581.14	583.39	2.25

Abbreviations:
"MSL" = mean sea level
"NA" = not available because monitoring event is before the well construction

Notes:
1. Groundwater elevations were reported in the First Quarter 2015 groundwater monitoring reports submitted by MWG to IEPA (MWG, 2015c).

Table 4-6
Summary of Waukegan Constituents of Interest

Constituent of Interest
Antimony
Arsenic
Boron
Chloride
Iron
Manganese
pH
Selenium
Sulfate
TDS
Vanadium

Note:

1. Constituents of Interest are based on concentrations reported in the First Quarter 2015 groundwater monitoring reports submitted by MWG to IEPA (MWG, 2015c).

Table 4-7
Groundwater Elevations at Will County Generating Station

Date	Groundwater Elevations [1] (feet above MSL)										Statistics (feet above MSL)			
	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	Site-Wide Average	Minimum	Maximum	Range
6/15/2011	583.67	583.87	583.76	583.49	583.47	582.52	582.96	582.24	582.81	580.90	582.97	580.90	583.87	2.97
9/15/2011	583.25	583.29	582.85	581.47	582.47	581.95	582.41	581.28	581.28	580.04	582.03	580.04	583.29	3.25
12/8/2011	583.44	583.56	583.36	582.07	583.17	582.16	582.82	582.38	583.36	580.59	582.69	580.59	583.56	2.97
3/26/2012	583.41	583.54	583.45	582.08	583.14	582.10	582.76	582.41	583.52	580.73	582.71	580.73	583.54	2.81
6/20/2012	583.20	583.31	582.95	581.60	582.60	581.76	582.24	581.54	581.51	579.70	582.04	579.70	583.31	3.61
6/24/2012	583.25	583.34	582.93	581.45	582.37	581.71	582.59	581.36	580.88	579.69	581.96	579.69	583.34	3.65
12/18/2012	583.27	583.39	583.10	581.71	582.79	581.75	582.67	582.22	583.10	579.92	582.39	579.92	583.39	3.47
3/6/2013	583.47	583.60	583.42	582.07	583.16	582.10	582.76	582.04	583.13	580.74	582.65	580.74	583.60	2.86
6/3/2013	583.37	583.35	583.53	582.00	583.22	582.24	582.46	582.06	582.46	580.43	582.51	580.43	583.53	3.10
8/14/2013	582.18	581.97	581.79	581.89	581.70	581.29	581.04	580.95	580.56	579.13	581.25	579.13	582.18	3.05
10/29/2013	581.87	581.76	581.86	582.07	582.16	581.21	580.99	581.05	581.87	579.37	581.42	579.37	582.16	2.79
2/20/2014	582.59	582.64	582.66	582.15	582.31	581.20	581.80	581.62	581.23	580.32	581.85	580.32	582.66	2.34
5/20/2014	583.31	583.22	583.37	583.14	583.09	582.02	582.29	581.69	582.76	580.79	582.57	580.79	583.37	2.58
8/13/2014	583.33	583.25	583.35	583.32	583.26	582.45	581.97	581.53	582.02	580.57	582.51	580.57	583.35	2.78
10/21/2014	583.21	583.11	583.30	583.04	583.01	581.77	582.20	581.51	581.40	580.50	582.31	580.50	583.30	2.80
2/4/2015	583.12	582.89	583.17	582.93	582.96	581.66	581.79	581.25	581.97	580.12	582.19	580.12	583.17	3.05

Abbreviations:
"MSL" = mean sea level

Notes:
1. Groundwater elevations were reported in the First Quarter 2015 groundwater monitoring reports submitted by MWG to IEPA (MWG, 2015d).

Table 4-8
Summary of Will County Constituents of Interest

Constituent of Interest
Antimony
Arsenic
Boron
Chloride
Manganese
pH
Selenium
Sulfate
TDS

Note:

1. Constituents of Interest are based on concentrations reported in the First Quarter 2015 groundwater monitoring reports submitted by MWG to IEPA (MWG, 2015d).

Table 5-1
Summary of Neutral Leachate Extraction Test (NLET) Analyses of Bottom Ash at MWG Generating Stations

	Analytical Results for Leachate Analyses Performed on Settled Coal Combustion Residuals as Reported in MWG Documents			
Generating Station:	**Powerton**	**Waukegan**		**Will County**
Sample Date:	March 2007	July 2004	July 2004	December 2010
Sample ID:	Powerton Bottom Ash	Bottom Ash-1	Bottom Ash-2	3 South Bottom Ash
Methods 6010B/6020/7041A/7470A/7841 (mg/L)				
Antimony	<0.0060	<0.0060	<0.0060	<0.0060
Arsenic	<0.050	<0.050	<0.050	<0.050
Barium	0.27	0.19	0.12	<0.50
Beryllium	<0.0040	<0.004	<0.004	<0.0040
Boron	<0.10	1.1	2	1.3
Cadmium	<0.0050	<0.005	<0.005	<0.0050
Chromium	<0.025	<0.050	<0.050	<0.025
Cobalt	<0.025	<0.050	<0.050	<0.025
Copper	<0.025	<0.050	<0.050	<0.025
Iron	<0.10	<0.10	<0.10	<0.10
Lead	<0.0075	<0.0075	<0.0075	<0.0075
Manganese	<0.025	<0.050	<0.050	<0.025
Mercury	<0.0020	<0.0020	<0.0020	<0.0020
Nickel	<0.025	<0.050	<0.050	<0.050
Selenium	<0.050	NA	NA	<0.050
Silver	<0.025	<0.050	<0.050	<0.025
Thallium	<0.0020	<0.0020	<0.0020	<0.0020
Zinc	<0.10	<0.10	<0.10	<0.10
Methods 8260B and 8270C				
VOCs and SVOCs	NA	NA	NA	NA
Methods 8081A and 8151A				
Pesticides	NA	NA	NA	NA
Method 9056 (mg/L)				
Sulfate	NA	NA	NA	49
SM 2540C (mg/L)				
Total dissolved solid	NA	NA	NA	200
Sources	MWG13-15_10948	MWG13-15_12809	MWG13-15_12809	MWG13-15_14713

Abbreviations:

"mg/L" = milligrams per liter
"NA" = not analyzed by the laboratory
"<" = less than the indicated analytical detection limit
"MWG" = Midwest Generation
"NLET" = Neutral Leaching Extraction Test (ASTM D3987-85)

Table 5-2

Summary of Ash Leachate Samples by Management Method and Coal Type (Source: EPRI, 2006)

Analytical Constituent or Parameter	Analytical Results for Samples of Leachate Collected from Landfills and Impoundments as Reported by EPRI, 2006				
	Facility Type:	Landfill		Impoundment	
	Coal Source Type:	Bituminous	Subbituminous/ Lignite	Bituminous	Subbituminous/ Lignite
Leachate pH (SU)	Minimum value	6.5	8.8	4.3	**8.0**
	Median value	6.9	10.0	7.6	**8.9**
	Maximum value	7.4	11.0	11.0	**12.0**
Aluminum Leachate Concentration (mg/L)[1]	Minimum value	<0.002	0.1	<0.0059	**0.7**
	Median value	0.0	2.9	0.1	**4.2**
	Maximum value	0.1	17.5	15.1	**5.9**
Antimony Leachate Concentration (mg/L)[1]	Minimum value	0.00014	0.00067	0.00029	**0.00024**
	Median value	0.00250	0.00090	0.00610	**0.00048**
	Maximum value	0.00910	0.00520	0.05900	**0.00062**
Arsenic Leachate Concentration (mg/L)[1]	Minimum value	0.0014	0.0041	0.0051	**0.0041**
	Median value	0.0062	0.0450	0.0580	**0.0051**
	Maximum value	0.0110	0.0840	1.3800	**0.0064**
Boron Leachate Concentration (mg/L)[1]	Minimum value	11.10	6.08	0.21	**0.47**
	Median value	23.05	18.40	1.09	**0.86**
	Maximum value	89.50	41.50	112.00	**3.89**
Barium Leachate Concentration (mg/L)[1]	Minimum value	0.023	<0.018	<0.030	**0.036**
	Median value	0.045	0.018	0.141	**0.140**
	Maximum value	0.050	0.063	0.545	**0.350**
Beryllium Leachate Concentration (mg/L)[1]	Minimum value	<0.0002	<0.0002	<0.0002	**<0.0002**
	Median value	<0.0002	<0.001	<0.0004	**<0.001**
	Maximum value	<0.0008	<0.001	0.0	**<0.001**
Calcium Leachate Concentration (mg/L)	Minimum value	235.0	6.3	12.0	**<2.5**
	Median value	405.0	19.0	51.0	**43.0**
	Maximum value	431.0	596.0	681.0	**81.0**

Table 5-2

Summary of Ash Leachate Samples by Management Method and Coal Type (Source: EPRI, 2006)

Analytical Constituent or Parameter	Analytical Results for Samples of Leachate Collected from Landfills and Impoundments as Reported by EPRI, 2006				
	Facility Type:	Landfill		Impoundment	
	Coal Source Type:	Bituminous	Subbituminous/ Lignite	Bituminous	Subbituminous/ Lignite
Cadmium Leachate Concentration (mg/L)[1]	Minimum value	0.0	0.0	<0.0002	**<0.0003**
	Median value	0.0	0.0	0.0	**<0.0003**
	Maximum value	0.0	0.1	0.0	**0.0**
Chloride Leachate Concentration (mg/L)	Minimum value	15.0	11.0	4.5	**31.0**
	Median value	29.0	28.0	15.0	**72.0**
	Maximum value	73.0	92.0	87.0	**85.0**
Cobalt Leachate Concentration (mg/L)[1]	Minimum value	0.0	<0.00042	<0.0002	**<0.00004**
	Median value	0.0	0.0	0.0	**<0.001**
	Maximum value	0.1	0.1	0.0	**0.0011**
Carbonate Leachate Concentration (mg/L)	Minimum value	0.0	2.5	<0.01	**1.1**
	Median value	0.1	50.0	0.1	**4.4**
	Maximum value	0.2	152.0	16.0	**36.0**
Chromium Leachate Concentration (mg/L)[1]	Minimum value	<0.0002	0.0005	<0.0002	**0.00066**
	Median value	0.0002	2.0000	<0.0005	**0.0028**
	Maximum value	0.0200	5.1000	0.0290	**0.1080**
Copper Leachate Concentration (mg/L)[1]	Minimum value	<0.00091	0.0016	<0.00038	**0.0024**
	Median value	0.0011	0.0430	0.0019	**0.0071**
	Maximum value	0.0028	0.4940	0.4520	**0.0120**
Iron Leachate Concentration (mg/L)[1]	Minimum value	<0.008	<0.003	<0.005	**<0.025**
	Median value	0.0	<0.050	0.0	**<0.050**
	Maximum value	0.1	0.0	14.7	**<0.050**
Lead Leachate Concentration (mg/L)[1]	Minimum value	<0.00012	<0.0002	<0.0001	**<0.00014**
	Median value	<0.00014	0.0	<0.00015	**<0.0002**
	Maximum value	0.00012	0.00029	0.00800	**0.00021**

Table 5-2

Summary of Ash Leachate Samples by Management Method and Coal Type (Source: EPRI, 2006)

Analytical Constituent or Parameter	Analytical Results for Samples of Leachate Collected from Landfills and Impoundments as Reported by EPRI, 2006				
	Facility Type:	Landfill		Impoundment	
	Coal Source Type:	Bituminous	Subbituminous/ Lignite	Bituminous	Subbituminous/ Lignite
Lithium Leachate Concentration (mg/L)[1]	Minimum value	0.4	<0.0044	0.0	**<0.007**
	Median value	5.7	<0.020	0.2	**<0.020**
	Maximum value	23.600	0.027	1.060	**0.016**
Magnesium Leachate Concentration (mg/L)	Minimum value	69.0	0.5	0.1	**<0.05**
	Median value	188.0	6.7	6.8	**21.0**
	Maximum value	236.0	57.0	72.0	**28.0**
Manganese Leachate Concentration (mg/L)[1]	Minimum value	0.1	<0.0015	<0.0002	**<0.0002**
	Median value	2.1	0.0	0.1	**<0.004**
	Maximum value	4.110	0.008	4.170	**0.014**
Mercury Leachate Concentration (mg/L)[2]	Minimum value	0.0000021	0.0000140	0.0000004	**0.0000054**
	Median value	0.0000030	0.0000180	0.0000014	**0.0000074**
	Maximum value	0.0000038	0.0000370	0.0000052	**0.0000094**
Molybdenum Leachate Concentration (mg/L)[1]	Minimum value	0.8	2.7	0.0	**<0.030**
	Median value	3.28	5.72	0.21	**0.08**
	Maximum value	9.63	25.40	6.03	**0.52**
Nickel Leachate Concentration (mg/L)[1]	Minimum value	0.0	0.0	<0.0006	**<0.0006**
	Median value	0.0180	0.0080	0.0071	**0.0037**
	Maximum value	0.1890	0.0750	0.0720	**0.0071**
Potassium Leachate Concentration (mg/L)	Minimum value	23.0	73.0	<2.2	**5.5**
	Median value	170.0	80.0	9.2	**7.7**
	Maximum value	219.0	120.0	277.0	**40.0**
Selenium Leachate Concentration (mg/L)[1]	Minimum value	0.0007	0.0066	0.0001	**0.0018**
	Median value	0.0490	0.4130	0.0130	**0.0025**
	Maximum value	0.0910	1.7600	0.2830	**0.1810**

Table 5-2

Summary of Ash Leachate Samples by Management Method and Coal Type (Source: EPRI, 2006)

Analytical Constituent or Parameter	Analytical Results for Samples of Leachate Collected from Landfills and Impoundments as Reported by EPRI, 2006				
	Facility Type:	Landfill		Impoundment	
	Coal Source Type:	Bituminous	Subbituminous/ Lignite	Bituminous	Subbituminous/ Lignite
Silicon Leachate Concentration (mg/L)[1]	Minimum value	2.3	0.2	0.7	**2.2**
	Median value	6.1	1.5	4.7	**3.4**
	Maximum value	9.4	9.9	18.5	**10.3**
Silver Leachate Concentration (mg/L)[1]	Minimum value	<0.0002	<0.0002	<0.0002	**<0.0002**
	Median value	<0.0002	<0.0002	<0.0002	**<0.0002**
	Maximum value	<0.0002	0.0	0.0	**<0.0002**
Sodium Leachate Concentration (mg/L)	Minimum value	80.0	840.0	3.8	**53.0**
	Median value	188.0	1700.0	19.0	**56.0**
	Maximum value	455.0	3410.0	72.0	**653.0**
Strontium Leachate Concentration (mg/L)[1]	Minimum value	1.3	<0.030	0.2	**0.5**
	Median value	4.6	0.3	0.7	**0.6**
	Maximum value	10.3	12.0	5.6	**1.8**
Thallium Leachate Concentration (mg/L)[1]	Minimum value	<0.0001	<0.0001	<0.0001	**<0.0001**
	Median value	0.0	<0.0001	0.0	**<0.0001**
	Maximum value	0.0	<0.0005	0.0	**<0.0001**
Uranium Leachate Concentration (mg/L)[1]	Minimum value	0.0	0.0	<0.0001	**<0.00002**
	Median value	0.0190	0.0057	0.0007	**0.0011**
	Maximum value	0.0370	0.0210	0.0610	**0.0012**
Vanadium Leachate Concentration (mg/L)[1]	Minimum value	<0.00083	0.004	0.003	**0.010**
	Median value	0.003	0.635	0.039	**0.017**
	Maximum value	0.044	5.020	0.754	**0.236**
Zinc Leachate Concentration (mg/L)[1]	Minimum value	<0.002	<0.002	0.0	**<0.002**
	Median value	0.0450	<0.005	0.0087	**0.0084**
	Maximum value	0.2890	0.0120	0.0900	**0.0110**

Table 5-2

Summary of Ash Leachate Samples by Management Method and Coal Type (Source: EPRI, 2006)

Analytical Constituent or Parameter	Analytical Results for Samples of Leachate Collected from Landfills and Impoundments as Reported by EPRI, 2006				
	Facility Type:	Landfill		Impoundment	
	Coal Source Type:	Bituminous	Subbituminous/ Lignite	Bituminous	Subbituminous/ Lignite
Bicarbonate Leachate Concentration (mg/L)	Minimum value	100.0	1.0	0.0	**1.1**
	Median value	229.0	108.0	28.0	**110.0**
	Maximum value	265.0	481.0	535.0	**241.0**
Carbonic Acid Leachate Concentration (mg/L)	Minimum value	<0.01	<0.01	<0.01	**<0.01**
	Median value	<0.01	<0.01	<0.01	**<0.01**
	Maximum value	0.0	<0.01	3.4	**<0.01**
Sulfate Leachate Concentration (mg/L)	Minimum value	845.0	2870.0	45.0	**91.0**
	Median value	2350.0	3830.0	171.0	**131.0**
	Maximum value	2440.0	6690.0	1830.0	**1120.0**
Total Inorganic Carbon Leachate Concentration (mg/L)	Minimum value	24.0	1.7	0.8	**5.9**
	Median value	55.0	32.0	5.5	**22.0**
	Maximum value	80.0	105.0	115.0	**49.0**
Total Organic Carbon Leachate Concentration (mg/L)	Minimum value	1.3	5.3	<0.09	**0.4**
	Median value	4.1	49.0	0.6	**6.0**
	Maximum value	4.6	55.0	22.0	**7.9**
Dissolved Oxygen Leachate Concentration (%)	Minimum value	16.0	0.2	2.9	**1.6**
	Median value	53.0	14.0	40.0	**4.5**
	Maximum value	95.0	87.0	165.0	**35.0**
Leachate Oxidation-Reduction Potential (mV)	Minimum value	213.0	111.0	41.0	**225.0**
	Median value	247.0	240.0	240.0	**289.0**
	Maximum value	280.0	276.0	409.0	**303.0**
Leachate Electrical Conductivity (umho/cm)	Minimum value	2000.0	6174.0	174.0	**680.0**
	Median value	3682.0	7690.0	578.0	**990.0**
	Maximum value	4915.0	12760.0	2980.0	**4020.0**

Table 5-2

Summary of Ash Leachate Samples by Management Method and Coal Type (Source: EPRI, 2006)

Analytical Constituent or Parameter	Analytical Results for Samples of Leachate Collected from Landfills and Impoundments as Reported by EPRI, 2006				
	Facility Type:	Landfill		Impoundment	
	Coal Source Type:	Bituminous	Subbituminous/ Lignite	Bituminous	Subbituminous/ Lignite
Leachate Temperature (˚C)	Minimum value	14.0	11.0	10.0	**16.0**
	Median value	15.0	17.0	22.0	**30.0**
	Maximum value	17.0	22.0	32.0	**36.0**

1. Leachate concentration was reported in micrograms per liter (µg/L) in EPRI, 2006. The reported concentrations were converted to milligrams per liter (mg/L) by dividing the reported concentration by 1,000 µg/mg.

Table 5-3
Comparison of Ash Leachate Characteristic Values to IEPA Class I Groundwater Standards

	MWG Bottom Ash Samples		Impoundments from PRB-Sourced Coal by EPRI			IEPA Class I Groundwater Standards
	NLET		Samples of leachate			
Constituent	Min	Max	Min	Median	Max	
Antimony	<0.0060	<0.0060	0.00024	0.00048	0.00062	0.006
Arsenic	<0.050	<0.050	0.0041	0.0051	0.0064	0.01
Barium	<0.50	0.27	0.036	0.14	0.35	2
Beryllium	<0.0040	<0.0040	<0.0002	<0.001	<0.001	0.004
Boron	<0.10	2	0.47	0.86	**3.89**	2
Cadmium	<0.0050	<0.0050	<0.0003	<0.0003	0.0021	0.005
Chromium	<0.025	<0.050	0.00066	0.0028	**0.108**	0.1
Cobalt	<0.025	<0.050	<0.00004	<0.001	0.0011	1
Copper	<0.025	<0.050	0.0024	0.0071	0.012	0.65
Iron	<0.10	<0.10	<0.025	<0.05	<0.05	5
Lead	<0.0075	<0.0075	<0.00014	<0.0002	0.00021	0.0075
Manganese	<0.025	<0.050	<0.0002	<0.004	0.014	0.15
Mercury	<0.0020	<0.0020	0.0000054	0.0000074	0.0000094	0.002
Nickel	<0.050	<0.050	<0.0006	0.0037	0.0071	0.1
Selenium	<0.050	<0.050	0.0018	0.0025	**0.18**	0.05
Silver	<0.025	<0.050	<0.0002	<0.0002	<0.0002	0.05
Sulfate	49	49	91	131	**1120**	400
Thallium	<0.0020	<0.0020	<0.0001	<0.0001	<0.0001	0.002
Zinc	<0.10	<0.10	<0.002	0.0084	0.011	5

Abbreviations:

"mg/L" = milligrams per liter
"NA" = not analyzed by the laboratory
"<" = less than the indicated analytical detection limit
"MWG" = Midwest Generation
"NLET" = Neutral Leaching Extraction Test (ASTM D3987-85)
"PRB" = Powder River Basin

Notes:

Bold font indicates a detection above IEPA Class I Groundwater Standards.
Underlined values indicate detections relevant to Section 5.5.1.3 of the report text.

Table 5-4
Summary of Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring Compared to Indicators of Leachate from Ash Currently Stored in Impoundments
Based on Site-Specific NLET Results for Bottom Ash and Actual Leachate Sample Results for Bituminous Ash Stored in Impoundments

Constituent	Constituent is an Indicator of Leachate from Ash Currently Stored in Impoundments [1]	Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring [2] Joliet No. 29 Generating Station										
		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11
Antimony	Yes (Table 5-2)											
Arsenic	Yes (Table 5-2)			x	x		x	x				x
Barium	Yes (Table 5-2)	x	x	x	x	x	x	x	x	x	x	x
Beryllium												
Boron	Yes (Table 5-2)	x	x	x	x	x	x	x	x	x	x	x
Cadmium	Yes (Table 5-2)					x			x			
Chromium	Yes (Table 5-2)											
Cobalt	Yes (Table 5-2)				x		x			x		
Copper	Yes (Table 5-2)					x	x	x	x			
Iron					x				x	x		
Lead	Yes (Table 5-2)								x			
Manganese	Yes (Table 5-2)	x				x		x	x	x		
Mercury	Yes (Table 5-2)											
Nickel	Yes (Table 5-2)	x	x	x	x	x	x	x	x	x	x	x
Selenium	Yes (Table 5-2)		x	x		x	x	x			x	x
Silver												
Sulfate	Yes (Table 5-2)	x	x	x	x	x	x	x	x	x	x	x
Thallium												
Zinc	Yes (Table 5-2)								x			
Number of Observed Constituents that are not Consistent with Indicators of Leachate from Ash Currently Stored in Impoundments [3]		10	10	9	10	7	7	7	7	10	10	9
Percentage of Observed Constituents that are not Consistent with Indicators of Leachate from Ash Currently Stored in Impoundments [3]		53%	53%	47%	53%	37%	37%	37%	37%	53%	53%	47%

Table 5-4
Summary of Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring Compared to Indicators of Leachate from Ash Currently Stored in Impoundments
Based on Site-Specific NLET Results for Bottom Ash and Actual Leachate Sample Results for Bituminous Ash Stored in Impoundments

Constituent	Constituent is an Indicator of Leachate from Ash Currently Stored in Impoundments [1]	Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring [2]															
		Powerton Generating Station															
		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16
Antimony	Yes (Table 5-2)																
Arsenic	Yes (Table 5-2)						x	x	x	x		x	x	x	x	x	
Barium	Yes (Table 5-2)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Beryllium																	
Boron	Yes (Table 5-2)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Cadmium	Yes (Table 5-2)														x		
Chromium	Yes (Table 5-2)																
Cobalt	Yes (Table 5-2)						x	x		x	x	x					
Copper	Yes (Table 5-2)			x	x	x					x						
Iron							x	x	x		x	x	x	x	x	x	
Lead	Yes (Table 5-2)		x	x				x		x	x						
Manganese	Yes (Table 5-2)				x	x	x	x	x	x	x	x	x	x	x	x	x
Mercury	Yes (Table 5-2)																
Nickel	Yes (Table 5-2)			x	x	x	x	x		x	x	x	x		x	x	
Selenium	Yes (Table 5-2)	x				x				x	x			x	x	x	
Silver																	
Sulfate	Yes (Table 5-2)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Thallium															x		
Zinc	Yes (Table 5-2)			x													
Number of Observed Constituents that are not Consistent with Indicators of Leachate from Ash Currently Stored in Impoundments [3]		11	11	8	9	8	9	8	11	6	7	9	10	10	9	9	11
Percentage of Observed Constituents that are not Consistent with Indicators of Leachate from Ash Currently Stored in Impoundments [3]		58%	58%	42%	47%	42%	47%	42%	58%	32%	37%	47%	53%	53%	47%	47%	58%

Table 5-4
Summary of Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring Compared to Indicators of Leachate from Ash Currently Stored in Impoundments
Based on Site-Specific NLET Results for Bottom Ash and Actual Leachate Sample Results for Bituminous Ash Stored in Impoundments

Constituent	Constituent is an Indicator of Leachate from Ash Currently Stored in Impoundments [1]	Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring [2]						
		Waukegan Generating Station						
		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7
Antimony	Yes (Table 5-2)							
Arsenic	Yes (Table 5-2)	x	x	x	x	x	x	x
Barium	Yes (Table 5-2)	x	x	x	x	x	x	x
Beryllium								
Boron	Yes (Table 5-2)	x	x	x	x	x	x	x
Cadmium	Yes (Table 5-2)							
Chromium	Yes (Table 5-2)							
Cobalt	Yes (Table 5-2)							
Copper	Yes (Table 5-2)	x					x	
Iron			x			x	x	x
Lead	Yes (Table 5-2)			x				
Manganese	Yes (Table 5-2)	x	x	x	x	x	x	x
Mercury	Yes (Table 5-2)							
Nickel	Yes (Table 5-2)					x		
Selenium	Yes (Table 5-2)	x	x	x	x		x	
Silver								
Sulfate	Yes (Table 5-2)	x	x	x	x	x	x	x
Thallium								
Zinc	Yes (Table 5-2)							
Number of Observed Constituents that are not Consistent with Indicators of Leachate from Ash Currently Stored in Impoundments [3]		8	10	8	9	10	9	11
Percentage of Observed Constituents that are not Consistent with Indicators of Leachate from Ash Currently Stored in Impoundments [3]		42%	53%	42%	47%	53%	47%	58%

Table 5-4
Summary of Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring Compared to Indicators of Leachate from Ash Currently Stored in Impoundments
Based on Site-Specific NLET Results for Bottom Ash and Actual Leachate Sample Results for Bituminous Ash Stored in Impoundments

Constituent	Constituent is an Indicator of Leachate from Ash Currently Stored in Impoundments [1]	Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring [2]									
		Will County Generating Station									
		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
Antimony	Yes (Table 5-2)										
Arsenic	Yes (Table 5-2)		x	x	x	x	x	x	x	x	x
Barium	Yes (Table 5-2)	x	x	x	x	x	x	x	x	x	x
Beryllium											
Boron	Yes (Table 5-2)	x	x	x	x	x	x	x	x	x	x
Cadmium	Yes (Table 5-2)										
Chromium	Yes (Table 5-2)										
Cobalt	Yes (Table 5-2)	x		x	x						
Copper	Yes (Table 5-2)										
Iron		x	x	x	x		x	x	x		x
Lead	Yes (Table 5-2)										
Manganese	Yes (Table 5-2)	x	x	x	x	x	x	x	x	x	x
Mercury	Yes (Table 5-2)				x						
Nickel	Yes (Table 5-2)	x	x	x	x	x	x	x	x	x	x
Selenium	Yes (Table 5-2)	x		x	x	x	x	x	x	x	
Silver											
Sulfate	Yes (Table 5-2)	x	x	x	x	x	x	x	x	x	x
Thallium											
Zinc	Yes (Table 5-2)										
Number of Observed Constituents that are not Consistent with Indicators of Leachate from Ash Currently Stored in Impoundments [3]		9	10	8	7	8	9	9	9	8	10
Percentage of Observed Constituents that are not Consistent with Indicators of Leachate from Ash Currently Stored in Impoundments [3]		47%	53%	42%	37%	42%	47%	47%	47%	42%	53%

Abbreviations:
"TCLP" = Toxicity Characteristic Leaching Procedure (USEPA Method 1311)
"x" = constituent was detected above analytical detection limits during at least one quarterly groundwater monitoring event in 2014

Table 5-4
Summary of Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring Compared to Indicators of Leachate from Ash Currently Stored in Impoundments
Based on Site-Specific NLET Results for Bottom Ash and Actual Leachate Sample Results for Bituminous Ash Stored in Impoundments

Notes:

1. Indicators of leachate from ash currently stored in impoundments are based on leachate sample results for bituminous ash stored in impoundments (Table 5-2 as denoted in this table as "Y TCLP)", and actual leachate sample results for bituminous ash stored in imp
2. Shading of cells is described below.
   - Green shading indicates that a constituent that is an indicator of leachate from ash currently stored in the impoundments was not detected during quarterly groundwater monitoring in 2014.
   - Blue shading indicates that a constituent that is not an indicator of leachate from ash currently stored in the impoundments was detected during at least one quarterly groundwater monitoring event in 2014.
   - No shading indicates that either (1) a constituent that is an indicator of leachate from ash currently stored in the impoundments was detected during at least one quarterly groundwater monitoring event in 2014, or (2) a constituent that is not an indicator of leachate from ash currently stored in the impoundments was not detected during quarterly groundwater monitoring in 2014.
3. Green and blue shading (see Note 2) demonstrate observed constituents that are not consistent with indicators of leachate from ash currently stored in impoundments.

Table 5-5
Summary of Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring Compared to Indicators of Leachate from Ash Currently Stored in Impoundments
Based on Site-Specific NLET Results for Bottom Ash

Constituent	Constituent is an Indicator of Leachate from Ash Currently Stored in Impoundments [1]	Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring [2]										
		Joliet No. 29 Generating Station										
		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11
Antimony												
Arsenic					x		x	x				x
Barium	Yes (Table 5-1)	x	x	x	x	x	x	x	x	x	x	x
Beryllium												
Boron	Yes (Table 5-1)	x	x	x	x	x	x	x	x	x	x	x
Cadmium						x			x			
Chromium												
Cobalt					x		x			x		
Copper						x	x	x	x			
Iron					x				x	x		
Lead									x			
Manganese		x				x		x	x	x		
Mercury												
Nickel		x	x	x	x	x	x	x	x	x	x	x
Selenium			x	x		x	x	x			x	x
Silver												
Sulfate	Yes (Table 5-1)	x	x	x	x	x	x	x	x	x	x	x
Thallium												
Zinc									x			
Number of Observed Constituents that are not Consistent with Indicators of Leachate from Ash Currently Stored in Impoundments [3]		2	2	3	4	5	5	5	7	4	2	3
Percentage of Observed Constituents that are not Consistent with Indicators of Leachate from Ash Currently Stored in Impoundments [3]		11%	11%	16%	21%	26%	26%	26%	37%	21%	11%	16%

Table 5-5
Summary of Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring Compared to Indicators of Leachate from Ash Currently Stored in Impoundments
Based on Site-Specific NLET Results for Bottom Ash

Constituent	Constituent is an Indicator of Leachate from Ash Currently Stored in Impoundments [1]	Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring [2]															
		Powerton Generating Station															
		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16
Antimony																	
Arsenic							x	x	x	x		x	x	x	x		
Barium	Yes (Table 5-1)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Beryllium																	
Boron	Yes (Table 5-1)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Cadmium															x		
Chromium																	
Cobalt							x	x		x	x	x					
Copper				x	x	x					x						
Iron							x	x	x		x	x	x	x	x	x	
Lead			x	x				x		x	x						
Manganese					x	x	x	x	x	x	x	x	x	x	x	x	x
Mercury																	
Nickel				x	x	x	x	x		x	x	x	x		x	x	
Selenium		x				x				x	x			x	x	x	
Silver																	
Sulfate	Yes (Table 5-1)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Thallium															x		
Zinc				x													
Number of Observed Constituents that are not Consistent with Indicators of Leachate from Ash Currently Stored in Impoundments [3]		1	1	4	3	4	5	6	3	6	7	5	4	4	7	5	1
Percentage of Observed Constituents that are not Consistent with Indicators of Leachate from Ash Currently Stored in Impoundments [3]		5%	5%	21%	16%	21%	26%	32%	16%	32%	37%	26%	21%	21%	37%	26%	5%

Table 5-5
Summary of Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring Compared to Indicators of Leachate from Ash Currently Stored in Impoundments
Based on Site-Specific NLET Results for Bottom Ash

Constituent	Constituent is an Indicator of Leachate from Ash Currently Stored in Impoundments [1]	Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring [2]						
		Waukegan Generating Station						
		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7
Antimony								
Arsenic		x	x	x	x			x
Barium	Yes (Table 5-1)	x	x	x	x	x	x	x
Beryllium								
Boron	Yes (Table 5-1)	x	x	x	x	x	x	x
Cadmium								
Chromium								
Cobalt								
Copper		x					x	
Iron			x			x	x	x
Lead				x				
Manganese		x	x	x	x	x	x	x
Mercury								
Nickel						x		
Selenium		x	x	x	x		x	
Silver								
Sulfate	Yes (Table 5-1)	x	x	x	x	x	x	x
Thallium								
Zinc								
Number of Observed Constituents that are not Consistent with Indicators of Leachate from Ash Currently Stored in Impoundments [3]		4	4	4	3	4	5	3
Percentage of Observed Constituents that are not Consistent with Indicators of Leachate from Ash Currently Stored in Impoundments [3]		21%	21%	21%	16%	21%	26%	16%

Table 5-5
Summary of Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring Compared to Indicators of Leachate from Ash Currently Stored in Impoundments
Based on Site-Specific NLET Results for Bottom Ash

Constituent	Constituent is an Indicator of Leachate from Ash Currently Stored in Impoundments [1]	Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring [2]									
		Will County Generating Station									
		MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
Antimony											
Arsenic		x	x	x	x	x	x	x	x	x	x
Barium	Yes (Table 5-1)	x	x	x	x	x	x	x	x	x	x
Beryllium											
Boron	Yes (Table 5-1)	x	x	x	x	x	x	x	x	x	x
Cadmium											
Chromium											
Cobalt		x		x	x						
Copper											
Iron		x	x	x	x		x	x	x		x
Lead											
Manganese		x	x	x	x	x	x	x	x	x	x
Mercury					x						
Nickel		x		x	x	x	x	x	x	x	x
Selenium		x		x	x	x	x	x	x	x	
Silver											
Sulfate	Yes (Table 5-1)	x	x	x	x	x	x	x	x	x	x
Thallium											
Zinc											
Number of Observed Constituents that are not Consistent with Indicators of Leachate from Ash Currently Stored in Impoundments [3]		5	4	6	7	4	5	5	5	4	4
Percentage of Observed Constituents that are not Consistent with Indicators of Leachate from Ash Currently Stored in Impoundments [3]		26%	21%	32%	37%	21%	26%	26%	26%	21%	21%

Abbreviations:
"NLET" = neutral leaching extraction test (ASTM D3987-85)
"x" = constituent was detected above analytical detection limits during at least one quarterly groundwater monitoring event in 2014

Table 5-5
Summary of Constituents Detected during Most Recent Year (2014) of Quarterly Groundwater Monitoring Compared to Indicators of Leachate from Ash Currently Stored in Impoundments
Based on Site-Specific NLET Results for Bottom Ash

Notes:

1. Indicators of leachate from ash currently stored in impoundments is based on site-specific NLET results for bottom ash (Table 5-1).
2. Shading of cells is described below.

   Green shading, which is not applicable ot this Table 2-6, would indicate that a constituent that is an indicator of leachate from ash currently stored in the impoundments was not detected during quarterly groundwater monitoring in 2014.

   Blue shading indicates that a constituent that is not an indicator of leachate from ash currently stored in the impoundments was detected during at least one quarterly groundwater monitoring event in 2014.

   No shading indicates that either (1) a constituent that is an indicator of leachate from ash currently stored in the impoundments was detected during at least one quarterly groundwater monitoring event in 2014, or (2) a constituent that is not an indicator of leachate from ash currently stored in the impoundments was not detected during quarterly groundwater monitoring in 2014.
3. Green and blue shading (see Note 2) demonstrate observed constituents that are not consistent with indicators of leachate from ash currently stored in impoundments.

APPENDIX A
JOHN SEYMOUR CURRICULUM VITAE

Geosyntec
consultants

JOHN SEYMOUR, P.E.

remediation
geoenvironmental engineering
geotechnical engineering
coal combustion residuals management

EDUCATION

M.S., Geotechnical Engineering, University of Michigan, Ann Arbor, Michigan, 1980
B.S., Civil Engineering, Michigan Technological University, Houghton, Michigan, 1976

PROFESSIONAL REGISTRATIONS

Illinois P.E. Number 062-040562
Michigan P.E. Number 6201033056
West Virginia P.E. Number 017091
Wisconsin P.E. Number 26727

CAREER SUMMARY

Mr. Seymour is a geotechnical engineer with nearly three decades of experience in the U.S., Canada, Spain, Guatemala and Korea in the areas of site remediation, deep foundations, and construction management. He has focused on waste management and remediation (Superfund (CERCLA) and RCRA) projects for 25 years, having had significant involvement in 17 sites providing professional services in the areas of project management, project coordination (client representative), site characterization, feasibility studies, bench/pilot studies, civil/geotechnical design, construction quality assurance (CQA), and operation and maintenance.

He has completed field studies including geologic and hydrogeologic studies, aquifer testing, seismic surveys, landfill settlement tests, and the characterization of volatile organic compounds (TCE and by-products), semivolatile organic compounds, PCBs, lead, and saline groundwater intrusion.

He has provided coal combustion residuals (CCRs) engineering services, regarding waste management of fly ash, bottom ash and flue gas desulfurization (FGD) waste for impoundments and landfills. These services have included geotechnical and environmental evaluations of waste disposal expansions, operations and closure, disposal permit application preparation for eight U.S coal power generation clients. Overall he has provided relevant consulting engineering services for 7 CCRs impoundments and 14 CCR landfills and provided records review, evaluation and engineering scope of work development for 4 additional CCR impoundments. He has

translated some of his experience into 11 technical papers and recently submitted two final draft research guidance documents on CCR impoundments (co-investigator), and provided 10 technical presentations at conferences including at conferences focusing on CCR management.

His clients have primarily included major industrial manufacturers (utilities, automotive, tools, appliances) and waste management/disposal companies. He has been the lead in the design of 11 landfills. He has been the project lead for several major (multi-million dollar) remediation sites. He also has assisted in remedy negotiations with state and federal agencies at many sites.

In addition, he has geotechnical engineering experience with the design and construction of deep foundations, including drilled piers, tie backs, foundation grouting and soil improvement programs, and diaphragm (slurry) walls.

Highlights of Mr. Seymour's representative experience include:

Geoenvironmental

J. C. Weadock Plant CCR Facility Engineering Study, Consumers Energy Company, *Michigan*. Mr. Seymour is the project director and senior technical reviewer for a study of the existing CCR facility. The study is to assess the future use and closure of the facility considering current regulations and future proposed federal regulations regarding CCRs under RCRA and the effluent limitation guidelines and standards for the steam electric power generating industry under the Clean Water Act.

Rivesville and Albright Power Plants, *FirstEnergy, West Virginia.* Engineer of Record for the design of the closure of two CCR landfills.

Coal Combustion Residuals Pond Closure Guidance Documents, Electric Power Research Institute, *Nationwide*. Mr. Seymour is a co-investigator/author and project manager for the completion of two guidance documents relating to CCR pond closures. They include: (i) "Coal Combustion Residuals Pond Closure- Dewatering and Capping Guidance", and (ii) "Coal Combustion Residuals Pond Closure- Construction over Closed Ponds".

Confidential Power Plant, *Southern Ohio*. Mr. Seymour is the project manager for the conceptual design of a 300-acre fly ash disposal pond closure.

General James M. Gavin Power Plant, *American Electric Power, Cheshire, Ohio.* He managed the design of and the Permit to Install (PTI) application for a 50,000,000 cuyd residual waste landfill for the solid waste permit application under existing OEPA rules which incorporated relevant portions of the U.S. EPA proposed RCRA Subtitle D regulations.

General James M. Gavin Power Plant, *American Electric Power, Cheshire, Ohio.* Mr. Seymour was the project manager for the focused feasibility evaluation (FFE) for a coal combustion residuals (CCR) landfill expansion and the resulting design and permit application for a landfill expansion.

Monroe Power Plant, *DTE Energy, Monroe, MI.* Mr. Seymour managed the FGD Gypsum Disposal Facility Preliminary Engineering Study and was the project manager to assess disposal options for new flue gas desulphurization (FGD) gypsum that will be generated at this coal fired electrical generating station. Mr. Seymour is the project director and engineer of record to conduct an evaluation of the earthen containment dike around the ash basin and to assess the potential for a failure due to operating issues.

Planta Las Palmas CCB Landfill Development Studies, *Duke Energy International Guatemala, Guatemala.* Mr. Seymour completed studies to optimize the development of a new coal ash landfill and prepare site investigation bid specifications. He was the project manager to prepare the detailed design and construction bid documents for the coal storage area, ash landfill, leachate treatment pond with discharge structure, and the power plant water intake structure.

Wauconda Landfill Superfund Site Cover Evaluation, *Wauconda Task Force, Wauconda, IL.* Mr. Seymour was the project manager for the evaluation of the existing soil cover over Superfund site.

R. Paul Smith CCB Landfill Expansion, *Allegheny Energy Supply, Berkeley County, WV.* Mr. Seymour was the project manager for the design and construction quality assurance of a coal combustion byproducts landfill at a coal-fired power plant in Maryland with the landfill located in adjacent West Virginia.

MIG/DeWane Landfill Superfund Site Remedial Design, *Allied Waste Industries, Belvidere, IL.* Assisted the client with negotiations of a Statement of Work with the Illinois EPA for this CERCLA site. He is conducting a remedial design of a new cover system and gas collection system over the 50 acre landfill.

Confidential Landfill Remedial Action Support Services, *Republic Services, north-central IL.* Providing technical support to legal counsel for the remedy selection process at a 40-acre solid waste facility closed in the 1970s and developed into a park.

Planta Arizona, CCB Landfill Design Consulting, *Duke Energy International Guatemala, Guatemala.* Mr. Seymour provided consulting to DEIG to layout a new coal ash disposal facility for a coal-fired electrical generating station.

Cardinal Plant Landfill Studies, *American Electric Power, Brilliant, OH.* Completed a feasibility study to assess the potential to develop a new flue gas desulphurization (FGD) waste landfill over an existing fly ash disposal area at a coal-fired power plant.

Yeoman Creek Landfill Superfund Site, *PRP Group, Waukegan, IL.* Mr. Seymour was the project manager and Project Coordinator for this CERCLA site closure.

Utility Company, *Multiple Sites, WI.* Contaminated site consulting services and ash landfill design, construction inspection/management services. Mr. Seymour was the Contract Manager and project manager for multiple sites, including evaluation of existing groundwater remediation system to improve performance and evaluate alternate technologies in Wisconsin, and development of an approach to address existing environmental impacts at an MGP site along the Fox River in Wisconsin

Albion-Sheridan Township Landfill, *Cooper Industries and Corning, Inc., Albion, MI.* Project Coordinator, at CERCLA site. Provided solid and hazardous waste closure, construction management, remedial design, QA officer, closure certification, solid and hazardous waste remediation.

McGraw-Edison Facility, *Cooper Industries, Centerville, IA.* Project manager for CERCLA Site that was a manufacturing facility in Iowa to remediate TCE in soil and groundwater. Provided design review and engineering oversight for the installation of an iron reactive permeable barrier wall for treatment of TCE in groundwater and a hydro-fracture enhanced vapor extraction system, including over one year of performance monitoring and evaluation, and fate and transport modeling of the TCE.

J&L Landfill, *LTV Steel Company, Rochester Hills, MI.* Project Coordinator at this CERCLA site. Provided solid and hazardous waste landfill closure, construction management, remedy negotiation, closure design, QA officer, closure P.E. certification, solid and hazardous waste.

Monroe Stamping Plant Lagoon Closure, *Ford Motor Company, Monroe, MI.* Project manager for the resident engineering services for this facility where 55 acres of lagoons were closed as a hazardous waste landfill under a RCRA corrective action.

Rasmussen Landfill, *PRP Group, Green Oak Township, MI.* Project coordinator at CERCLA solid and hazardous waste site. Provided work plans, pre-design and remedial design, construction management for a hazardous waste landfill cover and groundwater pump and treat system, and closure P.E. certification. The project included: removal of hazardous waste drums; preload program to estimate waste consolidation; groundwater aquifer testing; and groundwater modeling.

Motor Wheel Disposal Site, *WR Grace, Inc., Lansing, MI.* Project manager for cost allocation arbitration case among potentially responsible parties at CERCLA landfill.

Brownfield Redevelopment Site, *WEPCo, Racine, WI.* Project manager and remediation design engineer for brownfield development with manufactured gas plant wastes (organic and inorganic compounds) in groundwater and soil, and VOCs in soil gas;

included groundwater aquifer testing, site investigation, aquifer modeling, remedial design, construction engineering/resident engineering, operation monitoring for a groundwater extraction system, and soil gas collection system for commercial and residential development at a former manufactured gas plant site.

Janesville Disposal Facility, *City of Janesville, Janesville, WI.* Groundwater design task manager for this CERCLA site. The site had several landfills that required RCRA cap design and a groundwater extraction system design to prevent groundwater discharge to the Rock River. Based upon the reports, aquifer testing and groundwater modeling, developed the concept to eliminate the groundwater extraction and treatment system because the surface water discharge criteria would not be exceeded and there were no receptors between the landfill and the river.

National Industrial Environmental Services, *Chemical Waste Management, Inc., near Wichita, KS.* Project engineering, design and project management for CERCLA/RCRA facility corrective action. The project included remediation of VOC groundwater contamination, treatment of sludges containing acids and metals and organics (SVOCs and VOCs) and sludge disposal into two new hazardous waste landfill cells and litigation support. The project also included aquifer tests, groundwater modeling, air monitoring, geophysical surveys, agency reporting, two RCRA Part B permit applications, and technical support for two trials.

Equilon (Shell Oil) Wood River Facility, *Shell Oil Company, Roxana, IL.* RCRA Corrective Action project management for a refinery along the Mississippi River that had numerous disposal areas. This project included: i) preparation of a RCRA Facility Investigation (RFI) investigation work plan; ii) conduct of the RFI; iii) certification of closure of one RCRA management unit; and iv) RCRA Part B submittal.

Berlin & Farro Liquid Incineration Site, *PRP Group, Swartz Creek, MI.* Conducted a CERCLA RI/FS, baseline risk assessment, negotiations with Region V EPA and MDEQ for cleanup, and litigation support. The RI included investigation of soil, soil gas, groundwater, surface water and sediment, and included seismic reflection and resistivity geophysical investigations.

Butterworth Landfill, *PRP Group, Grand Rapids, MI.* Completion of a remedial design work plan that included predesign sampling of soil, groundwater, river sediment, and fish in the Grand River at this 180 acre solid and hazardous waste landfill under CERCLA.

Bailey Dump Superfund Site, *Texas Water Commission, Bridge City, TX.* Site manager to perform a remedial investigation over a two-month period to characterize uncontrolled hazardous waste landfill under CERCLA.

Salt Intrusion Groundwater Modeling and Feasibility Study, *Morton Salt/Rohm & Haas, Inc., Manistee, MI.* Project manager for conduct of a feasibility study and groundwater transport model to assess methods to mitigate salt intrusion into an unconfined aquifer in Manistee.

Hartley & Hartley Landfill, *Joint Defense Group, Bay City, MI.* Project manager for site regulated by the NRC as an SDMP site regarding licensing, leachate management system design, and MDEQ/MDNR interface. The site contained low-level radiological thorium-bearing slag and hazardous and solid waste.

LUST Sites. Management and/or director for over 10 leaking underground storage tank projects in Michigan and Illinois.

Litigation Assignments

Confidential Client, 2014. Mr. Seymour was retained as an expert in the field of CCR landfill design over a closed coal ash pond.

Confidential Client, 2013. Mr. Seymour was retained as an expert in the field of CCR ponds for the arbitration of a major insurance claim.

AmForge Site Expert Witness, *Arvin-Meritor, Chicago, IL, 2006.* Provided engineering support in the areas of contaminant fate and transport, risk assessment, and site characterization in cost recovery case. The cost recovery was undertaken by private parties brought under CERCLA.

Geotechnical

Baby Creek Overflow Treatment Facility, *Detroit Water and Sewerage Department, Detroit, MI.* Project manager for the geotechnical investigation and foundation design for a combined sewer treatment system.

Co-generation Power Facility, *Sarnia, Canada.* Project manager for geotechnical site investigation for a co-generation (steam and electricity) facility.

Vila Olympica Building, *Bovis International, Barcelona, Spain.* Project manager to provide deep foundation geotechnical engineering at this 50 story high rise building along the Mediterranean coast.

Lucky-Goldstar Building, *Lucky Development Company, Seoul, South Korea.* Resident engineer and quality control manager for construction of the deep foundation and foundation grouting program.

Phase I Dam Safety Inspections, *U.S. Army Corps of Engineers, Multiple Sites, MO.* Field inspection of five dams and reporting writing for approximately 15 dams undergoing Phase I (non-intrusive) safety inspections.

Geosyntec consultants

Ann Arbor Wastewater Treatment Plant, *City of Ann Arbor, MI.* Field resident engineering support for construction of this new facility. His responsibilities included oversight of groundwater dewatering to avoid "bottom heave" of the excavation, compaction control and QC inspection of civil construction.

Beaver Valley Power Station, *Duquesne Light, Shippingport, PA.* Field resident engineering for foundation construction of an 888 megawatt nuclear fuel power plant.

PROFESSIONAL EXPERIENCE

Geosyntec Consultants, Chicago, IL, 2001-present
URS Corporation, Detroit, MI, 1997 – 2001
Woodward-Clyde Consultants (later URS), Chicago, IL and Detroit, MI, 1980-1997
Townsend and Bottum, Ann Arbor, MI, 1978-1979
Stone & Webster, Shippingport, PA, 1976-1978

AFFILIATIONS

American Society of Civil Engineers

Midwest Coal Ash Association

Society of American Military Engineer

REPRESENTATIVE PUBLICATIONS

15-05 "Reliability Analysis of an Existing Ash Basin Embankment" at the World of Coal Ash Conference, Nashville, TN, Omer Bozok, Burak F. Tanyu, Paul Sabatini, and John Seymour

15-01 "Conditions of Coal Ash Embankments", at the U.S. Society on Dams Conference, April 2015 I Louisville, KY, John Seymour, P.E., Omer Bozok, Amanda Hughes, Ph.D., Brad Bodine, P.E; & World of Coal Ash Conference, Nashville, TN, May 2015.

13-04 "Challenges of Closing Large Fly Ash Ponds", World of Coal Ash Conference, Lexington, Kentucky, April 2013.

11-05 "Advances in Design of Landfills over CCR Ponds and CCR Landfills", Proceedings from the World of Coal Ash conference, Denver, CO, John Seymour, P.E. and Michael F. Houlihan, P.E. BCEE, May 2011.

11-06 "Case Study: Stability of Two Horizontal to One Vertical Embankment", Proceedings from ASCE Geo-Frontiers 2011, Advances in Geotechnical

Geosyntec consultants

Engineering, Burak Tanyu, PhD, W. Neal, P.E., J Seymour, P.E., M ASCE, D. Bodine, P.E. M ASCE, and O. Bozok.

08-04 "Use of Tire Chips in the Final Cover System of a Superfund Site Landfill", ACSE Proceedings from GeoCongress 2008 titled: "The Challenge of Sustainability in the Geoenvironment", Majdi A. Othman, M. ASCE, Ph.D., P.E., and John Seymour, P.E.

INVITED PRESENTATIONS

15-06 "Slope Stability, Inspections, and Monitoring Considerations under the CCR Rule", Technical Short Course Teacher at the EPRI CCR Program Summer Meeting, June 2015, Bar Harbor, ME.

13-12 "CCR Pond Closures: Major Difficulties and Solutions", presentation to the Utility Solid Waste Activities Group, Washington, D.C., December, 2013.

13-04 Presentation of: "Challenges of Closing Large Fly Ash Ponds", at the World of Coal Ash Conference, Lexington, Kentucky, April 2013.

13-04 "Hot Topics Regarding Coal Combustion Residuals Management, presentation to Winston & Strawn Environmental Group, Chicago, Illinois, April 2013.

11-05 Presentation of: "Advances in Design of Landfills over CCR Ponds and CCR Landfills", at the World of Coal Ash conference, Denver, CO, May 2011.

09-04 "Geotechnical Design Considerations for Landfill Construction Over an Ash Pond", World of Coal Ash, Lexington, KY, May 2009

J.SEYMOUR EXPERT REPORT

APPENDIX B
SURFACE WATER RISK CHARACTERIZATION

Appendix B to Expert Report of John Seymour, P.E.
Surface Water Risk Characterization

Section 1: Introduction

This focused risk characterization evaluates the potential for human health and ecological risks from an assumed exposure to constituents of interest (COIs) in groundwater associated with each of the four sites that may migrate to surface water. COIs are defined as described in Sections 4.1.6, 4.2.6, 4.3.6, and 4.4.6 of the Expert Report of John Seymour. These evaluations are conservative as they assume a complete exposure pathway exists between groundwater COIs and receptors in the adjacent surface water bodies, and do not fully analyze attenuation or dilution mechanisms. The screening assessment also considers background and upgradient source COIs that are not from the ponds, thereby overestimating the risk from the ponds.

Section 2: Risk Evaluation Methods

2.1. Methods Overview

For this evaluation, potential risks to human health and the environment from COIs that could possibly migrate to surface water were evaluated using a screening-level approach that compared estimates of exposure to estimates of effect. This approach is commonly used to screen for the potential for risk and determine if additional assessment is required.

2.2. Definition of Risk

It is assumed that there are "no unacceptable risks" if site-specific groundwater concentrations are less than Illinois Water Quality Standards (WQS) or Water Quality Criteria (WQC) for surface water, which are considered to be protective of human health and the environment. These WQS/WQC incorporate toxicological (i.e., does-response) data as well policy-based assumptions, including the state-determined acceptable risk level. Therefore, a conclusion of "no unacceptable risk" is a conclusion based upon regulatory processes. If a site concentration is greater than a WQS/WQC, it cannot be concluded that a risk exists, only that further evaluation may be warranted or necessary. At this step, site-specific conditions are typically evaluated in a quantitative and/or qualitative manner to refine preliminary conclusions of the screening step. For this evaluation, the refinement step considers the exceedance location (relative to other wells and receiving water bodies), magnitude, and frequency. If these lines of evidence support that "no unacceptable risks" are likely at the point-of-exposure (i.e., the lake or river), then it is concluded that there is an unlikely potential for risk.

2.3. Risk Evaluation Inputs

Exposure and effect estimates used in this screening-level approach are discussed below.

Exposure: COI concentrations reported for onsite groundwater monitoring wells were conservatively assumed to represent exposure point concentrations (EPCs) for human and ecological receptors. This overestimates risk as human and ecological exposure to groundwater within these sites represents an incomplete exposure pathway. In other words, there are no onsite exposures and, therefore, no onsite risks. Human and ecological receptors may be present in the adjacent surface water bodies; however, groundwater is expected to undergo dilution and attenuation as it migrates through the subsurface and

then mixes with surface water. Thus, this assumption overestimates risks to potential off-site receptors by overestimating the exposure concentration.

Effect: Effects values for this evaluation were Illinois chronic WQS or, if a WQS was not available, Illinois chronic WQC. Surface water effects values and their sources are provided in Table B-1. The Illinois Environmental Protection Agency (IEPA) specifies that acute WQS "*...shall not be exceeded at any time except for those waters for which a zone of initial dilution (ZID) has been approved by the Agency...*" For this evaluation, it was assumed that a ZID has not been approved and, thus, chronic values would be applicable. However, given the conservative assumptions about exposure, acute values could provide a secondary line of evidence for evaluating risk.

Section 3: Site-Specific Risk Evaluations

3.1. Risk Evaluation – Joliet #29 Generating Station

3.1.1. Estimates of Exposure and Effect

Groundwater in the vicinity of the Joliet #29 Power Generating Station ash ponds discharges south to the Des Plaines River via the adjoining intake channel. Based on groundwater data collected between December 2010 and February 2015 from onsite monitoring wells (MW-01 through MW-11), COIs for this site are: antimony, boron, chloride, iron, manganese, sulfate, and total dissolved solids (TDS).

Analytical data used in this evaluation is provided in Table B-2-1. Well-specific summary statistics calculated for COIs are provided in Table B-2-2 (average concentrations) and Table B-2-3 (maximum concentrations). Additionally, the mean of averages and the mean of maximums are calculated to provide a preliminary estimate of area-wide EPCs. Monitoring well locations are shown in Figure 4-1.

3.1.2. Results of Risk Evaluation

Based on comparisons of maximum detected concentrations at the site to WQS/WQC, there are no unacceptable risks from antimony, boron, manganese, and TDS.

Maximum detected concentrations of chloride and sulfate exceeded chronic WQS in one well each (MW-08 and MW-09, respectively); however, the magnitude of exceedance was low and average concentrations within these wells were below chronic WQS. Therefore, there is an unlikely potential for risk from chloride and sulfate.

Maximum and average iron concentrations in well MW-09 exceeded the WQS. Maximum iron concentrations in MW-07 and MW-08 also exceeded the WQS; however, iron was infrequently detected (1 detection in 18 samples) in these wells and average iron concentrations were less than the WQS. Notably, in wells nearer to the river and downgradient of MW-09 (e.g., MW-03 and MW-04), iron has not been detected. Therefore there is an unlikely potential for risk from iron.

3.2. Risk Evaluation – Powerton Generating Station

3.2.1. Estimates of Exposure and Effect

The site area has two groundwater flow regimes. Groundwater in the vicinity of the Powerton Generating Station ash ponds that is within the silt/clay unit discharges in a westerly direction to the adjoining intake channel; groundwater that is within the gravelly sand unit discharges in a northerly direction to the Illinois River. Based on groundwater analytical data collected between December 2010 and February 2015 from onsite monitoring wells (MW0-01 through MW-16), COIs for this site are: arsenic, boron, chloride, iron, lead, manganese, nitrate, selenium, sulfate, thallium, pH, and TDS.

Analytical data used in this evaluation is provided in Table B-3-1. Well-specific summary statistics calculated for each COI are from this data are provided in Table B-3-2 (average concentrations) and Table B-3-3 (maximum concentrations). Additionally, the mean of averages and the mean of maximums are calculated to provide a preliminary estimate of area-wide EPCs. Monitoring well locations are shown in Figure 4-2.

3.2.2. Results of Risk Evaluation

Based on comparisons of maximum detected concentrations at the site to WQS/WQC, there are no unacceptable risks from boron, chloride, nitrate, selenium, sulfate, and TDS.

Maximum detected concentrations of arsenic exceeded the chronic WQS in wells MW-07 and MW-06; however, the magnitude of exceedance was low (<2x) and average concentrations within these wells were below the chronic WQS. The maximum detected concentration of lead exceeded the chronic WQS in well MW-12; however, the magnitude of exceedance was low (<4x) and the average concentration within this well was below the chronic WQS. The maximum detected concentration of thallium exceed the chronic WQC in well MW-14; however, the magnitude of exceedance was low (<2x) and the average concentration within this well was below the chronic WQC. Field-measured pH levels were periodically less than or greater than the WQS range; however, on average, pH levels were well within the range. Therefore, based on the screening-level comparisons and site-specific conditions, there is an unlikely potential for risk form arsenic, lead, thallium, and pH.

Maximum and average manganese concentrations in in wells MW-07, MW-11, and MW-13 exceeded the WQS. These wells are reported to be screened within the gravelly-sand unit where

groundwater flows in a northerly direction toward the Illinois River (i.e., the receiving water body). However, maximum and average manganese concentrations reported in several downgradient wells located nearer to the river (MW-03, MW-04, and MW-05) were below the chronic WQS, indicating attenuation is occurring. Maximum manganese concentrations in wells MW-06 and MW-10 also exceeded the WQS at least once. MW-10 is reported to be screened within the gravelly-sand unit and is also upgradient of wells MW-03, MW-04, and MW-05. Exceedances within this well were of low magnitude (<2x) and the well-specific average concentration was less than the WQS. MW-06 exceedances were infrequent (1 in 18 samples), of low magnitude (<3x), and occurred in a monitoring well located adjacent to the intake channel, which conveys water from the river to the Site. Therefore, the transport of manganese via the channel to the river is not probable and there is an unlikely potential for risk from manganese.

Within the northerly-flowing gravelly-sand unit, maximum iron concentrations in wells MW-07, MW-10, MW-11, and MW-13 exceeded the chronic WQS. Importantly, however, maximum and average iron concentrations reported in several downgradient wells located nearer to the river (MW-03, MW-04, and MW-05) were below the chronic WQS. Within each of the five wells within the westerly-flowing silt-clay later, average and maximum iron concentrations exceeded the chronic WQS. These wells with exceedances are located adjacent to and flow westerly toward the intake channel, which conveys water from the river to the site. Thus, transport of iron via the channel to the river is not probable. Therefore, there is an unlikely potential for risk from iron.

3.3. Risk Evaluation – Waukegan Generating Station

3.3.1. Estimates of Exposure and Effect

Groundwater in the vicinity of the Waukegan Generating Station ash ponds discharges in an easterly direction to adjacent Lake Michigan. Based on the groundwater data collected between October 2010 and February 2015 from onsite monitoring wells (MW-01 through MW-09), COIs for this site are: antimony, arsenic, boron, chloride, iron, manganese, sulfate, pH, and TDS. Note that these COIs include inorganic constituents from upgradient and offsite sources, such as boron, which is migrating on to the Waukegan site from the former Greiss-Pfleger Tannery site.

Analytical data used in this evaluation is provided in Table B-4-1. Well-specific summary statistics calculated for COIs are provided in Table B-4-2 (average concentrations) and Table B-4-3 (maximum concentrations). Additionally, the mean of averages and the mean of maximums are

calculated to provide a preliminary estimate of area-wide EPCs. Monitoring well locations are shown in Figure 4-3.

3.3.2. Results of Risk Evaluation

Based on comparisons of maximum detected concentrations to WQS/WQC, there are no unacceptable risks from antimony and manganese.

Maximum detected concentrations of the remaining COIs exceeded WQS/WQC in at least one well. Arsenic exceedances were limited to two samples from MW-01, are of low magnitude (<2x), and the average concentration in MW-01 was less than the WQS. Chloride exceedances were limited to two samples from MW-05, are of low magnitude (<2x), and the average concentration was less than the WQS. Elevated pH levels were limited to wells MW-01, MW-02, and MW-03; however, on average, pH levels were within the WQS range. Therefore, there is an unlikely potential for risk form arsenic, chloride, and pH.

In individual wells MW-05 through MW-09, which are west and southwest of the ponds, average concentrations of boron, iron, sulfate, and TDS exceeded chronic WQS on one or more occasions. Importantly, there are no unacceptable risks for boron, iron, sulfate, and TDS in wells MW-01 through MW-04, which represent the most downgradient wells at the site. MW-01 through MW-04 appear to be downgradient of MW-05, MW-06, MW-08, and MW-09, indicating attenuation is occurring. Although no wells are directly downgradient of MW-07, there is no data to indicate that similar attenuation is not occurring in this area.

3.4. Risk Evaluation – Will County Generating Station

3.4.1. Estimates of Exposure and Effect

Groundwater in the vicinity of the Will County Generating Station ash ponds discharges in a westerly direction to the adjacent Des Plaines River. Based on the groundwater data collected between December 2010 and February 2015 from onsite monitoring wells (MW-01 through MW-10), COIs for this site are: antimony, boron, chloride, manganese, sulfate, pH, and TDS.

Analytical data used in this evaluation is provided in Table B-5-1. Well-specific summary statistics calculated for COIs are provided in Table B-5-2 (average concentrations) and Table B-5-3 (maximum concentrations). Additionally, the mean of averages and the mean of maximums are

calculated to provide a preliminary estimate of area-wide EPCs. Monitoring well locations are shown in Figure 4-5.

3.4.2. Results of Risk Evaluation

Based on comparisons of maximum detected concentrations to WQS/WQC, there are no unacceptable risks from antimony, boron, chloride, manganese, and TDS.

Maximum detected concentrations of sulfate exceeded the chronic WQS in two wells (MW-04 and MW-05). These two wells are located east (upgradient) of the ponds and are not adjacent to the river; no sulfate exceedances have occurred in those wells that are adjacent to the river (MW-07, MW-08, MW-09, and MW-10). Therefore, there is an unlikely potential for risk from sulfate.

Field-measured pH levels in individual wells were variable and periodically were less than or greater than the WQS range; however, with the exception of one well (MW-09), average pH levels were well within the range. For MW-09, pH levels exceeded the range in the majority of samples evaluated herein. MW-09 is located adjacent to the Des Plaines River; however, given that average pH concentrations in the remaining nine wells, including wells adjacent to the river, were within the acceptable range, there is an unlikely potential for risk from pH.

Table B-1
Surface Water Effects Values
Midwest Generation

Constituent	CAS	Units	Surface Water Effects Values[1]							
			General Use[2]				Lake Michigan Basin[3]			
			Chronic		Acute[4]		Chronic		Acute[4]	
Antimony	7440-36-0	mg/L	0.32	(2e)	1.2	(2e)	0.32	(3d)	1.2	(3d)
Arsenic	7440-38-2	mg/L	0.19	(2a)	0.36	(2a)	0.148	(3a)	0.34	(3a)
Boron	7440-42-8	mg/L	7.6	(2a)	40.1	(2a)	7.6	(3a)	40.1	(3a)
Chloride	16887-00-6	mg/L	500	(2b)	--		500	(3b)	--	
Iron	7439-89-6	mg/L	1.0	(2b)	--		1.0	(3b)	--	
Lead	7439-92-1	mg/L	0.0485	(2a,i)	0.231	(2a,i)	n/a		n/a	
Manganese	7439-96-5	mg/L	3.04	(2a,ii)	7.15	(2a,ii)	3.04	(3a)	7.15	(3a)
Nitrate	14797-55-8	mg/L	--		--		n/a		n/a	
pH	--	s.u.	6.5 - 9.0	(2d)	--		6.5 - 9.0	(3c)	--	
Selenium	7782-49-2	mg/L	1.0	(2b)	--		n/a		n/a	
Sulfate	18785-72-3	mg/L	site-specific	(2c)	--		500	(3b)	--	
Joliet #29	18785-72-3	mg/L	1350	(2c)	--		500	(3b)	--	
Powerton	18785-72-3	mg/L	1430	(2c)	--		500	(3b)	--	
Waukegan	18785-72-3	mg/L	1410	(2c)	--		500	(3b)	--	
Will County	18785-72-3	mg/L	1480	(2c)	--		500	(3b)	--	
Thallium	7440-28-0	mg/L	0.0037	(2f)	0.086	(2e)	n/a		n/a	
Total Dissolved Solids	--	mg/L	--		--		1,000	(3c)	--	

Notes

(1) Illinois Water Quality Standards (WQS) are used as surface water effects values for evaluating hypothetical human and ecological exposure scenarios. In the absence of a WQS, Illinois Water Quality Criteria (WQC) are used. Values are applicable to total (rather than dissolved) concentrations.

(2) Concentration represents an Illinois General Use WQS as defined in 35 IAC 302, Subpart B or an Illinois WQC (lower of aquatic life and human health WQC):

(a) 35 IAC 302.208(e), Numerical Water Quality Standards for the Protection of Aquatic Life
(i) Standard for total lead is a hardness (H)-dependent value, calculated as follows (see also footnote 5):
Chronic = exp[-2.863+1.273*ln(H)]*1E-3 mg/µg
Acute = exp[-1.301+1.273*ln(H)]*1E-3 mg/µg
(ii) Standard for total manganese is a hardness (H)-dependent value, calculated as follows (see also footnote 5):
Chronic = exp[4.0635+0.7467*ln(H)]*1E-3 mg/µg
Acute = exp[4.9187+0.7467*ln(H)]*1E-3 mg/µg
(b) 35 IAC 302.208(g), Single-Value Standards
(c) 35 IAC 302.208(h)(2)(A), Water Quality Standard for Sulfate; standard is hardness (H) and chloride (Cl) dependent, and calculated as follows (see also footnotes 5 and 6):
Chronic = exp[1276.7+5.508*(H)-1.457(Cl)]*0.65
(d) 35 IAC 302.204, pH
(e) Illinois WQC for the protection of aquatic life.
(f) Illinois WQC for the protection of human health (applicable to chronic values only).

(3) Concentration represents an Illinois Lake Michigan Basin WQS as defined in 35 IAC 302, Subpart E. Note that of the four subject sites, Lake Michigan Basin WQS are only applicable to the Waukegan Power Generating Station. "n/a" indicates a constituent is not of interest at the Waukegan Power Generating Station.

(a) 35 IAC 302.504(a), Lake Michigan Basin Water Quality Standards for Chemical Constituents. WQS for manganese and lead are calculated using the hardness-dependent GU equations.
(b) 35 IAC 302.504(b)
(c) IAC 302.503, pH
(d) If a Lake Michigan Basin WQS was not available, the General Use WQS was assumed to be applicable.

(4) Chronic values are used as the primary effects values for this evaluation; however, acute values are also presented for discussion purposes.

(5) Site-specific hardness data is not available. However, based on data from the Illinois Water Quality Database (http://ilrdss.isws.illinois.edu/WQ/), a value of 200 mg/L is considered a conservative estimate for the Site.

(6) Sulfate WQS calculated using the average chloride concentration for available data, which are as follows:
Joliet #29 212
Powerton 121
Waukegan 141
Will County 72.3

Definitions

"--" = value not available
n/a = not applicable
mg/L = milligram per liter
s.u. = standard unit

Table B-2-1
Groundwater Analytical Results for Constituents of Interest December 2010 to February 2015
Midwest Generation -- Joliet 29 Generating Station - Joliet, Will County, Illinois

Well	Constituent	Effects Values [1]	Units	Groundwater Analytical Results (Year [Month])																	
				2010 [12]	2011 [03]	2011 [06]	2011 [09]	2011 [12]	2012 [03] [2]	2012 [06]	2012 [09] [3]	2012 [12]	2013 [03]	2013 [05/06] [4]	2013 [07]	2013 [10]	2014 [02]	2014 [05]	2014 [08]	2014 [10]	2015 [02]
MW-01	Antimony	0.32	mg/L	0.0043	NS	<0.003	NS	NS	NS	NS	<0.003	NS	NS	0.0052	NS	NS	NS	NS	<0.003	<0.003	NS
MW-01	Boron	7.6	mg/L	0.31	NS	0.29	NS	NS	NS	NS	0.38	NS	NS	0.33	NS	NS	NS	NS	0.22	0.21	NS
MW-01	Chloride	500	mg/L	140	NS	170	NS	NS	NS	NS	120	NS	NS	210	NS	NS	NS	NS	120	79	NS
MW-01	Iron	1	mg/L	<0.1	NS	<0.1	NS	NS	NS	NS	<0.1	NS	NS	<0.1	NS	NS	NS	NS	<0.1	<0.1	NS
MW-01	Manganese	3.0	mg/L	<0.0025	NS	<0.0025	NS	NS	NS	NS	<0.0025	NS	NS	<0.0025	NS	NS	NS	NS	0.012	0.015	NS
MW-01	Sulfate	1350	mg/L	180	NS	81	NS	NS	NS	NS	240	NS	NS	140	NS	NS	NS	NS	59	65	NS
MW-01	Total Dissolved Solids	--		590	NS	670	NS	NS	NS	NS	630	NS	NS	700	NS	NS	NS	NS	550	570	NS
MW-02	Antimony	0.32	mg/L	0.012	NS	0.0042	0.0032	<0.003	<0.003	NS	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-02	Boron	7.6	mg/L	0.31	NS	0.35	0.44	0.74	0.22	NS	0.35	0.42	0.41	0.35	0.29	0.41	0.34	0.25	0.22	0.22	0.23
MW-02	Chloride	500	mg/L	140	NS	230	140	140	280	NS	120	150	260	250	310	180	240	350	280	240	190
MW-02	Iron	1	mg/L	<0.1	NS	<0.5	<0.1	<0.1	<0.1	NS	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-02	Manganese	3.0	mg/L	<0.0025	NS	<0.013	0.0025	<0.0025	<0.0025	NS	<0.0025	<0.0025	<0.0025	<0.0025	0.0036	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
MW-02	Sulfate	1350	mg/L	190	NS	67	110	150	110	NS	190	140	130	150	140	130	61	68	85	92	67
MW-02	Total Dissolved Solids	--		600	NS	720	690	750	800	NS	580	720	840	860	980	660	830	1100	850	810	730
MW-03	Antimony	0.32	mg/L	0.004	<0.003	<0.003	0.0065	0.016	0.013	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-03	Boron	7.6	mg/L	0.24	0.36	0.46	0.24	0.23	0.26	0.31	0.22	0.28	0.29	0.74	0.67	0.27	0.45	0.27	0.37	0.45	0.52
MW-03	Chloride	500	mg/L	260	240	300	160	260	250	260	330	290	260	380	210	250	200	300	220	180	160
MW-03	Iron	1	mg/L	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-03	Manganese	3.0	mg/L	0.1	0.048	<0.013	0.0076	0.088	0.0995	0.014	0.011	0.0076	0.0068	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
MW-03	Sulfate	1350	mg/L	120	160	120	120	160	190	160	150	110	140	250	260	230	89	110	84	130	58
MW-03	Total Dissolved Solids	--		930	1100	1000	930	1100	1000	1100	1000	1100	950	1300	1000	910	890	1100	810	760	700
MW-04	Antimony	0.32	mg/L	<0.003	<0.003	<0.003	<0.003	0.0067	0.0057	<0.003	<0.003	<0.003	<0.003	0.012	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-04	Boron	7.6	mg/L	0.46	0.47	0.58	0.25	0.34	0.29	0.48	0.34	0.38	0.4	0.4	0.5	0.45	0.55	0.32	0.35	0.41	0.44
MW-04	Chloride	500	mg/L	270	270	250	150	200	230	270	260	250	230	270	200	210	220	270	210	160	180
MW-04	Iron	1	mg/L	<0.1	<0.1	<0.5	0.22	<0.1	<0.1	<0.1	<0.1	<0.1	0.46	0.17	<0.1	<0.1	<0.1	0.18	<0.1	<0.1	0.14
MW-04	Manganese	3.0	mg/L	0.53	0.048	0.018	0.066	0.029	0.038	0.082	0.043	0.029	0.067	0.008	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0044
MW-04	Sulfate	1350	mg/L	300	140	84	74	170	230	110	180	130	110	120	170	230	110	140	89	160	65
MW-04	Total Dissolved Solids	--		1100	1000	890	770	970	930	1100	980	1000	880	900	840	860	870	860	760	720	730
MW-05	Antimony	0.32	mg/L	<0.003	<0.003	<0.003	<0.003	0.004	0.0035	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-05	Boron	7.6	mg/L	0.42	0.52	0.47	0.57	0.49	0.54	0.44	0.55	0.65	0.59	0.69	0.81	0.55	0.54	0.36	0.45	0.57	0.69
MW-05	Chloride	500	mg/L	150	240	220	120	190	270	220	240	230	230	180	110	140	240	370	120	120	220
MW-05	Iron	1	mg/L	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-05	Manganese	3.0	mg/L	0.0065	<0.0025	<0.013	<0.0025	<0.0025	<0.0025	0.004	0.081	<0.0025	0.0037	<0.0025	<0.0025	<0.0025	<0.0025	0.035	0.0062	<0.0025	0.0076
MW-05	Sulfate	1350	mg/L	110	160	100	140	140	190	130	210	210	150	200	290	180	130	160	360	240	230
MW-05	Total Dissolved Solids	--		750	990	850	800	980	930	1000	990	1000	960	1100	910	680	840	1100	1000	730	1000
MW-06	Antimony	0.32	mg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.0045	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-06	Boron	7.6	mg/L	0.32	0.44	0.32	0.27	0.3	0.25	0.26	0.25	0.31	0.33	0.23	0.23	0.22	0.26	0.17	0.26	0.19	0.22
MW-06	Chloride	500	mg/L	130	270	140	140	130	240	210	190	150	160	170	120	120	370	340	120	100	150
MW-06	Iron	1	mg/L	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-06	Manganese	3.0	mg/L	0.14	0.033	<0.013	0.036	0.024	0.015	0.008	0.0087	0.0076	0.0047	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
MW-06	Sulfate	1350	mg/L	140	140	87	100	130	130	91	85	120	120	96	110	150	100	120	91	140	140
MW-06	Total Dissolved Solids	--		650	1000	650	620	710	800	860	760	710	690	690	350	570	930	990	600	830	710
MW-07	Antimony	0.32	mg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-07	Boron	7.6	mg/L	0.51	0.39	0.25	0.29	0.35	0.3	0.25	0.31	0.41	0.39	0.21	0.21	0.24	0.3	0.15	0.22	0.17	0.21
MW-07	Chloride	500	mg/L	430	320	140	99	140	300	170	170	140	190	170	95	130	470	350	110	98	210
MW-07	Iron	1	mg/L	<0.1	<0.1	<0.5	3.8	<0.1	<0.1	0.13	<0.1	<0.1	<0.1	0.41	<0.1	<0.1	<0.1	<0.1	<0.1	0.13	0.13
MW-07	Manganese	3.0	mg/L	0.29	0.014	<0.013	0.08	0.0073	0.015	0.069	0.0041	0.0063	0.0043	0.012	<0.0025	<0.0025	<0.0025	<0.0025	0.0033	0.0091	0.0048
MW-07	Sulfate	1350	mg/L	250	120	85	110	160	140	190	130	90	150	130	74	190	170	110	82	120	260
MW-07	Total Dissolved Solids	--		1200	970	580	650	780	870	760	760	760	720	740	540	650	1200	860	570	520	1000

Table B-2-1
Groundwater Analytical Results for Constituents of Interest, December 2010 to February 2015
Midwest Generation – Joliet #29 Generating Station - Joliet, Will County, Illinois

Well	Constituent	Effects Values (1)	Units	Groundwater Analytical Results (Year [Month])																	
				2010 [12]	2011 [03]	2011 [06]	2011 [09]	2011 [12]	2012 [03] (2)	2012 [06]	2012 [09] (3)	2012 [12]	2013 [03]	2013 [05/06] (4)	2013 [07]	2013 [10]	2014 [02]	2014 [05]	2014 [08]	2014 [10]	2015 [02]
MW-08	Antimony	0.32	mg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-08	Boron	7.6	mg/L	0.29	0.16	0.12	0.2	0.16	0.13	0.2	0.46	0.33	0.25	x	0.18	0.19	0.16	0.15	0.19	0.16	0.64
MW-08	Chloride	500	mg/L	170	350	150	79	120	410	150	130	30	200	300	210	110	270	**780**	170	140	470
MW-08	Iron	1	mg/L	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	0.24	<0.1	<0.1	0.23	<0.1	<0.1	0.11	<0.1	<0.1	<0.1	18
MW-08	Manganese	3.0	mg/L	0.0051	0.0026	0.017	<0.0025	<0.0025	0.0042	0.016	0.023	0.0044	<0.0025	0.0065	<0.0025	<0.0025	0.0039	<0.0025	0.017	0.0069	1.1
MW-08	Sulfate	1350	mg/L	210	87	52	120	170	130	110	180	30	150	99	72	74	54	460	59	73	600
MW-08	Total Dissolved Solids	--		670	990	580	690	800	1040	740	710	730	830	860	740	560	740	2100	610	560	2000
MW-09	Antimony	0.32	mg/L	<0.003	<0.003	<0.005	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-09	Boron	7.6	mg/L	0.36	0.32	0.29	0.35	0.31	0.38	0.34	0.59	0.44	0.36	0.3	0.29	0.29	0.3	0.27	0.29	0.24	0.3
MW-09	Chloride	500	mg/L	140	230	290	190	190	170	250	160	50	190	290	280	280	270	340	270	230	390
MW-09	Iron	1	mg/L	<0.1	0.18	**7.3**	**3.8**	**1.5**	**5.5**	**8**	**4.7**	**13**	**15**	**160**	**50**	**25**	**12**	**8.4**	**130**	**45**	**23**
MW-09	Manganese	3.0	mg/L	1.1	1.6	0.95	0.82	0.66	1.3	1.2	0.68	0.44	0.43	1.6	0.81	0.52	0.34	0.3	0.72	0.38	0.54
MW-09	Sulfate	1350	mg/L	**1600**	1100	580	750	130	**1600**	**1500**	**1600**	1100	700	1300	1000	680	560	560	880	960	820
MW-09	Total Dissolved Solids	--		2600	2400	1500	1700	2400	2600	2800	2900	2000	1700	3000	2300	1700	1600	1700	2100	1700	2400
MW-10	Antimony	0.32	mg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-10	Boron	7.6	mg/L	0.5	0.54	0.54	0.41	0.52	0.52	0.53	0.43	0.49	0.49	0.25	0.3	0.42	0.4	0.39	0.48	0.56	0.52
MW-10	Chloride	500	mg/L	200	360	71	170	180	180	290	230	200	210	240	210	220	240	300	200	170	210
MW-10	Iron	1	mg/L	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.32	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-10	Manganese	3.0	mg/L	0.12	0.0076	<0.013	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.01	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0049
MW-10	Sulfate	1350	mg/L	130	130	89	100	190	250	170	110	20	84	120	130	140	55	120	73	110	93
MW-10	Total Dissolved Solids	--		860	1100	980	730	890	890	1100	870	860	830	850	910	880	870	890	910	740	810
MW-11	Antimony	0.32	mg/L	<0.003	<0.003	<0.015	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-11	Boron	7.6	mg/L	0.47	2.6	2.2	1.1	1.2	1.4	0.85	0.68	0.57	1.1	0.34	0.88	0.49	1.2	1.3	1.6	2	1.1
MW-11	Chloride	500	mg/L	160	270	280	86	140	240	150	150	40	190	160	91	140	430	340	120	84	270
MW-11	Iron	1	mg/L	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	0.23	<0.1	0.42	0.15	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.17
MW-11	Manganese	3.0	mg/L	0.052	0.0047	<0.013	0.0053	0.0047	<0.0025	0.014	<0.0025	0.042	0.016	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.27
MW-11	Sulfate	1350	mg/L	140	150	110	110	160	140	150	100	50	110	100	100	110	130	100	91	120	290
MW-11	Total Dissolved Solids	--		770	1000	710	590	790	850	760	740	730	770	670	570	690	1100	850	720	580	1300

Notes
(1) Illinois General Use Water Quality Standards (WQS) and Illinois Water Quality Criteria (WQC) are used as surface water effects values.
(2) Manganese results for March 2012 for wells MW-02, MW-03, and MW-04 were qualified as "^" by the laboratory, which denotes instrument-related QC exceeds the control limits.
(3) Boron results for September 2012 were qualified as "^" by the laboratory, which denotes instrument-related QC exceeds the control limits.
(4) Boron results for May 2013 for well MW-03 were qualified as "V" by the laboratory. A qualifier definition was not identified.

mg/L = milligrams per liter
"--" = value not available
"<" = constituent was not detected; the reporting limit is presented
bold/shading = concentration exceeds effects value

Table B-2-2
Comparison Of Average Groundwater Analytical Results To Surface Water Effects Values
Midwest Generation -- Joliet #29 Generating Station - Joliet, Will County, Illinois

Constituent	Units	Effects Value [1]	Groundwater Analytical Results - Average Concentrations [2]											Average [3]
			MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	MW-10	MW-11	
Antimony	mg/L	0.32	0.00258	0.00243	0.00336	0.00261	0.00175	0.00167	0.003 U	0.003 U	0.003 U	0.003 U	0.00367 U	0.00202
Boron	mg/L	7.6	0.29	0.347	0.368	0.384	0.567	0.268	0.287	0.234	0.334	0.461	1.17	0.428
Chloride	mg/L	500	140	219	251	227	196	181	207	241	239	209	191	209
Iron	mg/L	1.0	0.1 U	0.125 U	0.122 U	0.112	0.122 U	0.122 U	0.303	0.638	**28.5**	0.0761	0.104	**2.73**
Manganese	mg/L	3.04	0.00533	0.0018	0.0127	0.0428	0.00906	0.0163	0.0295	0.0675	0.799	0.00918	0.0237	0.0924
Sulfate	mg/L	1350	128	118	146	144	185	115	143	157	968	123	131	214
Total Dissolved Solids	mg/L	--	618	783	982	898	918	712	785	884	2170	887	788	948

Notes
(1) Illinois General Use Water Quality Standards (WQS) and Illinois Water Quality Criteria (WQC) are used as surface water effects values.
(2) Average of concentrations reported between December 2010 and February 2015. If a constituent was not detected during this timeframe, the average reporting limit is presented in the table, indicated with a "U" qualifier. Otherwise, non-detect results were included in the average calculation assuming one-half the reporting limit.
(3) Average of concentrations (averages) presented in the table, assuming one-half the reporting limit for non-detect results.

mg/L = milligram per liter
s.u. = standard units
"--" = value not available
U = constituent not detected above its reporting limit; reporting limit presented
bold/shading = concentration exceeds effects value

Table B-2-3
Comparison Of Maximum Groundwater Analytical Results To Surface Water Effects Values
Midwest Generation -- Joliet #29 Generating Station - Joliet, Will County, Illinois

Constituent	Units	Effects Value [1]	Groundwater Analytical Results - Maximum Concentrations [2]											Average [3]
			MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	MW-10	MW-11	
Antimony	mg/L	0.32	0.0052	0.012	0.016	0.012	0.004	0.0045	0.003 U	0.003 U	0.003 U	0.003 U	0.015 U	0.00611
Boron	mg/L	7.6	0.38	0.74	0.74	0.5	0.95	0.44	0.51	0.64	0.59	0.56	2.6	0.786
Chloride	mg/L	500	210	350	380	270	370	370	470	**780**	390	300	430	393
Iron	mg/L	1.0	0.1 U	0.5 U	0.5 U	0.46	0.5 U	0.5 U	**3.8**	**10**	**160**	0.32	0.42	**16**
Manganese	mg/L	3.04	0.015	0.0036	0.1	0.33	0.081	0.14	0.29	1.1	1.6	0.12	0.27	0.368
Sulfate	mg/L	1350	240	190	260	300	360	150	260	600	**1600**	250	290	409
Total Dissolved Solids	mg/L	--	700	1100	1300	1100	1100	1000	1200	2100	3000	1100	1300	1360

Notes
(1) Illinois General Use Water Quality Standards (WQS) and Illinois Water Quality Criteria (WQC) are used as surface water effects values.
(2) Maximum detected concentrations reported between December 2010 and February 2015. If a constituent was not detected during this timeframe, the maximum reporting limit is presented in the table, indicated with a "U" qualifie
(3) Average of concentrations (maximums) presented in the table, assuming one-half the reporting limit for non-detect results.

mg/L = milligram per liter
s.u. = standard units
"--" = value not available
U = constituent not detected above its reporting limit; reporting limit presented
bold/shading = concentration exceeds effects value

Table II-3-1
Groundwater Analytical Results for Constituents of Interest, December 2010 to February 2015
Midwest Generation – Powerton Generating Station - Pekin, Tazewell County, Illinois

Well	Constituent	Effects Value [1]	Units	Groundwater Analytical Results (Year [Month])																			
				2010 [12]	2011 [02/03]	2011 [04]	2011 [06]	2011 [08]	2011 [09/10]	2011 [12]	2012 [03/04]	2012 [06]	2012 [09]	2012 [12]	2013 [02]	2013 [05]	2013 [07]	2013 [10]	2014 [03] [3]	2014 [05] [4]	2014 [08] [4]	2014 [10]	2015 [02]
MW-01	Arsenic	0.19	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	0.001	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-01	Boron	7.6	mg/L	0.45	0.26	--	0.33	--	1	0.48	0.29	0.46	1.8	<2	1.7	0.47	0.48	0.62	0.53	0.26	0.16	0.075	0.059
MW-01	Chloride	500	mg/L	46	37	--	40	--	41	26	53	42	43	41	38	160	140	46	48	73	58	42	47
MW-01	Iron	1	mg/L	<NP	<0.01	--	<0.01	--	<0.01	<0.01	<0.01	<0.01	<0.01	0.17	<0.01	0.43	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-01	Lead	0.0485	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	0.0008	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW-01	Manganese	3.04	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	0.0027	0.018	<0.001	0.027	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0043
MW-01	Nitrogen/Nitrate	--	mg/L	7.2	4.3	--	5.7	--	11	4.1	7.3	6.5	5.4	7.2	7.4	0.23	0.42	4.5	4.7	2.2	1.5	4.4	4.1
MW-01	Nitrogen/Nitrate, Nitrite	--	mg/L	NR	NR	--	NR	--	NR	NR	NR	NR	NR	NR	NR	0.23	0.42	4.5	4.7	2.2	1.5	4.4	4.1
MW-01	pH	6.5 - 9.0	s.u.	7.46	7.43	--	7.58	--	7.37	6.39	7.59	7.45	7.06	6.98	9.53	7.09	6.75	7.12	7.05	7.15	7.25	7.25	6.93
MW-01	Selenium	1	mg/L	0.0016	0.0022	--	0.0016	--	0.0036	0.0027	0.0025	0.0042	0.005	<0.005	0.0045	<0.0025	<0.0025	0.0042	0.004	<0.0025	<0.0025	<0.0025	<0.0025
MW-01	Sulfate	1490	mg/L	50	30	--	39	--	83	31	61	68	72	91	77	330	270	85	99	51	36	54	43
MW-01	Thallium	0.0037	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-01	Total Dissolved Solids	--	mg/L	490	340	--	410	--	510	440	470	580	710	640	640	840	870	660	590	440	350	410	470
MW-02	Arsenic	0.19	mg/L	0.0018	0.0015	--	0.0017	--	<0.001	<0.001	<0.001	0.0011	0.0012	<0.005	0.0011	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0015
MW-02	Boron	7.6	mg/L	0.38	0.23	--	0.35	--	0.83	0.69	0.27	0.74	0.65	0.8	0.29	0.21	1.4	2.7	0.28	0.38	1.1	0.078	0.082
MW-02	Chloride	500	mg/L	45	43	--	44	--	46	40	53	51	45	48	52	53	48	90	88	91	58	44	54
MW-02	Iron	1	mg/L	<NP	<0.01	--	<0.01	--	<0.01	<0.01	<0.01	<0.01	<0.01	0.046	0.026	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-02	Lead	0.0485	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0013	<0.0005
MW-02	Manganese	3.04	mg/L	<NP	0.0012	--	0.0022	--	<0.001	<0.001	<0.001	<0.001	0.0019	0.0063	<0.001	<0.0025	0.006	0.006	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
MW-02	Nitrogen/Nitrate	--	mg/L	7.5	4.5	--	4.7	--	4.3	6.9	5.1	4.4	3.9	2.4	5.7	0.44	0.59	1.1	2.4	4	0.28	4.3	5.9
MW-02	Nitrogen/Nitrate, Nitrite	--	mg/L	NR	NR	--	NR	--	NR	NR	NR	NR	NR	NR	NR	0.48	0.59	1.1	2.4	4	0.28	4.3	5.9
MW-02	pH	6.5 - 9.0	s.u.	7.01	7.78	--	7.20	--	7.52	6.41	7.52	7.35	7.32	7.38	7.53	7.39	7.03	7.20	8.21	7.19	7.01	7.37	8.13
MW-02	Selenium	1	mg/L	0.0017	0.0032	--	0.0014	--	0.0032	0.0037	<0.001	0.0039	0.0016	<0.005	0.0032	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
MW-02	Sulfate	1490	mg/L	52	42	--	53	--	70	69	55	73	69	95	53	96	140	190	53	63	76	49	57
MW-02	Thallium	0.0037	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-02	Total Dissolved Solids	--	mg/L	480	420	--	470	--	460	490	440	500	510	520	440	340	560	770	430	440	460	440	510
MW-03	Arsenic	0.19	mg/L	0.0017	<0.001	--	0.0011	--	0.0012	0.0012	0.0012	<0.001	0.0015	<0.005	0.0013	0.0012	0.0013	0.0011	<0.001	<0.001	<0.001	<0.001	<0.001
MW-03	Boron	7.6	mg/L	0.75	0.18	--	0.24	--	0.64	0.7	0.56	0.63	0.64	0.63	0.65	0.21	0.47	0.46	0.14	0.15	0.37	0.14	0.32
MW-03	Chloride	500	mg/L	39	52	--	59	--	62	39	54	57	54	58	53	55	60	57	120	100	79	47	47
MW-03	Iron	1	mg/L	<NP	<0.01	--	<0.01	--	0.042	<0.01	<0.01	<0.01	<0.01	0.036	0.019	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-03	Lead	0.0485	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	0.00097	<0.0005	<0.0005	<0.0005
MW-03	Manganese	3.04	mg/L	0.0017	0.0023	--	<0.001	--	0.0037	0.0014	<0.001	0.0033	0.002	0.0034	0.0011	<0.0025	<0.0025	0.00039	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
MW-03	Nitrogen/Nitrate	--	mg/L	9.4	5.2	--	5.4	--	9.2	9.2	2.1	0.37	0.098	0.13	2	0.15	<0.1	<0.1	2.6	5.3	<0.1	2.4	2
MW-03	Nitrogen/Nitrate, Nitrite	--	mg/L	NR	NR	--	NR	--	NR	NR	NR	NR	NR	NR	NR	0.15	<0.1	<0.1	2.6	5.3	<0.1	2.4	2
MW-03	pH	6.5 - 9.0	s.u.	7.43	7.55	--	7.33	--	7.30	6.58	7.38	7.36	7.46	7.41	7.46	7.31	7.22	7.25	8.34	7.27	6.97	7.43	7.75
MW-03	Selenium	1	mg/L	<NP	0.0036	--	0.0015	--	0.0036	0.0021	0.0067	0.0018	0.0033	<0.005	0.0008	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
MW-03	Sulfate	1490	mg/L	64	42	--	47	--	66	45	72	84	74	74	64	82	99	96	65	65	100	40	46
MW-03	Thallium	0.0037	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-03	Total Dissolved Solids	--	mg/L	480	430	--	440	--	460	480	450	520	520	460	500	310	460	430	490	440	490	440	490
MW-04	Arsenic	0.19	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	0.0012	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-04	Boron	7.6	mg/L	0.77	0.93	--	0.33	--	0.84	0.79	0.78	0.83	0.76	0.74	0.97	0.23	0.67	0.81	0.83	0.94	1	0.77	0.94
MW-04	Chloride	500	mg/L	150	77	--	43	--	86	81	58	75	110	130	90	54	70	150	130	92	95	96	74
MW-04	Iron	1	mg/L	<NP	0.017	--	<0.01	--	<0.01	<0.01	<0.01	<0.01	<0.01	0.14	0.059	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-04	Lead	0.0485	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW-04	Manganese	3.04	mg/L	0.77	0.68	--	0.41	--	0.69	0.35	0.089	0.26	0.5	0.027	0.007	<0.0025	0.13	0.27	0.026	0.029	0.24	0.075	1.018
MW-04	Nitrogen/Nitrate	--	mg/L	0.34	0.73	--	2.7	--	0.06	0.07	0.65	1.1	0.46	1	1.8	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	0.14	0.3
MW-04	Nitrogen/Nitrate, Nitrite	--	mg/L	NR	NR	--	NR	--	NR	NR	NR	NR	NR	NR	NR	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	0.14	0.3
MW-04	pH	6.5 - 9.0	s.u.	7.27	7.48	--	7.26	--	7.22	6.37	7.24	7.04	7.13	7.14	7.37	7.30	7.02	7.00	8.00	7.04	7.00	7.20	7.63
MW-04	Selenium	1	mg/L	0.0022	0.0037	--	0.0022	--	0.0030	0.002	0.0085	0.0035	0.0032	<0.005	0.013	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
MW-04	Sulfate	1490	mg/L	110	140	--	48	--	61	67	160	94	170	150	130	92	190	260	200	320	260	390	310
MW-04	Thallium	0.0037	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-04	Total Dissolved Solids	--	mg/L	680	620	--	470	--	580	520	660	600	800	720	640	350	670	980	780	980	880	1100	580

Table B-3-1
Groundwater Analytical Results for Constituents of Interest December 2010 to February 2015
Midwest Generation – Powerton Generating Station - Pekin, Tazewell County, Illinois

Well	Constituent	Effects Value [1]	Units	Groundwater Analytical Results (Year [Month])																		
				2010 [12]	2011 [02/03]	2011 [04]	2011 [06]	2011 [08]	2011 [09/10]	2011 [12]	2012 [03/04]	2012 [06]	2012 [09]	2012 [12]	2013 [02]	2013 [05]	2013 [07]	2013 [10]	2014 [03] [2]	2014 [05] [3]	2014 [08] [4]	2014 [10]	2015 [02]
MW-05	Arsenic	0.19	mg/L	0.0011	<0.001	--	<0.001	--	<0.001	0.001	<0.001	<0.001	<0.003	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-05	Boron	7.6	mg/L	0.95	0.93	--	0.79	--	0.79	0.77	0.82	0.74	0.65	0.66	0.66	0.7	0.64	0.83	0.7	0.76	0.71	<0.05	1.1
MW-05	Chloride	500	mg/L	150	120	--	89	--	160	140	82	100	150	170	130	92	150	70	120	80	140	120	70
MW-05	Iron	1	mg/L	0.13	0.05	--	0.046	--	0.082	0.036	<0.01	<0.01	<0.01	0.43	0.052	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-05	Lead	0.0485	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW-05	Manganese	3.04	mg/L	0.51	0.49	--	0.48	--	0.64	0.5	0.26	0.41	1	0.59	0.21	0.67	0.29	1.62	0.077	0.043	0.016	<0.0025	0.058
MW-05	Nitrogen/Nitrate	--	mg/L	<NP	<0.02	--	0.08	--	<0.02	<0.02	1.6	0.04	0.04	0.04	0.19	<0.1	<0.1	1.34	0.74	2.2	0.11	0.2	0.74
MW-05	Nitrogen/Nitrate, Nitrite	--	mg/L	NR	NR	--	NR	--	NR	NR	NR	NR	NR	NR	NR	<0.1	<0.1	1.34	0.77	2.2	0.11	0.2	0.74
MW-05	pH	6.5 - 9.0	s.u.	7.24	7.36	--	7.29	--	7.05	6.34	7.14	7.00	6.94	6.94	8.91	6.87	6.82	6.89	7.09	7.01	6.86	7.30	7.32
MW-05	Selenium	1	mg/L	0.0019	0.003	--	<0.001	--	0.0045	0.0023	0.0028	0.0033	0.0031	<0.005	0.0029	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	0.0028	<0.0025	<0.0025
MW-05	Sulfate	1430	mg/L	160	170	--	110	--	250	170	120	130	200	200	180	310	290	260	180	150	260	330	130
MW-05	Thallium	0.0037	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-05	Total Dissolved Solids	--	mg/L	740	680	--	640	--	898	420	590	700	890	840	790	960	1000	1100	840	640	870	910	570
MW-06	Arsenic	0.19	mg/L	0.0042	0.0024	--	0.0029	--	0.0031	0.0036	0.002	0.0021	0.0022	<0.005	0.0017	0.002*	0.0037	0.0039	0.001	0.2	0.0024	0.0016	0.0011
MW-06	Boron	7.6	mg/L	0.5	0.35	--	0.43	--	0.61	0.63	0.39	0.46	0.57	0.45	0.39	1	0.62	1.51	0.34	0.35	0.52	0.34	0.34
MW-06	Chloride	500	mg/L	180	200	--	160	--	230	150	150	200	190	240	200	99	200	210	230	230	330	240	110
MW-06	Iron	1	mg/L	1.6	1.6	--	1.7	--	1.8	1.9	1.7	1.9	1.9	1.6	1.1	1.8	2.2	1.8	1.5	22	1	0.81	1
MW-06	Lead	0.0485	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00082	<0.0005
MW-06	Manganese	3.04	mg/L	0.68	0.68	--	0.63	--	0.69	0.63	0.61	0.71	0.64	0.61	0.5	1.3	0.7	1.58	0.68	8	0.71	0.57	0.86
MW-06	Nitrogen/Nitrate	--	mg/L	0.07	<0.02	--	<0.02	--	0.04	0.06	<0.02	<0.02	0.04	0.06	0.02	<0.1	<0.1	0.16	<0.1	<0.1	<0.1	0.11	<0.1
MW-06	Nitrogen/Nitrate, Nitrite	--	mg/L	NR	NR	--	NR	--	NR	NR	NR	NR	NR	NR	NR	<0.1	<0.1	0.16	<0.1	<0.1	<0.1	0.11	<0.1
MW-06	pH	6.5 - 9.0	s.u.	7.67	7.47	--	7.62	--	7.61	7.35	7.68	7.59	7.73	7.68	9.30	7.23	7.37	7.55	8.21	7.45	7.73	7.60	8.05
MW-06	Selenium	1	mg/L	0.0034	<0.001	--	<0.001	--	0.0025	0.0033	<0.001	0.0013	0.0023	<0.005	0.001	0.003	<0.0025	0.0065	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
MW-06	Sulfate	1430	mg/L	210	250	--	280	--	260	170	250	450	340	440	320	560	440	710	410	530	800	380	360
MW-06	Thallium	0.0037	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-06	Total Dissolved Solids	--	mg/L	950	990	--	1100	--	970	1000	1100	1300	1200	1200	1100	1400	1200	1100	1100	1400	1300	1100	1100
MW-07	Arsenic	0.19	mg/L	0.026	0.085	--	0.12	--	0.18	0.23	0.23	0.15	0.18	0.26	0.17	0.12	0.22	0.2	0.15	<0.001	0.19	0.31	0.18
MW-07	Boron	7.6	mg/L	0.61	0.44	--	0.48	--	0.38	0.34	0.35	0.41	0.46	0.41	0.47	0.52	0.41	0.46	0.37	1	0.33	0.27	0.39
MW-07	Chloride	500	mg/L	170	200	--	140	--	130	81	99	130	130	150	160	180	150	60	170	130	160	150	130
MW-07	Iron	1	mg/L	8	7.5	--	10	--	22	26	31	10	21	18	27	15	30	20	17	0.15	14	25	23
MW-07	Lead	0.0485	mg/L	0.039	<0.001	--	0.0014	--	<0.001	<0.001	<0.001	0.0013	<0.001	<0.005	<0.001	<0.0005	<0.0005	<0.0005	0.0011	<0.0005	<0.0005	<0.0005	0.0066
MW-07	Manganese	3.04	mg/L	3.5	5.9	--	6.4	--	12	12	11	9.3	8	6.7	9.5	5.7	11	3.9	5.8	0.33	6.6	13	7
MW-07	Nitrogen/Nitrate	--	mg/L	0.043	0.08	--	<0.02	--	0.31	0.69	<0.02	0.02	<0.02	0.03	0.06	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-07	Nitrogen/Nitrate, Nitrite	--	mg/L	NR	NR	--	NR	--	NR	NR	NR	NR	NR	NR	NR	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-07	pH	6.5 - 9.0	s.u.	NM	7.04	--	6.78	--	6.83	6.45	6.79	6.91	6.93	6.97	6.87	6.99	6.68	6.82	7.20	6.67	7.00	6.94	6.90
MW-07	Selenium	1	mg/L	0.0043	0.0026	--	0.0025	--	0.0073	0.0054	0.0043	0.006	0.0047	<0.005	0.0031	0.0028	<0.0025	0.0056	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
MW-07	Sulfate	1430	mg/L	120	49	--	25	--	9.1	3.3	3	18	25	43	36	120	42	80	95	52	71	16	50
MW-07	Thallium	0.0037	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-07	Total Dissolved Solids	--	mg/L	860	1100	--	1300	--	1300	1500	1400	1300	1300	1100	1200	1000	1300	1200	1200	1200	1300	1300	1100
MW-08	Arsenic	0.19	mg/L	0.0052	0.0039	--	0.0044	--	0.0036	0.0052	0.0038	0.004	0.0041	0.0062	0.005	0.0076	0.0041	0.0037	0.003	<0.001	0.0025	0.0022	0.0026
MW-08	Boron	7.6	mg/L	0.93	0.72	--	0.64	--	0.82	0.82	0.57	0.57	1	0.93	1.1	0.91	1.2	1.93	0.83	0.44	0.8	0.72	0.81
MW-08	Chloride	500	mg/L	180	210	--	140	--	210	190	170	200	210	220	200	230	220	260	230	340	380	340	260
MW-08	Iron	1	mg/L	0.56	2.1	--	1.7	--	0.97	0.94	2.3	1.2	1.3	2.1	6.5	2.3	6.6	1.3	0.89	0.24	0.62	0.53	0.17
MW-08	Lead	0.0485	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW-08	Manganese	3.04	mg/L	0.15	0.27	--	0.29	--	0.18	0.2	0.27	0.2	0.2	0.23	0.43	0.25	0.48	0.16	0.2	0.7	0.17	0.13	0.11
MW-08	Nitrogen/Nitrate	--	mg/L	<NP	<0.02	--	0.1	--	1.6	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-08	Nitrogen/Nitrate, Nitrite	--	mg/L	NR	NR	--	NR	--	NR	NR	NR	NR	NR	NR	NR	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-08	pH	6.5 - 9.0	s.u.	8.24	8.17	--	7.66	--	8.24	7.87	7.97	8.20	8.23	8.09	7.72	7.81	7.39	8.16	8.46	7.72	8.12	7.80	8.62
MW-08	Selenium	1	mg/L	0.0036	0.0015	--	<0.001	--	0.0031	0.0036	0.0018	0.0018	<0.003	<0.005	0.002	0.0029	<0.0025	0.0048	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
MW-08	Sulfate	1430	mg/L	160	240	--	140	--	200	200	300	440	330	360	330	460	380	250	320	300	240	290	160
MW-08	Thallium	0.0037	mg/L	<NP	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-08	Total Dissolved Solids	--	mg/L	890	980	--	970	--	940	990	1200	1200	1200	1200	1100	1300	1300	1300	1200	1400	1400	1200	1100

Table H-3-1
Groundwater Analytical Results for Constituents of Interest, December 2010 to February 2015
Midwest Generation -- Powerton Generating Station - Pekin, Tazewell County, Illinois

Well	Constituent	Effects Value [1]	Units	Groundwater Analytical Results (Year [Month])																		
				2010 [12]	2011 [02/03]	2011 [03]	2011 [06]	2011 [08]	2011 [09/10]	2011 [12]	2012 [03/04]	2012 [06]	2012 [09]	2012 [12]	2013 [02]	2013 [05]	2013 [07]	2013 [10]	2014 [03] [4]	2014 [05] [4]	2014 [08] [4]	2014 [10]	2015 [02]
MW-09	Arsenic	0.19	mg/L	<NP*	0.0018	--	0.0017	--	<0.001	0.0012	<0.001	0.0017	<0.001	<0.005	0.0013	<0.001	<0.001	<0.001	0.0021	<0.001	<0.001	<0.001	<0.001
MW-09	Boron	7.6	mg/L	2.1	1.9	--	1.9	--	2.5	2.7	2.6	2.6	2.9	3.2	4.3	3.2	2.5	1.6	1.7	2.5	2.4	1.6	1
MW-09	Chloride	500	mg/L	25	28	--	28	--	30	30	30	37	28	31	27	29	33	42	25	34	33	32	34
MW-09	Iron	1	mg/L	<NP*	0.056	--	<0.01	--	<0.01	<0.01	0.014	<0.01	<0.01	<0.01	0.024	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-09	Lead	0.0485	mg/L	<NP*	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.0005	<0.0005	<0.0005	0.00051	<0.0005	<0.0005	<0.0005	<0.0005
MW-09	Manganese	3.04	mg/L	0.23	0.45	--	0.48	--	0.34	0.28	0.22	0.33	0.11	0.1	0.19	0.053	0.038	0.012	0.84	0.36	0.031	0.022	0.024
MW-09	Nitrogen/Nitrate	--	mg/L	2.9	5.6	--	5.6	--	3.7	2.6	5	2.8	6.3	10	12	11	7.9	3.6	3.2	11	1.6	5.9	13
MW-09	Nitrogen/Nitrate, Nitrite	--	mg/L	NR	NR	--	NR	--	NR	NR	NR	NR	NR	NR	NR	11	7.9	4.6	3.2	11	1.6	5.9	13
MW-09	pH	6.5 - 9.0	s.u.	7.22	7.34	--	7.10	--	7.32	**6.31**	7.28	7.30	7.18	7.10	8.00	7.21	6.63	7.19	7.53	6.99	7.09	7.29	7.53
MW-09	Selenium	1	mg/L	0.0024	0.0072	--	0.0017	--	0.0043	0.0041	0.0072	0.0047	0.0044	0.009	0.015	0.016	0.014	0.0047	0.003	0.0074	0.0061	0.0084	0.0091
MW-09	Sulfate	1430	mg/L	110	110	--	110	--	130	110	120	130	120	130	140	140	130	90	110	110	100	160	150
MW-09	Thallium	0.0037	mg/L	<NP*	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-09	Total Dissolved Solids	--	mg/L	500	510	--	540	--	500	520	530	520	580	560	520	600	610	430	560	540	490	630	570
MW-10	Arsenic	0.19	mg/L	<NP*	<0.001	--	0.0015	--	<0.001	<0.001	<0.001	0.0015	0.0014	<0.005	0.001	0.0012	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-10	Boron	7.6	mg/L	0.48	0.48	--	0.52	--	0.42	0.57	0.54	0.54	0.42	0.46	0.64	0.98	1.9	0.61	2.1	1.2	1.9	0.84	0.83
MW-10	Chloride	500	mg/L	40	43	--	45	--	49	42	45	46	45	45	57	41	40	54	40	37	57	62	22
MW-10	Iron	1	mg/L	<NP*	<0.01	--	0.044	--	<0.01	<0.01	<0.01	0.015	0.012	0.016	<0.01	2.7	<0.1	0.18	0.19	0.11	0.34	<0.1	0.22
MW-10	Lead	0.0485	mg/L	<NP*	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	0.012	<0.0005	<0.0005	0.0008	<0.0005	<0.0005	<0.0005	<0.0005
MW-10	Manganese	3.04	mg/L	2.1	2.8	--	**3.8**	--	2.3	2.3	2.3	2.6	2.5	2.2	1.9	**3.2**	1.5	2	**3.1**	1.6	2.1	1.1	1.3
MW-10	Nitrogen/Nitrate	--	mg/L	3	4	--	2.1	--	4.5	4.9	6	2.9	5.2	4.8	3.3	1.9	1.5	1.2	2	2.1	0.41	0.67	0.9
MW-10	Nitrogen/Nitrate, Nitrite	--	mg/L	NR	NR	--	NR	--	NR	NR	NR	NR	NR	NR	NR	1.9	1.6	1.2	2	2.1	0.43	0.71	0.94
MW-10	pH	6.5 - 9.0	s.u.	7.04	7.01	--	6.88	--	7.04	**6.03**	7.03	6.95	6.96	7.03	8.39	6.87	6.85	7.02	7.90	7.09	6.74	7.16	7.36
MW-10	Selenium	1	mg/L	0.0042	0.0064	--	0.0043	--	0.0057	0.0065	0.0056	0.0056	0.0058	0.0071	0.0083	0.0043	0.0087	0.008	<0.0025	0.0073	0.0057	0.0048	0.0028
MW-10	Sulfate	1430	mg/L	62	64	--	67	--	64	72	76	63	58	59	69	92	150	90	100	140	110	95	46
MW-10	Thallium	0.0037	mg/L	<NP*	<0.001	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-10	Total Dissolved Solids	--	mg/L	530	520	--	650	--	470	540	530	550	580	520	440	580	550	620	670	630	590	550	530
MW-11	Arsenic	0.19	mg/L	0.0021	0.0025	--	0.0019	--	0.0016	0.0019	0.0021	0.0032	0.0038	0.03	0.045	0.028	0.038	0.038	0.057	0.036	0.038	0.045	0.022
MW-11	Boron	7.6	mg/L	1.6	1.8	--	1.6	--	1.5	1.8	2.3	1.9	2.6	<2	1.4	1.3	1.5	1.2	1.1	1.4	0.97	0.86	1.7
MW-11	Chloride	500	mg/L	70	66	--	120	--	53	87	54	150	52	83	84	79	110	70	67	70	120	95	66
MW-11	Iron	1	mg/L	0.44	0.01	--	0.029	--	0.018	<0.01	<0.01	0.056	**2**	1.7	**2.4**	**3.1**	**3.9**	**3.3**	**5.8**	**3.8**	**5.5**	**5**	**2**
MW-11	Lead	0.0485	mg/L	<NP*	<NP*	--	<0.001	--	<0.001	<0.001	<0.001	0.0023	<0.005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW-11	Manganese	3.04	mg/L	**3.2**	**3.6**	--	2.9	--	2.2	2.5	2.9	**3.7**	**4.7**	**12**	**11**	**7.5**	**8**	**7.3**	**7.9**	**8**	**8.4**	**6.6**	**5.5**
MW-11	Nitrogen/Nitrate	--	mg/L	0.41	0.17	--	0.94	--	0.74	1.5	0.39	<0.02	4.6	0.39	0.33	1.1	<0.1	0.18	0.34	0.27	<0.1	<0.1	<0.1
MW-11	Nitrogen/Nitrate, Nitrite	--	mg/L	NR	NR	--	NR	--	NR	NR	NR	NR	NR	NR	NR	1.1	<0.1	0.18	0.34	0.27	<0.1	<0.1	<0.1
MW-11	pH	6.5 - 9.0	s.u.	7.88	7.13	--	7.02	--	7.31	**6.48**	7.32	7.15	7.30	7.28	8.27	6.99	7.08	7.23	8.00	7.10	7.12	7.37	7.55
MW-11	Selenium	1	mg/L	0.0026	0.0015	--	0.0018	--	0.004	0.0031	0.0039	0.0039	0.004	<0.005	0.0014	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
MW-11	Sulfate	1430	mg/L	170	160	--	210	--	140	160	130	320	170	200	150	240	280	180	210	170	200	200	120
MW-11	Thallium	0.0037	mg/L	<NP*	<NP*	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-11	Total Dissolved Solids	--	mg/L	740	710	--	930	--	620	710	740	1000	760	970	840	850	980	770	760	660	860	790	700
MW-12	Arsenic	0.19	mg/L	0.0008	0.0013	--	0.0064	--	0.0067	0.0089	0.0042	0.014	0.011	0.022	0.0066	0.0031	0.016	0.018	0.0025	0.0017	0.0021	0.0019	<0.001
MW-12	Boron	7.6	mg/L	1.6	1.4	--	1.3	--	1.2	1.3	0.92	1.2	1.1	0.85	1.1	3.7	1.1	1.1	0.41	0.69	0.73	0.59	0.58
MW-12	Chloride	500	mg/L	170	180	--	180	--	190	210	170	190	170	210	190	200	190	180	220	220	210	200	210
MW-12	Iron	1	mg/L	**5.5**	**6.3**	--	**5.6**	--	**4**	**3.1**	**4.8**	**8.2**	8.9	**6.4**	**5.8**	**8.9**	**4.5**	0.23	**2.4**	0.32	0.17	0.33	**1.7**
MW-12	Lead	0.0485	mg/L	<NP*	<NP*	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	**0.17**
MW-12	Manganese	3.04	mg/L	0.32	0.58	--	0.26	--	0.37	0.25	0.15	0.71	0.64	1.7	0.38	0.24	1.3	1.5	0.23	0.65	1.2	1.2	0.17
MW-12	Nitrogen/Nitrate	--	mg/L	<NP	<NP	--	0.14	--	<0.02	<0.02	0.04	<0.2	0.03	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-12	Nitrogen/Nitrate, Nitrite	--	mg/L	NR	NR	--	NR	--	NR	NR	NR	NR	NR	NR	NR	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-12	pH	6.5 - 9.0	s.u.	7.65	7.51	--	6.98	--	7.66	7.38	7.22	7.40	7.50	7.17	8.36	7.17	7.29	7.73	7.99	7.14	7.17	7.33	7.61
MW-12	Selenium	1	mg/L	0.0026	0.0027	--	<0.001	--	0.0023	0.0034	0.0043	0.0058	0.0036	<0.005	0.002	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
MW-12	Sulfate	1430	mg/L	290	270	--	350	--	360	300	310	430	370	300	350	410	420	270	530	500	310	420	450
MW-12	Thallium	0.0037	mg/L	<NP*	<NP*	--	<0.001	--	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-12	Total Dissolved Solids	--	mg/L	980	1000	--	1100	--	970	970	1000	1200	1200	1100	1000	1200	1200	1000	1400	1500	1100	1000	1300

Table B-3-1
Groundwater Analytical Results for Constituents of Interest, December 2010 to February 2015
Midwest Generation – Powerton Generating Station - Pekin, Tazewell County, Illinois

Well	Constituent	Effects Value [3]	Units	Groundwater Analytical Results (Year [Month])																			
				2010 [12]	2011 [02/03]	2011 [04]	2011 [06]	2011 [08]	2011 [09/10]	2011 [12]	2012 [03/04]	2012 [06]	2012 [09]	2012 [12]	2013 [02]	2013 [05]	2013 [07]	2013 [10]	2014 [03] [2]	2014 [05] [2]	2014 [08] [2]	2014 [10]	2015 [02]
MW-13	Arsenic	0.19	mg/L	0.011	0.0092	0.0063	0.0057	0.0048	0.0066	0.023	0.027	--	--	0.041	0.029	0.031	0.029	0.024	0.028	0.024	0.031	0.028	0.028
MW-13	Boron	7.6	mg/L	3.9	3.1	2.6	3	2.7	3	4.1	4	--	--	3.6	4.2	3.6	3.8	3.5	2.9	3.5	3	2.2	3.5
MW-13	Chloride	500	mg/L	160	120	100	86	110	130	160	170	--	--	210	170	190	190	190	190	190	190	180	180
MW-13	Iron	1	mg/L	0.69	0.052	0.072	<0.01	0.043	<0.01	0.11	0.2	--	--	0.066	0.28	**1.3**	**1.6**	0.29	**1.8**	0.74	0.63	0.98	0.69
MW-13	Lead	0.0485	mg/L	<NP	<NP	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	--	<0.005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW-13	Manganese	3.04	mg/L	**5**	**3.8**	2.7	2.9	2.6	**3.6**	**3.5**	**3.5**	--	--	**3.7**	**3.5**	**3.8**	**4**	2.8	2.9	**3.4**	**3.5**	**3.8**	**3.8**
MW-13	Nitrogen/Nitrate	--	mg/L	0.14	1.3	1.8	2.2	3.6	1.6	0.07	0.06	--	--	<0.02	<0.02	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-13	Nitrogen/Nitrate, Nitrite	--	mg/L	NR	NR	NR	NR	NR	NR	NR	NR	--	--	NR	NR	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-13	pH	6.5 - 9.0	s.u.	7.68	7.53	7.26	6.75	7.13	7.31	7.19	8.49	--	--	7.92	8.26	7.65	7.61	7.81	8.67	7.73	7.82	7.72	8.20
MW-13	Selenium	1	mg/L	0.0046	0.0046	0.0045	0.0029	0.0056	0.004	0.0036	0.0037	--	--	<0.003	0.0025	0.01	0.0095	<0.0025	<0.0025	<0.0025	0.0047	0.0045	<0.0025
MW-13	Sulfate	1430	mg/L	1400	770	980	940	440	660	1100	1100	--	--	1100	730	880	1000	990	660	630	740	1400	1000
MW-13	Thallium	0.0092	mg/L	<NP	<NP	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	--	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-13	Total Dissolved Solids	--	mg/L	2600	1600	1400	1300	1100	1500	2100	2300	--	--	1900	1600	2000	2000	1700	1900	2100	2300	2200	2300
MW-14	Arsenic	0.19	mg/L	0.024	0.019	0.0084	0.005	0.0062	0.015	0.0033	0.0039	--	--	0.0053	0.0066	0.0025	0.0016	<0.001	0.0016	0.0011	0.0052	0.0063	0.0011
MW-14	Boron	7.6	mg/L	2	1.9	1.9	1.9	1.8	1.9	1.9	1.8	--	--	<2	1.9	1.7	1.7	2	1.6	1.8	1.9	2.2	2.2
MW-14	Chloride	500	mg/L	160	160	160	160	240	200	200	190	--	--	190	92	160	190	190	220	140	190	180	180
MW-14	Iron	1	mg/L	**2.2**	0.94	0.36	0.3	0.71	**2**	0.12	0.77	--	--	0.012	0.02	<0.1	<0.1	0.39	**1.2**	0.6	**4.6**	**5.3**	**0.17**
MW-14	Lead	0.0485	mg/L	<NP	<NP	<0.001	<0.001	<0.001	<0.001	<0.001	0.0035	--	--	<0.005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.00078	<0.0005
MW-14	Manganese	3.04	mg/L	0.68	0.81	0.29	0.36	0.57	0.84	0.067	0.65	--	--	0.11	0.12	0.72	0.32	2.2	1.3	0.34	1.8	1.3	0.15
MW-14	Nitrogen/Nitrate	--	mg/L	0.036	<NP	1	0.27	0.05	<0.02	0.33	0.31	--	--	0.32	3.5	<0.1	<0.1	0.16	<0.1	0.22	<0.1	<0.1	0.24
MW-14	Nitrogen/Nitrate, Nitrite	--	mg/L	NR	NR	NR	NR	NR	NR	NR	NR	--	--	NR	NR	<0.1	<0.1	0.18	<0.1	0.22	<0.1	<0.1	0.24
MW-14	pH	6.5 - 9.0	s.u.	7.59	7.75	7.27	7.15	7.08	7.40	**6.05**	8.35	--	--	7.13	8.21	7.03	6.93	7.11	7.72	6.99	7.17	7.31	7.28
MW-14	Selenium	1	mg/L	0.0024	0.0015	0.005	0.0035	0.003	0.0017	0.0037	0.022	--	--	0.0055	0.15	<0.0025	<0.0025	<0.0025	0.012	0.014	<0.0025	<0.0025	0.0023
MW-14	Sulfate	1430	mg/L	960	820	770	810	940	850	880	960	--	--	810	390	800	500	840	680	720	1100	1300	850
MW-14	Thallium	0.0092	mg/L	0.0019	0.0018	0.0035	**0.0039**	0.0027	0.0016	0.0016	0.0034	--	--	0.0025	**0.0043**	0.0025	**0.0043**	0.0022	0.0023	0.0026	0.0023	<0.002	<0.002
MW-14	Total Dissolved Solids	--	mg/L	1800	1700	1800	1900	2000	1800	1800	2200	--	--	1700	1400	2000	2100	2000	1900	1700	2400	2200	2200
MW-15	Arsenic	0.19	mg/L	0.0099	0.0092	0.0064	0.0052	0.0055	0.011	0.0097	0.0061	--	--	0.011	0.0078	0.0037	0.0046	0.0066	0.0072	0.0019	0.0029	0.0059	0.0017
MW-15	Boron	7.6	mg/L	1.6	1.4	1.5	1.6	1.3	1.2	1.3	1.4	--	--	<2	1.7	1.5	1.6	1.2	1.1	1.2	0.95	0.74	1.1
MW-15	Chloride	500	mg/L	180	190	190	170	210	180	200	200	--	--	220	200	210	220	210	240	220	240	250	240
MW-15	Iron	1	mg/L	3.3	2.4	**2.1**	0.7	**2.1**	**2.6**	**2.1**	**1.1**	--	--	**1.9**	**1.5**	0.83	**1.3**	**1.1**	**2**	0.37	0.78	**2.1**	**0.28**
MW-15	Lead	0.0485	mg/L	<NP	<NP	0.0012	<0.001	<0.001	<0.001	<0.001	<0.001	--	--	<0.005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW-15	Manganese	3.04	mg/L	0.56	0.42	0.36	0.6	0.37	0.48	0.39	0.25	--	--	0.51	0.35	0.27	0.3	0.43	0.59	0.3	0.95	0.87	0.4
MW-15	Nitrogen/Nitrate	--	mg/L	0.05	0.080	0.04	0.07	0.05	<0.02	0.07	0.12	--	--	0.12	0.02	<0.1	<0.1	0.22	<0.1	0.4	<0.1	<0.1	0.18
MW-15	Nitrogen/Nitrate, Nitrite	--	mg/L	NR	NR	NR	NR	NR	NR	NR	NR	--	--	NR	NR	<0.1	<0.1	0.22	<0.1	0.4	<0.1	<0.1	0.18
MW-15	pH	6.5 - 9.0	s.u.	7.43	7.23	7.06	6.79	6.89	7.37	6.84	8.23	--	--	7.30	8.09	6.91	6.93	7.18	7.75	6.89	7.45	7.36	7.53
MW-15	Selenium	1	mg/L	0.0042	0.0079	0.017	0.004	0.002	0.004	0.0047	0.025	--	--	<0.003	0.0024	0.0065	<0.0025	0.013	<0.0025	0.033	<0.0025	0.003	0.006
MW-15	Sulfate	1430	mg/L	300	220	270	650	250	180	140	200	--	--	320	280	570	460	420	200	390	620	660	460
MW-15	Thallium	0.0092	mg/L	<NP	<NP	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	--	--	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-15	Total Dissolved Solids	--	mg/L	1000	1000	1100	1600	1000	890	840	1000	--	--	1100	1100	1700	1400	1400	1300	1300	1800	1600	1400
MW-16	Arsenic	0.19	mg/L	--	--	--	--	--	--	--	--	--	--	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
MW-16	Boron	7.6	mg/L	--	--	--	--	--	--	--	--	--	--	<0.2	0.13	0.2	0.26	0.35	0.17	0.17	0.15	0.14	0.17
MW-16	Chloride	500	mg/L	--	--	--	--	--	--	--	--	--	--	26	18	19	21	35	230	20	25	24	24
MW-16	Iron	1	mg/L	--	--	--	--	--	--	--	--	--	--	0.012	0.019	<0.1	<0.1	<1.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-16	Lead	0.0485	mg/L	--	--	--	--	--	--	--	--	--	--	<0.005	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
MW-16	Manganese	3.04	mg/L	--	--	--	--	--	--	--	--	--	--	0.022	0.0053	<0.0025	<0.0025	<0.0025	0.0035	<0.0025	<0.0025	<0.0025	0.0025
MW-16	Nitrogen/Nitrate	--	mg/L	--	--	--	--	--	--	--	--	--	--	18	23	20	15	9	16	21	22	28	28
MW-16	Nitrogen/Nitrate, Nitrite	--	mg/L	--	--	--	--	--	--	--	--	--	--	NR	NR	20	13	9	16	21	22	28	28
MW-16	pH	6.5 - 9.0	s.u.	--	--	--	--	--	--	--	--	--	--	7.38	8.31	7.10	7.18	7.27	7.85	7.20	7.41	7.80	7.56
MW-16	Selenium	1	mg/L	--	--	--	--	--	--	--	--	--	--	<0.005	0.0015	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025	<0.0025
MW-16	Sulfate	1430	mg/L	--	--	--	--	--	--	--	--	--	--	37	31	50	55	55	34	40	35	54	27
MW-16	Thallium	0.0092	mg/L	--	--	--	--	--	--	--	--	--	--	<0.001	<0.001	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
MW-16	Total Dissolved Solids	--	mg/L	--	--	--	--	--	--	--	--	--	--	520	420	460	440	540	800	390	440	510	490

Table B-3-1
Groundwater Analytical Results for Constituents of Interest December 2010 to February 2015
Midwest Generation – Powerton Generating Station - Pekin, Tazewell County, Illinois

Well	Constituent	Effects Value (1)	Units	Groundwater Analytical Results (Year [Month])																			
				2010 [12]	2011 [02/03]	2011 [04]	2011 [06]	2011 [08]	2011 [09/10]	2011 [12]	2012 [03/04]	2012 [06]	2012 [09]	2012 [12]	2013 [02]	2013 [05]	2013 [07]	2013 [10]	2014 [03] (2)	2014 [05] (3)	2014 [08] (4)	2014 [10]	2015 [02]
MW-02	Boron	2	mg/l	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Chloride	200	mg/l	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	Fluoride	4	mg/l	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Manganese	0.15	mg/l	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Sulfate	400	mg/l	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	Total Dissolved Solids	1000	mg/l	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
MW-03	Boron	2	mg/l	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Chloride	200	mg/l	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	Fluoride	4	mg/l	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Manganese	0.15	mg/l	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Sulfate	400	mg/l	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	Total Dissolved Solids	1000	mg/l	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
MW-06	Boron	2	mg/l	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Chloride	200	mg/l	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	Fluoride	4	mg/l	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Manganese	0.15	mg/l	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Sulfate	400	mg/l	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	Total Dissolved Solids	1000	mg/l	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
MW-07	Boron	2	mg/l	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Chloride	200	mg/l	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	Fluoride	4	mg/l	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Manganese	0.15	mg/l	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Sulfate	400	mg/l	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	Total Dissolved Solids	1000	mg/l	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200
MW-12	Boron	2	mg/l	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
	Chloride	200	mg/l	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
	Fluoride	4	mg/l	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Manganese	0.15	mg/l	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	Sulfate	400	mg/l	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
	Total Dissolved Solids	1000	mg/l	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200	200

Notes
(1) Illinois General Use Water Quality Standards (WQS) and Illinois Water Quality Criteria (WQC) are used as surface water effects values
(2) The manganese result for March 2014 for MW-07 was qualified as "E" by the laboratory. A qualifier definition was not identified
(3) The total dissolved solids result for May 2014 for MW-12 was qualified as "H" by the laboratory. A qualifier definition was not identified.
(4) Chloride results for August 2014 for wells MW-02, MW-06, MW-07, and MW-12 were qualified as "^^" by the laboratory, which denotes instrument-related QC exceeds the control limits

mg/l = milligrams per liter
s u = standard units
"--" = value was not available
"<" = constituent was not detected; the reporting limit is presented
bold/shading = concentration exceeds effects value

Table B-3-2
Comparison Of Average Groundwater Analytical Results To Surface Water Effects Values
Midwest Generation – Powerton Generating Station - Pekin, Tazewell County, Illinois

Constituent	Units	Effects Value [1]	Groundwater Analytical Results - Average Concentrations [2]															Average [5]
			Gravelly Sand Unit [4]										Silt/Clay Unit [4]					
			MW-01	MW-02	MW-03	MW-04	MW-05	MW-07	MW-09	MW-10	MW-11	MW-13	MW-16	MW-06	MW-08	MW-12	MW-14	MW-15	
Arsenic	mg/L	0.19	0.00061	0.00099	0.00104	0.00062	0.00067	0.157	0.00096	0.00081	0.0237	0.0214	0.0014 U	0.0135	0.00376	0.0083	0.00647	0.00645	0.0161
Boron	mg/L	7.6	0.579	0.637	0.438	0.767	0.735	0.442	2.51	0.968	1.53	3.23	0.184	0.489	0.819	1.16	1.84	1.29	1.1
Chloride	mg/L	500	56.2	55.2	60.7	88.2	123	147	30.3	43.8	83.4	161	44.2	191	233	194	178	208	119
Iron	mg/L	1	0.055	0.0282	0.0293	0.0659	0.0773	**18.6**	0.0297	0.22	**2.11**	0.531	0.0431	**2.72**	**1.8**	**4.29**	**1.1**	**1.59**	**2.08**
Lead	mg/L	0.0485	0.0005	0.00053	0.00051	0.001 U	0.001 U	0.00313	0.00049	0.00116	0.00354	0.001 U	0.001 U	0.0005	0.001 U	0.00988	0.00064	0.00048	0.0013
Manganese	mg/L	3.04	0.0035	0.00187	0.00423	0.31	0.381	**7.76**	0.218	2.26	**5.99**	**3.49**	0.00408	1.1	0.257	0.657	0.645	0.467	1.47
Nitrogen/Nitrate	mg/L	--	4.9	3.75	2.09	0.561	0.358	0.0557	6.37	2.85	0.593	0.622	20.8	0.0482	0.121	0.0417	0.372	0.0926	2.73
Nitrogen/Nitrate, Nitrite	mg/L	--	2.76	2.38	1.58	0.149	0.558	0.1 U	7.28	1.36	0.261	0.1 U	20.9	0.0713	0.1 U	0.1 U	0.111	0.131	2.36
pH	s.u.	6.5 - 9.0	7.33	7.44	7.38	7.21	7.13	6.55	7.2	7.08	7.31	7.71	7.46	7.74	8.03	7.48	7.3	7.28	7.4
Selenium	mg/L	1	0.00256	0.00194	0.00222	0.00204	0.00213	0.00339	0.00715	0.0057	0.00215	0.00401	0.0014	0.00193	0.00199	0.00198	0.0179	0.0112	0.00444
Sulfate	mg/L	1430	87.2	75.3	68.1	160	194	47.6	121	85.4	189	857	41.8	348	289	372	856	369	260
Thallium	mg/L	0.0037	0.00147 U	0.00147 U	0.00147 U	0.00147 U	0.00147 U	0.00147 U	0.00147 U	0.00147 U	0.0015 U	0.0015 U	0.0018 U	0.00147 U	0.00147 U	0.0015 U	0.00252	0.0015 U	0.000861
Total Dissolved Solids	mg/L	--	548	482	456	701	806	1210	539	553	801	1880	501	1150	1160	1110	1920	1250	942

Notes
(1) Illinois General Use Water Quality Standards (WQS) and Illinois Water Quality Criteria (WQC) are used as surface water effects values.
(2) Average of concentrations reported between December 2010 and February 2015. If a constituent was not detected during this timeframe, the average reporting limit is presented in the table, indicated with a "U" qualifier. Otherwise, non-detect results were included in the average calculation assuming one-half the reporting limit.
(3) Average of concentrations (averages) presented in the table, assuming one-half the reporting limit for non-detect results.
(4) Groundwater in the gravelly sand unit flows in a northerly direction. Groundwater in the localized silt/clay units flows in a westerly direction. Summary statistics do not distinguish between these two units.

mg/L = milligram per liter
s.u. = standard units
"--" = value not available
U = constituent not detected above its reporting limit
bold/shading = concentration exceeds effects value

Table B-3-3
Comparison Of Maximum Groundwater Analytical Results To Surface Water Effects Values
Midwest Generation – Powerton Generating Station - Pekin, Tazewell County, Illinois

Constituent	Units	Effects Value[1]	Groundwater Analytical Results - Maximum Concentrations[2]																Average[3]
			Gravelly Sand Unit[4]										Silt/Clay Unit[4]						
			MW-01	MW-02	MW-03	MW-04	MW-05	MW-07	MW-09	MW-10	MW-11	MW-13	MW-16	MW-06	MW-08	MW-12	MW-14	MW-15	
Arsenic	mg/L	0.19	0.001	0.0018	0.0017	0.0012	0.0011	**0.31**	0.0021	0.0015	0.068	0.041	0.005 U	**0.2**	0.0062	0.022	0.024	0.011	0.0434
Boron	mg/L	7.6	1.8	2.7	0.75	1	1.1	1	4.3	3.2	2.6	4.2	0.35	1	1.2	3.7	2.2	1.7	2.05
Chloride	mg/L	500	160	91	120	150	170	200	42	62	150	210	230	240	580	220	240	240	182
Iron	mg/L	1	0.43	0.046	0.042	0.14	0.43	**35**	0.066	**2.7**	**5.8**	**1.8**	0.019	**22**	**6.6**	**8.9**	**5.3**	**3.3**	5.79
Lead	mg/L	0.0485	0.0008	0.0013	0.000977	0.005 U	0.005 U	0.039	0.00051	0.012	0.0023	0.005 U	0.005 U	0.00082	0.005 U	**0.17**	0.0035	0.0012	0.0153
Manganese	mg/L	3.04	0.027	0.0063	0.034	1.018	1	**13**	0.84	**3.8**	**12**	**5**	0.022	**8**	0.7	1.7	1.8	0.95	3.12
Nitrogen/Nitrate	mg/L	--	11	7.5	9.4	2.7	2.2	0.31	13	6	4.6	3.6	28	0.16	1.6	0.14	3.5	0.4	5.88
Nitrogen/Nitrate, Nitrite	mg/L	--	4.7	5.9	5.3	0.5	2.2	0.1 U	13	2.1	1.1	0.1 U	28	0.16	0.1 U	0.1 U	0.24	0.4	3.99
pH	s.u.	6.5 - 9.0	**6.39-9.53**	**6.41-8.21**	6.58-8.34	**6.37-8**	**6.34-8.01**	**6.45-7.2**	**6.31-8**	**6.03-8.39**	**6.48-8.27**	6.75-8.67	7.1-8.31	**7.23-9.3**	7.39-8.46	6.98-8.36	**6.05-8.35**	6.71-8.23	6.6-8.35
Selenium	mg/L	1	0.005	0.0039	0.0067	0.013	0.0045	0.0073	0.016	0.0087	0.004	0.01	0.0015	0.0065	0.0048	0.0043	0.15	0.068	0.0196
Sulfate	mg/L	1430	330	190	100	390	310	120	160	160	320	1400	55	560	460	560	1300	660	442
Thallium	mg/L	0.0037	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	**0.0043**	0.002 U	0.00121
Total Dissolved Solids	mg/L	--	870	770	520	1100	1100	1400	630	670	1000	2600	800	1400	1400	1400	2400	1800	1240

Notes
(1) Illinois General Use Water Quality Standards (WQS) and Illinois Water Quality Criteria (WQC) are used as surface water effects values.
(2) Maximum detected concentrations reported between December 2010 and February 2015. If a constituent was not detected during this timeframe, the maximum reporting limit is presented in the table, indicated with a "U" qualifier. For pH, the range is presented.
(3) Average of well-specific concentrations (maximums) presented in the table. If the maximum is a non-detect result, one-half the reporting limit was used as a surrogate concentration in the calculation. For pH, the range presented in the "average" column is the average minimum and average maximum.
(4) Groundwater in the gravelly sand unit flows in a northerly direction. Groundwater in the localized silt/clay units flows in a westerly direction. Summary statistics (averages) do not distinguish between these two units.

mg/L = milligram per liter
s.u. = standard units
"--" = value not available
U = constituent not detected above its reporting limit
bold/shading = concentration exceeds effects value

Table 15-4-1
Groundwater Analytical Results for Constituents of Interest December 2010 to May 2014
Midwest Generation -- Waukegan Generating Station - Waukegan, Lake County, Illinois

Well	Constituent	Effects Values [a]	Units	Groundwater Analytical Results (Year [Month])																
				2010 [10]	2011 [03]	2011 [06]	2011 [09]	2011 [12]	2012 [03] [d]	2012 [06]	2012 [09] [d]	2012 [12]	2013 [03]	2013 [06]	2013 [07]	2013 [11]	2014 [03]	2014 [05]	2014 [08]	2014 [11]	2015 [02]
MW-01	Antimony	0.32	mg/L	0.0052	<0.003	<0.003	<0.003	<0.003	<0.003	0.0056	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-01	Arsenic	0.148	mg/L	0.054	0.04	**0.17**	0.077	0.057	0.078	0.07	0.07	0.091	0.098	0.076	0.055	0.046	0.031	0.036	0.019	**0.21**	0.036
MW-01	Boron	7.6	mg/L	2.6	2	2.6	2.5	2.6	2.3	2	1.9	1.9	2.2	2.2	2.3	3.1	1.9	2	2	2.2	1.7
MW-01	Chloride	500	mg/L	39	48	52	41	32	47	46	47	48	45	54	42	28	33	31	29	50	41
MW-01	Iron	1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-01	Manganese	3.04	mg/L	<0.0025	0.0027	0.0086	0.02	0.011	0.0052	<0.0025	<0.0025	<0.0025	0.0047	0.011	0.011	0.021	0.0073	<0.0025	0.026	0.0054	<0.0025
MW-01	pH	6.5 - 9.0	s.u.	**10.41**	**9.92**	**9.97**	8.78	8.62	**9.54**	**9.75**	**10.78**	**10.47**	**9.85**	8.37	8.81	8.42	8.99	8.88	7.92	**10.54**	8.88
MW-01	Sulfate	500	mg/L	350	230	260	280	330	310	300	240	200	250	260	300	260	130	170	130	270	170
MW-01	Total Dissolved Solids	1000	mg/L	460	470	460	570	750	630	630	450	460	510	660	580	580	290	700	460	450	700
MW-02	Antimony	0.32	mg/L	0.015	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-02	Arsenic	0.148	mg/L	0.025	0.016	0.012	0.0087	0.0094	0.0094	0.011	0.011	0.0089	0.012	0.009	0.0087	0.0091	0.0085	0.0062	0.0081	0.0095	0.0062
MW-02	Boron	7.6	mg/L	2.2	2.2	2	1.7	1.9	2	2.0	2.1	1.9	2.2	1.9	2.1	2.2	2.8	2.6	3	3	3.2
MW-02	Chloride	500	mg/L	42	45	46	45	50	55	48	55	54	50	52	47	56	51	57	47	48	57
MW-02	Iron	1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.16	<0.1	<0.1	0.16
MW-02	Manganese	3.04	mg/L	0.0034	0.018	0.032	0.038	0.035	0.028	0.031	0.025	0.023	0.039	0.051	0.069	0.034	0.085	0.16	0.05	0.041	0.16
MW-02	pH	6.5 - 9.0	s.u.	**9.98**	**9.31**	8.65	7.82	7.77	7.82	7.9	8.24	7.94	8.95	7.63	7.61	7.97	8.38	7.65	8.13	8.61	7.65
MW-02	Sulfate	500	mg/L	230	160	150	200	180	200	210	270	210	230	220	260	290	170	280	210	350	280
MW-02	Total Dissolved Solids	1000	mg/L	410	400	410	460	490	490	490	520	540	500	520	550	530	770	670	710	550	540	710
MW-03	Antimony	0.32	mg/L	0.0051	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-03	Arsenic	0.148	mg/L	0.0043	0.0041	0.0042	0.0077	0.0049	0.0071	0.003	0.0044	0.0031	0.0018	0.0014	0.0025	0.005	0.0013	0.002	0.0041	0.0029	0.002
MW-03	Boron	7.6	mg/L	1.7	2.2	2.3	1.6	1.6	1.5	1.3	1.4	1.9	2	2.5	1.8	1.9	1.1	1.2	2.3	2.3	1.6
MW-03	Chloride	500	mg/L	48	49	53	49	51	52	41	47	49	45	50	43	25	37	47	89	64	47
MW-03	Iron	1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-03	Manganese	3.04	mg/L	<0.0025	0.0059	0.0044	<0.0025	0.0054	0.0036	0.0017	0.0034	0.0034	0.0015	0.0062	0.0031	0.0082	0.0069	0.0028	0.0083	0.0035	0.0028
MW-03	pH	6.5 - 9.0	s.u.	**9.21**	8.58	8.64	**9.2**	8.61	8.99	7.58	**9.14**	9.22	8.55	7.13	7.46	7.26	7.58	8.47	7.82	9.95	8.47
MW-03	Sulfate	500	mg/L	120	130	130	97	110	140	150	200	240	240	290	240	140	170	100	110	240	180
MW-03	Total Dissolved Solids	1000	mg/L	280	330	340	300	380	340	420	480	520	470	860	530	380	340	210	470	480	330
MW-04	Antimony	0.32	mg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-04	Arsenic	0.148	mg/L	0.006	0.0077	0.0059	0.0058	0.0065	0.0068	0.0091	0.0079	0.008	0.0081	0.0032	0.0044	0.0055	0.0062	0.0061	0.0064	0.008	0.0041
MW-04	Boron	7.6	mg/L	2	2.1	2	1.8	2.1	2.2	2.5	2.2	2.5	2.4	2.3	2.5	2.8	3	2.7	3.5	3.6	2
MW-04	Chloride	500	mg/L	39	47	45	39	60	57	53	55	55	50	51	42	46	41	34	33	36	34
MW-04	Iron	1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
MW-04	Manganese	3.04	mg/L	0.058	0.035	0.028	0.36	0.025	0.038	0.041	0.028	0.031	0.034	0.016	0.024	0.036	0.074	0.052	0.046	0.035	0.052
MW-04	pH	6.5 - 9.0	s.u.	7.8	8.54	7.69	7.42	7.35	7.25	7.51	8.63	8.41	8.93	7.25	7.18	7.35	7.99	7.76	7.74	7.53	7.76
MW-04	Sulfate	500	mg/L	250	170	160	160	160	280	250	230	220	230	260	300	270	360	140	150	280	140
MW-04	Total Dissolved Solids	1000	mg/L	430	400	380	470	480	490	540	440	510	460	660	610	630	680	470	470	580	470
MW-05	Antimony	0.32	mg/L	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-05	Arsenic	0.148	mg/L	0.0076	0.0082	0.0013	<0.001	0.01	0.1	0.0068	0.012	0.011	0.012	<0.001	0.0013	0.0086	0.0097	0.009	0.0019	0.0097	0.0059
MW-05	Boron	7.6	mg/L	**28**	**33**	**12**	**30**	**37**	**44**	**47**	**41**	**27**	**33**	**12**	**29**	**32**	**31**	**36**	**35**	**36**	**32**
MW-05	Chloride	500	mg/L	100	120	**540**	230	140	50	50	170	220	68	**600**	210	49	45	47	47	42	47
MW-05	Iron	1	mg/L	**3.5**	**2.8**	0.95	0.42	**5.6**	**6.6**	**5.9**	**5.1**	**3.9**	**4**	0.41	**1.1**	**4.6**	**5.5**	**5.5**	**4**	**8.6**	**5.5**
MW-05	Manganese	3.04	mg/L	0.71	0.6	0.28	0.03	0.99	0.76	0.75	0.57	0.48	0.51	0.17	0.44	0.54	0.62	0.49	0.65	0.62	0.49
MW-05	pH	6.5 - 9.0	s.u.	7.21	7.56	6.72	6.87	7.15	7.45	6.97	7.32	7.36	7.33	6.61	6.74	7.2	7.64	7.07	7.06	7.3	7.07
MW-05	Sulfate	500	mg/L	**920**	**780**	**1100**	**810**	**1100**	**980**	**800**	**710**	**550**	**650**	**1200**	**890**	**870**	**640**	**630**	**640**	**840**	**630**
MW-05	Total Dissolved Solids	1000	mg/L	**1500**	**1800**	**3300**	**2300**	**2300**	**2000**	**2000**	**1900**	**1800**	**1600**	**3500**	**2000**	**1600**	**1400**	**1500**	**1600**	**1500**	**1500**
MW-06	Antimony	0.32	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-06	Arsenic	0.148	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	0.0029	0.0039	0.0065	0.0096	0.0034	0.0017	0.0043	0.0083	0.0035	0.0043
MW-06	Boron	7.6	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	1.1	2.8	0.7	4.3	2.4	2	2.2	2.9	3.7	3.5
MW-06	Chloride	500	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	110	61	48	69	85	8	84	98	97	84
MW-06	Iron	1	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	**2.6**	**2**	**6.2**	**16**	**4.1**	0.19	**3**	**9.2**	**6.7**	**3**
MW-06	Manganese	3.04	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	0.21	0.36	0.75	0.72	0.44	0.0073	0.17	0.38	0.42	0.17
MW-06	pH	6.5 - 9.0	s.u.	NS	NS	NS	NS	NS	NS	NS	NS	7.52	7.42	6.83	6.88	7.24	7.94	7.18	7.11	7.33	7.18
MW-06	Sulfate	500	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	160	380	390	360	350	93	170	120	240	170
MW-06	Total Dissolved Solids	1000	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	940	**1100**	**1100**	**1100**	**1200**	160	870	950	890	870
MW-07	Antimony	0.32	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-07	Arsenic	0.148	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	0.0099	0.012	0.01	0.011	0.012	0.0096	0.0098	0.011	0.0095	0.0098
MW-07	Boron	7.6	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	43	49	**42**	**44**	**45**	**39**	**27**	**40**	**41**	**37**
MW-07	Chloride	500	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	60	54	44	33	54	34	35	36	48	35
MW-07	Iron	1	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	**12**	**12**	**13**	**13**	**13**	**11**	**12**	**11**	**9.4**	**12**
MW-07	Manganese	3.04	mg/L	NS	NS	NS	NS	NS	NS	NS	NS	0.46	0.49	0.48	0.46	0.46	0.46	0.6	0.4	0.34	0.6

Table B-4-1
Groundwater Analytical Results for Constituents of Interest December 2010 to May 2014
Midwest Generation – Waukegan Generating Station - Waukegan, Lake County, Illinois

Well	Constituent	Effects Values [1]	Units	Groundwater Analytical Results (Year [Month])																
				2010 [10]	2011 [03]	2011 [06]	2011 [09]	2011 [12]	2012 [03] [2]	2012 [06]	2012 [09] [3]	2012 [12]	2013 [03]	2013 [06]	2013 [07]	2013 [11]	2014 [03]	2014 [05]	2014 [08]	2014 [11]	2015 [02]
MW-07	pH	6.5 - 9.0	s.u.	NS	NS	NS	NS	NS	NS	NS	NS	7.27	8.24	7.09	7.1	7.18	7.67	6.89	7.25	7.46	6.89
MW-07	Sulfate	500	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	**630**	**710**	**650**	**860**	**770**	**540**	330	**690**	**880**	330
MW-07	Total Dissolved Solids	1000	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	**1800**	**1800**	**1800**	**1800**	**1800**	**1600**	**1300**	**1600**	**1500**	**1300**
MW-08	Antimony	0.32	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.0003	<0.003	<0.0003	<0.0003
MW-08	Arsenic	0.148	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00040	0.00057	0.00054	0.00049
MW-08	Boron	7.6	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**19**	**24**	**28**	NS
MW-08	Chloride	500	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	50	50	50	50
MW-08	Iron	1	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**5**	**7**	**6.2**	**5**
MW-08	Manganese	3.04	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.31	0.33	0.33	0.31
MW-08	pH	6.5 - 9.0	s.u.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6.92	6.97	7.16	6.92
MW-08	Sulfate	500	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	250	470	500	250
MW-08	Total Dissolved Solids	1000	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1000	**1200**	**1200**	1000
MW-09	Antimony	0.32	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.0003	<0.003	<0.0003	<0.0003
MW-09	Arsenic	0.148	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.00012	<0.0001	<0.0001	0.00012
MW-09	Boron	7.6	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**16**	6.3	**13**	NS
MW-09	Chloride	500	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	370	380	430	370
MW-09	Iron	1	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.81	0.12	0.14	0.81
MW-09	Manganese	3.04	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.14	0.05	0.058	0.14
MW-09	pH	6.5 - 9.0	s.u.	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	6.94	6.9	7.2	6.94
MW-09	Sulfate	500	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	360	250	430	360
MW-09	Total Dissolved Solids	1000	mg/l	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1600**	**1300**	**1400**	**1600**

Notes
(1) Illinois Lake Michigan (LM) Basin Water Quality Standards (WQS) and Illinois LM Basin Water Quality Criteria (WQC) are used as surface water effects values
(2) Manganese results for March 2012 for wells MW-01 through MW-05 were qualified as "^" by the laboratory, which denotes instrument-related QC exceeds the control limits
(3) Iron results for September 2012 for wells MW-01 through MW-05 were qualified as "^" by the laboratory, which denotes instrument-related QC exceeds the control limits
(2) Antimony results for November 2014 for wells MW-01 through MW-03 and MW-05 through MW-09 were qualified as "^" by the laboratory, which denotes instrument-related QC exceeds the control limits

mg/l = milligrams per liter
NS = not sampled
"–" = value not available
"<" = constituent was not detected; the reporting limit is presented
bold/shading = concentration exceeds effects value

Table B-4-2
Comparison Of Average Groundwater Analytical Results To Surface Water Effects Values
Midwest Generation -- Waukegan Generating Station - Waukegan, Lake County, Illinois

Constituent	Units	Effects Value [1]	Groundwater Analytical Results - Average Concentrations [2]									Average [3]
			MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	
Antimony	mg/L	0.32	0.00193	0.00225	0.0017	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.00165
Arsenic	mg/L	0.148	0.0708	0.0105	0.00369	0.00654	0.00734	0.00474	0.0105	0.00523	0.00097	0.0134
Boron	mg/L	7.6	2.24	2.31	1.79	2.23	**31.9**	3.16	**40.7**	**23.7**	**11.8**	**13.3**
Chloride	mg/L	500	44.1	50.1	47.8	47.3	152	74.4	43.2	46.5	388	99.3
Iron	mg/L	1.0	0.1 U	0.0622	0.1 U	0.1 U	**4.11**	**5.3**	**11.8**	**5.8**	0.47	**3.1**
Manganese	mg/L	3.04	0.00786	0.0512	0.00513	0.0563	0.539	0.365	0.475	0.32	0.0945	0.213
Sulfate	mg/L	500	251	239	167	216	**819**	243	**639**	343	345	362
pH	s.u.	6.5 - 9.0	**9.38**	8.22	8.2	7.78	7.15	7.26	7.3	6.99	7	7.7
Total Dissolved Solids	mg/L	1000	501	536	404	487	**1950**	921	**1630**	1100	**1480**	**1000**

Notes
(1) Illinois Lake Michigan (LM) Basin Water Quality Standards (WQS) and Illinois LM Basin Water Quality Criteria (WQC) are used as surface water effects values.
(2) Average of concentrations reported between December 2010 and February 2015. If a constituent was not detected during this timeframe, the average reporting limit is presented in the table, indicated with a "U" qualifier. Otherwise, non-detect results were included in the average calculation assuming one-half the reporting limit.
(3) Average of concentrations (averages) presented in the table, assuming one-half the reporting limit for non-detect results.

mg/L = milligram per liter
s.u. = standard units
"--" = value not available
U = constituent not detected above its reporting limit
bold/shading = concentration exceeds effects value

Table B-4-3
Comparison Of Maximum Groundwater Analytical Results To Surface Water Effects Values
Midwest Generation -- Waukegan Generating Station - Waukegan, Lake County, Illinois

Constituent	Units	Effects Value [1]	Groundwater Analytical Results - Maximum Concentrations [2]									Average [3]
			MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	
Antimony	mg/L	0.32	0.0056	0.015	0.0051	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.00386
Arsenic	mg/L	0.148	**0.21**	0.025	0.0077	0.0091	0.012	0.0096	0.012	0.0057	0.0012	0.0325
Boron	mg/L	7.6	3.1	3.2	2.5	3	**47**	6.7	**49**	**28**	**16**	**17.6**
Chloride	mg/L	500	79	57	89	71	**600**	110	60	56	430	172
Iron	mg/L	1.0	0.1 U	0.16	0.1 U	0.1 U	**8.6**	**16**	**13**	**7**	0.81	**5.08**
Manganese	mg/L	3.04	0.026	0.16	0.015	0.36	0.99	0.75	0.6	0.33	0.14	0.375
Sulfate	mg/L	500	390	370	290	360	**1200**	390	**880**	500	430	**534**
pH	s.u.	6.5 - 9.0	**7.92-10.78**	**7.61-9.98**	**6.95-9.21**	7.18-8.93	6.61-7.64	6.83-7.94	6.89-8.24	6.92-7.16	6.9-7.2	7.09-8.56
Total Dissolved Solids	mg/L	1000	750	770	860	680	**3500**	**1200**	**1800**	**1200**	**1600**	**1370**

Notes
(1) Illinois Lake Michigan (LM) Basin Water Quality Standards (WQS) and Illinois LM Basin Water Quality Criteria (WQC) are used as surface water effects values.
(2) Maximum detected concentrations reported between December 2010 and February 2015. If a constituent was not detected during this timeframe, the maximum reporting limit is presented in the table, indicated with a "U" qualifier. For pH, the range is presented.
(3) Average of well-specific concentrations (maximums) presented in the table. If the maximum is a non-detect result, one-half the reporting limit was used as a surrogate concentration in the calculation. For pH, the range presented in the "average" column is the average minimum and average maximum.

mg/L = milligram per liter
s.u. = standard units
"--" = value not available
U = constituent not detected above its reporting limit; reporting limit presented
bold/shading = concentration exceeds effects value

Table 18-5-1
Groundwater Analytical Results for Constituents of Interest December 2010 to February 2015
Midwest Generation – Will County Generating Station - Romeoville, Will County, Illinois

Well	Constituent	Effects Values [4]	Units	Groundwater Analytical Results (Year [Month])																	
				2010 [12]	2011 [03]	2011 [06]	2011 [09]	2011 [12]	2012 [03]	2012 [06]	2012 [09]	2012 [12] [2]	2013 [03]	2013 [05/06]	2013 [08]	2013 [10]	2014 [02]	2014 [05]	2014 [08]	2014 [10]	2015 [02]
MW-01	Antimony	0.32	mg/l	<0.003	<0.003	<0.003	<0.003	0.0035	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-01	Boron	7.6	mg/l	1.8	1.6	1.8	1.7	1.6	1.5	2.1	1.9	1.9	1.9	2.4	2.3	2.0	2.4	2.3	1.2	0.96	0.96
MW-01	Chloride	500	mg/l	110	230	110	120	140	190	170	120	160	220	190	120	100	120	87	35	39	80
MW-01	Manganese	3.04	mg/l	0.2	0.15	0.22	0.16	0.17	0.26	0.16	0.15	0.18	0.17	0.13	0.22	0.28	0.3	0.26	0.24	0.17	0.079
MW-01	pH	6.5 - 9.0	s.u.	7.89	8.03	7.28	7.57	7.16	7.84	7.55	7.7	7.79	8.41	7.56	7.18	7.04	8.96	7.19	6.91	7.12	7.41
MW-01	Sulfate	1350	mg/l	540	590	290	320	270	430	390	390	290	310	460	540	430	390	230	91	150	96
MW-01	Total Dissolved Solids	--		1100	1100	1100	760	770	910	950	790	980	950	1100	1300	1300	1300	800	600	600	570
MW-02	Antimony	0.32	mg/l	<0.003	<0.003	<0.015	0.0073	0.017	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-02	Boron	7.6	mg/l	1.8	1.7	2.3	2.3	1.7	1.7	2	2.2	1.8	1.7	1.9	2.2	2.4	2.4	2.8	3	3.6	3.8
MW-02	Chloride	500	mg/l	110	230	180	110	120	140	150	110	130	190	200	170	180	170	130	100	97	130
MW-02	Manganese	3.04	mg/l	0.032	0.032	0.043	0.036	0.031	0.033	0.038	0.029	0.033	0.029	0.041	0.041	0.043	0.044	0.024	0.074	0.093	0.064
MW-02	pH	6.5 - 9.0	s.u.	8.62	8.62	8	8.11	7.8	8.74	8.23	8.33	8.4	7.79	8	7.93	8.06	8.97	7.74	7.59	6.94	8.14
MW-02	Sulfate	1350	mg/l	430	200	400	330	220	330	340	280	250	260	250	300	280	210	300	340	510	400
MW-02	Total Dissolved Solids	--		870	970	980	720	650	810	850	690	710	740	890	980	950	1000	1000	1100	1200	1200
MW-03	Antimony	0.32	mg/l	<0.003	<0.003	<0.015	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-03	Boron	7.6	mg/l	2.7	2.4	2.6	3.3	2.8	2.7	3.1	3.9	3.4	3.2	3.7	3.6	3.5	3.2	3.3	3.5	3.6	2.9
MW-03	Chloride	500	mg/l	54	290	100	130	100	95	88	96	100	87	110	100	110	69	62	91	97	43
MW-03	Manganese	3.04	mg/l	0.34	0.31	0.34	0.26	0.29	0.27	0.37	0.23	0.25	0.29	0.22	0.19	0.16	0.45	0.25	0.16	0.29	0.47
MW-03	pH	6.5 - 9.0	s.u.	7.21	7.72	7.01	7.18	6.55	7.24	6.79	7.12	7.21	7.88	7.21	7.2	7.24	7.03	7.21	7.39	**6.06**	7.11
MW-03	Sulfate	1350	mg/l	330	270	240	250	280	320	500	440	480	390	610	550	540	560	560	570	570	520
MW-03	Total Dissolved Solids	--		940	1000	990	1000	930	1000	1400	1100	1100	1100	1200	1200	1100	1200	1200	1100	1100	1100
MW-04	Antimony	0.32	mg/l	<0.003	<0.003	<0.015	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-04	Boron	7.6	mg/l	3.7	3.3	3.6	4.3	3	4	5.3	6.2	5.2	4.5	3.8	5.1	5.0	4.6	4.2	4.8	4.5	3.9
MW-04	Chloride	500	mg/l	120	190	120	170	150	150	140	170	170	150	110	120	80	110	85	67	82	120
MW-04	Manganese	3.04	mg/l	0.52	0.58	0.7	1	0.52	0.6	0.7	0.99	0.62	0.47	0.44	0.58	0.65	0.72	0.49	0.88	0.64	0.52
MW-04	pH	6.5 - 9.0	s.u.	7.57	7.66	7.23	7.21	6.58	7.27	7.1	7.29	7.34	6.61	7.07	7.15	6.74	7.03	6.96	6.75	**5.87**	7.13
MW-04	Sulfate	1350	mg/l	**1500**	**1500**	**1600**	**4800**	**1600**	**2000**	**2800**	**3200**	**2200**	**2000**	**1500**	**2200**	1300	**1400**	1100	1200	**1600**	1100
MW-04	Total Dissolved Solids	--		2500	2600	2800	6800	3100	3700	4300	4400	4000	3600	2900	3500	2400	2800	2500	2200	2600	2000
MW-05	Antimony	0.32	mg/l	<0.003	<0.003	<0.015	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-05	Boron	7.6	mg/l	2.6	2.7	3.2	4	3.2	2.3	2.3	3.8	2.5	2.6	3.6	3.5	4.1	2.7	2.9	2.7	4.7	2.1
MW-05	Chloride	500	mg/l	110	150	140	150	130	170	150	160	150	140	110	120	130	130	160	170	81	200
MW-05	Manganese	3.04	mg/l	0.0079	0.0067	0.055	0.13	0.038	0.042	0.014	0.073	0.023	0.036	0.15	0.036	0.11	0.053	0.11	0.062	0.2	0.046
MW-05	pH	6.5 - 9.0	s.u.	**9.58**	**9.51**	7.44	7.38	8.2	**9.3**	**9.41**	7.54	**9.37**	7.43	7	7.88	6.75	8.45	7.07	7.36	6.87	**9.7**
MW-05	Sulfate	1350	mg/l	580	570	520	690	500	570	410	540	200	320	650	500	560	690	**1700**	610	840	430
MW-05	Total Dissolved Solids	--		1000	1400	1400	1500	1000	1000	760	1100	820	940	1600	1100	1300	1400	1600	1400	2100	1100
MW-06	Antimony	0.32	mg/l	<0.003	<0.003	<0.015	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-06	Boron	7.6	mg/l	2.7	2.5	2.4	4	2.5	2.5	2.9	4	4	2.7	2.8	2.9	3.7	3	2.9	2.8	3.4	3.2
MW-06	Chloride	500	mg/l	120	210	150	120	120	110	92	110	110	150	110	91	76	55	120	120	81	49
MW-06	Manganese	3.04	mg/l	0.073	0.051	0.047	0.024	0.038	0.029	0.033	0.038	0.034	0.03	0.082	0.023	0.083	0.099	0.056	0.028	0.11	0.12
MW-06	pH	6.5 - 9.0	s.u.	8.89	**9.65**	**9.27**	**9.44**	8.82	**9.29**	**9.07**	**9.17**	**9.18**	8.22	8.41	**9.13**	8.5	8.27	8.52	8.16	7.26	8.38
MW-06	Sulfate	1350	mg/l	500	540	570	420	440	380	450	550	360	370	360	400	310	270	320	200	420	330
MW-06	Total Dissolved Solids	--		900	1100	1200	870	800	900	770	800	820	840	880	800	790	780	840	660	800	770
MW-07	Antimony	0.32	mg/l	<0.003	<0.003	<0.015	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-07	Boron	7.6	mg/l	4.7	5	4.7	5.4	5	5.1	5.6	5.5	5.1	4.3	2.6	3.5	5	4	4.8	3.9	5.1	3
MW-07	Chloride	500	mg/l	160	140	140	160	150	130	120	150	140	130	130	180	180	210	190	200	190	170
MW-07	Manganese	3.04	mg/l	0.12	0.11	0.15	0.18	0.2	0.2	0.19	0.19	0.19	0.15	0.043	0.064	0.049	0.16	0.12	0.1	0.12	0.031
MW-07	pH	6.5 - 9.0	s.u.	8.61	8.79	8.13	7.91	7.65	8.36	7.92	8.02	7.75	8.08	8.14	8.43	8.07	8.18	8.22	8.26	7.88	8.08
MW-07	Sulfide	1350	mg/l	610	650	1000	710	710	750	670	690	480	400	590	460	530	380	540	570	680	460
MW-07	Total Dissolved Solids	--		1300	1500	1600	1400	1300	1400	1300	1200	1200	1000	1100	1100	1200	1300	1300	1300	1500	1100

Table H-5-1
Groundwater Analytical Results for Constituents of Interest December 2010 to February 2015
Midwest Generation -- Will County Generating Station - Romeoville, Will County, Illinois

Well	Constituent	Effects Values (1)	Units	Groundwater Analytical Results (Year [Month])																
				2010 [12]	2011 [03]	2011 [06]	2011 [09]	2011 [12]	2012 [03]	2012 [06]	2012 [09]	2012 [12] (2)	2013 [03]	2013 [05/06]	2013 [08]	2013 [10]	2014 [02]	2014 [05]	2014 [08]	2014 [10]	2015 [02]
MW-08	Antimony	0.32	mg/l	<0.003	<0.003	<0.015	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-08	Boron	7.6	mg/l	1.7	1.5	1.7	2.3	1.9	1.5	2	2.6	2.1	1.8	1.9	2.4	3.2	2	2.5	2.4	2.8	2.3
MW-08	Chloride	500	mg/l	95	270	200	160	130	160	160	150	150	150	150	170	150	180	160	170	180	170
MW-08	Manganese	3.04	mg/l	0.33	0.44	0.47	0.45	0.4	<0.0015	0.36	0.41	0.45	0.33	0.47	0.51	0.42	0.39	0.35	0.3	0.44	0.31
MW-08	pH	6.5 - 9.0	s.u.	7.65	8.17	7.47	7.3	6.99	7.61	7.36	7.31	7.43	7.87	7.10	7.46	6.87	8.18	7.64	7.09	7.08	7.24
MW-08	Sulfate	1350	mg/l	440	440	420	600	330	330	370	630	380	360	270	440	650	330	450	430	730	530
MW-08	Total Dissolved Solids	--		930	1200	1100	1300	980	910	1000	1200	1200	1000	1100	1100	1600	1300	1400	1200	1500	1400
MW-09	Antimony	0.32	mg/l	<0.003	<0.003	<0.015	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-09	Boron	7.6	mg/l	2.2	1.4	1.7	2	1.9	1.4	1.8	2	1.7	1.5	1.7	1.8	2.2	1.4	1.5	1.7	1.9	1.4
MW-09	Chloride	500	mg/l	100	290	230	190	140	200	160	160	130	140	160	170	110	270	250	210	200	200
MW-09	Manganese	3.04	mg/l	<0.0025	<0.0025	<0.013	<0.0025	<0.0025	<0.0025	<0.0025	0.0036	<0.0025	<0.0025	<0.0025	0.0043	<0.0125	<0.0025	<0.0025	<0.0025	0.0025	0.0026
MW-09	pH	6.5 - 9.0	s.u.	**10.88**	**10.87**	**10.44**	**10.27**	**9.55**	**10.56**	**10.31**	**10.23**	**10.42**	**10.39**	**9.93**	**9.86**	**10.01**	**9.69**	**9.71**	**9.26**	8.73	**9.48**
MW-09	Sulfate	1350	mg/l	410	320	410	400	270	340	340	380	330	250	320	310	310	220	300	310	430	300
MW-09	Total Dissolved Solids	--		860	1000	940	850	660	820	880	800	780	680	690	700	680	780	880	870	820	810
MW-10	Antimony	0.32	mg/l	<0.003	<0.003	<0.015	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
MW-10	Boron	7.6	mg/l	2.1	1.8	2.2	2.8	2.5	2.1	2.1	3.2	2.7	2.7	2.7	3.3	3.8	2.5	2.2	2.3	3.3	1.8
MW-10	Chloride	500	mg/l	92	130	150	120	120	100	120	140	140	130	140	130	140	140	140	140	140	110
MW-10	Manganese	3.04	mg/l	0.25	0.22	0.25	0.27	0.29	0.25	0.26	0.23	0.29	0.29	0.24	0.14	0.22	0.18	0.12	0.12	0.25	0.38
MW-10	pH	6.5 - 9.0	s.u.	7.61	8.14	7.55	7.45	7.1	7.59	7.39	7.6	7.47	7.54	7.55	7.38	7.37	**9.18**	7.54	7.54	6.81	7.32
MW-10	Sulfate	1350	mg/l	370	370	350	420	290	330	350	380	270	350	350	300	330	290	270	260	300	260
MW-10	Total Dissolved Solids	--		990	960	990	1000	1100	990	1000	970	1100	1000	1100	980	920	1000	940	880	1100	1100

Notes
(1) Illinois General Use Water Quality Standards (WQS) and Illinois Water Quality Criteria (WQC) are used as surface water effects values
(2) Antimony results (all non-detects) for December 2012 for wells MW-01 through MW-10 were qualified as "^" by the laboratory, which denotes instrument-related QC exceeds the control limits

mg/l = milligrams per liter
s.u. = standard units
"--" = value not available
"<" = constituent was not detected, the reporting limit is presented
bold/shading = concentration exceeds effects value

Table B-5-2
Comparison Of Average Groundwater Analytical Results To Surface Water Effects Values
Midwest Generation -- Will County Generating Station - Romeoville, Will County, Illinois

Constituent	Units	Effects Value [1]	Groundwater Analytical Results - Average Concentrations [2]										Average [3]
			MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	MW-10	
Antimony	mg/L	0.32	0.00177	0.00302	0.00367 U	0.00367 U	0.00367 U	0.00367 U	0.00367 U	0.00367 U	0.00367 U	0.00367 U	0.00195
Boron	mg/L	7.6	1.84	2.29	3.19	4.42	3.13	2.88	4.41	2.13	1.73	2.58	2.86
Chloride	mg/L	500	129	148	96.8	129	142	110	163	166	183	129	140
Manganese	mg/L	3.04	0.189	0.0416	0.286	0.651	0.067	0.0554	0.132	0.367	0.00199	0.236	0.20
Sulfate	mg/L	1480	333	317	431	**1920**	599	398	586	452	334	329	570
pH	s.u.	6.5 - 9.0	7.59	8.09	7.13	7.02	8.12	8.76	8.16	7.4	**10**	7.56	7.98
Total Dissolved Solids	mg/L	--	942	897	1100	3250	1250	869	1280	1190	798	1000	1260

Notes
(1) Illinois General Use Water Quality Standards (WQS) and Illinois Water Quality Criteria (WQC) are used as surface water effects values.
(2) Average of concentrations reported between December 2010 and February 2015. If a constituent was not detected during this timeframe, the average reporting limit is presented in the table, indicated with a "U" qualifier. Otherwise, non-detect results were included in the average calculation assuming one-half the reporting limit.
(3) Average of concentrations (averages) presented in the table, assuming one-half the reporting limit for non-detect results.

mg/L = milligram per liter
s.u. = standard units
"--" = value not available
U = constituent not detected above its reporting limit
bold/shading = concentration exceeds effects value

Table B-5-3
Comparison Of Maximum Groundwater Analytical Results To Surface Water Effects Values
Midwest Generation -- Will County Generating Station - Romeoville, Will County, Illinois

Constituent	Units	Effects Value [1]	Groundwater Analytical Results - Maximum Concentrations [2]										Average [3]
			MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	MW-10	
Antimony	mg/L	0.32	0.0063	0.017	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.015 U	0.00833
Boron	mg/L	7.6	2.6	3.6	3.9	6.2	4.7	3.7	5.7	3.2	2.2	3.8	3.96
Chloride	mg/L	500	220	250	250	190	170	210	210	270	280	150	220
Manganese	mg/L	3.04	0.3	0.083	0.45	1	0.2	0.12	0.2	0.47	0.0043	0.38	0.32
Sulfate	mg/L	1480	540	510	610	**4800**	**1700**	570	1000	730	430	420	1130
pH	s.u.	6.5 - 9.0	6.91-8.96	6.94-8.97	**6.06-7.88**	**5.87-7.66**	**6.75-9.70**	**7.26-9.65**	7.69-8.79	6.87-8.18	**8.73-10.88**	**6.84-9.18**	6.99-8.99
Total Dissolved Solids	mg/L	--	1300	1200	1400	6000	2100	1200	1600	1600	1000	1100	1850

Notes
(1) Illinois General Use Water Quality Standards (WQS) and Illinois Water Quality Criteria (WQC) are used as surface water effects values.
(2) Maximum detected concentrations reported between December 2010 and February 2015. If a constituent was not detected during this timeframe, the maximum reporting limit is presented in the table, indicated with a "U" qualifier. For pH, the range is presented.
(3) Average of well-specific concentrations (maximums) presented in the table. If the maximum is a non-detect result, one-half the reporting limit was used as a surrogate concentration in the calculation. For pH, the range presented in the "average" column is the average minimum and average maximum.

mg/L = milligram per liter
s.u. = standard units
"--" = value not available
U = constituent not detected above its reporting limit
bold/shading = concentration exceeds effects value

Exhibit H
(REDACTED)

Exhibit I

SUMMARY LETTER

October 13, 2005

Ms. Maria L. Race
Midwest Generation EME, LLC
One Financial Place
440 South LaSalle Street, Suite 3500
Chicago, Illinois 60605

VIA FEDERAL EXPRESS KPRG Project No. 15805

Re: Geotechnical Analysis of Soil Surrounding Settling Basins/Ponds

Dear Ms. Race:

KPRG and Associates, Inc. (KPRG) has recently received the geotechnical testing results from the soil boring program implemented in the vicinity of various ponds located at six of the Midwest Generation stations. Specifically, these stations and the number of borings advanced at each were:

- Waukegan Station (5 borings)
-
- Will County Station (5 borings)
- Joliet #29 Station (6 borings)
-
- Powerton Station (9 borings)

This letter report provides a project objective, documents the field procedures, identifies the geotechnical laboratory specifications and summarizes the geotechnical testing results. Each item is discussed separately below.

PROJECT OBJECTIVE

Based on discussions with Midwest Generation, the objective of the project was to obtain stratigraphic and geotechnical data from the vicinity of specific ponds at the various station locations. The results of the investigation would provide a physical characteristic data base for subsequent engineering evaluations, planning and decision analysis. The soil sample collection for geotechnical analysis was targeted for the approximate equivalent base elevation of each pond as specified by Midwest Generation.

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FIELD PROCEDURES

Prior to mobilizing for drilling activities, Midwest Generation contracted Lucky Locators, Inc. to provide utility clearance at each pre-established drilling location. Once the utility clearance was provided, KPRG mobilized a geoprobe rig which utilizes a direct hydraulic push technology for collecting soil cores. Continuous 5-foot core samples were collected during drilling at each location. The core samples were screened in the filed for total organic vapors with a photoionization detector (PID) and where appropriate, compressive strength readings were taken using a hand penetrometer. At the approximate base elevation of the adjoining pond, an attempt was made to push a Shelby Tube for collection of an undisturbed sample for subsequent geotechnical analysis. If the subsurface conditions did not allow for sample collection by pushing a Shelby Tube, an acetate core sample was collected for submittal for geotechnical analysis. If the targeted interval consisted of sufficiently coarse material that would not allow for either proper Shelby Tube or acetate core sampling, a representative volume of retrieved sample was placed into a plastic baggie for submittal for geotechnical analysis. Table 1 summarizes the overall results of the geotechnical sampling effort relative to station, sample identification number, sample collection type and depth.

Upon completion of sampling at each location, the boring was abandoned by placing unsampled core material back into the hole and filling the remainder of the boring with granular bentonite. A surface patch was then placed to match the surrounding surficial material.

GEOTECHNICAL LABORATORY SPECIFICATIONS

KPRG subcontracted Terracon Consulting Engineers (Terracon) to perform the geotechnical laboratory analyses. The following geotechnical testing methods were run by Terracon:

- Grain Size with Hydrometer (ASTM Method D 422)
- Atterberg Limits (ASTM Method D 4318)
- Bulk Density (ASTM Method D 2937)
- Specific Gravity (ASTM Method D 854)
- Moisture Content (ASTM Method D 2216)
- Permeability (ASTM Method D 5084)
- USCS Soil Classification

In accordance with KPRG's proposal, Terracon was instructed to first run the Grain Size Distribution and Atterberg Limits testing. Based on these results, permeability testing was only performed if the Plasticity Index (PI) was less than 11 or if there was less than a 30% fraction passing the 200 mesh sieve. If both of these criteria were met (i.e., a PI of greater than 11 and greater than 30% fraction passing the 200 mesh sieve), the material should have a permeability in the order of 10^{-7} cm/sec which should provide sufficient

MWG13-15_24265

information for most desk-top engineering evaluations. As noted further below, only a few of the samples actually met these criteria.

It is noted that geoprobe acetate tube and/or baggie samples are not considered "undisturbed" samples and that some remolding/recompaction was required for completing permeability tests.

RESULTS

Table 1 summarizes the various samples collected for geotechnical analysis by station location and depth interval. The table notes whether the sample sent to the laboratory was a Shelby Tube, acetate tube or baggie sample.

The results of the geotechnical investigation program are organized separately for specific stations and provided in Attachments 1 through 6 along with sample location maps. A brief summary for each station is provided below. The complete geotechnical laboratory report is provided in Attachment 7.

Waukegan Station

A total of five borings were drilled and sampled at the Waukegan Station (WS-GT-1 through WS-GT-5). The approximate sample locations are provided on Figure 1-1 in Attachment 1 along with the results of the geotechnical testing in Table 1-1 and the associated soil boring logs.

A review of the boring logs indicates that the subsurface materials were generally sandy with some gravel and/or silts and clays. Some areas were noted to containing fill material generally consisting of ash/slag.

The geotechnical data in Table 1-1 from samples collected at elevations approximately equivalent to the base of the various adjacent ponds (as determined by Midwest Generation) also document these materials to be classified as sands with some gravel, silt and/or clay. Permeabilities were found to range from 1.0×10^{-3} cm/sec to 2.3×10^{-2} cm/sec. These permeabilities are consistent with sandy/gravelly materials.

Redacted

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Redacted

Will County Station

A total of five borings were drilled and sampled at the Will County Station (WC-GT-1 through WC-GT-5). The approximate sample locations are provided on Figure 3-1 in Attachment 3 along with the results of the geotechnical testing in Table 3-1 and the associated soil boring logs.

A review of the boring logs indicates that the subsurface stratigraphy varied across the site. The northern most boring (WC-GT-1) has a sandy/gravelly unit overlying a clay unit with weathered bedrock being encountered between 4.5 and 5 feet below ground surface (bgs). Borings WC-GT-2 through WC-GT-4 located on the west central portion of the property generally had a 1.5 to 2.5 foot thick fill layer with ash/slag and underlying sandy and gravelly units. Bedrock was generally encountered at around 10 feet bgs. The southern most boring (WC-GT-5) had a silty/sandy/gravelly layer overlaying weathered bedrock which was encountered at about 2.5 feet bgs.

The geotechnical data in Table 3-1 from samples collected at elevations approximately equivalent to the base of the various adjacent ponds (as determined by Midwest Generation) also document these materials to be classified as sands with some gravel or silts/clays. Permeabilities for the clayey and silty materials at borings WC-GT-4 and WC-GT-3 were estimated to range from 3.65×10^{-7} cm/sec to 1.86×10^{-6} cm/sec, respectively. It is noted, however, that the remolding for these samples could not meet the analytical method standard requirements due to the coarse fractions and that the values provided a verbal estimates. The true values could not be quantified due to the noted remolding issue and, therefore, are not included in the formal quantified results table provided by the geotechnical laboratory in Attachment 7. The coarser sandy and/or gravelly materials at locations WC-GT-2 and WC-GT-1 showed permeabilities at 4.02×10^{-3} and 1.35×10^{-1} cm/sec, respectively. The permeability for sample WC-GT-5 could not be run due to the relative amount of gravel which precluded being able to properly

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remold a sample for the permeability analysis. This of itself suggests a relatively high permeability layer.

Joliet Station #29

A total of six borings were drilled and sampled at Joliet Station #29 (JS29-GT-1, through JS29-GT-6). The approximate sample locations are provided on Figure 4-1 in Attachment 4 along with the results of the geotechnical testing in Table 4-1 and the associated soil boring logs.

A review of the boring logs indicates that the subsurface stratigraphy varied across the site from primarily sand/gravel at location JS29-GT-1 to primarily clay at locations JS29-GT-3, JS29-GT-5 and JS29-GT-6. The boring logs for the remaining locations indicate an interlayering of the coarse and fine materials. Some minor amounts of ash/slag were noted at some locations within the upper foot of material. Bedrock was definitively encountered only at location JS29-GT-6 at a depth of approximately 15 feet bgs.

The geotechnical data in Table 4-1 from samples collected at elevations approximately equivalent to the base of the various adjacent ponds (as determined by Midwest Generation) indicates that the sample from location JS29-GT-6 met the previously defined criteria of a high PI (greater than 11) and greater than a 30% fraction passing the 200 mesh sieve. Therefore, it can be generally assumed that the materials are of low permeability as previously discussed and no further permeability testing was performed on this sample. The results of the permeability tests for locations JS29-GT-1, JS29-GT-3 and JS29-GT-5 ranged from 4.7×10^{-4} to 2.96×10^{-2} cm/sec. The permeabilities for samples JS29-GT-2 and JS29-GT-4 could not be run due to the relative amount of gravel which precluded being able to properly remold a sample for the permeability analysis. This of itself suggests relatively high permeability layers at those locations.

Redacted

Powerton Station

A total of nine borings were drilled and sampled at Powerton Station (PS-GT-1, through PS-GT-9). The approximate sample locations are provided on Figure 6-1 in Attachment 6 along with the results of the geotechnical testing in Table 6-1 and the associated soil boring logs.

A review of the boring logs indicates a varied stratigraphy from primarily clayey at locations PS-GT-1 and PS-GT-5 to an interlayering of sandy and clayey units at the other locations. It is noted that at locations PS-GT-7 through PS-GT-9, a slag/ash unit was logged starting at between 2 and 3 feet bgs and extending to approximately 15 feet bgs. A two foot ash layer was also logged between 2 and 4 feet bgs at location PS-GT-5.

The geotechnical data from samples collected at elevations approximately equivalent to the base of the various adjacent ponds (as determined by Midwest Generation) indicates that the sample from location PS-GT-5 met the previously defined criteria of a high PI (greater than 11) and greater than a 30% fraction passing the 200 mesh sieve. Therefore, it can be generally assumed that the materials are of low permeability as previously discussed and no further permeability testing was performed on this sample. The remaining permeabilities ranged from 1.6×10^{-7} cm/sec to 2.31×10^{-2} cm/sec; the lower permeabilities associated with clayey and silty soils and the higher values associated with sandier soils.

KPRG appreciates the opportunity for providing our technical services to Midwest Generation on this project. If there are any questions, please contact me at 262-781-0475.

Sincerely,
KPRG and Associates, Inc.

Richard R. Gnat

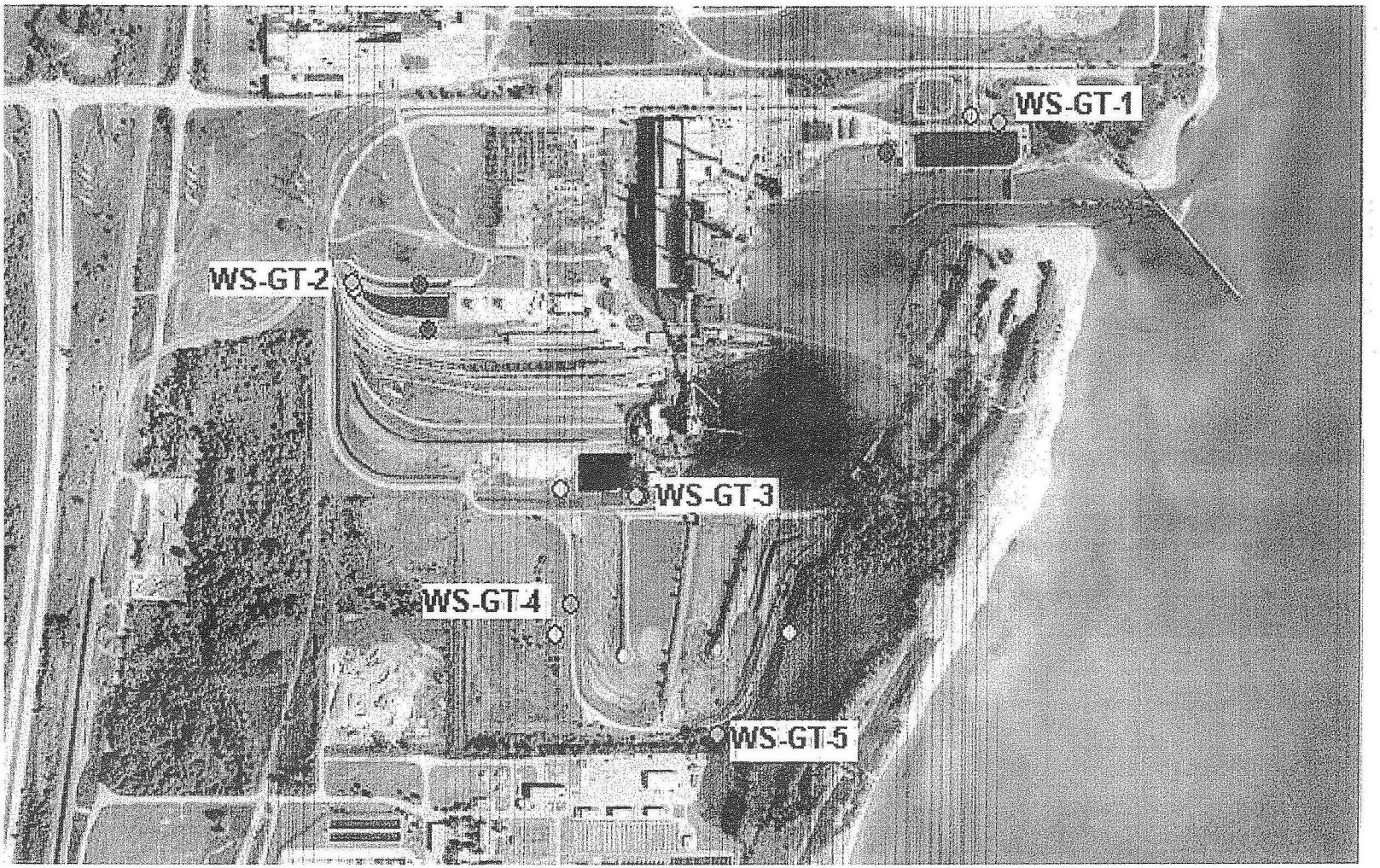
Richard R. Gnat, P.G.
Principal

TABLE

Table 1. Summary of Samples Collected for Geotechnical Analysis

STATION	BORING ID	SHELBY TUBE (Depth Ft)	GEOPROBE TUBE (Depth Ft)	BAGGIE SAMPLE
Waukegan	WS-GT-1		5-10	
	WS-GT-2	7.5-10	5-10	
	WS-GT-3		5-10	
	WS-GT-4		22-27	
	WS-GT-5		22-27	
Redacted				
Will County	WC-GT-1		5-10	
	WC-GT-2		5-10	
	WC-GT-3		3-8	3-8
	WC-GT-4		5-10	
	WC-GT-5		5-9	5-9
Joliet #29	JS29-GT-1		19-24	15-19
	JS29-GT-2		19-24	
	JS29-GT-3		19-24	17-19
	JS29-GT-4		17-22	
	JS29-GT-5		9-14	
	JS29-GT-6		11-14	11-14
			Redacted	
Powerton	PS-GT-4	10-11.5		
	PS-GT-5	17-19		
	PS-GT-6		15-20	
	PS-GT-7		10-15	
	PS-GT-8		10-13	
	PS-GT-9		13-18	

ATTACHMENT 1
Waukegan Station Geotechnical Study Results



Suggested

Possible Alternate

Soil Sample Sites cleared by Lucky Locators Inc.

Figure 1-1

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Table 1-1. Soil Sample Geotechnical Data - Midwest Generation, Waukegan Station, Waukegan, IL

Sample	Depth	Soil Description	Moisture (%)	Density (pcf)	Atterberg		Grain Size #40	Hydrometer (% passing #200)	Specific Gravity	Permeability Test (cm/s)
					LL (%)	PI (%)				
WS-GT-1	5 to 10'	Sand with trace gravel	5.6	114	NP	NP	94	1	2.63	1.05x10-2
WS-GT-2	7.5'-10'	Silty Sand, trace gravel, dark brown	15.2	107	NP	NP	79	7	2.44	1.52x10-2
			18.1							
WS-GT-3	5 to 10'	Sand with trace gravel	11.2	99	NP	NP	86	0	2.65	2.3x10-2
WS-GT-4	22-27'	Sand with trace gravel	5.4	114	NP	NP	53	2	2.64	2.16x10-2
WS-GT-5	22-27'	Sand, trace gravel, black	4.4	96	NP	NP	15	0	2.73	1.0x10-3
		(Bottom Ash?)								

*Unable to perform permeability test, too much stone, not enough soil sample
**Remolded sample to obtain the dry density
NA - Not Analyzed
NP - Not Plastic

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LOG OF BORING WS-GT-1

Midwest Generation
Waukegan Station
Waukegan, IL

Project No. 15805

Date Completed : 08/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0	GW		SAND and GRAVEL, gray and orange brown. Dry.	1	0.0		
1							
2	SP		SLAG, black, medium to coarse sand and gravel, some bottom ash. Dry.				
3				2	0.0	80	
4	SP		SAND, fine to medium, light brown, trace silt. Slightly Moist.				
5							
6			Push Geoprobe Tube 5 to 10.				
7							
8							
9							
10			End of boring at 10 feet.				
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

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LOG OF BORING WS-GT-2

Midwest Generation
Waukegan Station
Waukegan, IL

Project No. 15805

Date Completed : 08/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0	GW		SAND and GRAVEL, brown and black. Dry.	1	0.0		
1	SP		SAND, fine to medium, brown, trace silt and gravel. Slightly Moist.				
2							
3			- wet	2	0.0	80	
4	SP		SAND, fine to medium, little silt. Very Moist.				
5							
6			Push Geoprobe Tube 5 to 10.				
7			Pushed Shelby tube in new boring 5 to 10 feet. 18" recovery.				
8							
9							
10			End of boring at 10 feet.				
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

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LOG OF BORING WS-GT-3

Midwest Generation
Waukegan Station
Waukegan, IL

Project No. 15805

Date Completed : 08/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	GW		SAND and GRAVEL, dark brown. Dry.	1	0.0		
1–2	SP		Bottom Ash, black and gray, fine, some sand and gravel. Dry.				
2–3	CO		COAL, black, some gray clayey bottom ash. Moist.	2	0.0	80	
3–4	SP		SAND, fine to medium, black and brown, little silt. Moist.				
4–5			Push Geoprobe Tube 5 to 10. Full recovery.				
5–10							
10			End of boring at 10 feet.				
11–20							

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LOG OF BORING WS-GT-4

Midwest Generation
Waukegan Station
Waukegan, IL

Project No. 15805

Date Completed : 08/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	GW		SAND and GRAVEL, brown. Dry.	1	0.0		
1–3	GW		Bottom Ash and SAND and GRAVEL Mixture. Very Moist.	2	0.0	100	
3–10	GW		Bottom Ash, black, medium to coarse sand and gravel, some fines. Slightly Moist.	3	0.0		
				4	0.0	80	
			- wet, some organics				
10–13	SP		SAND, fine to medium, some silt and clay, brown, organics. Slightly Moist.	5	0.0		
13–19	SP		Bottom Ash, black, granular, medium to coarse sand and gravel. Slightly Moist.	6	0.0	70	
				7	0.0		
19–22	SP		SAND, gray, fine to medium, trace silt.	8	0.0		
22–27			Push Geoprobe Tube 22 to 27 feet. Full Recovery				
27–30			End of boring at 27 feet.				

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KPRG and Associates, Inc.

LOG OF BORING WS-GT-5

Midwest Generation
Waukegan Station
Waukegan, IL

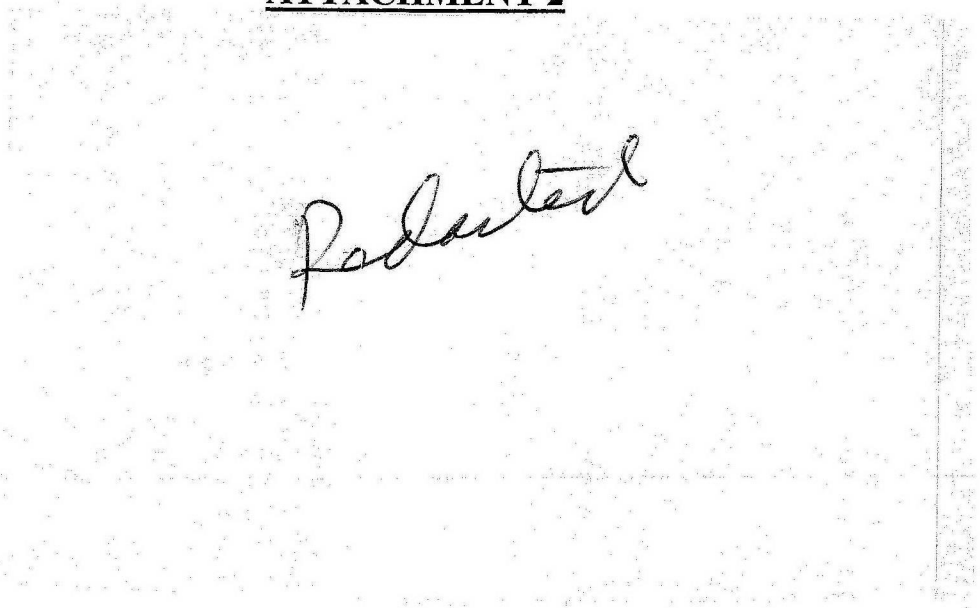
Project No. 15805

Date Completed : 08/08/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	GW		SAND and GRAVEL, brown, grass. Dry.	1	0.0		
1–4	SM		Bottom Ash, light gray, fine sand and silt powder. Dry.	2	0.0	80	
			- 3" light brown SAND, fine to medium. Dry.	3	0.0		
4–9	SM		Bottom Ash, fine to medium sand and silt, brown some gray, some slag. Slightly Moist.	4	0.0	100	
9–22	SP		Bottom Ash, black, granular, medium to coarse sand and gravel. Slightly Moist.	5	0.0		
				6	0.0	60	
				7	0.0	80	
				8	0.0	100	
22–27			Push Geoprobe Tube 22 to 27 feet. 24" Recovery.				
27–30			End of boring at 27 feet.				

MWG13-15_24279

ATTACHMENT 2



ATTACHMENT 3
Will County Station Geotechnical Study Results

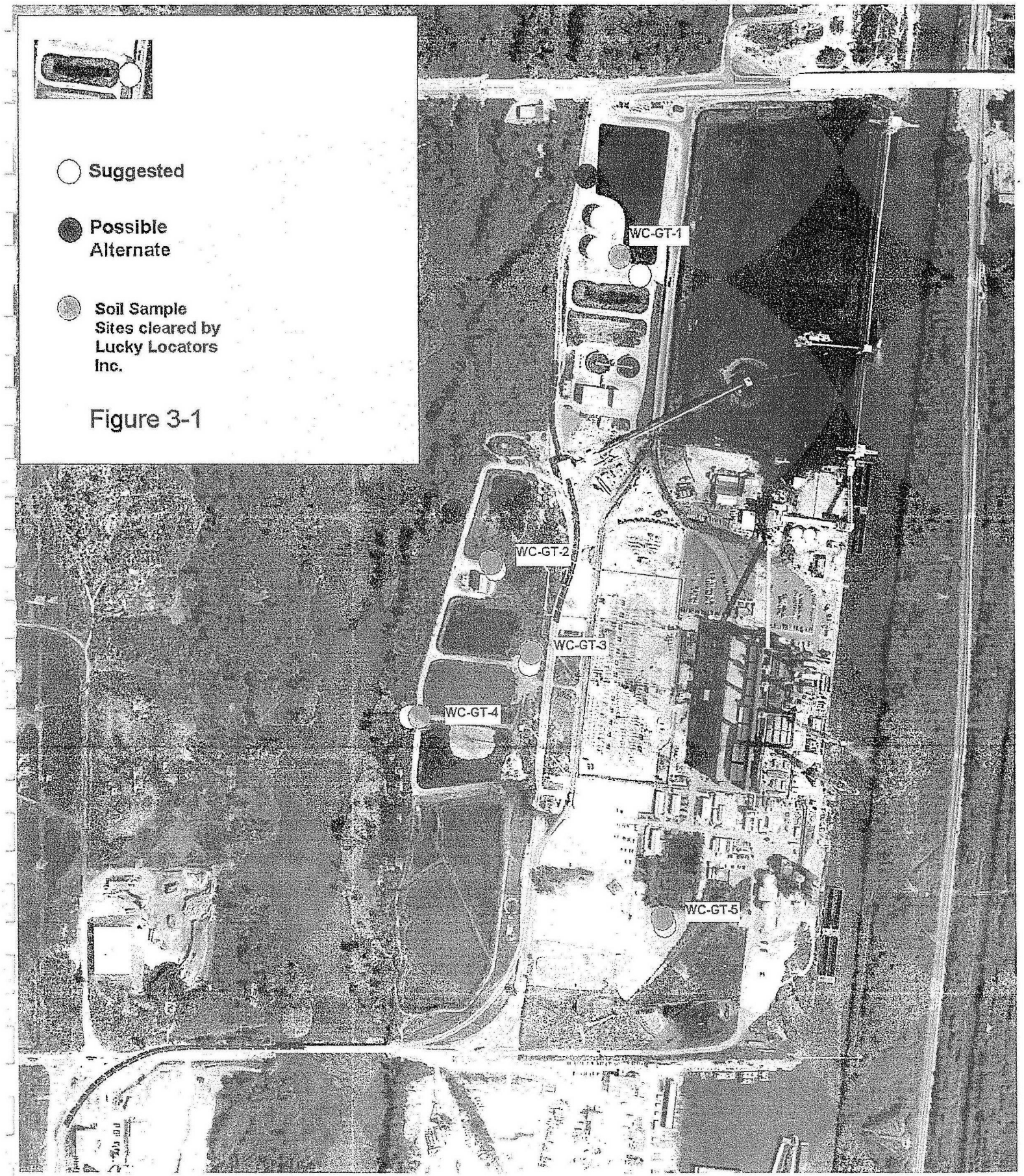

Suggested
Possible Alternate
Soil Sample Sites cleared by Lucky Locators Inc.
Figure 3-1
WC-GT-1
WC-GT-2
WC-GT-3
WC-GT-4
WC-GT-5

Table 3-1. Soil Sample Geotechnical Data - Midwest Generation, Will County Station, Romeoville, IL

Sample	Depth	Soil Description	Moisture (%)	Density (pcf)	Atterberg		Grain Size #40	Hydrometer (% passing #200)	Specific Gravity	Permeability Test (cm/s)
					LL (%)	PI (%)				
WC-GT-1	5 to 10'	Clayey Sand, dark brown to tan	3.4	118	31	15	25.1	11.4	2.66	1.35x10-1
WC-GT-2	5 to 10'	Sand with gravel, dark brown	18.1	92	NP	NP	35.1	11.9	2.65	4.02x10-3
WC-GT-3	3 to 8'	Lean Clay, dark brown	10.0	103	35	12	25.6	19.7	2.71	1.86x10-6***
WC-GT-4	5 to10'	Silty Clay, dark brown	9.5	128	25	7	35.4	23.3	2.7	3.65x10-7***
WC-GT-5	5-9'	Sandy Clay with Gravel	4.2	119	NP	NP	39	35	2.65	*

*Unable to perform permeability test, too much stone, not enough soil sample
**Remolded sample to obtain the dry density
***Verbal estimate provided by geotechnical lab. The data package in Attachment 7 indicates that due to the coarse fraction the samples could not be ideally remolded. The above verbal estimate is not a quantitaive number due to the remolding issue and is therefore not reported as such in Attachment 7.
NA - Not Analyzed
NP - Not Plastic

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LOG OF BORING WC-GT-1

Midwest Generation
Will County Station
Romeoville, IL

Project No. 15805

Date Completed	: 08/09/05
Drilling Method	: Direct-Push
Drilling Company	: CABENO Env. Field Services
Operator	: D. Joyce
Logged By	: P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	GW		GRAVEL and SAND, light brown / gray, trace silt and clay. Dry.	1	0.0		
2–3	CL		CLAY, dark brown, some sand and gravel. Dry.	2	3.0	80	>4.5
4	GW		SLAG and Bottom Ash, black and dark gray, medium to coarse sand, little silt. Dry to Slightly Moist.	3	25		
5			- - clayey weathered bedrock, gray, moist				

End of Boring at 5 feet.
Push geoprobe tube 0 to 5 feet in new boring.

6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

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LOG OF BORING WC-GT-2

Midwest Generation
Will County Station
Romeoville, IL

Project No. 15805

Date Completed : 08/09/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–2	ML		Bottom Ash, brown and black, fine, little gravel. Dry. - increase gravel	1	0.0		
2–10	SP		SAND, fine to medium, dark brown to brown, little silt. Slightly Moist to Moist. - very moist	2 3 4	0.0 0.0 0.0	80 80	
10			End of Boring at 10 feet. Push geoprobe tube 5 to 10 feet in new boring.				

MWG13-15_24285

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LOG OF BORING WC-GT-3

Midwest Generation
Will County Station
Romeoville, IL

Project No. 15805

Date Completed : 08/09/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	SP		Bottom Ash and Coal, black, fine to medium, little gravel. Slightly Moist.	1	0.0		
2	GW		SAND-SILT-GRAVEL mixture, with crushed limestone, Slightly Moist.				
3–4	CL/GW		CLAY and GRAVEL, dark brown. Slightly Moist.	2	0.0	70	
5	CL/GW		- layer orange brown sand and gravel				
6–7	CL/GW			3	0.0		
8–9	GW		SLAG, black, fine to medium sand with fine gravel. Moist.	4	0.0	40	
9			- clayey weathered bedrock, gray				
10			End of Boring at 9.5 feet.				
11			Attempt push Shelby Tube, colapsed.				
12			Push geoprobe tube 3 to 8 feet in new boring. 28 " recovery.				
13–20							

MWG13-15_24286

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LOG OF BORING WC-GT-4

Midwest Generation
Will County Station
Romeoville, IL

Project No. 15805

Date Completed : 08/09/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	SP		Bottom Ash, sand and gravel. Dry. - black silt and fine sand, trace gravel. Dry. - gray	1	0.0		
2	CL/GW		CLAY and GRAVEL, some sand, dark brown. Dry.				
3–4	GW		SAND and GRAVEL, light brown. Dry.	2	0.0	100	
5–6			Pushed Geoprobe Tube 5 to 10. 41" recovery.	3	0.0		
7–8							
9				4	0.0	70	
10			End of Boring at 10 feet.				
11–20							

MWG13-15_24287

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LOG OF BORING WC-GT-5

Midwest Generation
Will County Station
Romeoville, IL

Project No. 15805

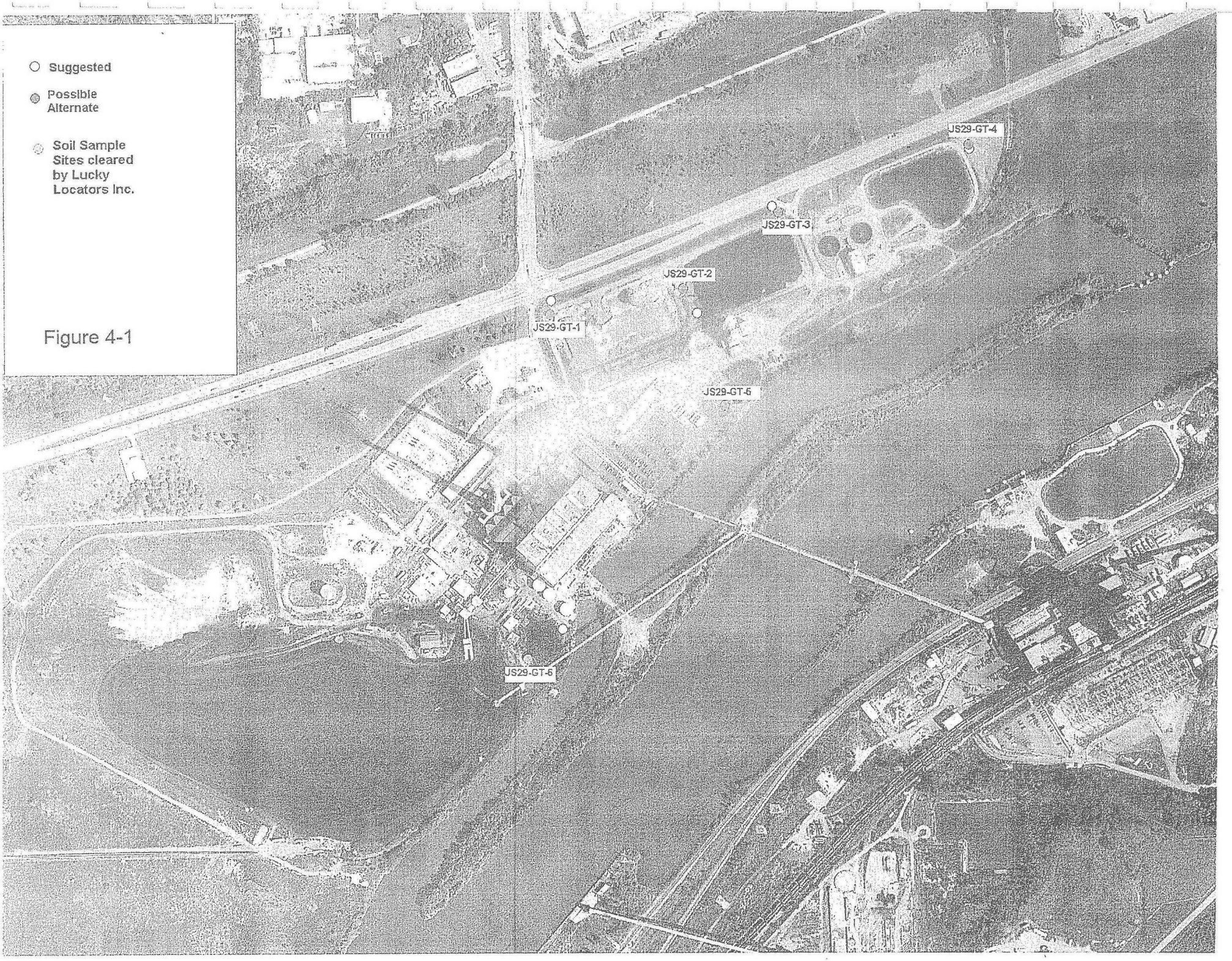
Date Completed : 08/09/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0-1	GW		SAND-SILT-GRAVEL Mixture, brown, black, white, orange/brown. Dry to Slightly Moist.	1	0.0		
1-2	WBR		Weathered Bedrock, limestone. Moist.	2	0.0	100	

End of Boring at 2.5 feet.

Repeated boring for sample volume. Bagged.

ATTACHMENT 4
Joliet Station #29 Geotechnical Study Results



MWG13-15_24290

Table 4-1. Soil Sample Geotechnical Data - Midwest Generation, Joilet Station #29, Joliet, IL

Sample	Depth	Soil Description	Moisture (%)	Density (pcf)	Atterberg		Grain Size #40	Hydrometer (% passing #200)	Specific Gravity	Permeability Test (cm/s)
					LL (%)	PI (%)				
JS-29-GT-1	19-24'	Sand, fine grained, trace clay and gravel, dark yellow	5.3	120	NP	NP	13.9	8.7	2.62	2.96x10-2
JS-29-GT-2	19-24	Gravelly sand, brown	10.0	87.0	NP	NP	21	14	2.66	*
		Gravelly sand, trace clay, dark brown	6.0							
JS-29-GT-3	19-24	Sand, with gravel, trace clay, brown	8.6	121**	NP	NP	13	9	2.64	2.51x10-2
		Lean clay, gray	7.3							
JS-29-GT-4	17-22	Limestone with fine to coarse sand	4.1	124.0	NP	NP	11	7	2.7	*
JS29-GT-5	5-14'	Clayey gravel with sand, dark gray	26.0	94.0	34	11	32	18.7	2.56	4.7x10-4
JS-29-GT-6	11-14'	Organic clay, dark gray, black	74.6	53.0	78	17	88.9	65.4	2.41	NA

*Unable to perform permeability test, too much stone, not enough soil sample
**Remolded sample to obtain the dry density
NA - Not Analyzed
NP - Not Plastic

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LOG OF BORING JS29-GT-1

Midwest Generation
Joliet Station #29
Joliet, IL

Project No. 15805

Date Completed : 08/10/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	GW		Bottom Ash and GRAVEL, dark gray. Dry.	1	0.0		
1–2	GW		Crushed Limestone, gravel and sand, clayey at 1.5 to 2 feet. Slightly Moist.	2	0.0	80	
2–4	GW		SAND and GRAVEL, orange brown, little silt, very stiff. Dry to Slightly Moist.	3	0.0		
4–6	GW			4	0.0	70	
6–8	GW			5	0.0		
8–12	GW			6	0.0	60	
12–14	GW		- 10 "clayey	7	0.0		
14–16	GW			8	0.0	50	
16–19	GW			9	0.0		
19–24	GW		Push Geoprobe Tube 19 to 24. 33" recovery.				
24–30			End of Boring at 24 feet.				

MWG13-15_24292

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LOG OF BORING JS29-GT-2

Midwest Generation
Joliet Station #29
Joliet, IL

Project No. 15805

Date Completed : 08/10/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	SM		SAND and SILT, fine to medium, dark brown, some slag. Dry.	1	0.0		
1–2	GW		Crushed Limestone, sand and gravel. Dry.				
2–3	GW/CL		CLAY and GRAVEL, dark brown, black, some sand and silt. Slightly Moist.	2	0.0	60	
3–4							
4–5			- 6" clayey, black, soft				
5–6				3	0.0	40	
6–7							
7–8			- 6" coarse gravel and cobbles				
8–9				4	0.0		
9–10							
10–11	CL		SILT and CLAY, black, some sand and gravel, soft, organic odor. Moist.	5	0.0	40	1.0
11–12							
12–13			- some limestone gravel				
13–14				6	0.0		1.0
14–15							
15–16			Push Geoprobe Tube 15 to 19. 19" recovery.				
16–17			Push Geoprobe Tube 19 to 22. 22" recovery.				
17–18							
18–19							
19–20							
20–21							
21–22							
22–23			End of Boring at 22 feet.				
23–24							
24–25							
25–26							
26–27							
27–28							
28–29							
29–30							

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LOG OF BORING JS29-GT-3

Midwest Generation
Joliet Station #29
Joliet, IL

Project No. 15805

Date Completed : 08/10/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0-2	CL / GW		Bottom Ash, dark brown, clay, little gravel. Dry. Crushed Limestone, sand and gravel. Dry.	1	0.0		
3-14	CL		CLAY, dark brown, brown, some sand and silt, trace gravel. Slightly Moist. - mostly brown, slightly moist - 1" black layer - trace gray silt - softer	2	0.0	100	4.0 - >4.5
				3	0.0	100	4.0 - >4.5
				4	0.0		4.0 - >4.5
				5	0.0	100	4.0 - >4.5
				6	0.0		1.0 - 1.5
14-15	CL		CLAY, brown, little to trace sand and silt, trace gravel. Slightly Moist.				
15-16	CL		CLAY, brown, with gray silt, some dark. Moist.				
16-19	CL		CLAY, dark brown, some silt, sand and gravel. Moist. - vug of dark gray fine sand, wet.	7	0.0	100	1.0 - 4.0
19-24			Push Geoprobe Tube 19 to 24. 30" recovery.				
24			End of Boring at 24 feet.				

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LOG OF BORING JS29-GT-4

Midwest Generation
Joliet Station #29
Joliet, IL

Project No. 15805

Date Completed : 08/10/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0-5	CL/GP		GRAVEL CLAY and GRAVEL, coarse, dark brown, some sand and silt, stiff. Dry. - some brown and orange brown	1 2	0.0 0.0	60	
5-6	CL		SILT and CLAY, dark brown and black, close to peat. Moist.	3	0.0		1.5
6-17	GW		SAND and GRAVEL, orange brown, some coarse gravel, trace silt. Dry.	4 5 6 7 8	0.0 0.0 0.0 0.0 0.0	60 50 50	
17-22			Push Geoprobe Tube 17 to 22. 33" recovery.				
22			End of Boring at 22 feet.				

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LOG OF BORING JS29-GT-5

Midwest Generation
Joliet Station #29
Joliet, IL

Project No. 15805

Date Completed : 08/10/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0-2	TS		Top Soil, black, clayey, some gravel. Slightly Moist. GRAVEL, brown, some sand and silt. Dry.	1	0.0		
2-4	CL		CLAY, dark brown and black, some silt, little sand and gravel, moderately soft. Slightly Moist. - cobble	2	0.0	80	1.5 - 2.0
4-6				3	0.0	75	
6-8							
8-10			- cobble	4	0.0		
10-12				5	0.0	50	
12-14			- wet gravel	6	0.0		

End of Boring at 14 feet.

Attempted Shelby Tube, colapsed then refusal.

Retained Geoprobe Tube 5 to 9. 34" recovery.
Retained Geoprobe Tube 9 to 14. 22" recovery.

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LOG OF BORING JS29-GT-6

Midwest Generation
Joliet Station #29
Joliet, IL

Project No. 15805

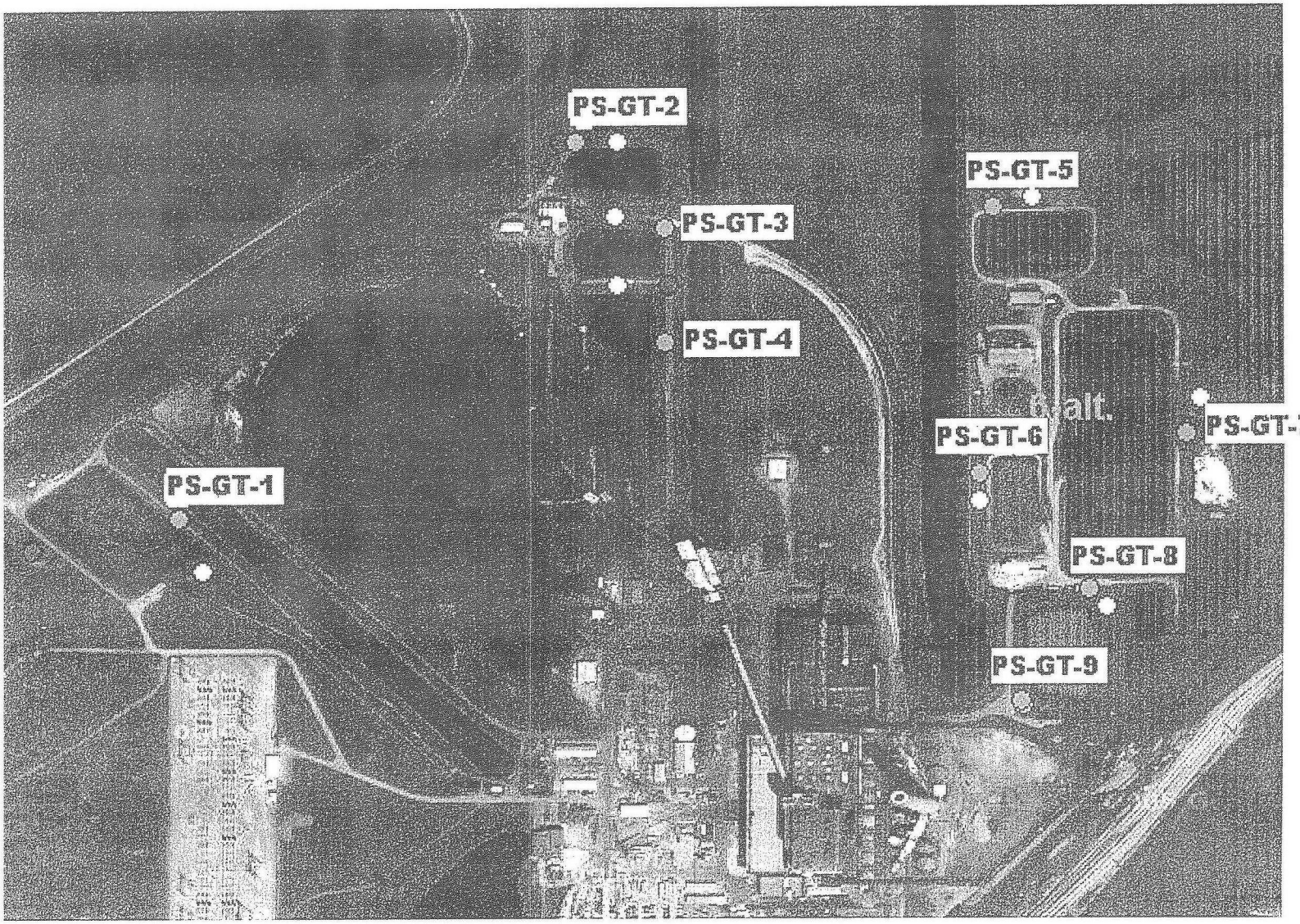
Date Completed : 08/10/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0-1	ML		Bottom Ash, silt, black, some gravel. Dry.	1	0.0		
1-2	GW		Crushed Limestone, sand and gravel. Dry.				
2-3	CL		CLAY, black, some sand and gravel and bottom ash. Dry.				
3-4	GW		SAND and GRAVEL, orange brown, some silt and clay. Dry.	2	0.0	70	
4-5							
5-6				3	0.0		
6-7	CL		CLAY, black, with sand and gravel. Slightly Moist.	4	0.0	70	
7-8			- orange brown, dry				
8-9	CG		GRAVEL, black, some silt and clay. Wet.	5	0.0		
9-10							
10-11	PT		PEAT, blalck, soft. Slightly Moist to Moist.	6	0.0	100	1.0 - 1.5
11-12							
12-13							
13-14			- wet				
14-15			- weathered bedrock				
15-16			End of Boring at 15 feet.				
16-17			Bagged 11 to 14 feet. Also from new hole 11 to 14 feet.				
17-18							
18-19							
19-20							
20-21							
21-22							
22-23							
23-24							
24-25							
25-26							
26-27							
27-28							
28-29							
29-30							

ATTACHMENT 5

Redacted

ATTACHMENT 6
Powerton Station Geotechnical Study Results





○ Suggested

● Possible Alternate

● Soil sample sites, cleared by Lucky Locators Inc.

Figure 6-1

MWG13-15_24300

Table 6-1. Soil Sample Geotechnical Data - Midwest Generation, Powerton Station, Pekin, IL

Sample	Depth	Soil Description	Moisture (%)	Density (pcf)	Atterberg		Grain Size #40	Hydrometer (% passing #200)	Specific Gravity	Permeability Test (cm/s)
					LL (%)	PI (%)				
PS-GT-1	10'-12'	Clayey Sand/Sandy Clay, with gravel, dark brown	7.8	115	NP	NP	83	17	2.7	6.2x10-5
			9.7		22	NP	79	48	2.56	
PS-GT-2	7-8.5	Sand, trace clay and gravel, medium to coarse grained, brown	9.5	126.7	22	NP	79	48	2.7	1.1x10-4
PS-GT-3	7'-9'	Topsoil, with gravel, dark brown (possible cave-in)	12.9	112					2.7	
		Sandy Lean Clay, trace gravel and organics, dark brown	28.0	110	31	15	58	17	2.68	2x10-4
PS-GT-4	10'-11.5'	Sand, with clay and gravel, trace organics fine to coarse grained, dark brown	7.9	116	NP	NP	33	16	2.77	1.6x10-7
PS-GT-5	17-19	Clayey Sand, with gravel, dark brown	16.0							
		Lean Clay, trace sand	38.5	93	53	27	63	44	2.44	NA
PS-GT-6	1'	Fill: Sand, fine to medium coarse, trace gravel, dark brown	4.9	113.5	NP	NP	33	5	2.52	8.37x10-3
PS-GT-7	10-13'	Sand, with silt and gravel, dark brown, black	7.6	118.0	21	3	44	17	2.63	2.2x10-3
PS-GT-8	10-15'	Fill: cinders, metal shavings, glass, black	9.0	86**	NP	NP	14	4		
		Silty sand, trace clay, dark gray	12.0	115.0	NP	NP	34	14	2.61	2.31x10-2
PS-GT-9	15-20'	Fill: Sand, trace clay and gravel, dark brown	7.9	113.0	NP	NP	30	21	2.64	1.7x10-3
		Clayey sand, with gravel, brown and gray	9.8							

*Unable to perform permeability test, too much stone, not enough soil sample
**Remolded sample to obtain the dry density
NA - Not Analyzed
NP - Not Plastic

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LOG OF BORING PS-GT-1

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed : 08/11/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–2	SC		CLAY top soil, brown, with sand-silt-gravel mixture, organics. Slightly Moist to Dry. - less clay	1	0.0		
3–4	CL		CLAY, brown, some silt, little sand, trace gravel. Slightly Moist.	2	0.0	90	4.0 to >4.5
5–6				3	0.0		2.0 to 2.5
6–7			- darker (dark brown)				
8–9				4	0.0	60	
9–10			- increase gravel				
10–12			Push Shelby Tube 10-12. 19 " recovery.				
12			End of Boring at 18 feet.				

MWG13-15_24302

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LOG OF BORING PS-GT-2

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed : 08/11/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	SC		CLAY top soil, brown and light brown, organics. Dry.				
1–5	CL		CLAY, brown, some silt and fine sand, trace gravel. Dry.	1	0.0		
				2	0.0	70	>4.5
5–11	SP		SAND, fine, brown and orange brown, some silt. Slightly Moist to Dry.	3	0.0	100	
			- dark brown	4	0.0	100	
			- some clayey layers				
11–12	CL		CLAY, gray, little medium sand and fine gravel, soft. Moist. (Native)	5	0.0		1.0

End of Boring at 12 feet.

Push Shelby Tube in new boring 7 to 8.5 feet. 27" recovery.

MWG13-15_24303

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LOG OF BORING PS-GT-3

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed	: 08/11/05
Drilling Method	: Direct-Push
Drilling Company	: CABENO Env. Field Services
Operator	: D. Joyce
Logged By	: P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0	GW		Bottom Ash, black, fine, and GRAVEL, fine to medium, limestone. Dry.	1	0.0		
1	CL		CLAY, dark brown, some silt and fine sand, trace gravel. Dry.	2	0.0	100	>4.5
2	GW		SAND and GRAVEL, brown and orange brown, some clay in layers. Slightly Moist.	3	0.0		
3							
4							
5	CL		CLAY, brown and dark brown, some fine sand and silt, trace gravel, Moist.	4	0.0		1.0
6			- fine sand and silt seam, brwon	5	0.0	100	4.0
7			Push Shelby Tube 7 to 9 feet. 21.5" recovery.				
8							
9			End of Boring at 9 feet.				
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							

MWG13-15_24304

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(DRAFT) LOG OF BORING PS-GT-4

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed	: 08/11/05
Drilling Method	: Direct-Push
Drilling Company	: CABENO Env. Field Services
Operator	: D. Joyce
Logged By	: P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	GW		GRAVEL and SILT, gray and black. Dry.	1	0.0		
1–3	GW		CLAY-SAND-GRAVEL Mixture, brown some dark brown and black. Slightly Moist.	2	0.0	100	
4–7	SM		SAND and SILT, brown, fine, little gravel. Slightly Moist. - gray and light brown	3	0.0		
8–9	CL		CLAY, dark gray to black, little medium sand, trace gravel. Slightly Moist to Moist.	4	0.0	90	1.0
9–10				5	0.0		4.0
10–11			Push Shelby Tube 10-11.5. Refusal. 21.5" recovery.				
12			End of Boring at 11.5 feet.				

MWG13-15_24305

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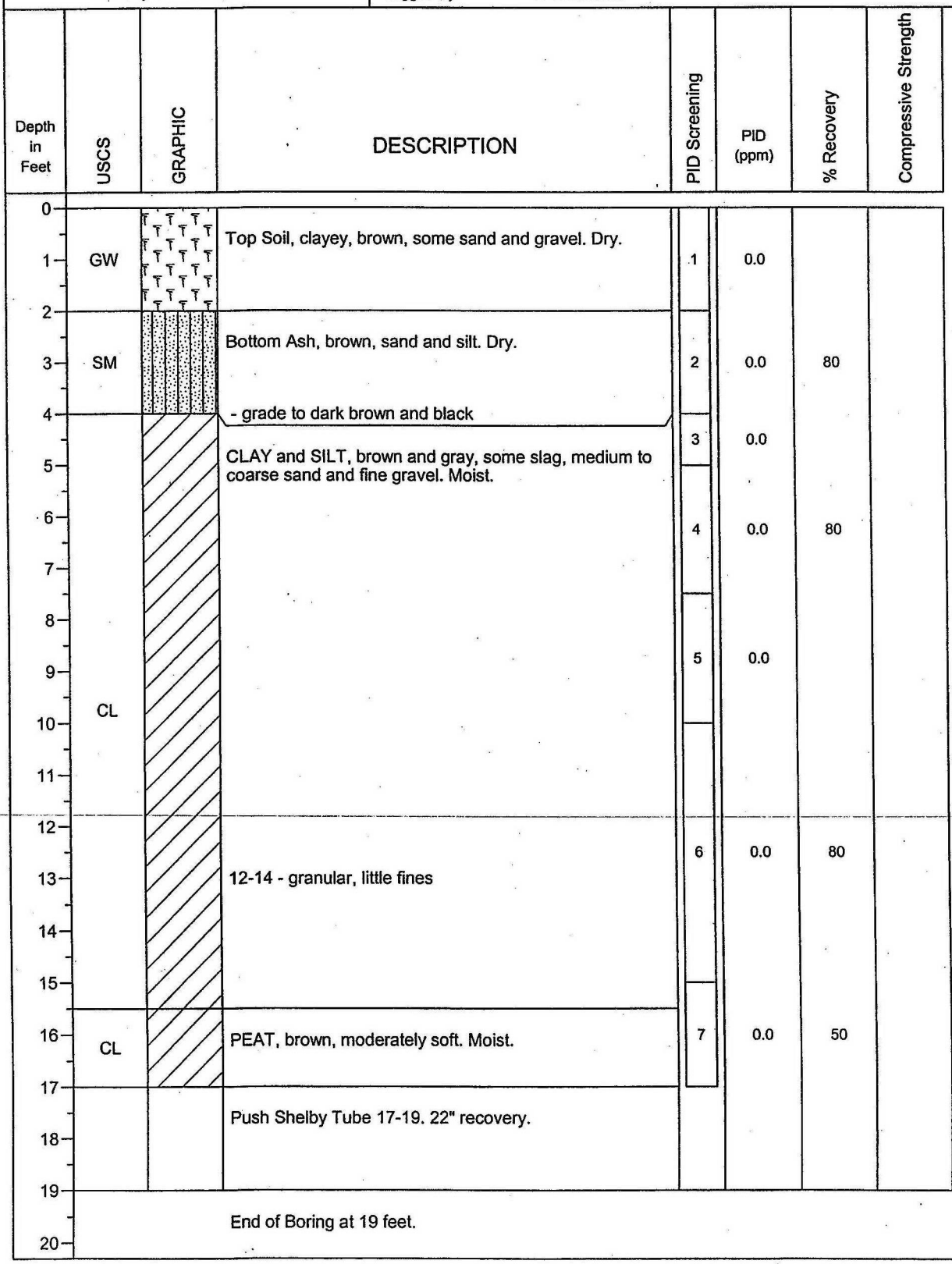
LOG OF BORING PS-GT-5

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed : 08/11/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein



Depth in Feet	USCS	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	GW	Top Soil, clayey, brown, some sand and gravel. Dry.	1	0.0		
2–3	SM	Bottom Ash, brown, sand and silt. Dry.	2	0.0	80	
4		- grade to dark brown and black				
4–5		CLAY and SILT, brown and gray, some slag, medium to coarse sand and fine gravel. Moist.	3	0.0		
6–7			4	0.0	80	
8–9			5	0.0		
10–11	CL					
12–13		12-14 - granular, little fines	6	0.0	80	
14–15						
16	CL	PEAT, brown, moderately soft. Moist.	7	0.0	50	
17–18		Push Shelby Tube 17-19. 22" recovery.				
19		End of Boring at 19 feet.				
20						

MWG13-15_24306

KPRG
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KPRG and Associates, Inc.

LOG OF BORING PS-GT-6

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed : 08/11/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	SC		CLAY, brown, and Bottom Ash, brown, and Slag, sand, stiff. Dry.	1	0.0		
1–6	GW		SLAG and Bottom Ash, black, fine to medium sand and silt. Dry. - mixed with orange/brown clay and gravel.	2	0.0	100	
				3	0.0		
6–7	CL		CLAY, dark brown and black, some silt, trace gravel. Moist.	4	0.0	90	4.0
7–13	CL		CLAY-SAND-GRAVEL Mixture, brown. Slightly Moist. - 3" light brown silt and fine sand seam - darker	5	0.0		1.0
				6	0.0		
13–18			Attempt to Push Shelby Tube 13-15. Refusal. Push geoprobe tube 13-18. 40 " recovery.				
18–20			End of Boring at 18 feet.				

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ENVIRONMENTAL CONSULTATION & REMEDIATION
KPRG and Associates, Inc.

LOG OF BORING PS-GT-7

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed	: 08/11/05
Drilling Method	: Direct-Push
Drilling Company	: CABENO Env. Field Services
Operator	: D. Joyce
Logged By	: P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	CL		CLAY and SILT, organics, light brown, some sand and gravel . Dry.	1	0.0		
1–2			- transistion (mixed layer)				
2–3	SM		SLAG and Bottom Ash, black and dark brown, some medium to coarse sand and silt. Dry.	2	0.0	100	
3–4							
4–5							
5–6				3	0.0		
6–7							
7–8							
8–9			- clayey, brown, very stiff	4	0.0	100	
9–10							
10–11							
11–12				5	0.0	100	
12–13							
13			End of Boring at 13 feet. Refusal.				
13–14			Push geoprobe tube in seperate boring 8 to 13.				
14–15							
15–16							
16–17							
17–18							
18–19							
19–20							

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LOG OF BORING PS-GT-8

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed : 08/11/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–2	SP		SAND, fine to medium, brown and dark brown, little silt, trace gravel, very stiff. Dry.	1	0.0		
3–4	SM		SLAG and Bottom Ash, black and dark gray, fine to medium sand, some silt and clay, very stiff. Dry.	2	0.0	100	
4–5			- clayey, brown				
6–7			- granular, medium to coarse sand	3	0.0		
8–9				4	0.0	100	
10–11			- a few clayey layers, slightly moist				
12–14				5	0.0	100	
15–20			Push geoprobe tube 15 to 20 feet. 44" recovery.				

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LOG OF BORING PS-GT-9

Midwest Generation
Powerton Station
Pekin, IL

Project No. 15805

Date Completed : 08/11/05
Drilling Method : Direct-Push
Drilling Company : CABENO Env. Field Services
Operator : D. Joyce
Logged By : P. Allenstein

Depth in Feet	USCS	GRAPHIC	DESCRIPTION	PID Screening	PID (ppm)	% Recovery	Compressive Strength
0–1	GW		Crushed Limestone, silt, sand and gravel. Dry.				
1–3	GW		CLAY and GRAVEL, brown, stiff. Dry.	1	0.0		
3–5	SM		SLAG and Bottom Ash, black and dark gray, medium to coarse sand, little silt. Dry to Slightly Moist.	2	0.0	100	
5–7	SM		- 6" gray clay with medium to coarse sand	3	0.0		>4.5
7–9	SM			4	0.0	100	>4.5
9–12	SM			5	0.0	100	
12–14	SM						
14–15	CL		CLAY, gray, trace silt, black ribbon. Moist.	6	0.0		1.5
15–20			Could not anchor to attempt Shelby Tube. Push geoprobe tube 15 to 20 feet. 44" recovery.				

ATTACHMENT 7
Geotechnical Laboratory Report

KPRG Project No. 15805 Laboratory Results
Terracon Project No. 58055075
October 11, 2005

Sample	Depth	Soil Description	Moisture (%)	Dry Density (pcf)	Atterberg		Grain Size #40	Hydrometer (% passing #200)	Specific Gravity	Coefficient of Permeability (cm/s)
					LL (%)	PI (%)				
CS-GT-1	5-10'	Sand, fine to coarse, trace gravel and silt, brown, dark brown, black	10.4	117**	NP	NP	24	12	2.71	2.2x10-3
CS-GT-2	10'-12'	Sand, fine to coarse grained, gray (crushed limestone) (top)	1.7		NP	NP	24	14	2.68	*
CS-GT-2	10'-12'	Lean Clay, trace sand, gray (bottom)	15.9	117	36	18	94	88		N/A
		(2nd test)	16.2		36	19				
CS-GT-4	5'-7'	Sand, with gravel, fine to medium, gray (crushed concrete)	2.2		NP	NP			2.65	*
CS-GT-4	5'-7'	Lean Clay, trace sand and gravel, gray	22.2	110	38	19	72	65	2.69	N/A
CS-GT-5	5'-7.5'	Sand, with gravel and clay, dark brown (possible cave-in)	7.3		NP	NP			2.5	
		Lean Clay, with sand, brown and gray	22.0	112	27	19	37	33	2.7	2.3x10-8
CS-GT-6	10-12.5'	Sandy Lean Clay, with gravel, brown and dark brown	6.3	118**	31	13	77	62	2.58	N/A
WS-GT-1	5 to 10'	Sand with trace gravel	5.6	114	NP	NP	94	1	2.63	1.05x10-2
WS-GT-2	7.5'-10'	Silty Sand, trace gravel, dark brown	15.2	107	NP	NP	79	18	2.44	1.52x10-2
			18.1							
WS-GT-3	5 to 10'	Sand with trace gravel	11.2	99	NP	NP	86	0	2.65	2.3x10-2
WS-GT-4	22-27'	Sand with trace gravel	5.4	114	NP	NP	53	2	2.64	2.16x10-2
WS-GT-5	22-27'	Sand, trace gravel, black	4.4	96	NP	NP	15	0	2.73	1.21x10-2
		(Bottom Ash?)								
WC-GT-1	5 to 10'	Clayey Sand, dark brown to tan	3.4	118	NP	NP	26	17	2.66	1.35x10-1
WC-GT-2	5 to 10'	Sand with gravel, dark brown	18.1	92	NP	NP	35	12	2.65	4.02x10-3
WC-GT-3	3 to 8'	Lean Clay, dark brown	10.0	103	35	12	26	20	2.71	***
WC-GT-4	5 to10' (btm)	Silty Clay, dark brown	9.5	128	25	7			2.7	***
WC-GT-4	5 to 10'	Sandy Gravel, with clay					35	23		
WC-GT-5	5-9'	Sandy Clay with Gravel	4.2	119	NP	NP	39	35	2.65	*

MWG13-15_24312

KPRG Project No. 15805 Laboratory Results
Terracon Project No. 58055075
October 11, 2005

Sample	Depth	Soil Description	Moisture (%)	Dry Density (pcf)	Atterberg		Grain Size #40	Hydrometer (% passing #200)	Specific Gravity	Coefficient of Permeability (cm/s)
					LL (%)	PI (%)				
PS-GT-1	10'-12'	Clayey Sand, with gravel, dark brown	7.8	115	NP	NP	83	34	2.7	6.2x10-5
PS-GT-1	10'-12'	Sandy Clay, with gravel, dark brown	9.7		22	NP	79	48	2.56	
PS-GT-2	7-8.5	Clayey Sand, trace gravel, medium to coarse grained, brown	9.5	126.7	22	NP	79	48	2.7	1.1x10-4
PS-GT-3	7'-9'	Topsoil, with gravel, dark brown (possible cave-in)	12.9	112					2.7	
PS-GT-3	7'-9'	Sand, trace clay, gravel and organics, dark brown	28.0	110	31	15	58	17	2.68	2x10-4
PS-GT-4	10'-11.5'	Sand, with clay and gravel, trace organics fine to coarse grained, dark brown	7.9	116	NP	NP	33	16	2.77	1.6x10-7
PS-GT-5	17-19	Clayey Sand, with gravel, dark brown	16.0							
PS-GT-5	17-19	Sandy Lean Clay, trace gravel, brown	38.5	93	53	27	63	44	2.44	N/A
PS-GT-6	15-20'	Fill: Sand, fine to medium coarse, trace gravel, dark brown	4.9	113.5	NP	NP	33	5	2.52	8.37x10-3
PS-GT-7	10-13'	Sand, with silt and gravel, dark brown, black	7.6	118.0	21	3	44	17	2.63	2.2x10-3
PS-GT-8	10-15'	Fill: cinders, metal shavings, glass, black	9.0	86**	NP	NP	14	4		
PS-GT-8	10-15'	Silty sand, trace clay, dark gray	12.0	115.0	NP	NP	34	14	2.61	2.31x10-2
PS-GT-9	15-20' (top)	Silty Sand, dark gray	9.8		22	3	30	14		
PS-GT-9	15-20' (mid)	Gravel, with silt and sand, dark brown					12	7		
PS-GT-9	15-20' (btm)	Sand, trace clay and gravel, dark brown	7.9	113.0	24	3	30	21	2.64	1.7x10-3

MWG13-15_24313

KPRG Project No. 15805 Laboratory Results
Terracon Project No. 58055075
October 11, 2005

Sample	Depth	Soil Description	Moisture (%)	Dry Density (pcf)	Atterberg		Grain Size #40	Hydrometer (% passing #200)	Specific Gravity	Coefficient of Permeability (cm/s)
					LL (%)	PI (%)				
JS-9-GT-1	7-12'	Sand, with gravel, gray	4	110	16	NP	32	23	2.63	*
JS-9-GT-1	7-12'	Organic Clay, with gravel	20.0							
JS-9-GT-2	7-11.5'	Clayey Sand, with organics, trace gravel, dark brown	23.7	91.0	NP	NP	51	21		2.73x10-2
JS-9-GT-2	7-11.5'	Organic Clay, occasional shells and peat, trace gravel, black, dark brown	56.3							
JS-9-GT-3	8-13'	Sand, with gravel, gray	5.5	86	NP	NP	11	7	2.66	*
JS-29-GT-1	19-24'	Sandy Gravel, trace clay, dark yellow	5.3	120	16	NP	14	9	2.62	2.96x10-2
JS-29-GT-2	19-24	Gravelly Sand, brown	10.0	87.0	NP	NP	21	14	2.66	*
JS-29-GT-2	19-24	Gravelly Sand, trace clay, dark brown	6.0		NP	NP				
JS-29-GT-3	19-24	Poorly graded gravel with clay and sand, brown	8.6	121**	NP	NP	13	9	2.64	2.51x10-2
JS-29-GT-3	19-24	Lean clay, gray	7.3							
JS-29-GT-4	17-22	Limestone with fine to coarse sand	4.1	124.0	NP	NP	11	7	2.7	*
JS29-GT-5	5-9'	Clayey Gravel with sand, dark gray	26.0	94.0	34	11	32	19	2.56	4.7x10-4
	9-14' (top)	Gravel, with silt and sand, dark gray			NP	NP	16	10		
	9-14' (btm)	Silty Gravel			21	NP	23	16		
JS-29-GT-6	11-14'	Organic Silt, dark gray, black	74.6	53.0	78	17	89	65	2.41	N/A

*Unable to perform permeability test, too much stone, not enough soil sample
**Remolded sample to obtain the dry density
***Unable to properly remold sample, too much large aggregate
NP=Non Plastic Soil

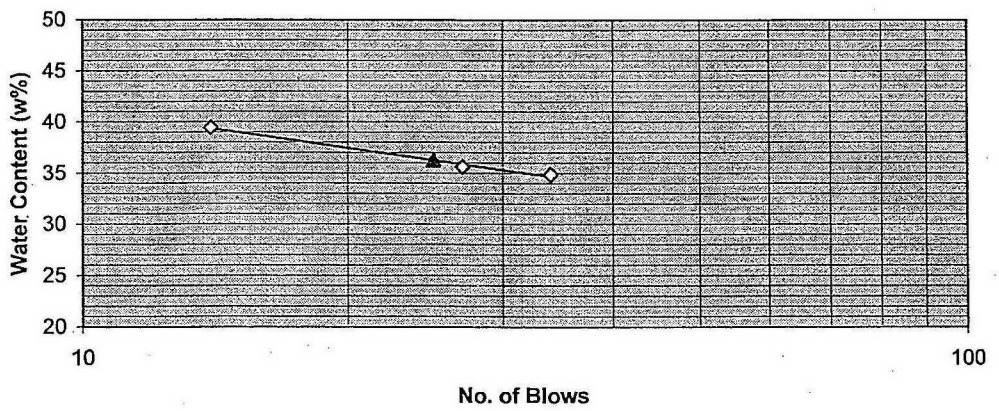
Terracon

Laboratory Test Results of Atterberg Limits ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075	
Location of project:		Boring No:	CS-GT-2 (top)	Sample Depth:	10'-12'
Description of Soil:	Sand, fine to coarse grained, gray	Tested By:	KF		

Liquid Limit Determination:

Can no.	49	115	119	
Mass of wet soil + can, gm	46.68	45.43	55.20	
Mass of dry soil + can, gm	42.72	41.78	48.39	
Mass of Can, gm	31.36	31.53	31.12	
Mass of dry soil, gm	11.36	10.25	17.27	
Mass of moisture, gm	3.96	3.65	6.81	
Water Content, w%	34.86	35.61	39.43	
No. of Blows	34	27	14	
Notes				



Plastic Limit Determination:

Can no.	400	109		
Mass of wet soil + can, gm	46.90	49.62		
Mass of dry soil + can, gm	44.49	46.83		
Mass of Can, gm	31.25	31.21		
Mass of dry soil, gm	13.24	15.62		
Mass of moisture, gm	2.41	2.79		
Water Content, w%	18.20	17.86		

Liquid Limit	36
Plastic Limit	18
Plasticity Index	18

By: TK
Terracon Consultants

MWG13-15_24315

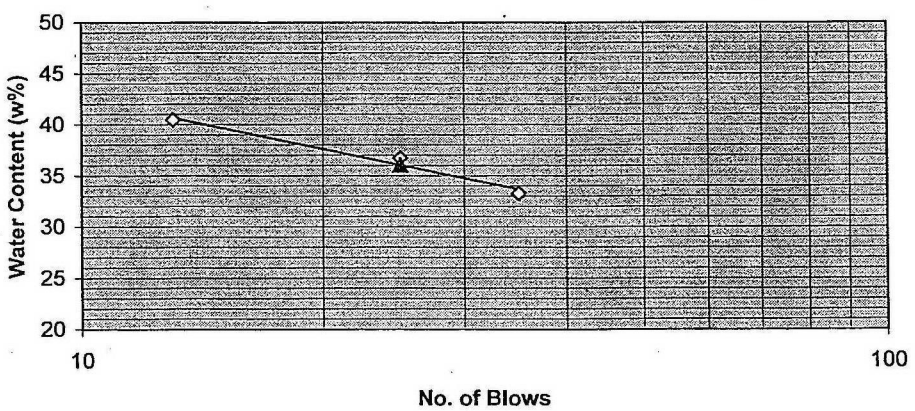
Terracon

Laboratory Test Results of Atterberg Limits ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075	
Location of project:		Boring No:	CS-GT-2 (Bottom)	Sample Depth:	10'-12'
Description of Soil:	Lean Clay, trace sand, gray	Tested By:	KF		

Liquid Limit Determination:

Can no.	456	400D	52A	
Mass of wet soil + can, gm	50.10	54.66	57.12	
Mass of dry soil + can, gm	45.51	48.37	49.64	
Mass of Can, gm	31.71	31.24	31.14	
Mass of dry soil, gm	13.80	17.13	18.50	
Mass of moisture, gm	4.59	6.29	7.48	
Water Content, w%	33.26	36.72	40.43	
No. of Blows	35	25	13	
Notes				



Plastic Limit Determination:

Can no.	109	115		
Mass of wet soil + can, gm	40.97	39.71		
Mass of dry soil + can, gm	39.51	38.49		
Mass of Can, gm	31.21	31.53		
Mass of dry soil, gm	8.30	6.96		
Mass of moisture, gm	1.46	1.22		
Water Content, w%	17.59	17.53		

Liquid Limit	36
Plastic Limit	18
Plasticity Index	19

By: TK
Terracon Consultants

MWG13-15_24316

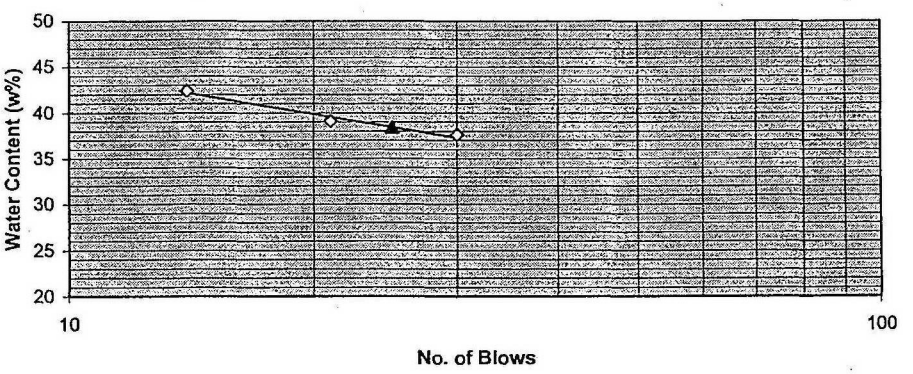
Terracon

Laboratory Test Results of
Atterberg Limits
ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075	
Location of project:		Boring No:	CS-GT-4	Sample Depth:	5'-7'
Description of Soil:	Lean Clay, trace sand and gravel, gray	Tested By:	KF		

Liquid Limit Determination:

Can no.	BJ	DE	CC	
Mass of wet soil + can, gm	41.32	44.93	43.45	
Mass of dry soil + can, gm	35.78	38.32	36.70	
Mass of Can, gm	21.03	21.40	20.79	
Mass of dry soil, gm	14.75	16.92	15.91	
Mass of moisture, gm	5.54	6.61	6.75	
Water Content, w%	37.56	39.07	42.43	
No. of Blows	30	21	14	
Notes				



Plastic Limit Determination:

Can no.	DW	456		
Mass of wet soil + can, gm	29.94	42.32		
Mass of dry soil + can, gm	28.48	40.56		
Mass of Can, gm	21.15	31.74		
Mass of dry soil, gm	7.33	8.82		
Mass of moisture, gm	1.46	1.76		
Water Content, w%	19.92	19.95		

Liquid Limit	38
Plastic Limit	20
Plasticity Index	19

By: TK
Terracon Consultants

MWG13-15_24317

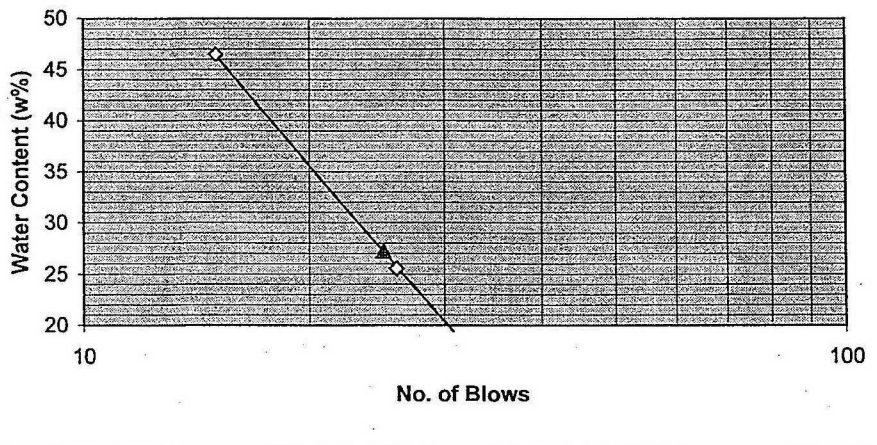
Terracon

Laboratory Test Results of Atterberg Limits ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075	
Location of project:		Boring No:	CS-GT-5	Sample Depth:	5'-7.5'
Description of Soil:	Lean Clay, with sand, brown and gray	Tested By:	KF		

Liquid Limit Determination:

Can no.	33	DR	BC	
Mass of wet soil + can, gm	47.30	45.06	43.52	
Mass of dry soil + can, gm	45.27	40.13	36.29	
Mass of Can, gm	32.45	20.82	20.73	
Mass of dry soil, gm	12.82	19.31	15.56	
Mass of moisture, gm	2.03	4.93	7.23	
Water Content, w%	15.83	25.53	46.47	
No. of Blows	34	26	15	
Notes				



Plastic Limit Determination:

Can no.	400-A	52-A		
Mass of wet soil + can, gm	41.20	39.92		
Mass of dry soil + can, gm	39.83	39.90		
Mass of Can, gm	31.87	28.06		
Mass of dry soil, gm	7.96	11.84		
Mass of moisture, gm	1.37	0.02		
Water Content, w%	17.21	0.17		

Liquid Limit	27
Plastic Limit	9
Plasticity Index	19

By: TK
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MWG13-15_24318

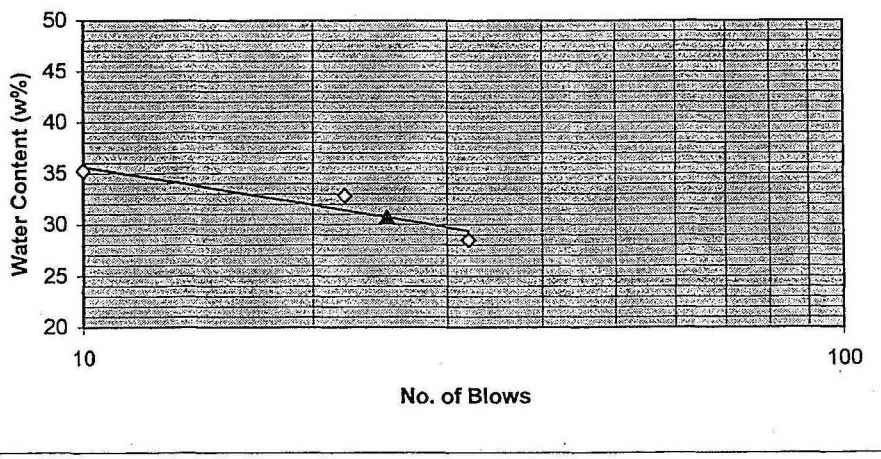
Terracon

Laboratory Test Results of Atterberg Limits ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075	
Location of project:		Boring No:	CS-GT-6	Sample Depth:	10'-12.5'
Description of Soil:	Sandy Lean Clay, with gravel, brown and dark	Tested By:	KF		

Liquid Limit Determination:

Can no.	AC	49	119	
Mass of wet soil + can, gm	48.64	57.98	54.65	
Mass of dry soil + can, gm	42.52	51.40	48.55	
Mass of Can, gm	21.03	31.34	31.22	
Mass of dry soil, gm	21.49	20.06	17.33	
Mass of moisture, gm	6.12	6.58	6.10	
Water Content, w%	28.48	32.80	35.20	
No. of Blows	32	22	10	
Notes				



Plastic Limit Determination:

Can no.	59	131		
Mass of wet soil + can, gm	39.33	37.76		
Mass of dry soil + can, gm	38.07	36.78		
Mass of Can, gm	31.24	31.13		
Mass of dry soil, gm	6.83	5.65		
Mass of moisture, gm	1.26	0.98		
Water Content, w%	18.45	17.35		

Liquid Limit	31
Plastic Limit	18
Plasticity Index	13

By: TK
Terracon Consultants

MWG13-15_24319

3 pt. ATTERBERG

LIQUID LIMIT DETERMINATION

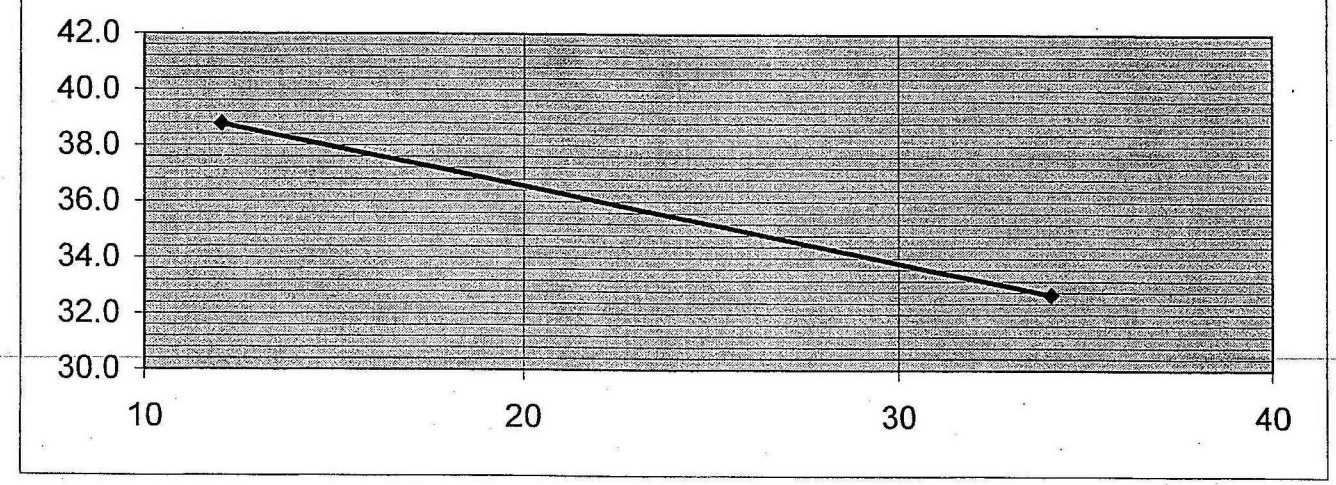
POINT No.	POINT 1	POINT 2	POINT 3	POINT 4
WET SOIL + TARE	9.92	13.87	13.87	
DRY SOIL + TARE	7.79	10.35	10.35	
TARE	1.28	1.27	1.27	
No. OF BLOWS	34	12	12	
MOISTURE %	**32.7**	**38.8**	**38.8**	**#DIV/0!**
CORECTION FACT	1.000	1.000	1.000	1.000
MOISTURE @ 25	**32.7**	**38.8**	**38.8**	**#DIV/0!**

PLASTIC LIMIT DETERMINATION

POINT No.	POINT 1	POINT 2
WET SOIL + TARE	11.32	10.51
DRY SOIL + TARE	9.42	8.81
TARE	1.26	1.29
MOISTURE %	**23.3**	**22.6**

For 3 pts.		
L.L.	P.L.	P.I.
34.5	**22.9**	**11.6**

For 4 pts.		
L.L.	P.L.	P.I.
#VALUE!	**23**	**#VALUE!**



Project : KPRG Laboratory Testing
Project No. : 58055075
Location : WCGT-3, 3 to 8' Top of Sample
Description : Lean Clay, dark brown

MWG13-15_24320

3 pt. ATTERBERG

LIQUID LIMIT DETERMINATION

POINT No.	POINT 1	POINT 2	POINT 3	POINT 4
WET SOIL + TARE	19.50	21.32	24.54	
DRY SOIL + TARE	17.37	18.86	21.29	
TARE	8.31	9.26	9.34	
No. OF BLOWS	38	24	14	
MOISTURE %	**23.5**	**25.6**	**27.2**	**#DIV/0!**
CORECTION FACT	1.000	1.000	1.000	1.000
MOISTURE @ 25	**23.5**	**25.6**	**27.2**	**#DIV/0!**

PLASTIC LIMIT DETERMINATION

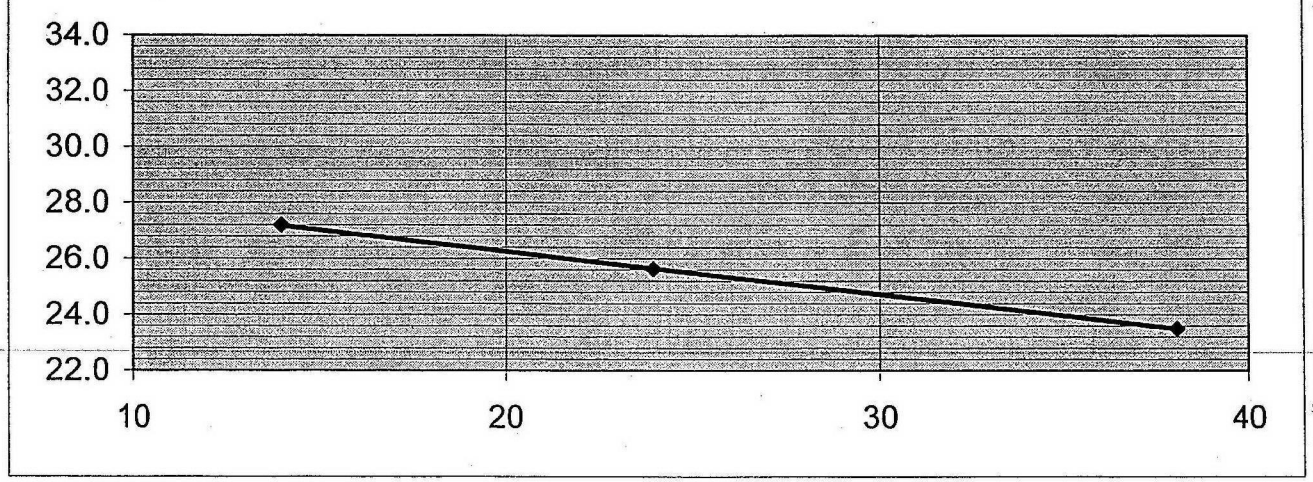
POINT No.	POINT 1	POINT 2
WET SOIL + TARE	25.62	28.26
DRY SOIL + TARE	23.04	25.27
TARE	9.07	9.35
MOISTURE %	**18.5**	**18.8**

For 3 pts.

L.L.	P.L.	P.I.
25.2	**18.6**	**6.6**

For 4 pts.

L.L.	P.L.	P.I.
#VALUE!	**19**	**#VALUE!**



Project : KPRG Laboratory Testing
Project No. : 58055075
Location : WCGT-4, Btm of Sample From 5 to 10'
Description : Silty Clay, dark brown

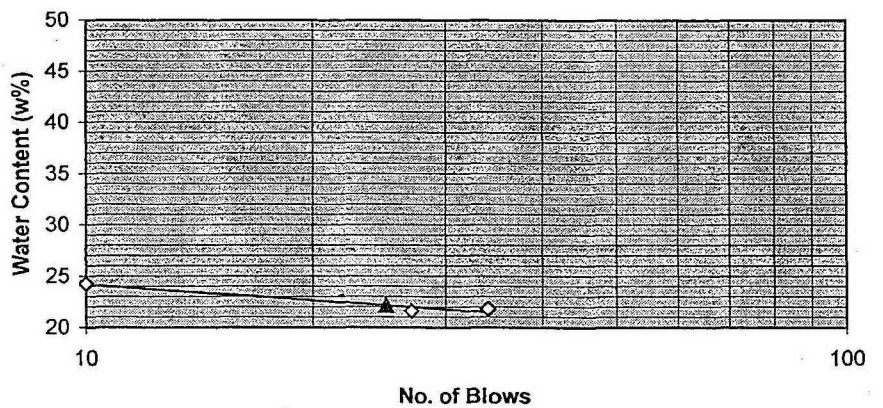
Terracon

Laboratory Test Results of Atterberg Limits ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075	
Location of project:		Boring No:	PS-GT-2	Sample Depth:	7'-8.5'
Description of Soil:	Clayey Sand, trace gravel, medium to coarse grained, brown	Tested By:	KF		

Liquid Limit Determination:

Can no.	59	BQ	1Q	
Mass of wet soil + can, gm	55.18	52.21	59.59	
Mass of dry soil + can, gm	50.89	46.74	54.11	
Mass of Can, gm	31.22	21.40	31.50	
Mass of dry soil, gm	19.67	25.34	22.61	
Mass of moisture, gm	4.29	5.47	5.48	
Water Content, w%	21.81	21.59	24.24	
No. of Blows	34	27	10	
Notes				



Plastic Limit Determination: **Unable to perform, too sandy**

Can no.				
Mass of wet soil + can, gm				
Mass of dry soil + can, gm				
Mass of Can, gm				
Mass of dry soil, gm				
Mass of moisture, gm				
Water Content, w%				

Liquid Limit	22
Plastic Limit	N/A
Plasticity Index	N/A

By: TK
Terracon Consultants

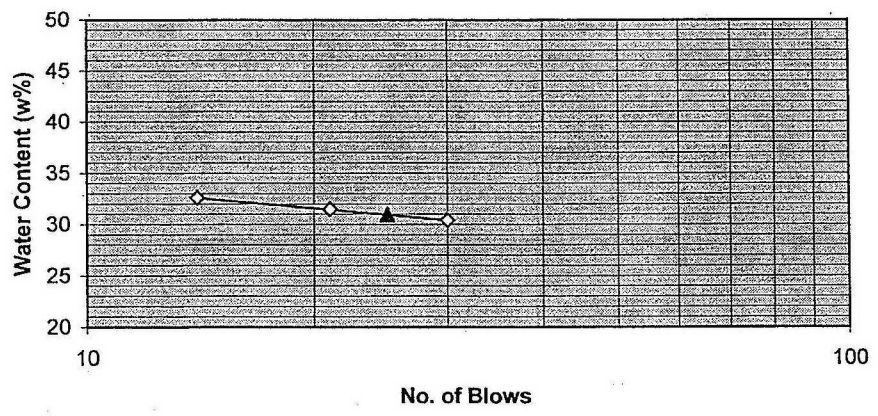
Terracon

Laboratory Test Results of Atterberg Limits ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075	
Location of project:		Boring No:	PS-GT-3	Sample Depth:	7'-9'
Description of Soil:	Sand, trace clay, organics, and gravel, dark brown	Tested By:	KF		

Liquid Limit Determination:

Can no.	FP	EK	BA	
Mass of wet soil + can, gm	42.58	43.90	46.56	
Mass of dry soil + can, gm	37.67	38.51	40.43	
Mass of Can, gm	21.52	21.39	21.61	
Mass of dry soil, gm	16.15	17.12	18.82	
Mass of moisture, gm	4.91	5.39	6.13	
Water Content, w%	30.40	31.48	32.57	
No. of Blows	30	21	14	
Notes				



Plastic Limit Determination:

Can no.	BN	46		
Mass of wet soil + can, gm	30.73	39.43		
Mass of dry soil + can, gm	29.37	38.28		
Mass of Can, gm	21.36	31.01		
Mass of dry soil, gm	8.01	7.27		
Mass of moisture, gm	1.36	1.15		
Water Content, w%	16.98	15.82		

Liquid Limit	31
Plastic Limit	16
Plasticity Index	15

By: TK
Terracon Consultants

MWG13-15_24323

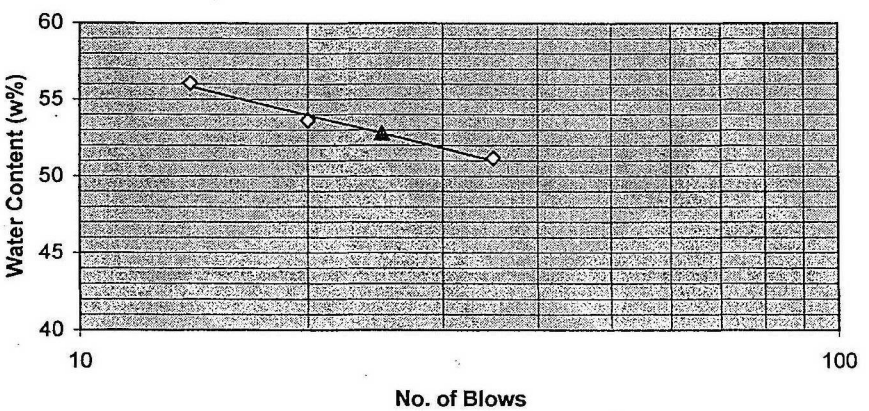
Terracon

Laboratory Test Results of Atterberg Limits ASTM D4318

Project:	KPRG Laboratory Testing		Job No:	58055075	
Location of project:		Boring No:	PS-GT-5	Sample Depth:	17'-19'
Description of Soil:	Sandy Lean Clay, trace gravel, dark brown	Tested By:	KF		

Liquid Limit Determination:

Can no.	AU	AC	EB	
Mass of wet soil + can, gm	38.74	47.26	41.01	
Mass of dry soil + can, gm	32.78	38.09	34.09	
Mass of Can, gm	21.13	20.99	21.75	
Mass of dry soil, gm	11.65	17.10	12.34	
Mass of moisture, gm	5.96	9.17	6.92	
Water Content, w%	51.16	53.63	56.08	
No. of Blows	35	20	14	
Notes				



Plastic Limit Determination:

Can no.	BM	AN		
Mass of wet soil + can, gm	31.90	29.18		
Mass of dry soil + can, gm	29.70	27.60		
Mass of Can, gm	21.12	21.52		
Mass of dry soil, gm	8.58	6.08		
Mass of moisture, gm	2.20	1.58		
Water Content, w%	25.64	25.99		

Liquid Limit	53
Plastic Limit	26
Plasticity Index	27

By: TK
Terracon Consultants

MWG13-15_24324

1pt. ATTERBERG

LIQUID LIMIT DETERMINATION

POINT No.	POINT 1	POINT 2
WET SOIL + TARE	18.67	15.48
DRY SOIL + TARE	16.27	13.52
TARE	1.28	1.30
No. OF BLOWS	19	16
MOISTURE %	**16.0**	**16.0**
CORECTION FACT.	0.967	0.947
MOISTURE @ 25	**15.5**	**15.2**

PLASTIC LIMIT DETERMINATION

POINT No.	POINT 1	POINT 2
WET SOIL + TARE	15.45	12.46
DRY SOIL + TARE	13.58	10.99
TARE	1.35	1.30
MOISTURE %	**15.3**	**15.2**

L.L.	**16**	**16**
L.L. @ 25 BLOWS	**15**	**15**
PLASTIC LIMITS	**15**	**15**
PLASTIC INDEX	**0**	**0**

Project : KPRG Laboratory Testing
Project No. : 58055075
Location : JS29GT-1
Description : Sandy Gravel, trace clay, dark yellow

TK

MWG13-15_24325

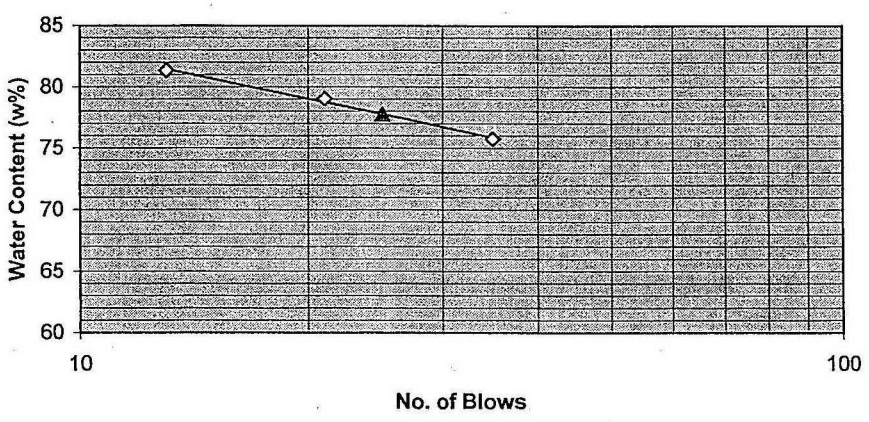
Terracon

Laboratory Test Results of
Atterberg Limits
ASTM D4318

Project:	KPRG Laboratory Testing	Job No:	58055075
Location of project:		Boring No:	JS-29-GT-6 Sample Depth: 11-14'
Description of Soil:	Organic Silt, dark gray and black	Tested By:	MZ

Liquid Limit Determination:

Can no.	131	CE	400C	
Mass of wet soil + can, gm	35.84	25.29	35.20	
Mass of dry soil + can, gm	33.81	23.48	33.37	
Mass of Can, gm	31.13	21.19	31.12	
Mass of dry soil, gm	2.68	2.29	2.25	
Mass of moisture, gm	2.03	1.81	1.83	
Water Content, w%	75.75	79.04	81.33	
No. of Blows	35	21	13	
Notes				



Plastic Limit Determination:

Can no.	119	DU		
Mass of wet soil + can, gm	37.16	29.96		
Mass of dry soil + can, gm	35.31	26.24		
Mass of Can, gm	31.26	21.33		
Mass of dry soil, gm	4.05	4.91		
Mass of moisture, gm	1.85	3.72		
Water Content, w%	45.68	75.76		

Liquid Limit	78
Plastic Limit	61
Plasticity Index	17

By: TK
Terracon Consultants

MWG13-15_24326

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING TERRACON JOB #: 58055075
DATE: 10/7/2005

SAMPLE ID: CS-GT-1 5-7' #4 MATERIAL
DESCR.: Sand, fine to coarse grained, trace gravel and silt, brown, dark brown and black

Durham Perm Cell
BURETTE Area 0.317 cm^2

INITIAL

MOISTURE%		DENSITY			
W & T, g	88.50	WET WT, g	195.8		
D & T, g	82.00	DIA, in	1.94	4.93	cm
T, g	19.37	HT, in	1.96	4.98	cm
		AREA		19.05	cm^2
MOIST-		DENSITY:	128.9	PCF WET	
URE, %	10.4	DENSITY:	116.8	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	30.7	PROCTOR:	NA
SATURATION, %:	63.3	OPTIMUM:	NA
VOID RATIO:	0.44	COMPACTION, %:	#VALUE!
		OVER OPTIMUM, %:	#VALUE!

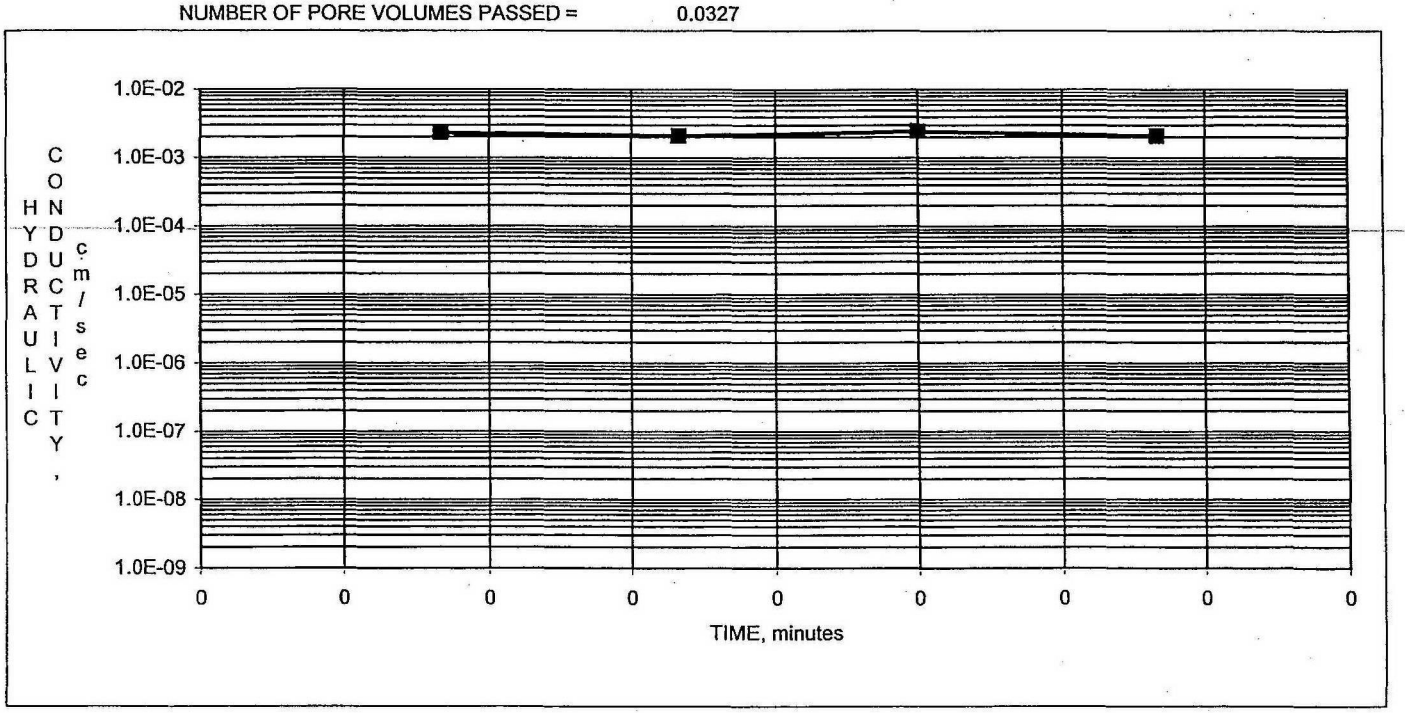
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0 psi
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER: 100.0 psi
				BIAS PRESSURE (=LOWER-UPPER)	0.0 psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
20.8	30.1	0	9.3									
21.8	28.8	0	7.0	0.284104	2.31E-03	1.0	1.3	0.77	1.4	3	21	0.980
22.6	28.0	0	5.4	0.259511	2.11E-03	0.8	0.8	1.00	1.1	6	21	0.980
23.2	27.2	0	4.0	0.300105	2.44E-03	0.6	0.8	0.75	0.8	9	21	0.980
23.8	26.9	0	3.1	0.254892	2.07E-03	0.6	0.3	2.00	0.6	7	21	0.980

HYDRAULIC CONDUCTIVITY (k) = AVERAGE 2.2E-03 cm/sec

MAXIMUM	1.0E-03 TO 1.0E-04	2	0.75<	% < 25 AT
HYDRAULIC	1.0E-04 TO 1.0E-05	5	RATIO	> 1.0E-8
GRADIENT	1.0E-05 TO 1.0E-06	10	<1.25	OR
	1.0E-06 TO 1.0E-07	20		% < 50 AT
	1.0E-07 TO 1.0E-10	30		< 1.0E-8

NUMBER OF PORE VOLUMES PASSED = 0.0327



Terracon

MWG13-15_24327

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING TERRACON JOB #: 58055075
DATE: 9/20/2005

SAMPLE
ID: CS-GT-5 5.0' - 7.5'
DESCR.: SILTY CLAY, WITH SAND, BROWN & GRAY

Durham Perm Cell
BURETTE Area 0.317 cm^2

INITIAL

MOISTURE%		DENSITY			
W & T, g	79.26	WET WT, g	229.7		
D & T, g	68.61	DIA, in	2.00	5.09	cm
T, g	20.38	HT, in	2.19	5.56	cm
		AREA		20.36	cm^2
MOIST-		DENSITY:	126.6	PCF WET	
URE, %	22.1	DENSITY:	103.7	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	38.5	PROCTOR:	112.4
SATURATION, %:	95.3	OPTIMUM:	22.0
VOID RATIO:	0.63	COMPACTION, %:	92.3
		OVER OPTIMUM, %:	0.1

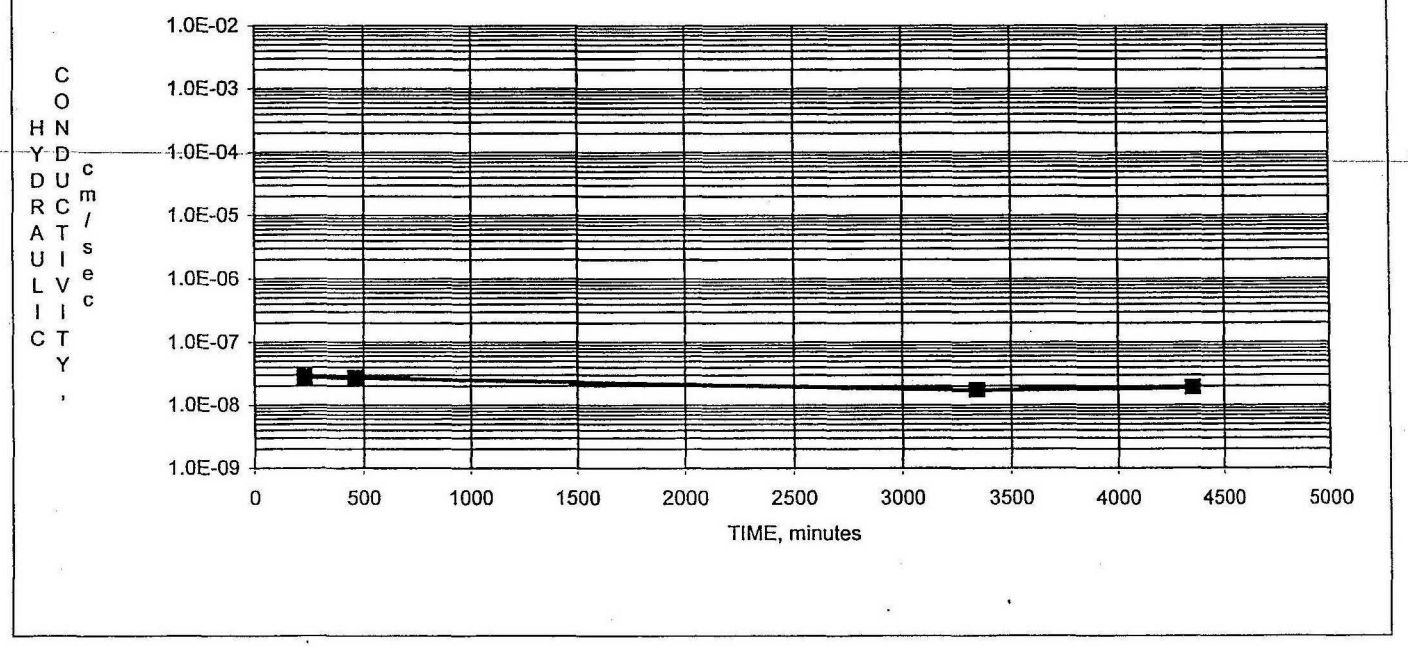
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0	psi	
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER:	100.0	psi
				BIAS PRESSURE (=LOWER-UPPER)		0.0	psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
4.1	70.2	0	66.1									
4.4	69.9	229	65.5	0.009119	2.75E-08	0.3	0.3	1.00	11.8	21	22	0.956
4.7	69.6	461	64.9	0.009203	2.74E-08	0.3	0.3	1.00	11.7	20	22	0.956
6.7	67.2	3345	60.5	0.070204	1.72E-08	2.0	2.4	0.83	10.9	24	21	0.980
7.5	66.4	4351	58.9	0.026802	1.88E-08	0.8	0.8	1.00	10.6	17	21	0.980

HYDRAULIC CONDUCTIVITY (k) = AVERAGE 2.3E-08 cm/sec

MAXIMUM	1.0E-03 TO 1.0E-04	2	0.75<	% < 25 AT
HYDRAULIC	1.0E-04 TO 1.0E-05	5	RATIO	> 1.0E-8
GRADIENT	1.0E-05 TO 1.0E-06	10	<1.25	OR
	1.0E-06 TO 1.0E-07	20		% < 50 AT
	1.0E-07 TO 1.0E-10	30		< 1.0E-8

NUMBER OF PORE VOLUMES PASSED ≈ 0.0247



Terracon

MWG13-15_24328

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/14/2005

Location of Sample WSGT-1 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 5 to 10'

Description of Soil Sand, fine, trace gravel, light brown

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 7.62 Wt. Soil (lb.) 1.170

Area, A, cm^2 45.60 Moisture Content _____

Length, L, cm 6.350000 Volume (ft^3) 0.01023

Dry Density 114.4

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	7	20	38.5	127	12290.2	0.01139	1.10236	20	1.000	1.03E-02
2	17.2	20	15.5	127	12157.9	0.02829	2.70866	20	1.000	1.04E-02
3	24.3	20	11	127	12189.9	0.03987	3.82677	20	1.000	1.04E-02
4	29.8	20	9	127	12230.9	0.04873	4.69291	20	1.000	1.04E-02
5	33.2	20	8.2	127	12415.1	0.05348	5.22835	20	1.000	1.02E-02
6	37.5	20	6.8	127	11628.9	0.06449	5.90551	20	1.000	1.09E-02
7	40.9	20	6.5	127	12123.7	0.06747	6.44094	20	1.000	1.05E-02
8									Avg	1.05E-02
9										
10										
11										
12										

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24329

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/13/2005

Location of Sample WS-GT-2 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 7.5-10

Description of Soil Silty Sand, trace gravel, light brown

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 6.23 Wt. Soil (lb.) 0.798

Area, A, cm^2 30.48 Moisture Content 8.9

Length, L, cm 6.350000 Volume (ft^3) 0.00685

Dry Density 107.0

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	13.2	20	19.08	127	7677.47	0.03439	2.07874	20	1.000	1.65E-02
2	19.5	20	12.8	127	7608.7	0.05126	3.07087	20	1.000	1.67E-02
3	27.8	20	10.2	127	8643.92	0.06432	4.37795	20	1.000	1.47E-02
4	32.2	20	8.87	127	8706.53	0.07397	5.07087	20	1.000	1.46E-02
5	35	20	8.17	127	8716.77	0.0803	5.51181	20	1.000	1.46E-02
6	36.7	20	7.52	127	8412.97	0.08725	5.77953	20	1.000	1.51E-02
7	39.6	20	7.24	127	8739.76	0.09062	6.23622	20	1.000	1.45E-02
8	41	20	6.95	127	8686.29	0.0944	6.45669	20	1.000	1.46E-02
9									AVG	1.52E-02
10										
11										
12										

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24330

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/13/2005

Location of Sample WS-GT-3 Sampled _____ Report _____

Boring- _____ Sample- Bottom Depth- 5 to 10'

Description of Soil Sand, fine, trace gravel, light brown

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 7.62 Wt. Soil (lb.) 1.120

Area, A, cm^2 45.60 Moisture Content 11.2

Length, L, cm 6.350000 Volume (ft^3) 0.01022

Dry Density 98.6

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	3.3	20	31.5	127	4740.5	0.01392	0.51969	20	1.000	2.68E-02
2	8.7	20	14	127	5554.52	0.03133	1.37008	20	1.000	2.29E-02
3	13.5	20	9.5	127	5848.67	0.04616	2.12598	20	1.000	2.17E-02
4	17.2	20	7	127	5490.68	0.06265	2.70866	20	1.000	2.31E-02
5	21.5	20	5.5	127	5392.63	0.07974	3.38583	20	1.000	2.36E-02
6	24.3	20	5	127	5540.84	0.08771	3.82677	20	1.000	2.29E-02
7	32.3	20	4	127	5891.99	0.10964	5.08661	20	1.000	2.16E-02
8	32.3	20	4	127	5891.99	0.10964	5.08661	20	1.000	2.16E-02
9									AVG	2.30E-02
10										
11										
12										

Note:

Tested by: _____ Checked by: TK

Rowdy Miller Trevor Kauffeld

MWG13-15_24331

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/13/2005

Location of Sample WSGT-4 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 22 to 27'

Description of Soil Fine Sand Grading to a Fine To Coarse Sand With Gravel

Materials Used: Fine Sand @ Top of Sample.

Unit Weight Determination:

Diameter, D, cm 6.23 Wt. Soil (lb.) 0.822

Area, A, cm^2 30.48 Moisture Content 5.4

Length, L, cm 6.350000 Volume (ft^3) 0.00685

Dry Density 113.9

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	5.4	20	41.15	127	6773.75	0.01594	0.85039	22	0.953	1.79E-02
2	14.7	20	11.08	127	4965.04	0.05921	2.31496	22	0.953	2.44E-02
3	20.3	20	9.02	127	5581.72	0.07274	3.19685	22	0.953	2.17E-02
4	23.5	20	7.49	127	5365.56	0.0876	3.70079	22	0.953	2.26E-02
5	25.5	20	7.08	127	5503.5	0.09267	4.01575	22	0.953	2.20E-02
6	27.5	20	6.89	127	5775.87	0.09522	4.33071	22	0.953	2.10E-02
7	28	20	6.46	127	5513.87	0.10156	4.40945	22	0.953	2.20E-02
8									AVG	2.16E-02
9										
10										
11										
12										

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24332

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/13/2005

Location of Sample WS-GT-5 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 22-27

Description of Soil Sand, Fine to Coarse Grained, Trace Gravel, Black

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 5.08 Wt. Soil (lb.) 0.619

Area, A, cm^2 20.27 Moisture Content 4.4

Length, L, cm 8.260000 Volume (ft^3) 0.00591

Dry Density 100.3

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	210.9	2.01	1	99.6156	4274.58	0.09917	25.5327	20	1.000	2.33E-02
2	210.9	2.01	150	579.431	641187	0.00066	25.5327	20	1.000	9.04E-04
3										
4										
5										
6										
7										
8										
9									AVG	1.21E-02
10										
11										
12										

Note:

Tested by: _____ Checked by: TK

Rowdy Miller Trevor Kauffeld

MWG13-15_24333

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/29/2005

Location of Sample WC-GT-1 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 5 to 10'

Description of Soil Clayey Sand, dark brown to tan

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 6.35 Dry Density 115.000

Area, A, cm^2 31.67 Moisture Content 3.4

Length, L, cm 6.350000

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	1.2	20	24	127	912.073	0.02631	0.18898	22	0.953	1.33E-01
2	2.6	20	14	127	1152.76	0.04511	0.40945	22	0.953	1.05E-01
3	4.1	20	10	127	1298.44	0.06315	0.64567	22	0.953	9.32E-02
4	5	20	8	127	1266.77	0.07894	0.7874	22	0.953	9.55E-02
5	5.3	20	8	127	1342.77	0.07894	0.83465	22	0.953	9.01E-02
6	5.5	20	8	127	1393.44	0.07894	0.86614	22	0.953	8.69E-02
7	6	20	8	127	1520.12	0.07894	0.94488	22	0.953	7.96E-02
8	6.8	20	7	127	302.26	0.44994	1.07087	22	0.953	4.00E-01
9									AVG	1.35E-01
10										
11										
12										

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24334

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/13/2005

Location of Sample WC-GT-2 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 5 to 10'

Description of Soil Sand, with gravel, dark brown

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 7.60 Dry Density 90.900

Area, A, cm^2 45.36 Moisture Content 18.1

Length, L, cm 6.350000

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	9.8	20	32.3	127	14359.7	0.01365	1.54331	20	1.000	8.84E-03
2	63	20	18.4	127	52586.6	0.02396	9.92126	20	1.000	2.42E-03
3	65	20	17.3	127	51012.4	0.02548	10.2362	20	1.000	2.49E-03
4	71	20	17.05	127	54916.1	0.02586	11.1811	20	1.000	2.31E-03
									AVG	4.02E-03

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24335

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING TERRACON JOB #: 58055075
DATE: 9/20/2005

SAMPLE
ID: PS-GT-1 10.0'-12.0'
DESCR.: CLAYEY SAND/SANDY CLAY,WITH GRAVEL, DARK BROWN

Durham Perm Cell
BURETTE Area 0.317 cm^2

INITIAL

MOISTURE%		DENSITY			
W & T, g	68.74	WET WT, g	208.6		
D & T, g	65.16	DIA, in	2.00	5.08	cm
T, g	19.41	HT, in	2.04	5.19	cm
		AREA		20.29	cm^2
MOIST-		DENSITY:	123.6	PCF WET	
URE, %	**7.8**	DENSITY:	**114.6**	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	32.0	PROCTOR:	115.0
SATURATION, %:	44.9	OPTIMUM:	7.8
VOID RATIO:	0.47	COMPACTION, %:	99.7
		OVER OPTIMUM, %:	0.0

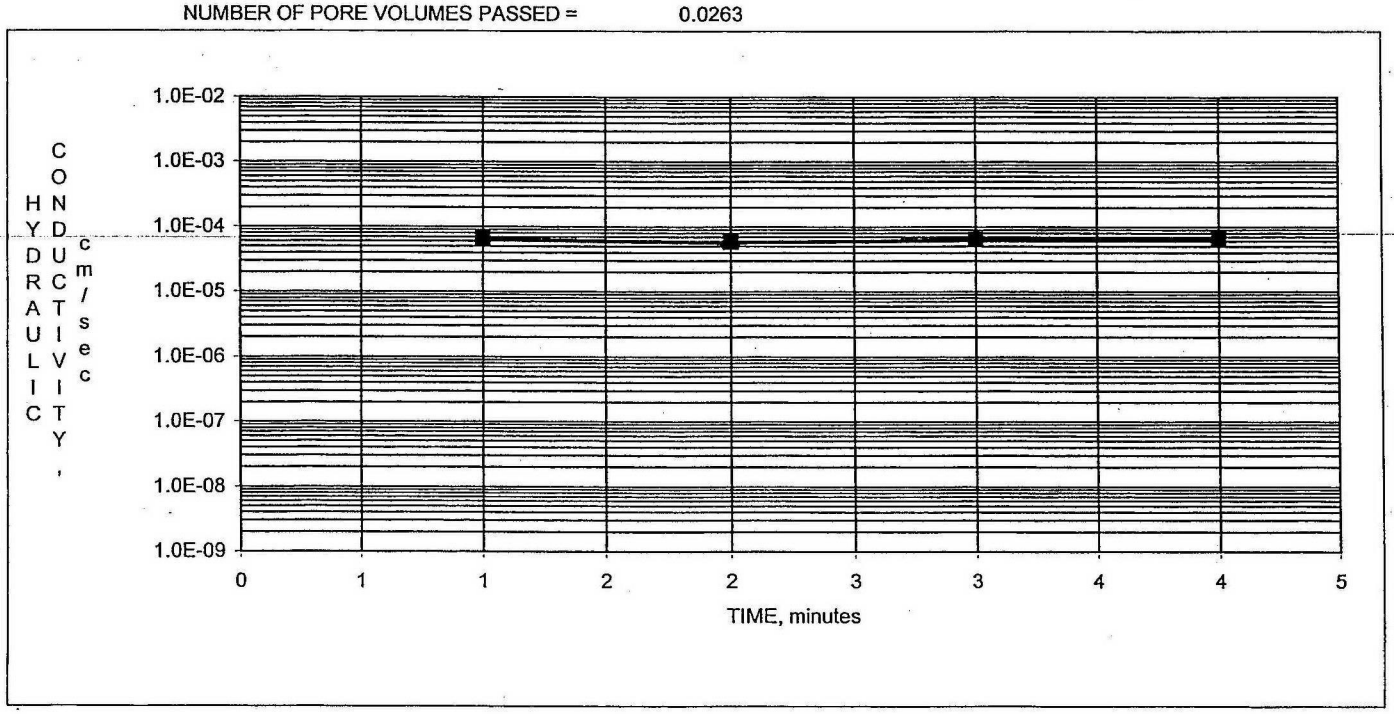
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0	psi	
TEST:	LATERAL PRESS.:	105.0	psi	UPPER:	100.0	psi	LOWER: 100.0 psi
				BIAS PRESSURE (=LOWER-UPPER)	0.0	psi	

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
24.7	43.2	0	18.5									
25.5	42.3	1	16.8	0.096392	6.39E-05	0.8	0.9	0.89	3.2	2	21	0.980
26.2	41.6	2	15.4	0.087011	5.76E-05	0.7	0.7	1.00	3.0	7	21	0.980
26.9	40.9	3	14.0	0.095310	6.31E-05	0.7	0.7	1.00	2.7	1	21	0.980
27.5	40.2	4	12.7	0.097455	6.46E-05	0.6	0.7	0.86	2.4	4	21	0.980

HYDRAULIC CONDUCTIVITY (k) = **AVERAGE 6.2E-05 cm/sec**

MAXIMUM	1.0E-03 TO 1.0E-04	2	0.75<	% < 25 AT
HYDRAULIC	1.0E-04 TO 1.0E-05	5	RATIO	> 1.0E-8
GRADIENT	1.0E-05 TO 1.0E-06	10	<1.25	OR
	1.0E-06 TO 1.0E-07	20		% < 50 AT
	1.0E-07 TO 1.0E-10	30		< 1.0E-8

NUMBER OF PORE VOLUMES PASSED = 0.0263



Terracon

MWG13-15_24336

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING TERRACON JOB #: 58055075
DATE: 9/20/2005

SAMPLE ID: PS-GT-2 7.0' TO8.5'
DESCR.: CLAYEY SAND, TRACE GRAVEL, MEDIUM COURSE, BROWN

Durham Perm Cell
BURETTE Area 0.317 cm^2

INITIAL

MOISTURE%		DENSITY			
W & T, g	74.82	WET WT, g	230.3		
D & T, g	70.08	DIA, in	1.99	5.06	cm
T, g	20.32	HT, in	2.03	5.16	cm
		AREA		20.09	cm^2
MOIST-		DENSITY:	138.7	PCF WET	
URE, %	**9.5**	DENSITY:	**126.7**	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	24.8	PROCTOR:	125.0
SATURATION, %:	77.8	OPTIMUM:	9.7
VOID RATIO:	0.33	COMPACTION, %:	101.3
		OVER OPTIMUM, %:	-0.2

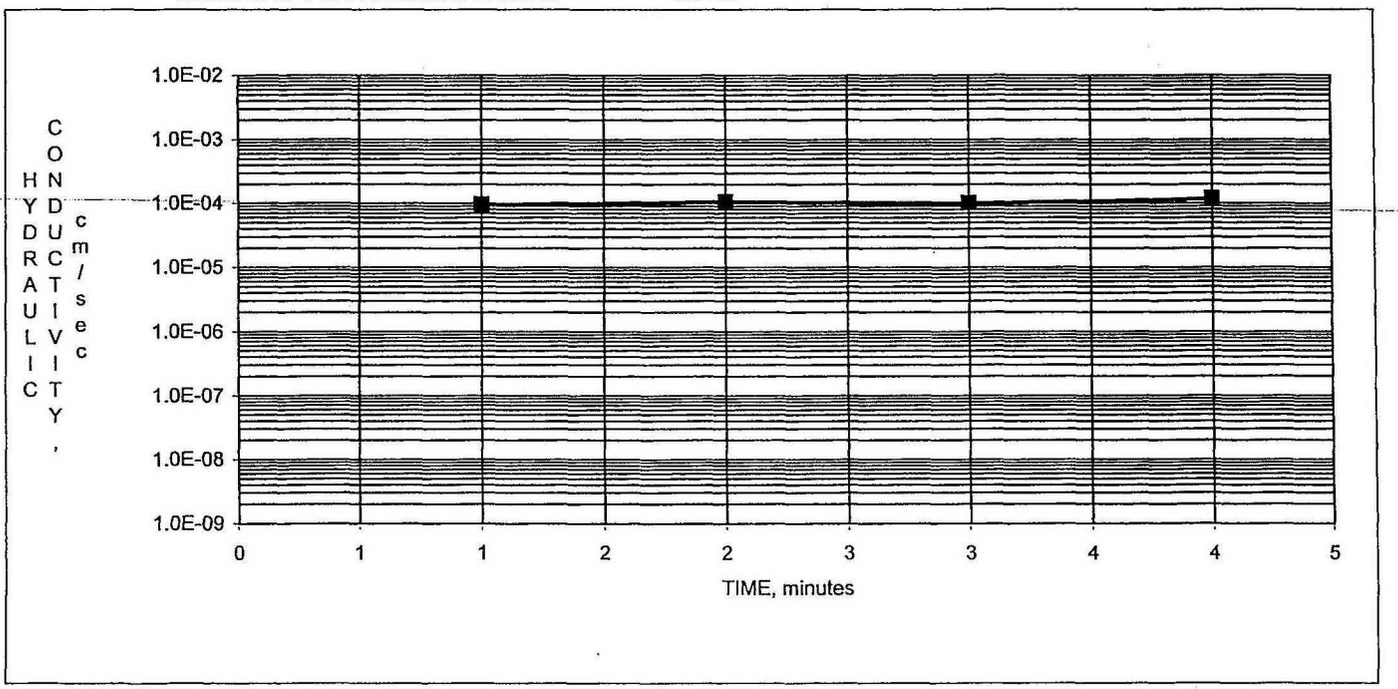
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0 psi
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER: 100.0 psi
				BIAS PRESSURE (=LOWER-UPPER)	0.0 psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
20.8	37.2	0	16.4									
21.8	36.0	1	14.2	0.144039	9.58E-05	1.0	1.2	0.83	2.8	9	21	0.980
22.8	34.9	2	12.1	0.160037	1.06E-04	1.0	1.1	0.91	2.3	1	21	0.980
23.6	34.0	3	10.4	0.151400	1.01E-04	0.8	0.9	0.89	2.0	4	21	0.980
24.4	33.1	4	8.7	0.178483	1.19E-04	0.8	0.9	0.89	1.7	13	21	0.980

HYDRAULIC CONDUCTIVITY (k) = AVERAGE 1.1E-04 cm/sec

MAXIMUM	1.0E-03 TO 1.0E-04	2	0.75<	% < 25 AT
HYDRAULIC	1.0E-04 TO 1.0E-05	5	RATIO	> 1.0E-8
GRADIENT	1.0E-05 TO 1.0E-06	10	<1.25	OR
	1.0E-06 TO 1.0E-07	20		% < 50 AT
	1.0E-07 TO 1.0E-10	30		< 1.0E-8

NUMBER OF PORE VOLUMES PASSED = 0.0443



Terracon

MWG13-15_24337

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING TERRACON JOB #: 58055075
DATE: 9/20/2005

SAMPLE
ID: PS-GT-3 7.0'-9.0'
DESCR.: SAND, WITH CLAY, TRACE GRAVEL & ORGANICS, DARK BROWN

Durham Perm Cell
BURETTE Area 0.317 cm^2

INITIAL

MOISTURE%		DENSITY			
W & T, g	79.03	WET WT, g	208.3		
D & T, g	72.30	DIA, in	1.99	5.06	cm
T, g	20.26	HT, in	2.02	5.12	cm
		AREA		20.13	cm^2
MOIST-		DENSITY:	126.2	PCF WET	
URE, %	**12.9**	DENSITY:	**111.8**	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	33.7	PROCTOR:	115.0
SATURATION, %:	68.7	OPTIMUM:	12.9
VOID RATIO:	0.51	COMPACTION, %:	97.2
		OVER OPTIMUM, %:	0.0

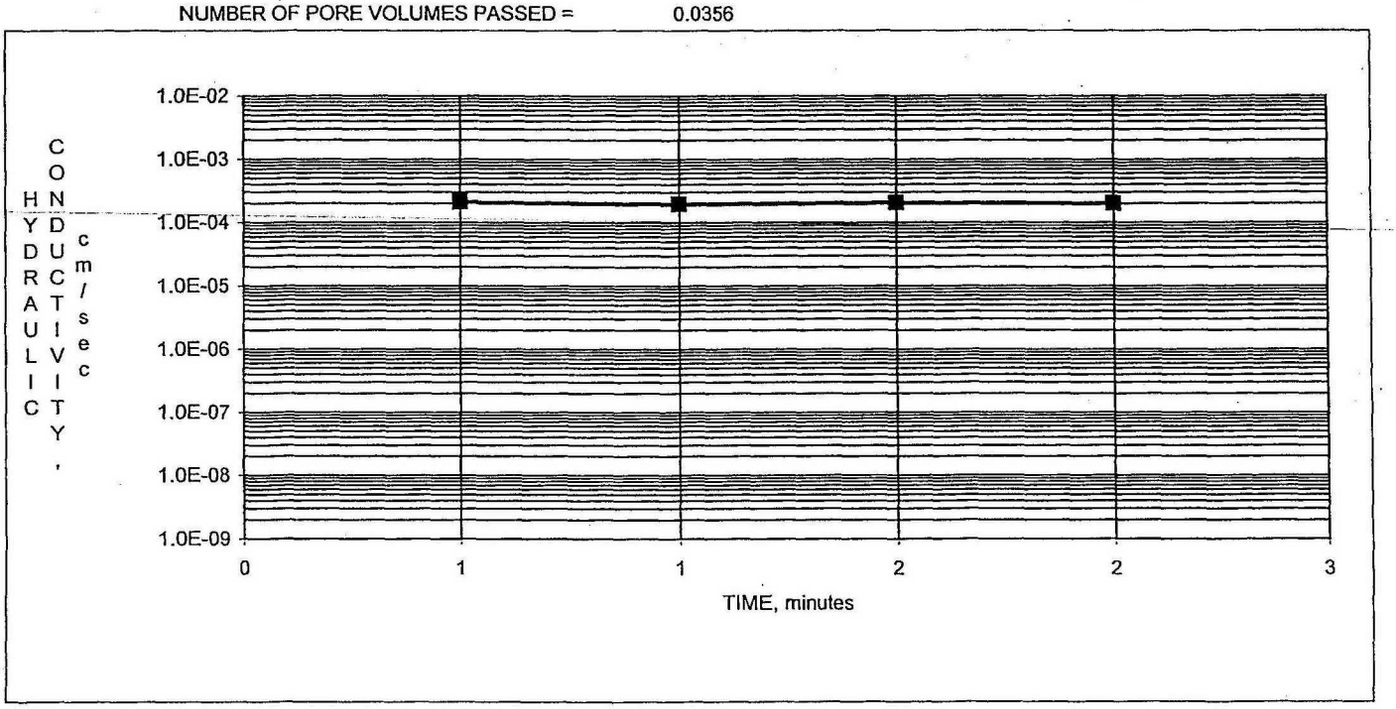
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0 psi
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER: 100.0 psi
				BIAS PRESSURE (=LOWER-UPPER)	0.0 psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
22.1	39.1	0	17.0									
23.3	37.8	0	14.5	0.159065	2.09E-04	1.2	1.3	0.92	2.8	4	21	0.980
24.3	36.8	1	12.5	0.148420	1.95E-04	1.0	1.0	1.00	2.4	3	21	0.980
25.2	35.9	1	10.7	0.155485	2.05E-04	0.9	0.9	1.00	2.1	1	21	0.980
26.0	35.2	2	9.2	0.151040	1.99E-04	0.8	0.7	1.14	1.8	2	21	0.980

HYDRAULIC CONDUCTIVITY (k) = AVERAGE 2.0E-04 cm/sec

MAXIMUM	1.0E-03 TO 1.0E-04	2	0.75<	% < 25 AT
HYDRAULIC	1.0E-04 TO 1.0E-05	5	RATIO	> 1.0E-8
GRADIENT	1.0E-05 TO 1.0E-06	10	<1.25	OR
	1.0E-06 TO 1.0E-07	20		% < 50 AT
	1.0E-07 TO 1.0E-10	30		< 1.0E-8

NUMBER OF PORE VOLUMES PASSED = 0.0356



Terracon

MWG13-15_24338

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING TERRACON JOB #: 58055075
DATE: 9/20/2005

SAMPLE
ID: PS-GT-4
DESCR.: SAND, WITH CLAY & GRAVEL, TRACE ORGANICS, FINE TO COURSE GRAINED, DARK BROWN

Durham Perm Cell
BURETTE Area 0.317 cm^2

INITIAL

MOISTURE%		DENSITY			
W & T, g	66.57	WET WT, g	223.0		
D & T, g	60.35	DIA, in	1.97	5.00	cm
T, g	20.37	HT, in	2.08	5.29	cm
		AREA		19.66	cm^2
MOIST-		DENSITY:	133.9	PCF WET	
URE, %	**15.6**	DENSITY:	**115.9**	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	31.2	PROCTOR:	115.0
SATURATION, %:	92.5	OPTIMUM:	15.7
VOID RATIO:	0.45	COMPACTION, %:	100.8
		OVER OPTIMUM, %:	-0.1

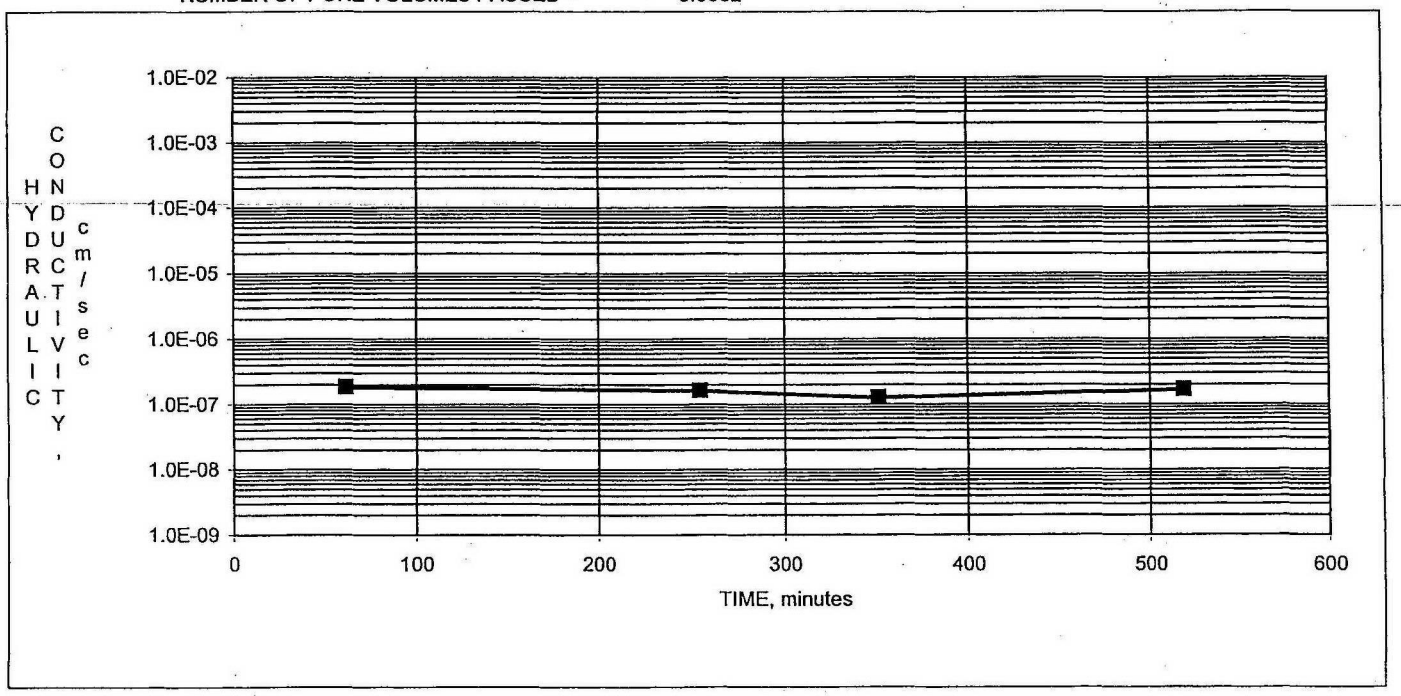
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0 psi
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER: 100.0 psi
				BIAS PRESSURE (=LOWER-UPPER)	0.0 psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
4.1	71.3	0	67.2									
4.6	70.7	62	66.1	0.016505	1.85E-07	0.5	0.6	0.83	12.5	16	21	0.980
5.9	69.1	254	63.2	0.044864	1.63E-07	1.3	1.6	0.81	12.0	1	21	0.980
6.4	68.5	351	62.1	0.017558	1.26E-07	0.5	0.6	0.83	11.7	21	21	0.980
7.5	67.2	519	59.7	0.039414	1.67E-07	1.1	1.3	0.85	11.3	4	20	1.005

HYDRAULIC CONDUCTIVITY (k) = **AVERAGE 1.6E-07 cm/sec**

MAXIMUM	1.0E-03 TO 1.0E-04	2	0.75<	% < 25 AT
HYDRAULIC	1.0E-04 TO 1.0E-05	5	RATIO	> 1.0E-8
GRADIENT	1.0E-05 TO 1.0E-06	10	<1.25	OR
	1.0E-06 TO 1.0E-07	20		% < 50 AT
	1.0E-07 TO 1.0E-10	30		< 1.0E-8

NUMBER OF PORE VOLUMES PASSED = 0.0332



Terracon

MWG13-15_24339

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PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 10/1/2005

Location of Sample PS-GT-6 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 13 to 18'

Description of Soil Sand, fine to coarse, trace gravel, trace rubble, dark brown

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 6.23 Dry Density 107.000

Area, A, cm^2 30.48 Moisture Content 4.3

Length, L, cm 6.350000

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	17.6	20	25.1	127	13466.4	0.02614	2.77165	22	0.953	8.99E-03
2	31.8	20	14.7	127	14249.8	0.04463	5.00787	22	0.953	8.49E-03
3	36.8	20	13	127	14583.3	0.05047	5.79528	22	0.953	8.30E-03
4	38.8	20	12.6	127	14902.8	0.05207	6.11024	22	0.953	8.12E-03
5	40.8	20	12.2	127	15173.5	0.05378	6.4252	22	0.953	7.98E-03
6	42.7	20	11.4	127	14838.8	0.05755	6.72441	22	0.953	8.16E-03
7	47.8	20	9.7	127	14134	0.06764	7.52756	22	0.953	8.56E-03
									AVG	8.37E-03

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24340

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING TERRACON JOB #: 58055075
DATE: 10/7/2005

SAMPLE
ID: PS-GT-7 10.0'-13.0' -#4 MATERIAL
DESCR.: SAND WITH SILT and GRAVEL (SW-SM), DARK GRAY

Durham Perm Cell
BURETTE Area 0.317 cm^2

INITIAL					
MOISTURE%		DENSITY			
W & T, g	88.50	WET WT, g	191.6		
D & T, g	83.87	DIA, in	1.94	4.93	cm
T, g	19.37	HT, in	1.96	4.98	cm
		AREA		19.05	cm^2
MOIST-		DENSITY:	126.2	PCF WET	
URE, %	7.2	DENSITY:	117.7	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	30.1	PROCTOR:	NA
SATURATION, %:	44.9	OPTIMUM:	NA
VOID RATIO:	0.43	COMPACTION, %:	#VALUE!
		OVER OPTIMUM, %:	#VALUE!

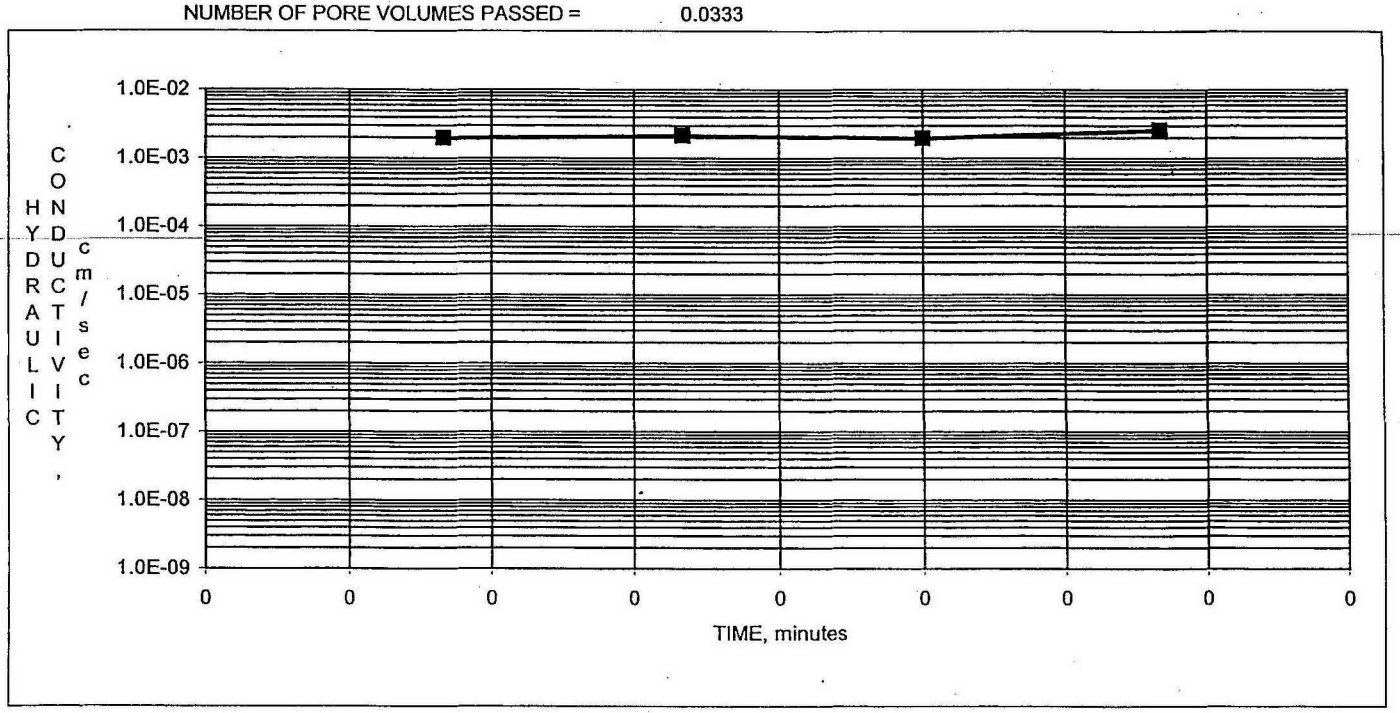
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0 psi
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER: 100.0 psi
				BIAS PRESSURE (=LOWER-UPPER)	0.0 psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
20.8	30.1	0	9.3									
21.8	29.1	0	7.3	0.242140	1.96E-03	1.0	1.0	1.00	1.5	9	21	0.980
22.6	28.2	0	5.6	0.265108	2.15E-03	0.8	0.9	0.89	1.1	1	21	0.980
23.2	27.6	0	4.4	0.241162	1.96E-03	0.6	0.6	1.00	0.9	10	21	0.980
23.8	27.0	0	3.2	0.318454	2.58E-03	0.6	0.6	1.00	0.6	19	21	0.980

HYDRAULIC CONDUCTIVITY (k) = AVERAGE 2.2E-03 cm/sec

MAXIMUM	1.0E-03 TO 1.0E-04	2	0.75<	% < 25 AT
HYDRAULIC	1.0E-04 TO 1.0E-05	5	RATIO	> 1.0E-8
GRADIENT	1.0E-05 TO 1.0E-06	10	<1.25	OR
	1.0E-06 TO 1.0E-07	20		% < 50 AT
	1.0E-07 TO 1.0E-10	30		< 1.0E-8

NUMBER OF PORE VOLUMES PASSED = 0.0333



Terracon

MWG13-15_24341

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/18/2005

Location of Sample PS-GT-8 Sampled _____ Report _____

Boring- _____ Sample- Bottom Depth- 10 to 15'

Description of Soil Silty Sand, trace clay, dark gray

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 7.62 Wt. Soil (lb.) 1.320

Area, A, cm^2 45.60 Moisture Content 12.0

Length, L, cm 6.350000 Volume (ft^3) 0.01022

Dry Density 115.3

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	3.3	20	31.5	127	4740.5	0.01392	0.51969	20	1.000	2.68E-02
2	8.7	20	14	127	5554.52	0.03133	1.37008	20	1.000	2.29E-02
3	13.5	20	9.2	127	5663.97	0.04767	2.12598	20	1.000	2.24E-02
4	17.2	20	7	127	5490.68	0.06265	2.70866	20	1.000	2.31E-02
5	21.5	20	5.5	127	5392.63	0.07974	3.38583	20	1.000	2.36E-02
6	24.3	20	5	127	5540.84	0.08771	3.82677	20	1.000	2.29E-02
7	32.3	20	4	127	5891.99	0.10964	5.08661	20	1.000	2.16E-02
8	32.3	20	4	127	5891.99	0.10964	5.08661	20	1.000	2.16E-02
9									AVG	2.31E-02
10										
11										
12										

Note:

Tested by: _____ Rowdy Miller

Checked by: TK Trevor Kauffeld

MWG13-15_24342

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING — TERRACON JOB #: 58055075 — DATE: 10/7/2005

SAMPLE ID: PS-GT-9 15.0'-20.0' -#4 MATERIAL

DESCR.: SAND WITH GRAVEL & SILT, DARK YELLOWISH BROWN

Durham Perm Cell — BURETTE Area 0.317 cm^2

INITIAL

MOISTURE%		DENSITY			
W & T, g	51.97	WET WT, g	183.1		
D & T, g	50.15	DIA, in	1.94	4.94	cm
T, g	20.20	HT, in	1.95	4.96	cm
		AREA		19.15	cm^2
MOIST-		DENSITY:	120.3	PCF WET	
URE, %	6.1	DENSITY:	113.4	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	32.7	PROCTOR:	NA
SATURATION, %:	33.7	OPTIMUM:	NA
VOID RATIO:	0.49	COMPACTION, %:	#VALUE!
		OVER OPTIMUM, %:	#VALUE!

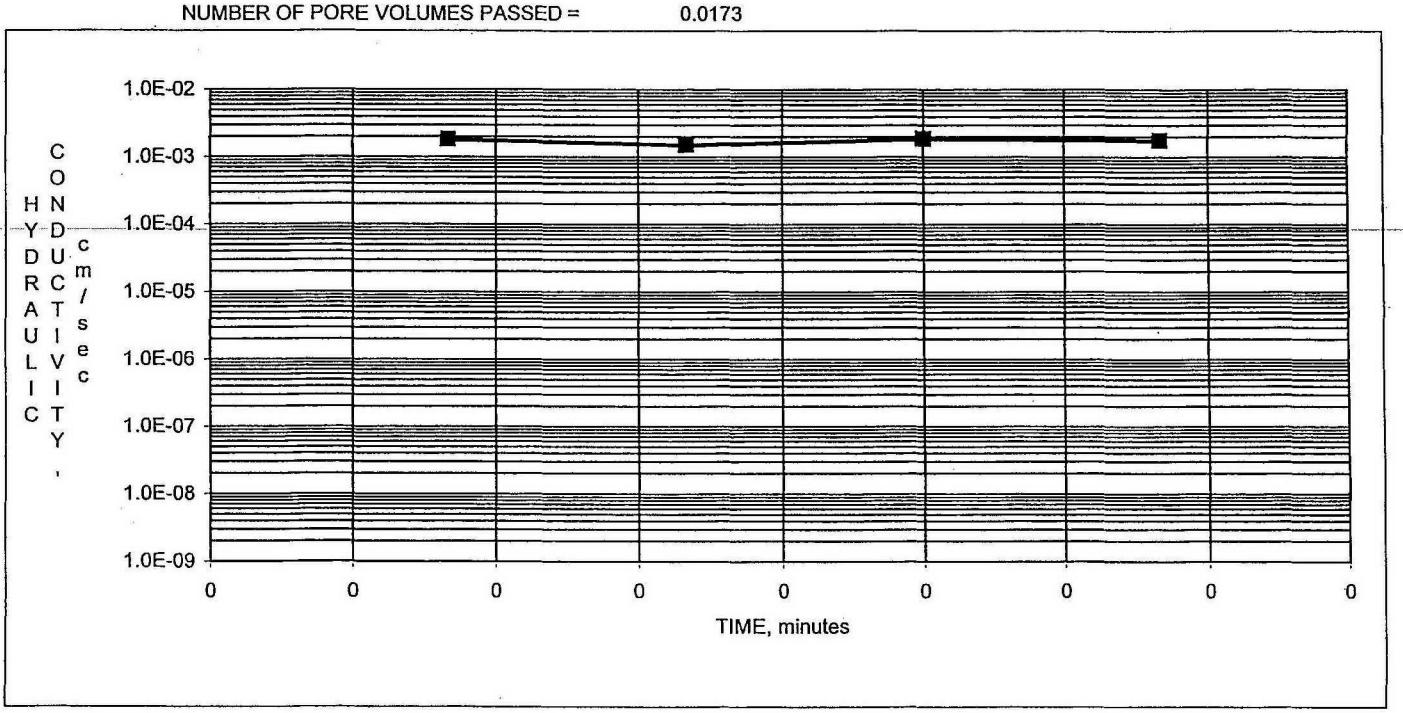
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0 psi
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER: 100.0 psi
				BIAS PRESSURE (=LOWER-UPPER)	0.0 psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
10.5	16.3	0	5.8									
11.1	15.7	0	4.6	0.231802	1.82E-03	0.6	0.6	1.00	0.9	5	22	0.956
11.5	15.3	0	3.8	0.191055	1.50E-03	0.4	0.4	1.00	0.8	13	22	0.956
11.9	14.9	0	3.0	0.236389	1.85E-03	0.4	0.4	1.00	0.6	7	22	0.956
12.2	14.6	0	2.4	0.223144	1.75E-03	0.3	0.3	1.00	0.5	1	22	0.956

HYDRAULIC CONDUCTIVITY (k) = AVERAGE 1.7E-03 cm/sec

MAXIMUM	1.0E-03 TO 1.0E-04	2	0.75<	% < 25 AT
HYDRAULIC	1.0E-04 TO 1.0E-05	5	RATIO	> 1.0E-8
GRADIENT	1.0E-05 TO 1.0E-06	10	<1.25	OR
	1.0E-06 TO 1.0E-07	20		% < 50 AT
	1.0E-07 TO 1.0E-10	30		< 1.0E-8

NUMBER OF PORE VOLUMES PASSED = 0.0173



Terracon

MWG13-15_24343

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/16/2005

Location of Sample JS-29-GT-1 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 19 to 24'

Description of Soil Sand, fine grained, trace clay and gravel, dark yellow

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 7.58 Wt. Soil (lb.) 1.290

Area, A, cm^2 45.13 Moisture Content 5.3

Length, L, cm 6.350000 Volume (ft^3) 0.01022

Dry Density 119.9

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	2.5	20	31.5	127	3553.68	0.01407	0.3937	20	1.000	3.57E-02
2	7.1	20	14	127	4485.54	0.03166	1.11811	20	1.000	2.83E-02
3	11.2	20	9.5	127	4801.42	0.04665	1.76378	20	1.000	2.65E-02
4	14	20	7	127	4422.36	0.06331	2.20472	20	1.000	2.87E-02
5	17.6	20	5.5	127	4368.21	0.08058	2.77165	20	1.000	2.91E-02
6	18.8	20	5	127	4241.85	0.08864	2.96063	20	1.000	2.99E-02
7	24	20	4	127	4332.11	0.1108	3.77953	20	1.000	2.93E-02
8	24	20	4	127	4332.11	0.1108	3.77953	20	1.000	2.93E-02
9									AVG	2.96E-02
10										
11										
12										

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24344

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/12/2005

Location of Sample JS-9-GT-2 Sampled _____ Report _____

Boring- _____ Sample- _____ Depth- 7 to 11.5'

Description of Soil Clayey Sand, with organics, trace gravel, dark brown

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 7.62 Wt. Soil (lb.) 1.150

Area, A, cm^2 45.60 Moisture Content 23.7

Length, L, cm 6.350000 Volume (ft^3) 0.01022

Dry Density 91.0

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	3	20	31.5	127	4309.54	0.01392	0.47244	20	1.000	2.95E-02
2	7.1	20	14	127	4533	0.03133	1.11811	20	1.000	2.80E-02
3	11.9	20	9.5	127	5155.49	0.04616	1.87402	20	1.000	2.46E-02
4	13.3	20	7	127	4245.7	0.06265	2.09449	20	1.000	2.99E-02
5	18.2	20	5.5	127	4564.92	0.07974	2.86614	20	1.000	2.78E-02
6	20.8	20	5	127	4742.78	0.08771	3.27559	20	1.000	2.68E-02
7	27	20	4	127	4925.19	0.10964	4.25197	20	1.000	2.58E-02
8	27	20	4	127	4925.19	0.10964	4.25197	20	1.000	2.58E-02
9									AVG	2.73E-02
10										
11										
12										

Note:

Tested by: Rowdy Miller Checked by: TK Trevor Kauffeld

MWG13-15_24345

Terracon

PERMEABILITY TEST ON GRANULAR SOIL
ASTM D 2434

Project Number 58055075 Project Name KPRG Laboratory Testing

Test Number _____ Date 9/15/2005

Location of Sample JS-29-GT-3 Sampled _____ Report _____

Boring- _____ Sample- Bottom Depth- 19 to 24'

Description of Soil Sand, with gravel, trace clay, brown

Materials Used: _____

Unit Weight Determination:

Diameter, D, cm 7.59 Wt. Soil (lb.) 1.340

Area, A, cm^2 45.25 Moisture Content 8.6

Length, L, cm 6.350000 Volume (ft^3) 0.01022

Dry Density 120.7

Degree of Compactness Unknown- No proctor available

Test No.	Head,h(cm)	Q (cm^3)	t (s)	QL	Ath	Velocity (Q/At)	Hyd. Grad. (h/L)	Temp, C.	Temp. Corr.	k (cm/s)
1	2.9	20	31.5	127	4133.15	0.01403	0.45669	20	1.000	3.07E-02
2	7.3	20	14	127	4624.07	0.03157	1.14961	20	1.000	2.75E-02
3	11.3	20	9.5	127	4857.08	0.04653	1.77953	20	1.000	2.61E-02
4	16.4	20	7	127	5194.16	0.06315	2.58268	20	1.000	2.45E-02
5	21.7	20	5.5	127	5400.02	0.08037	3.41732	20	1.000	2.35E-02
6	23.9	20	5	127	5406.81	0.08841	3.76378	20	1.000	2.35E-02
7	31	20	4	127	5610.41	0.11051	4.88189	20	1.000	2.26E-02
8	31	20	4	127	5610.41	0.11051	4.88189	20	1.000	2.26E-02
9									AVG	2.51E-02
10										
11										
12										

Note:

Tested by: _____ Checked by: TK

Rowdy Miller Trevor Kauffeld

MWG13-15_24346

MEASUREMENT OF HYDRAULIC CONDUCTIVITY OF SATURATED POROUS MATERIALS
USING A FLEXIBLE WALL PERMEAMETER
ASTM D 5084 - 03 METHOD C TEST WITH INCREASING TAILWATER LEVEL
FLUID: DEAIRED TAP WATER WITH 0.005 N CaSO4

PROJECT: KPRG LABORATORY TESTING — TERRACON JOB #: 58055075 — DATE: 10/7/2005

SAMPLE ID: JS 29-GT-5 — 5.0' - 9.0' — Top 8" — #4 MATERIAL

DESCR.: CLAYEY GRAVEL WITH SAND (GC), DARK GRAY WITH YELLOWISH BROWN

Durham Perm Cell — BURETTE Area 0.317 cm^2

INITIAL

MOISTURE%		DENSITY			
W & T, g	48.02	WET WT, g	172.0		
D & T, g	44.14	DIA, in	1.94	4.93	cm
T, g	20.33	HT, in	1.96	4.98	cm
		AREA		19.05	cm^2
MOIST-		DENSITY:	113.3	PCF WET	
URE, %	**16.3**	DENSITY:	**97.4**	PCF DRY	

SPEC GRAV:	2.700	REMOLD (Y/N):	YES
POROSITY, %:	42.2	PROCTOR:	NA
SATURATION, %:	60.2	OPTIMUM:	NA
VOID RATIO:	0.73	COMPACTION, %:	#VALUE!
		OVER OPTIMUM, %:	#VALUE!

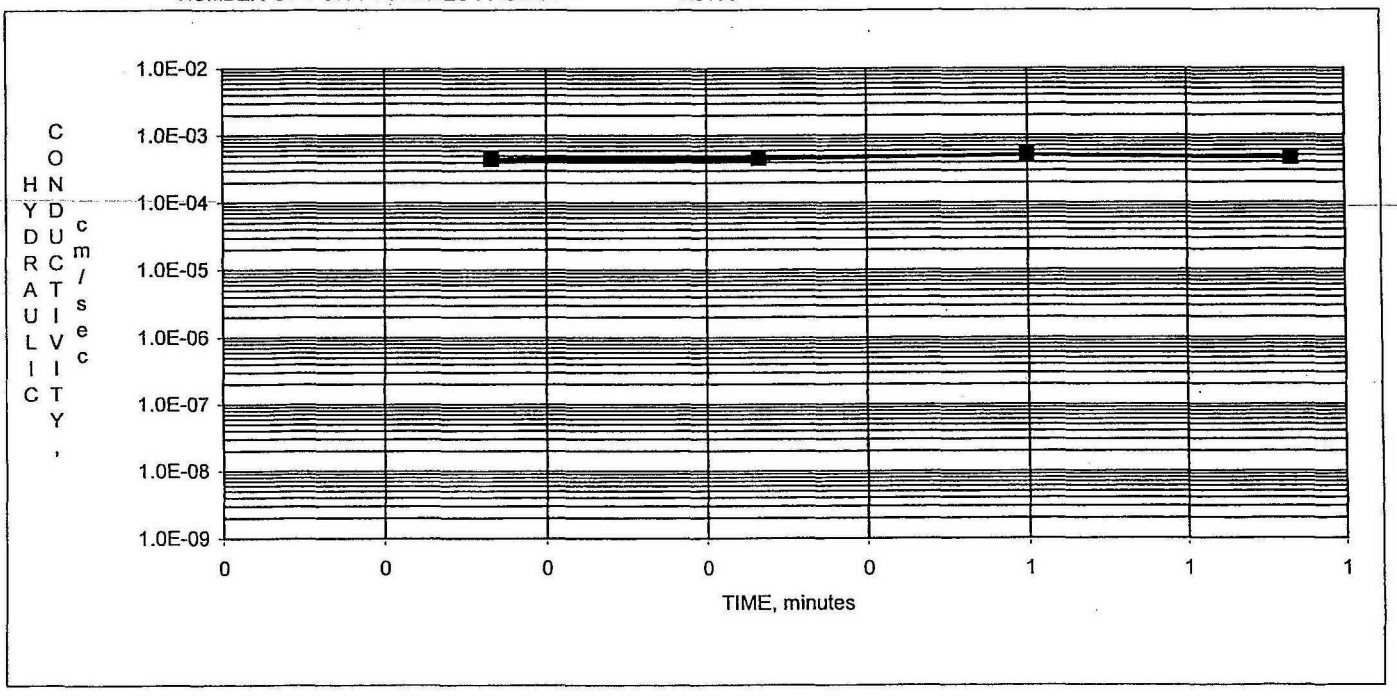
SATURATION:	LATERAL PRESS.:	105.0	psi	BACK PRESSURE (=UPPER=LOWER):	100.0 psi
TEST:	LATERAL PRESS.:	105.0	psi	UPPER: 100.0 psi	LOWER: 100.0 psi
				BIAS PRESSURE (=LOWER-UPPER)	0.0 psi

Upper cm^3	Lower cm^3	ELAPSED TIME, min	DELTA H cm	Ln H1/H2	HYD CON k, cm/sec	OUT FLOW cm^3	IN FLOW cm^3	OUT/IN RATIO	HYD GRAD	% FROM MEAN k	TEMP.: C	TEMP. CORR.:
10.6	20.9	0	10.3									
11.2	20.4	0	9.2	0.112940	4.47E-04	0.6	0.5	1.20	1.8	5	22	0.956
11.7	19.9	0	8.2	0.115069	4.55E-04	0.5	0.5	1.00	1.6	3	22	0.956
12.2	19.4	1	7.2	0.130053	5.14E-04	0.5	0.5	1.00	1.4	9	22	0.956
12.6	19.0	1	6.4	0.117783	4.66E-04	0.4	0.4	1.00	1.3	1	22	0.956

HYDRAULIC CONDUCTIVITY (k) = AVERAGE 4.7E-04 cm/sec

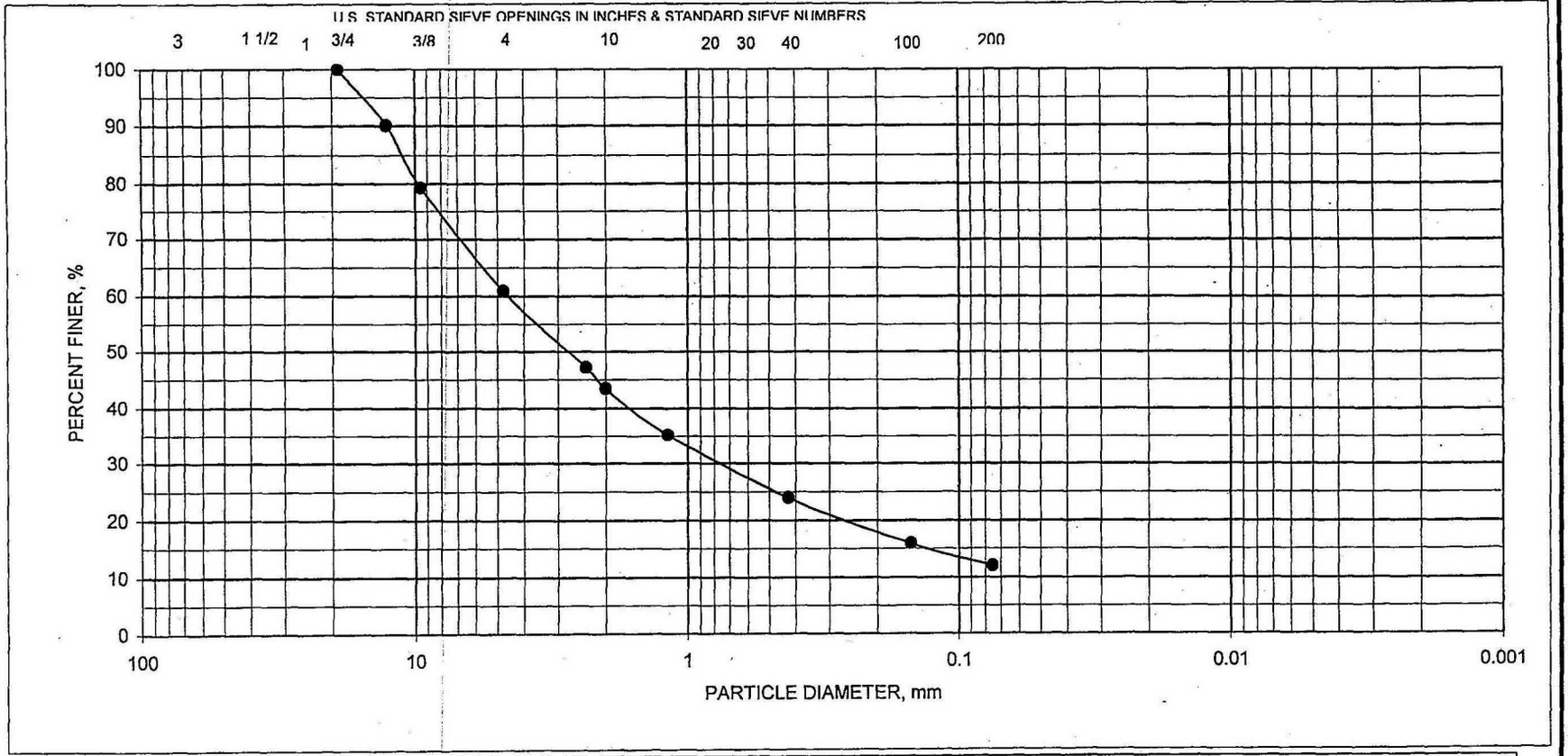
MAXIMUM	1.0E-03 TO 1.0E-04	2	0.75<	% < 25 AT
HYDRAULIC	1.0E-04 TO 1.0E-05	5	RATIO	> 1.0E-8
GRADIENT	1.0E-05 TO 1.0E-06	10	<1.25	OR
	1.0E-06 TO 1.0E-07	20		% < 50 AT
	1.0E-07 TO 1.0E-10	30		< 1.0E-8

NUMBER OF PORE VOLUMES PASSED = 0.0158



Terracon

MWG13-15_24347



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
CS-GT-1		5 to 10'	Sand, fine to coarse grained, trace gravel and silt, brown, dark brown, blac	SP				

PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 8/25/2005

Terracon

Sieve CS-GT-1.xls

MWG13-15_24348

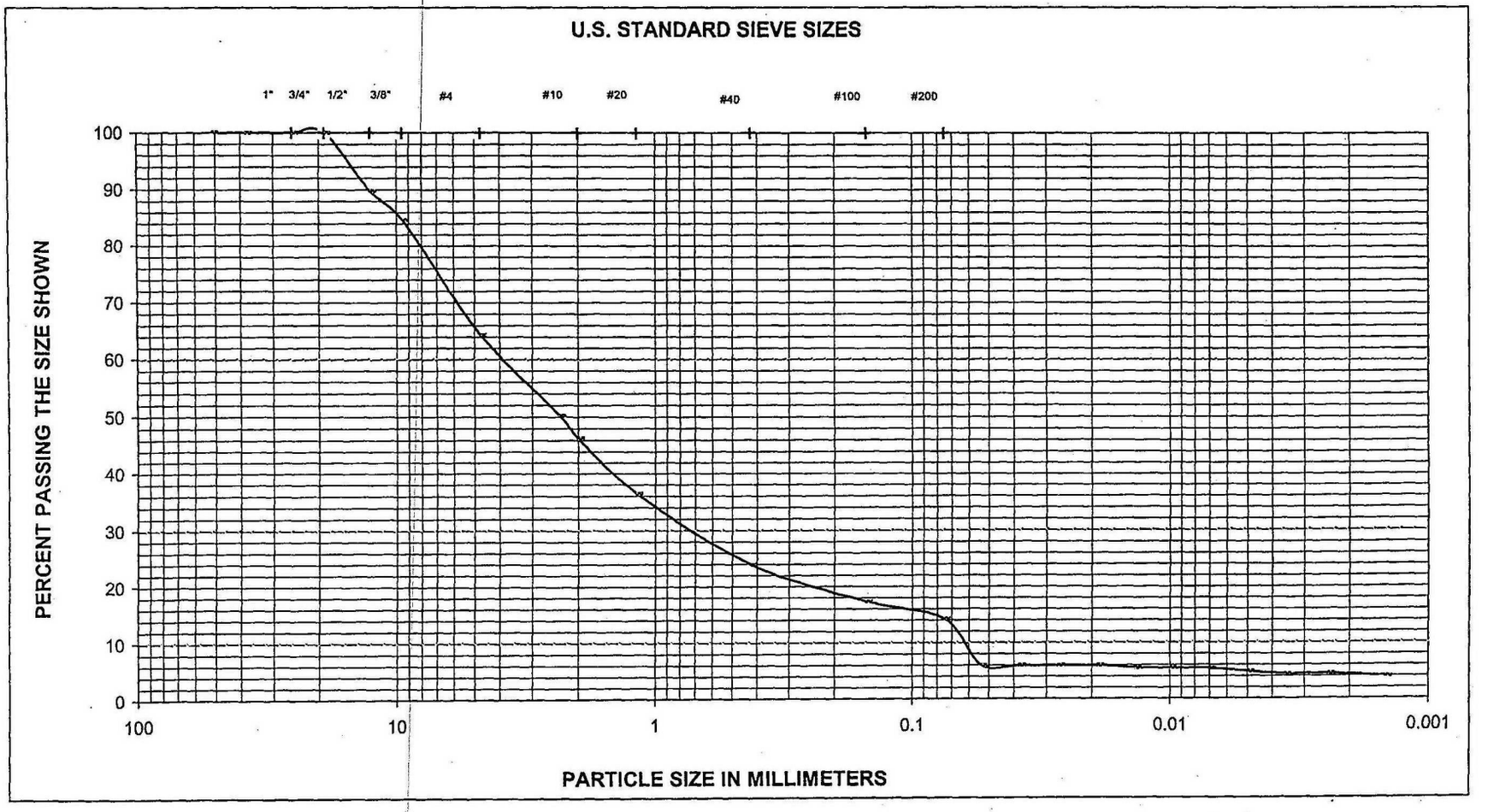
Terracon

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing | Boring Number CS-GT-2 | Date: 8/29/2005

Terracon Project #: 58055075 | Sample No.: 10-12' (top) | Sample type.:

Sample Description: Sand, fine to coarse grained, with gravel, gray (crushed limestone)



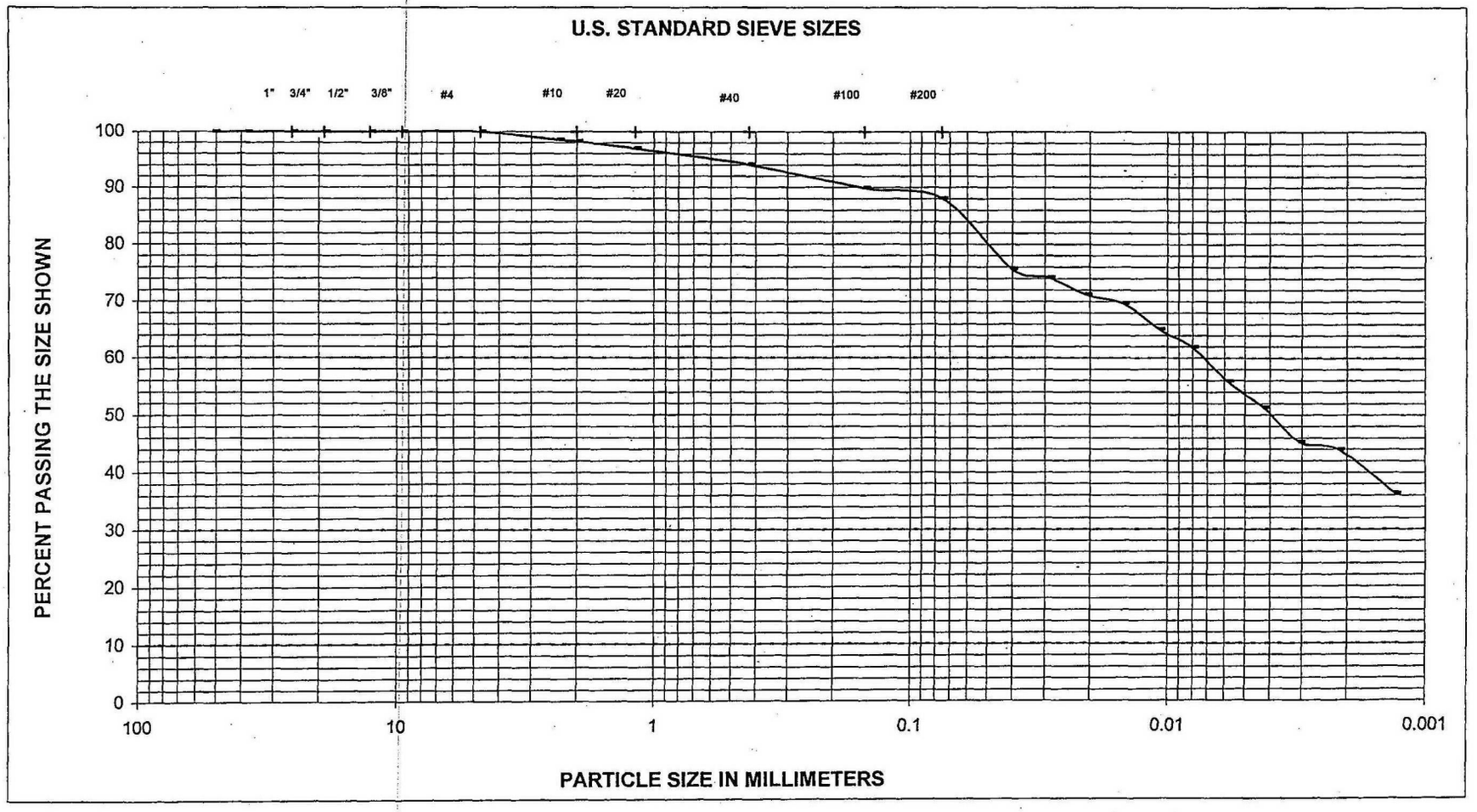
MWG13-15_24349

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing | Boring Number: CS-GT-2 | Date: 8/29/2005

Terracon Project #: 58055075 | Sample No.: bottom | Sample type.:

Sample Description: Lean clay, trace sand, gray



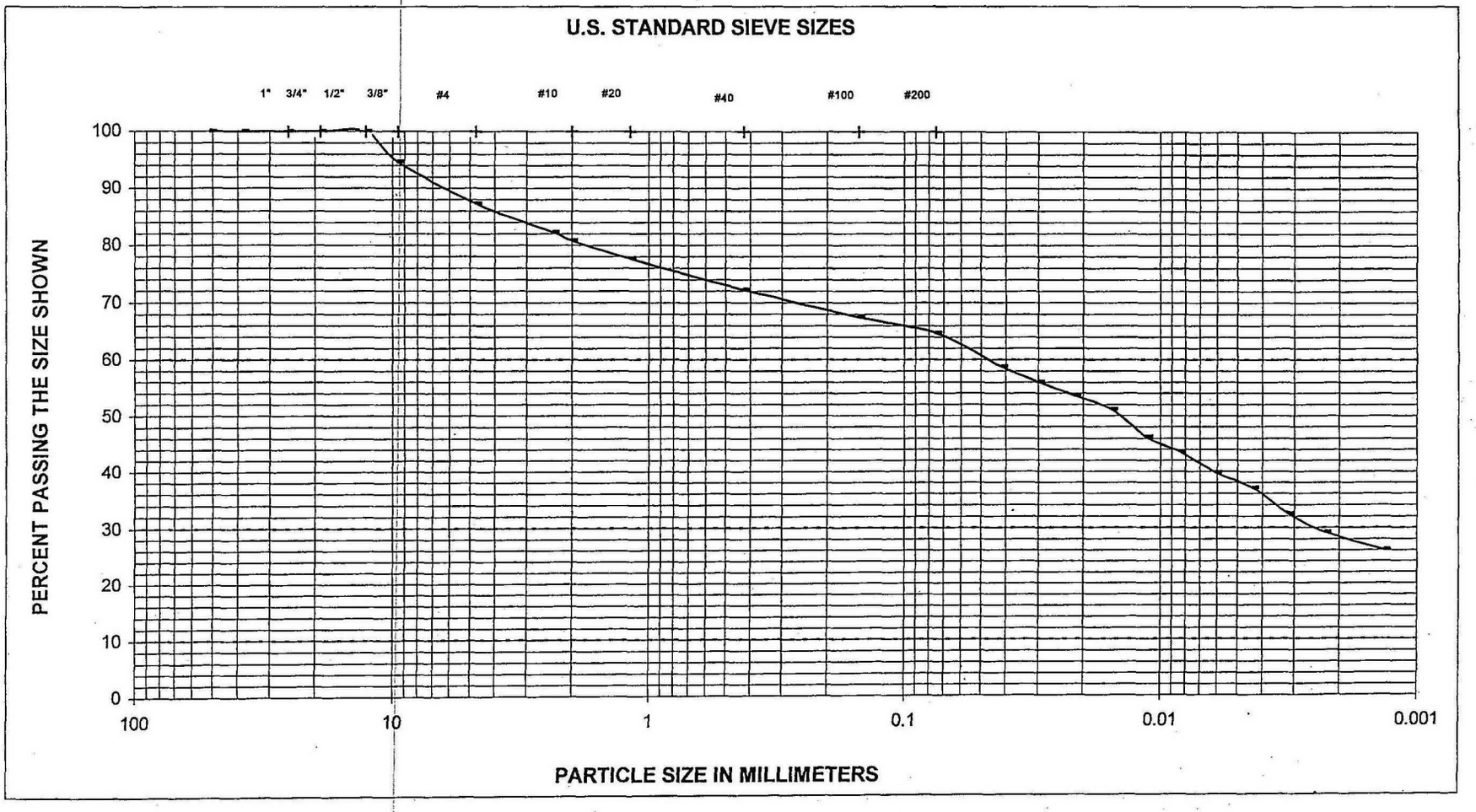
Terracon

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing Boring Number CS-GT-4 Date: 8/25/2005

Terracon Project #: 58055075 Sample No.: Sample type.:

Sample Description: Lean Clay, Trace Sand and Gravel, Gray



MWG13-15_24351

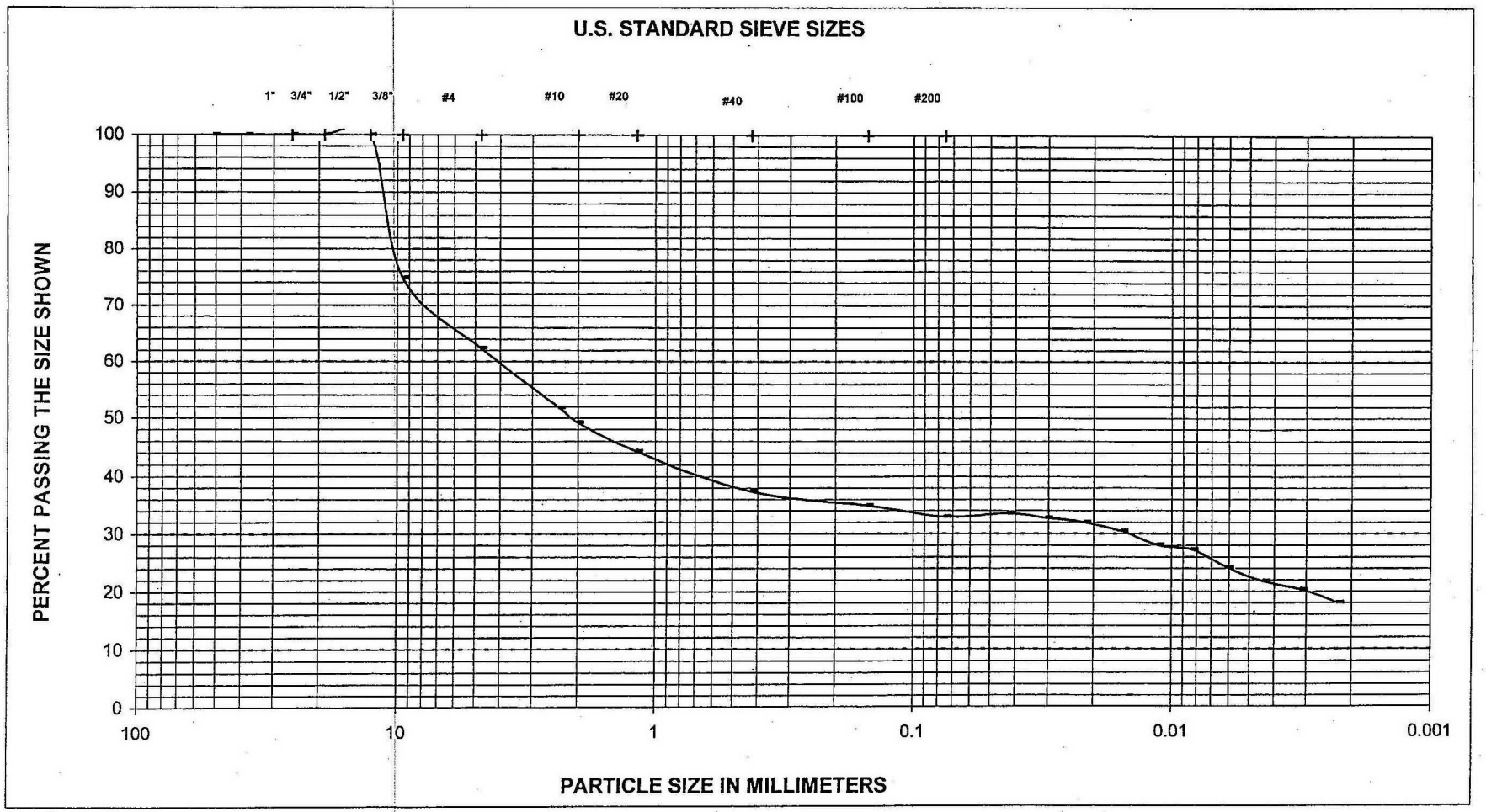
Terracon

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing Boring Number CS-GT-5 Date: 8/25/2005

Terracon Project #: 58055075 Sample No.: Sample type.:

Sample Description: Silty clay, with sand, brown and gray



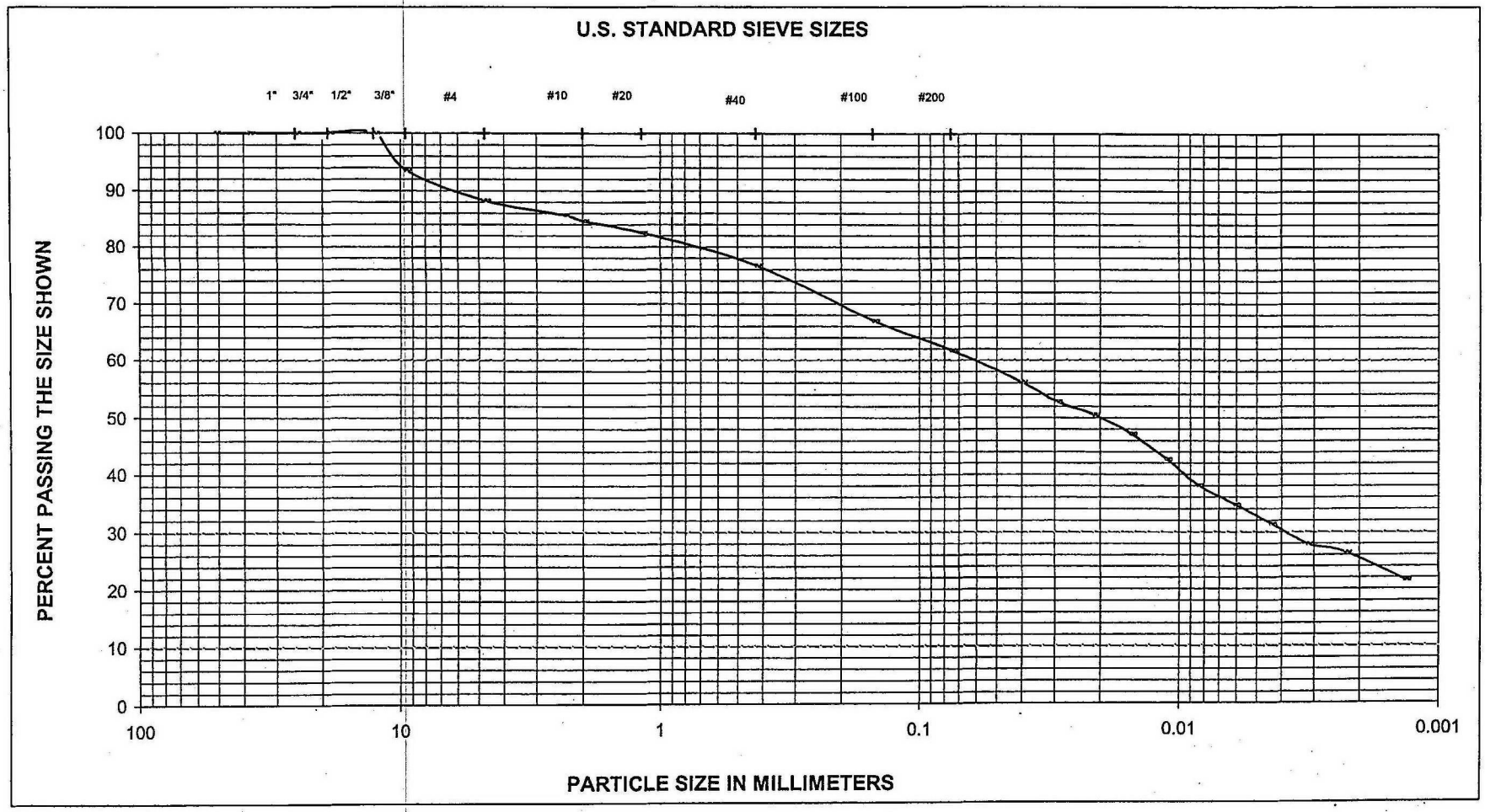
MWG13-15_24352

GRAIN SIZE DISTRIBUTION CURVE

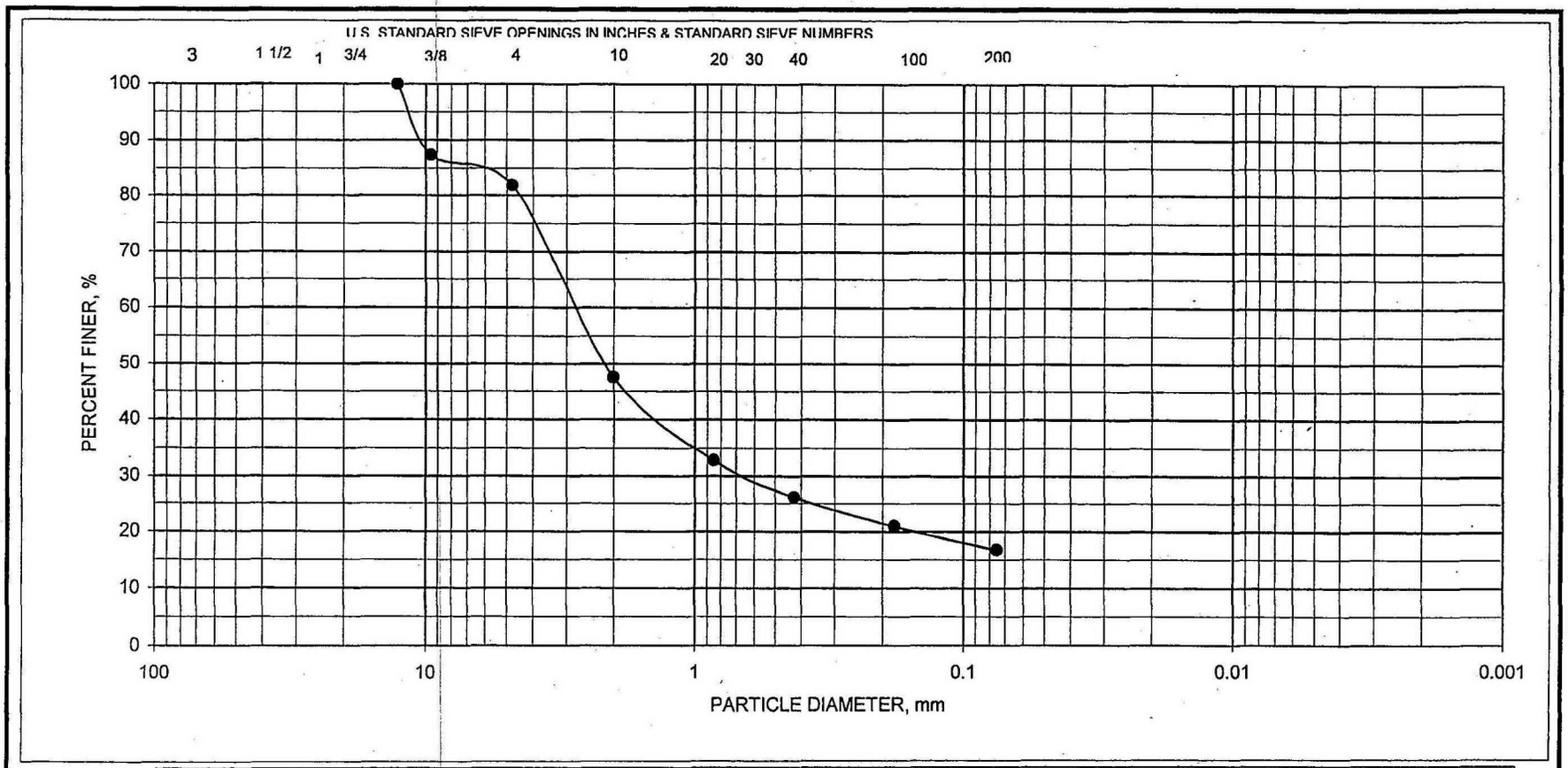
Project Name: KPRG Labarotory Testing Boring Number CS-GT-6 Date: 8/29/2005

Terracon Project #: 58055075 Sample No.: Sample type.:

Sample Description: Sandy Lean Clay, with gravel, brown and dark brown



MWG13-15_24353



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WCGT-1		5 to 10'-Top	Clayey Gravelly Sand	SC				

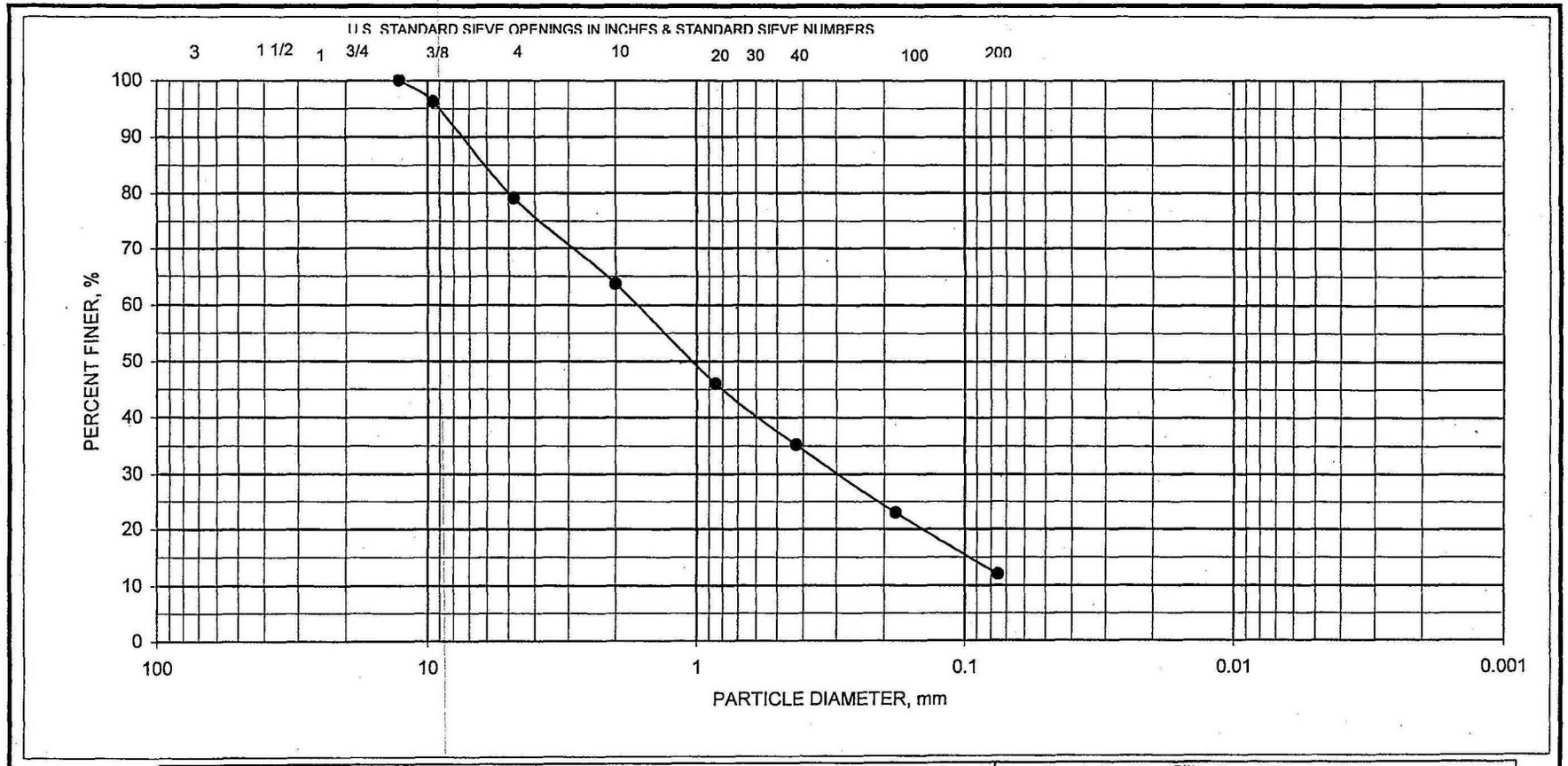
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 10/1/2005

Terracon

Sieve WCGT-1.xls

MWG13-15_24354



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WCGT-2		5 to 10' BTM	VeryDark Brown Fine To Coarse Sand With Gravel, Trace Clay and Glass Slag	SC				

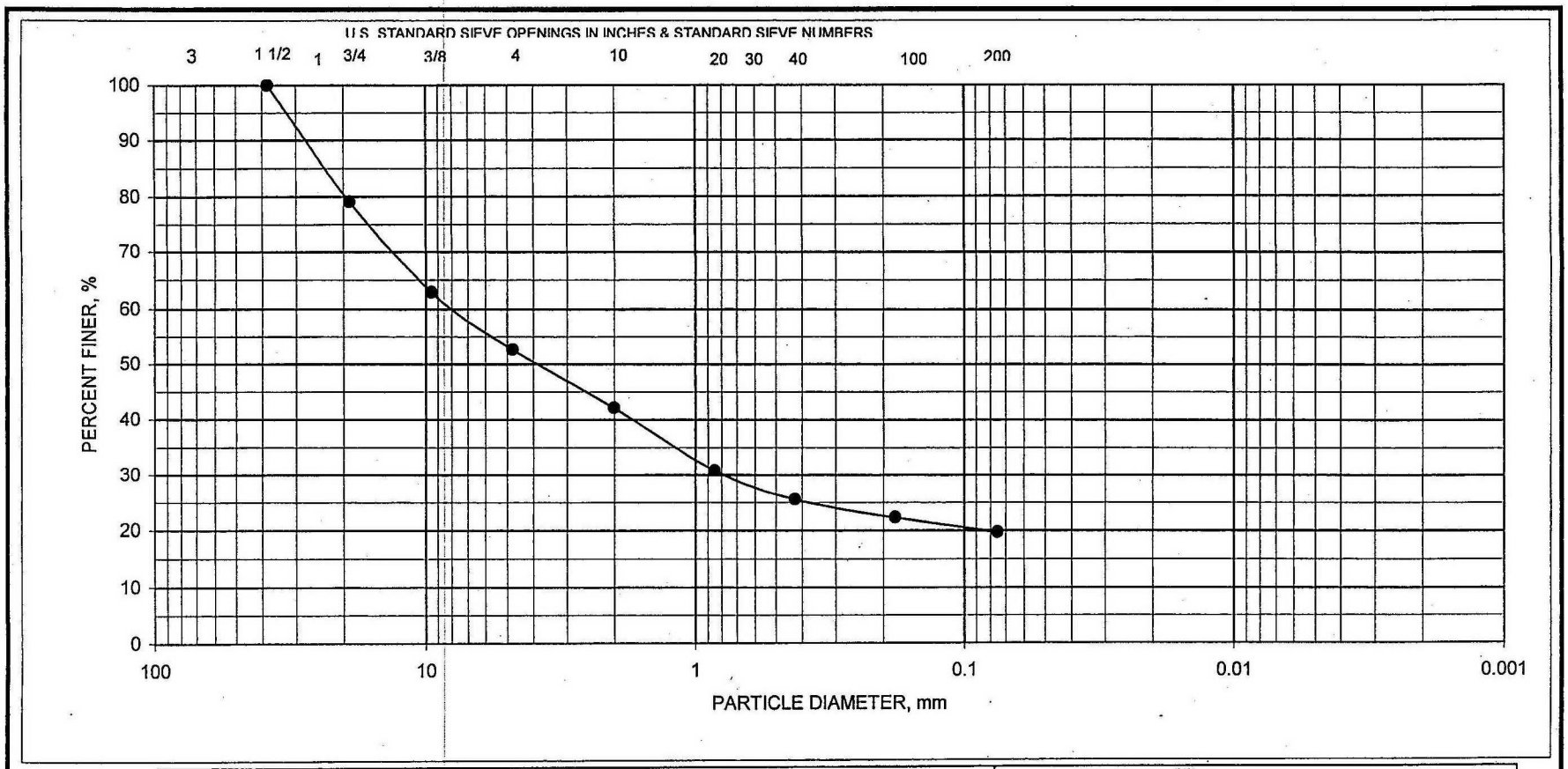
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 9/30/2005

Terracon

Sieve WCGT-2.xls

MWG13-15_24355



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WCGT-3		3 to 8' (Top)	Clayey Gravelly Fine To Coarse Sand	SC				

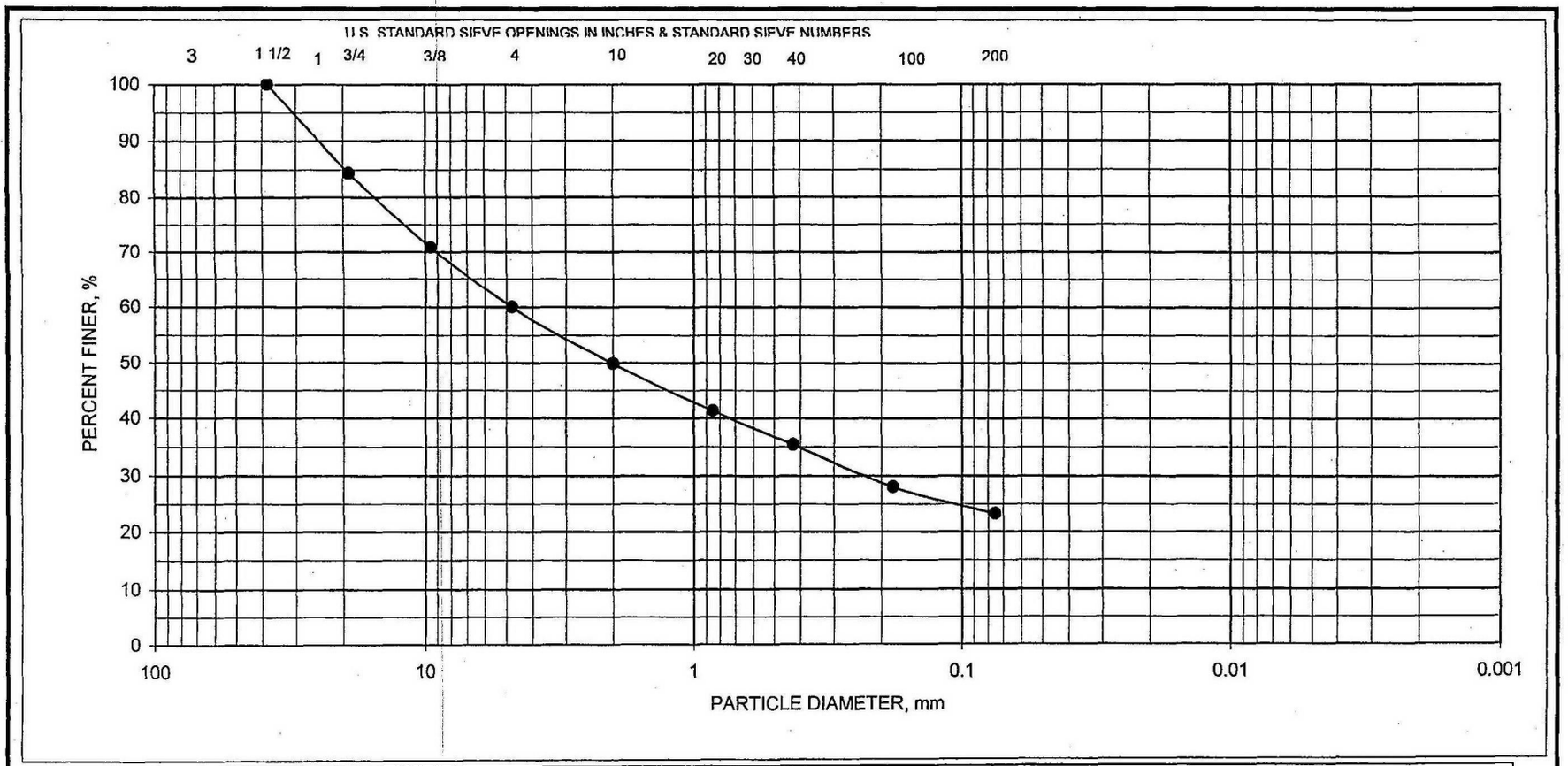
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 10/4/2005

Terracon

Sieve WCGT-3.xls

MWG13-15_24356



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WCGT-4		5 to 10'-Bottom of Sample	Sandy Fine To Coarse Gravel With Clay	GC				

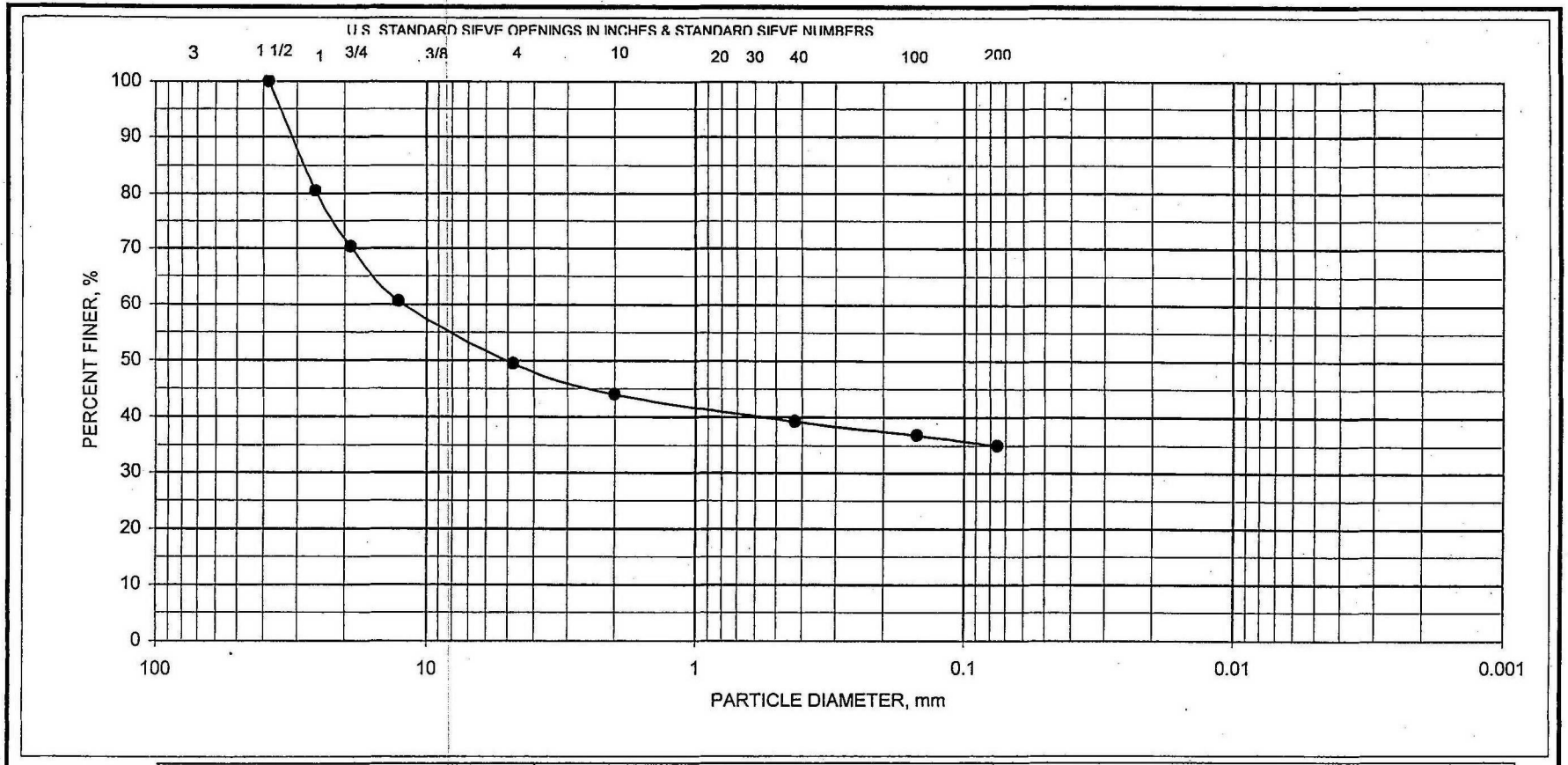
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 9/24/2005

Terracon

Sieve WCGT-4.xls

MWG13-15_24357



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WCGT-5		5 to 9'-Bottom of Sample	Sandy clay with gravel	CL				

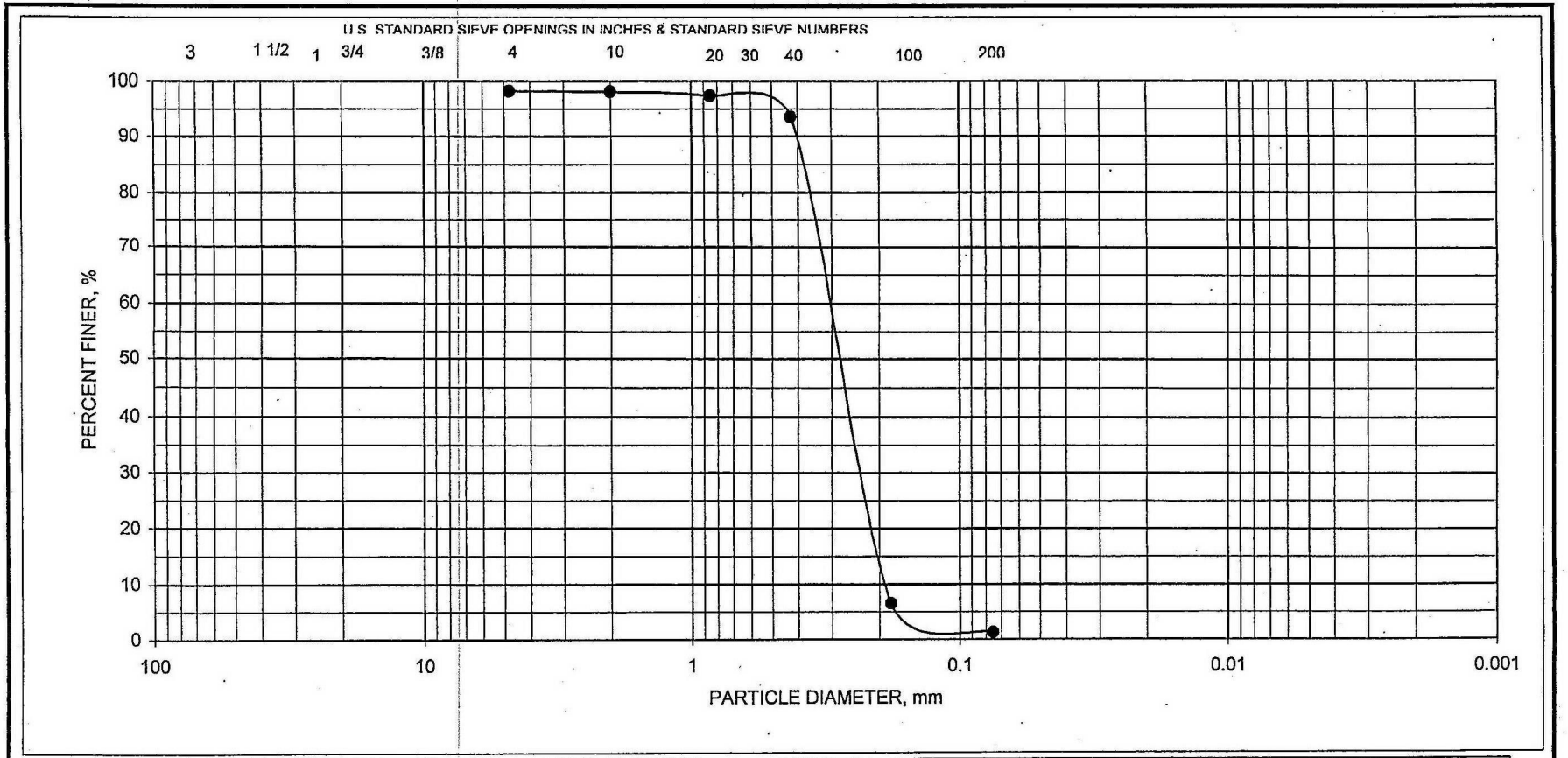
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 9/29/2005

Terracon

Sieve WCGT-5.xls

MWG13-15_24358



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WSGT-1		5 to 10'	Fine Sand, Trace Gravel & Silt	SP	14	NP	NP	NP

PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 9/21/2005

Terracon

Sieve WSGT-1.xls

MWG13-15_24359

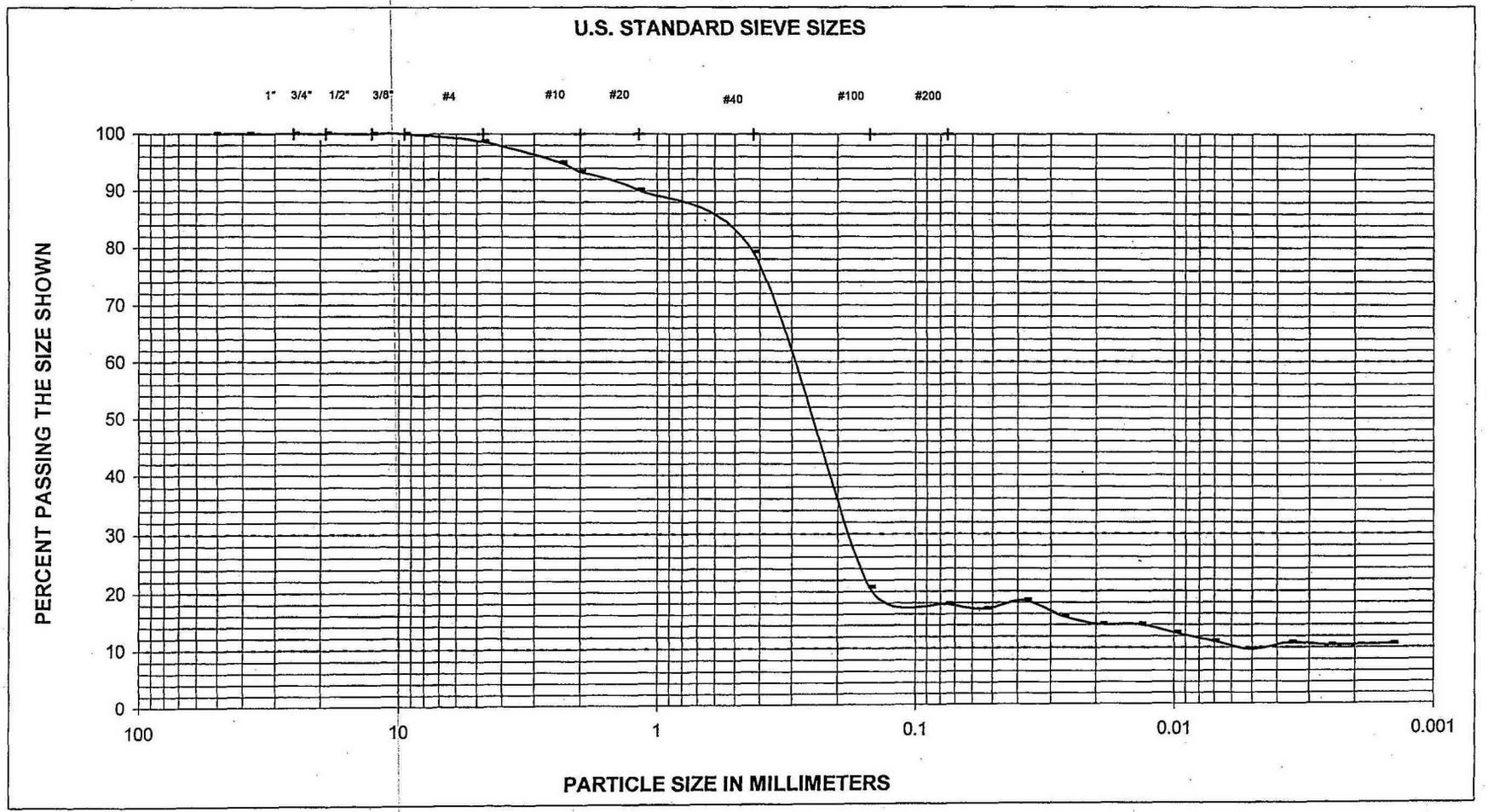
Terracon

GRAIN SIZE DISTRIBUTION CURVE

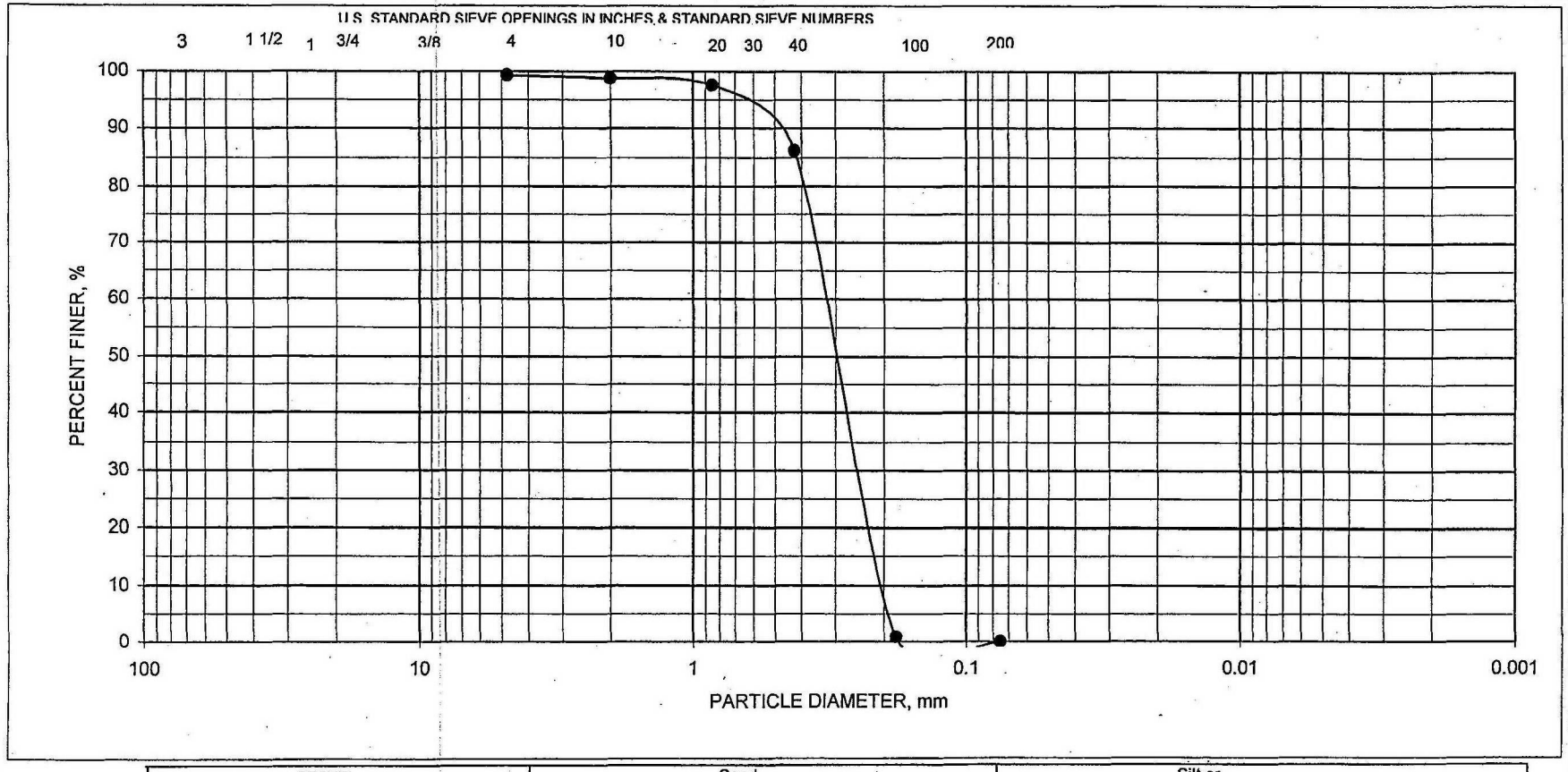
Project Name: KPRG Laboratory Testing | Boring Number: WS-GT-2 | Date: 8/26/2005

Terracon Project #: 58055075 | Sample No.: | Sample type.:

Sample Description: Silty sand, trace gravel, dark brown



MWG13-15_24360



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

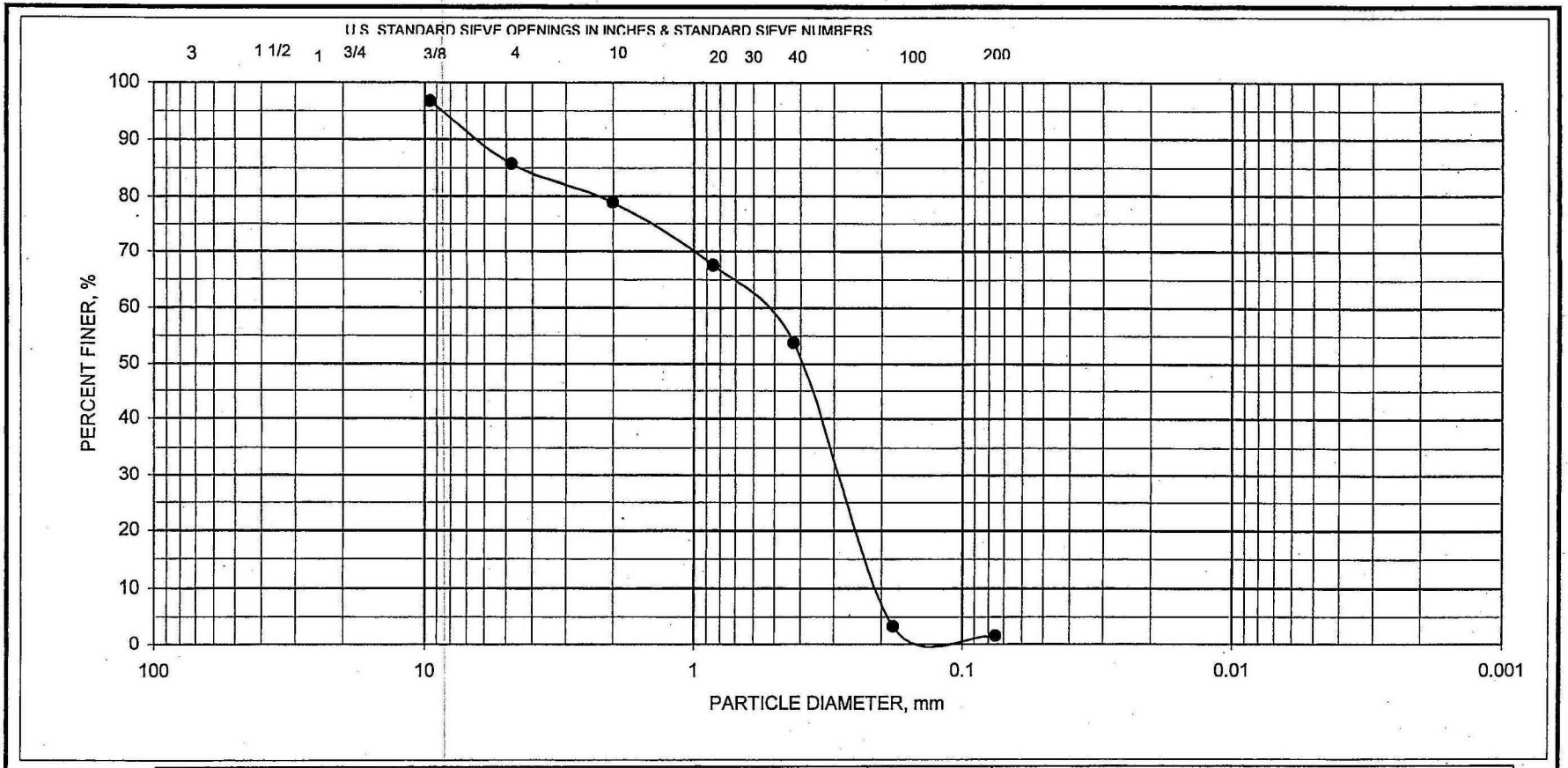
BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WSGT-3			Fine Sand, Trace Silt	SP	11.2	NP	NP	NP

PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 9/22/2005

Terracon

Sieve WSGT-3.xls



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WSGT-4		5 to 10'-Bottom of Sample	Fine to Medium Sand With Gravel	SP	9.5	NP	NP	NP

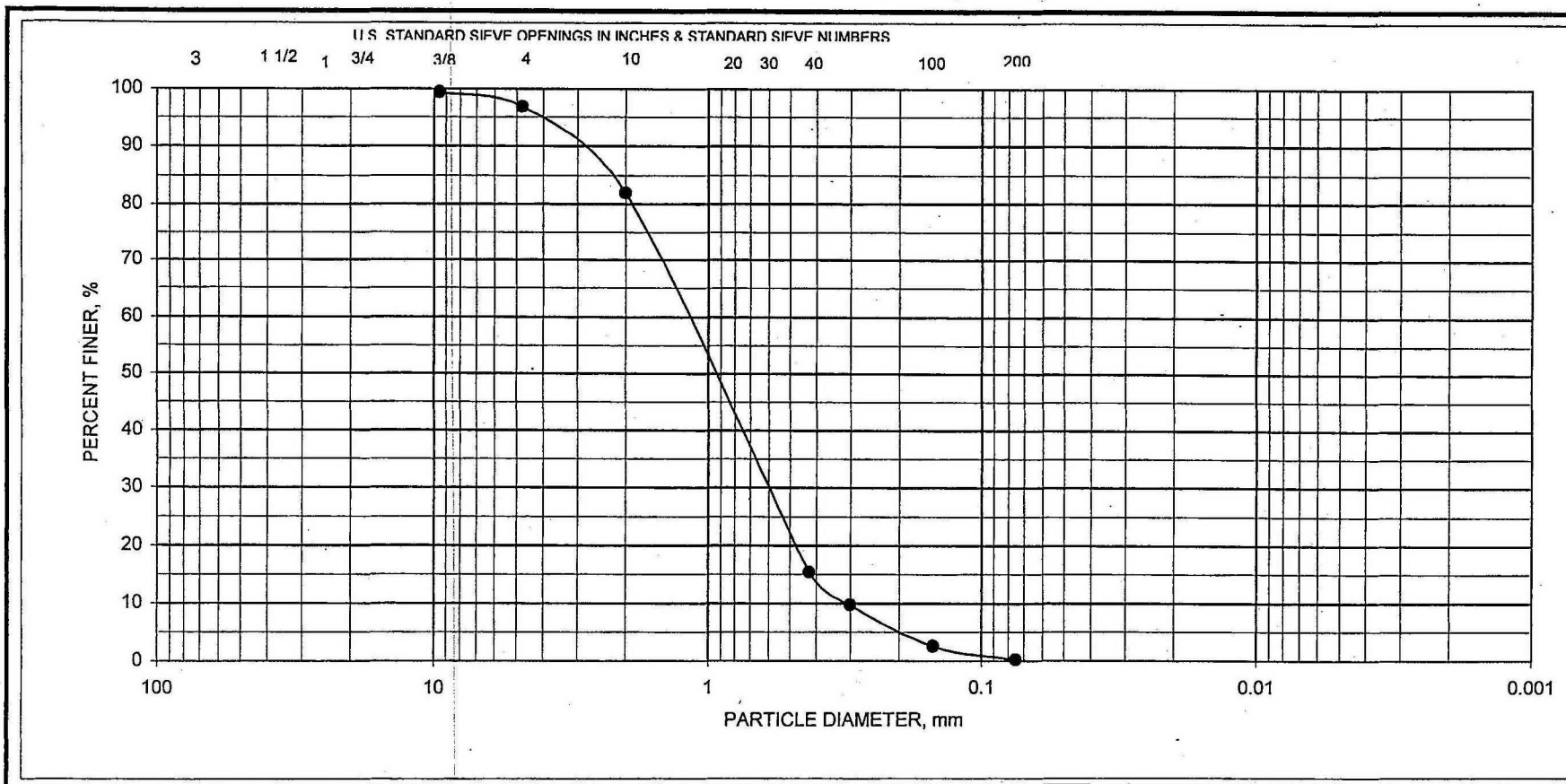
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 9/22/2005

Terracon

Sieve WSGT-4.xls

MWG13-15_24362



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
WSGT-5		22 to 27'	Sand, trace gravel, black	SP	9.5	NP	NP	NP

PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 9/28/2005

Terracon

Sieve WSGT-5.xls

MWG13-15_24363

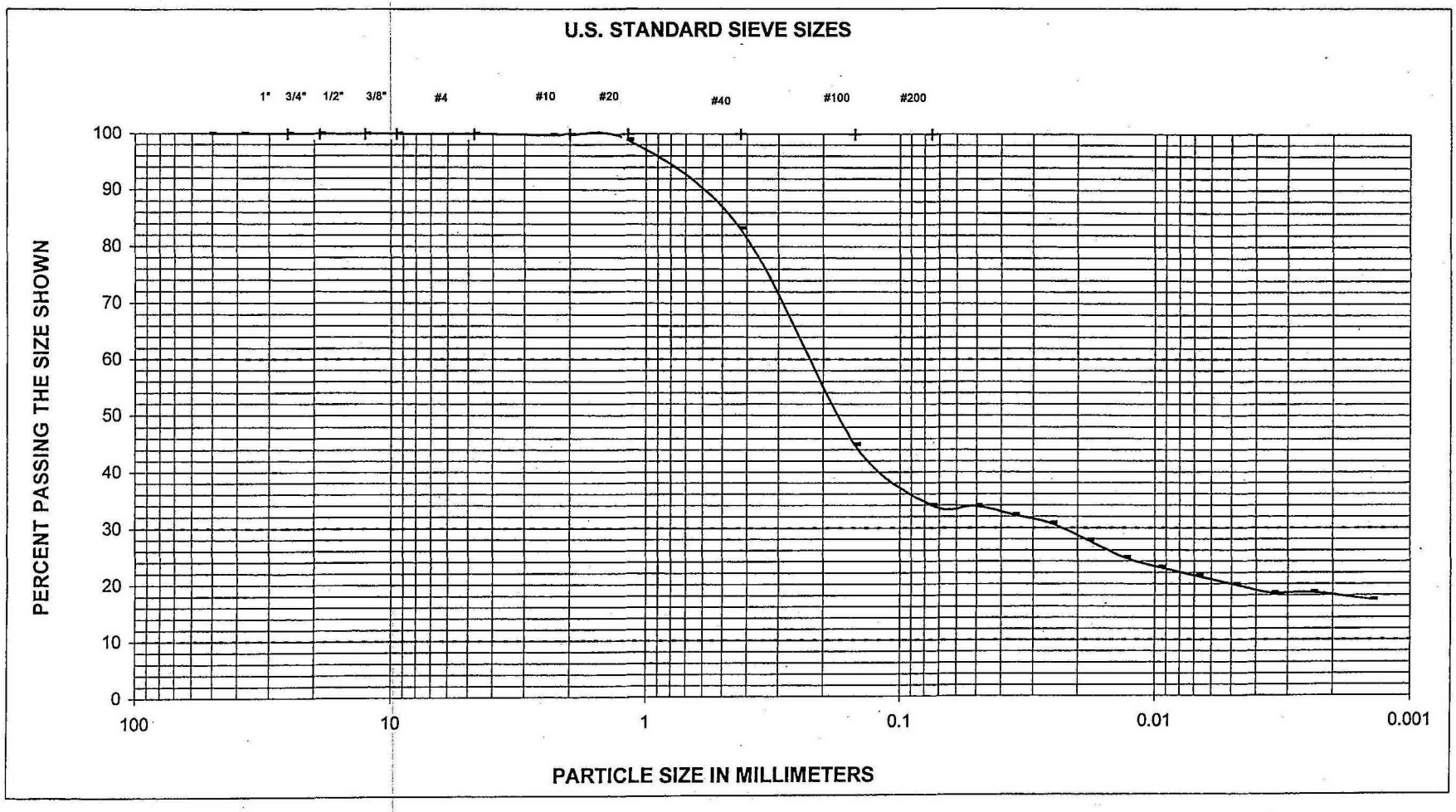
Terracon

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing | Boring Number PS-GT-1 | Date: 8/29/2005

Terracon Project #: 58055075 | Sample No.: | Sample type.:

Sample Description: Clayey sand, dark brown



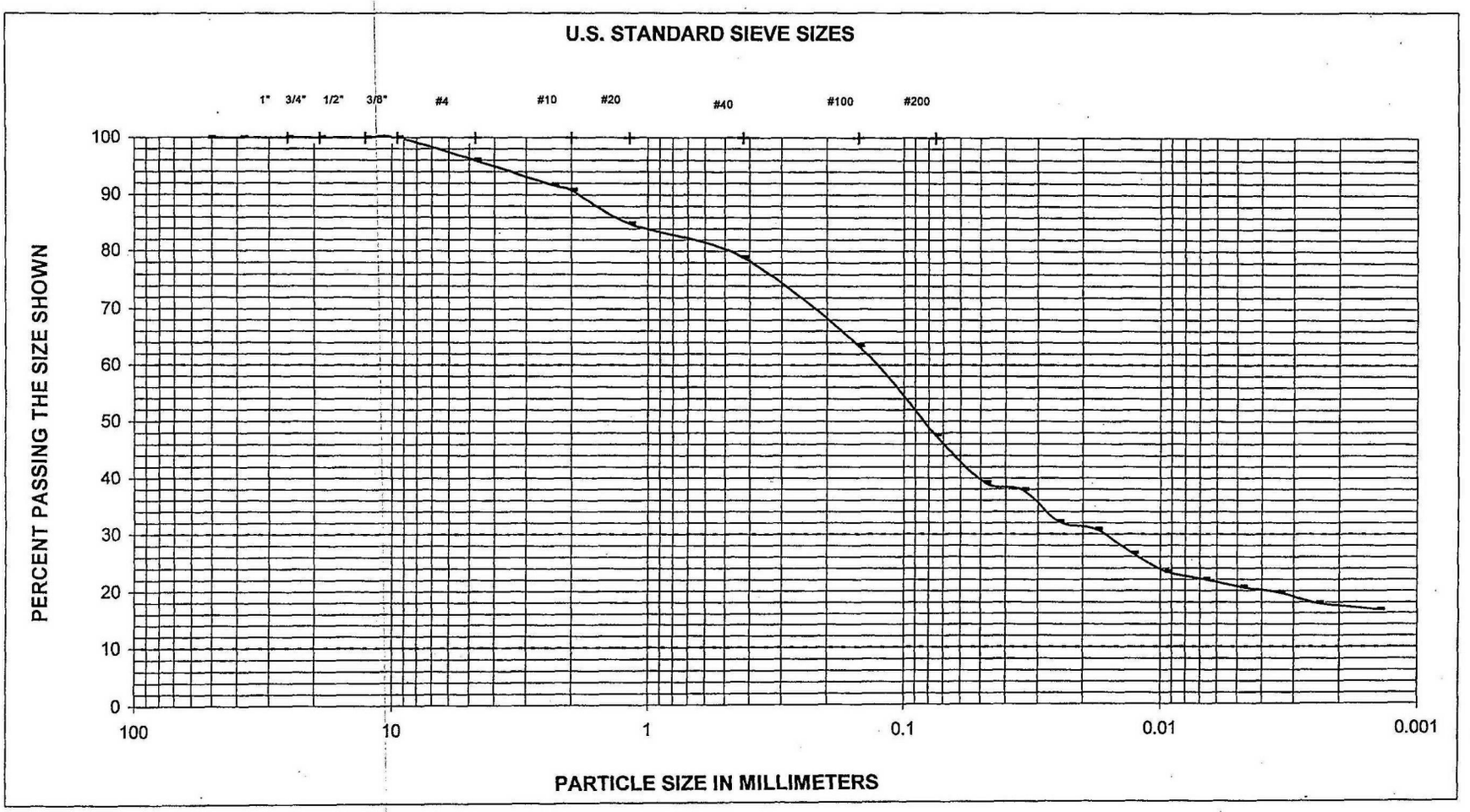
MWG13-15_24364

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing | Boring Number: PS-GT-2 | Date: 8/25/2005

Terracon Project #: 58055074 | Sample No.: | Sample type.:

Sample Description: Clayey sand, trace gravel, medium to coarse grained, brown



MWG13-15_24365

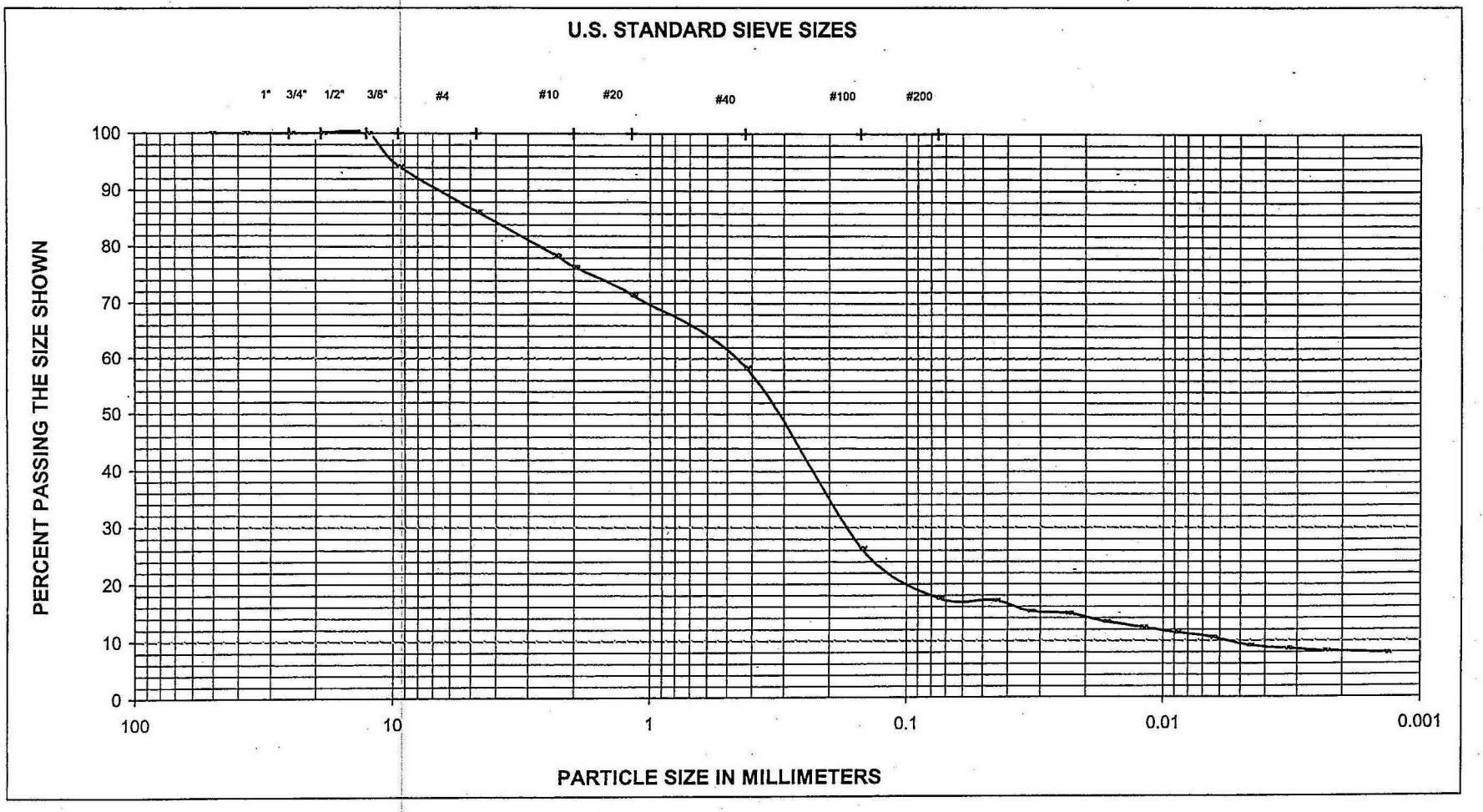
Terracon

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing | Boring Number PS-GT-3 | Date: 8/26/2005

Terracon Project #: 58055075 | Sample No.: 7-9' | Sample type.:

Sample Description: Sand, trace clay, gravel and organics, dark brown



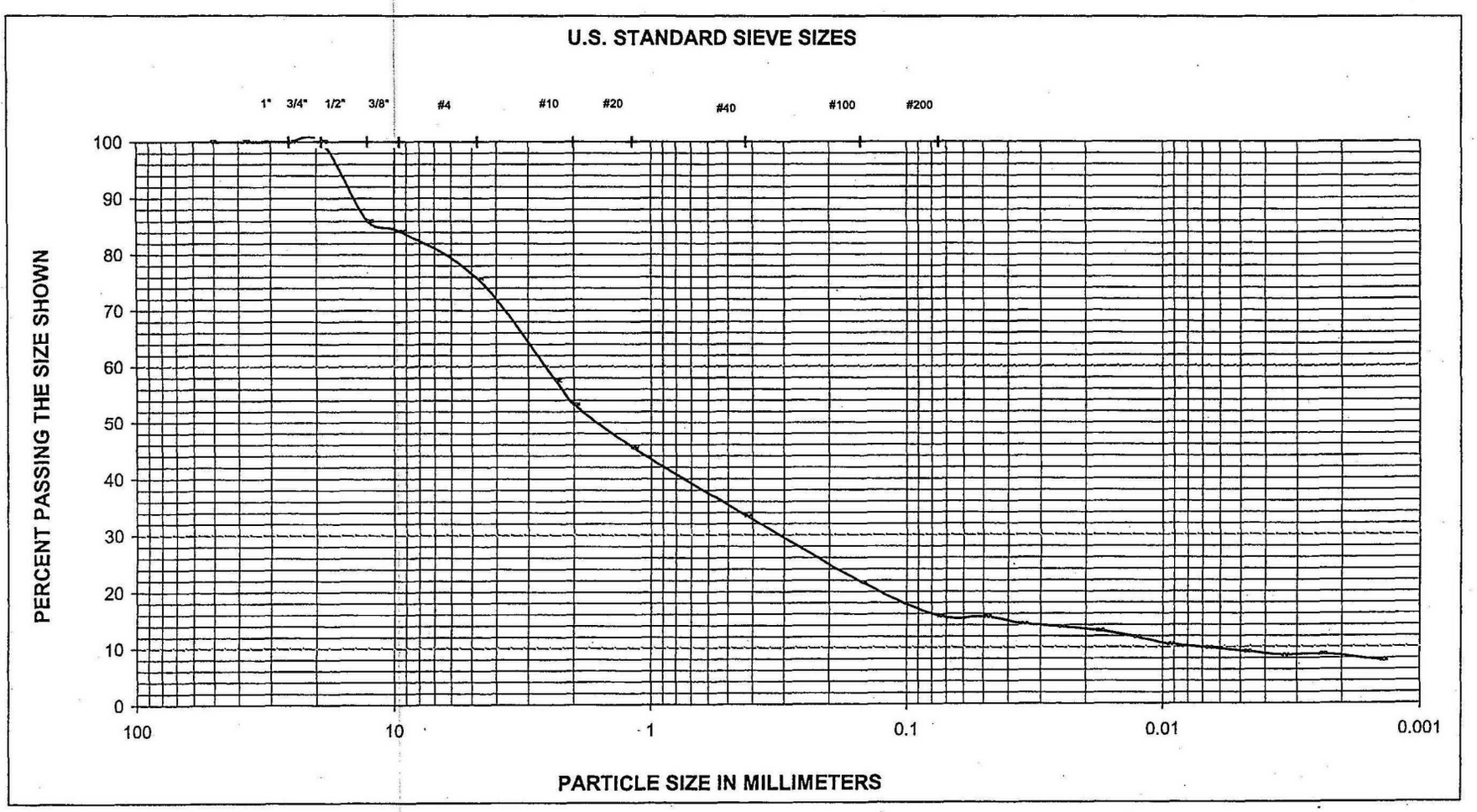
MWG13-15_24366

GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing Boring Number PS-GT-4 Date: 8/29/2005

Terracon Project #: 58055075 Sample No.: Sample type.:

Sample Description: Sand, with clay and gravel, trace organics, fine to coarse grained, dark brown



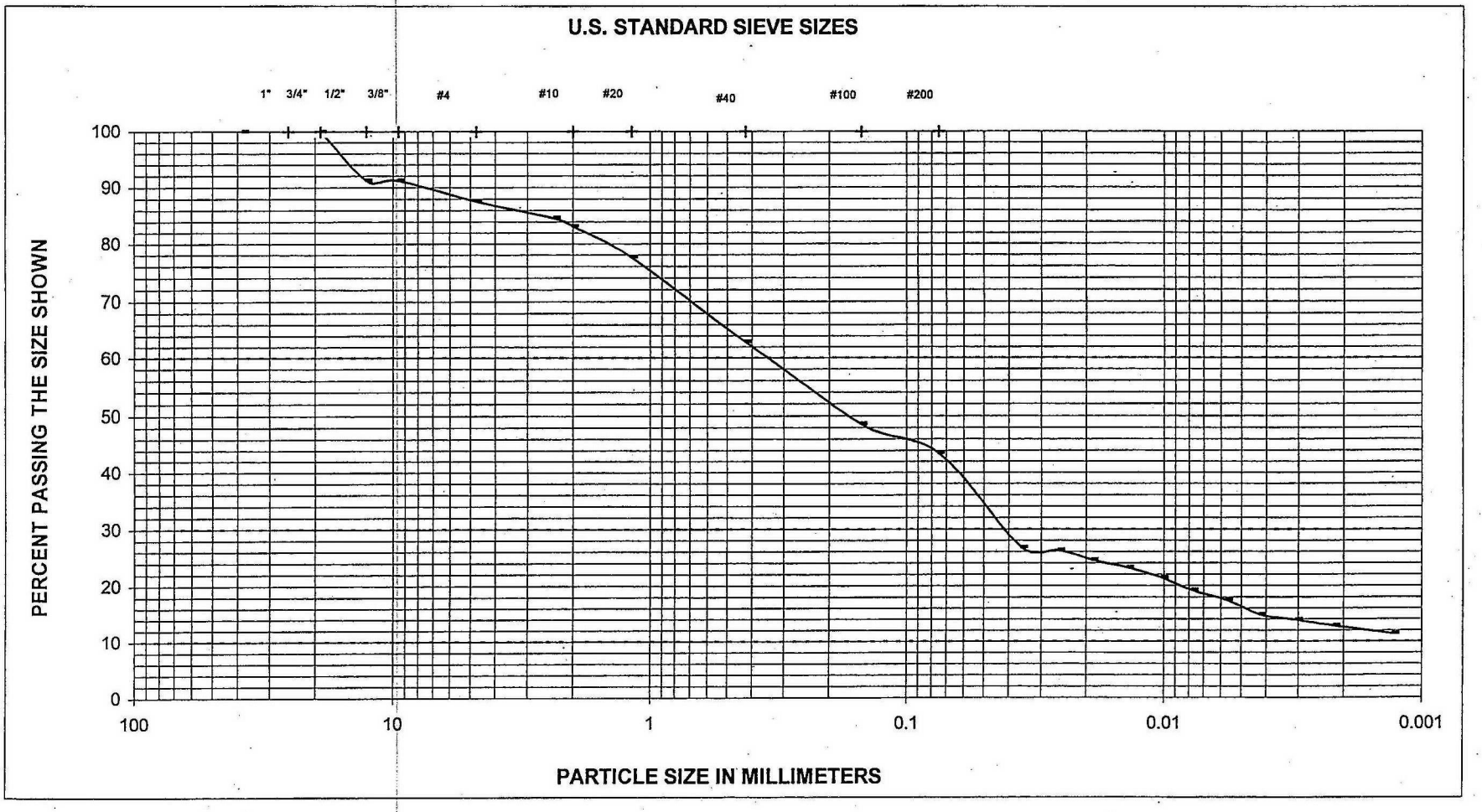
MWG13-15_24367

GRAIN SIZE DISTRIBUTION CURVE

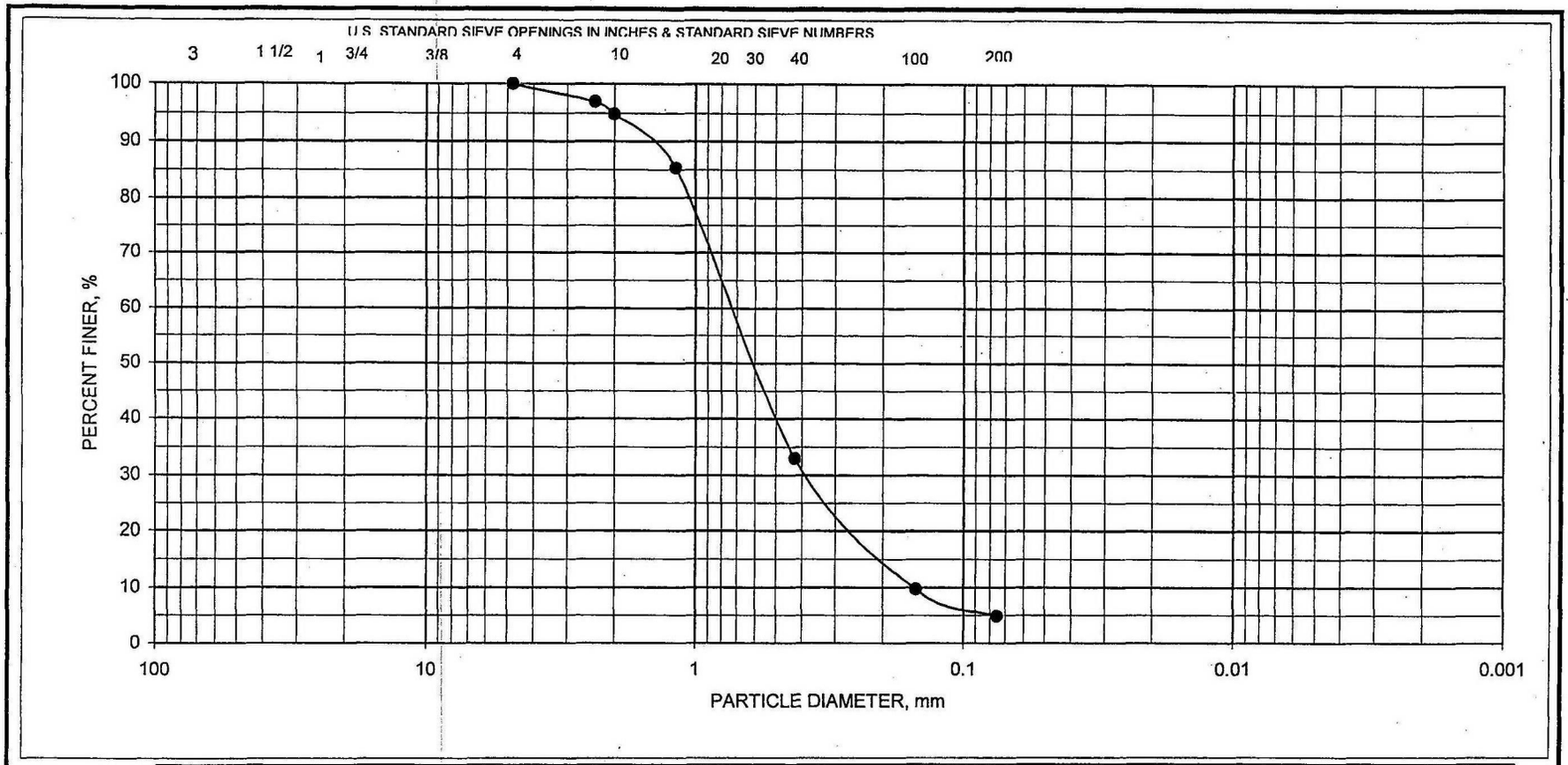
Project Name: KPRG Laboratory Testing Boring Number PS-GT-5 Date: 8/26/2005

Terracon Project #: 58055075 Sample No.: Sample type.:

Sample Description: Clayey Sand, trace gravel, brown



MWG13-15_24368



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
PS-GT-6		15-20'	Fill: Sand, fine to medium coarse, trace gravel, dark brown	SP				

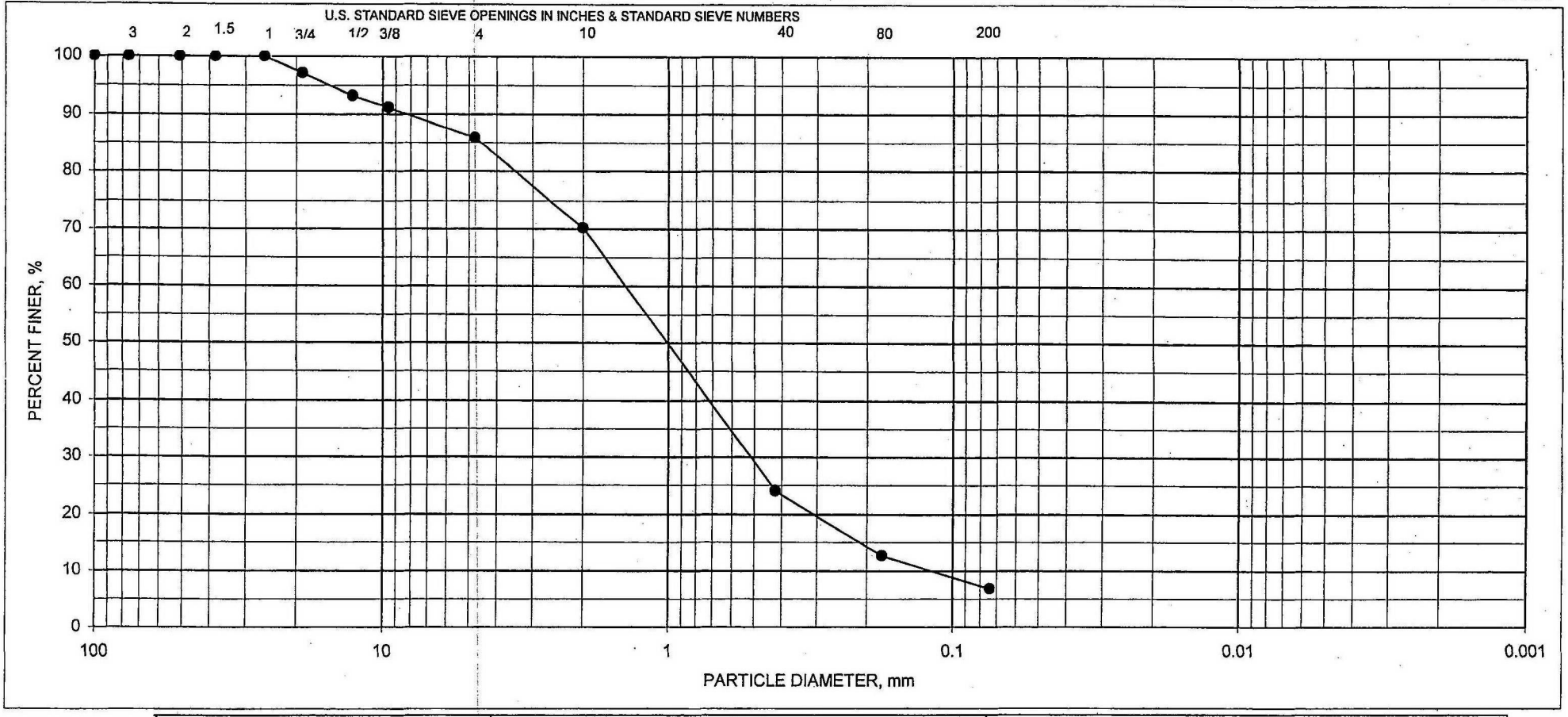
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 8/25/2005

Terracon

Grad PS-GT-6.xls

MWG13-15_24369



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
PS-GT-7		10.0 TO 13.0	WELL GRADED SAND WITH SILT, DARK GRAY	SW-SM	7.0	21	18	3

PROJECT KPRG LABORATORY TESTING

JOB NO. 58055075 DATE 10/7/2005

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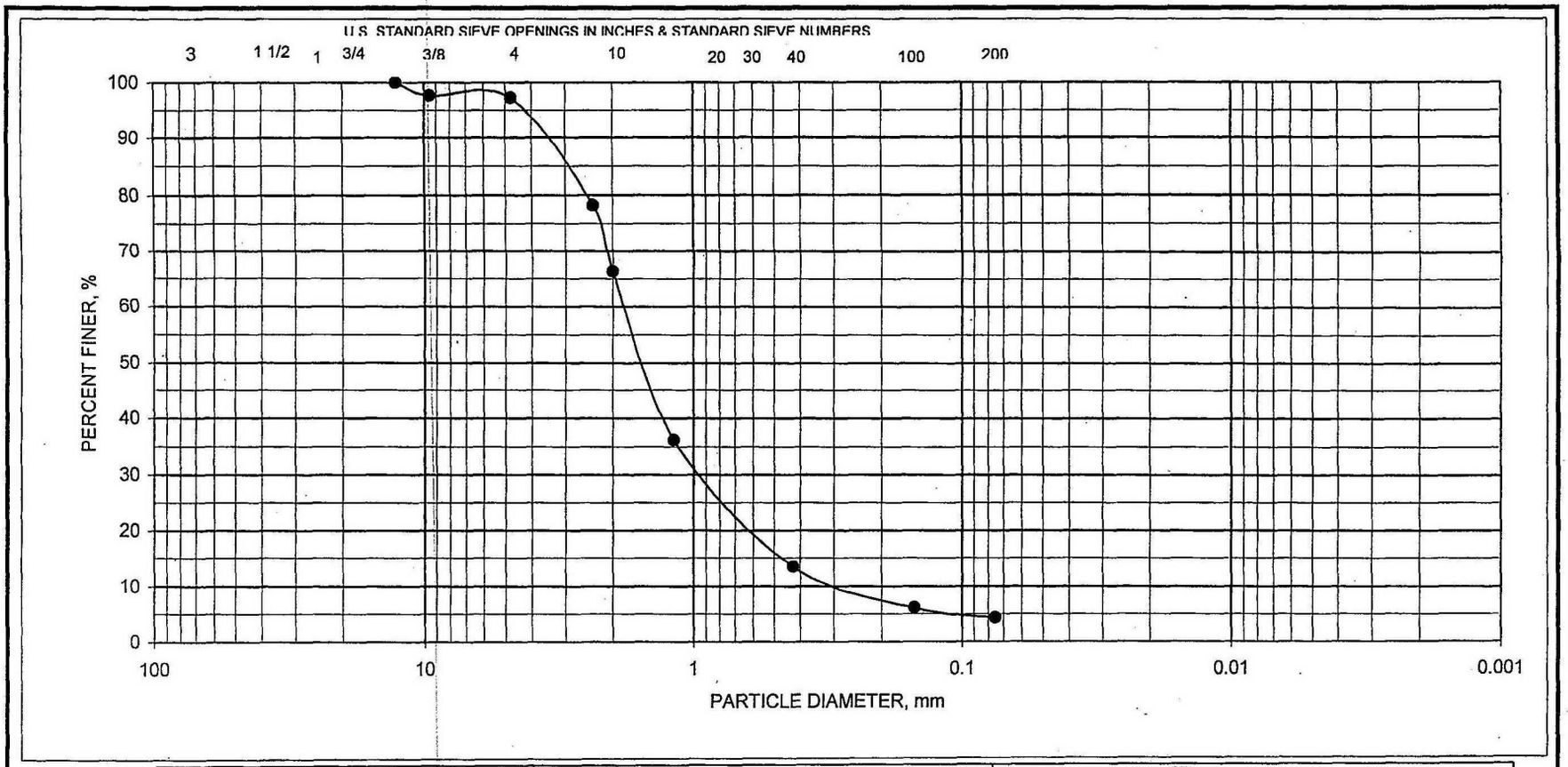
Terracon

MWG13-15_24370



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
PS-GT-8 (top)		10 to 15'	Cinders, metal shavings, glass, black					

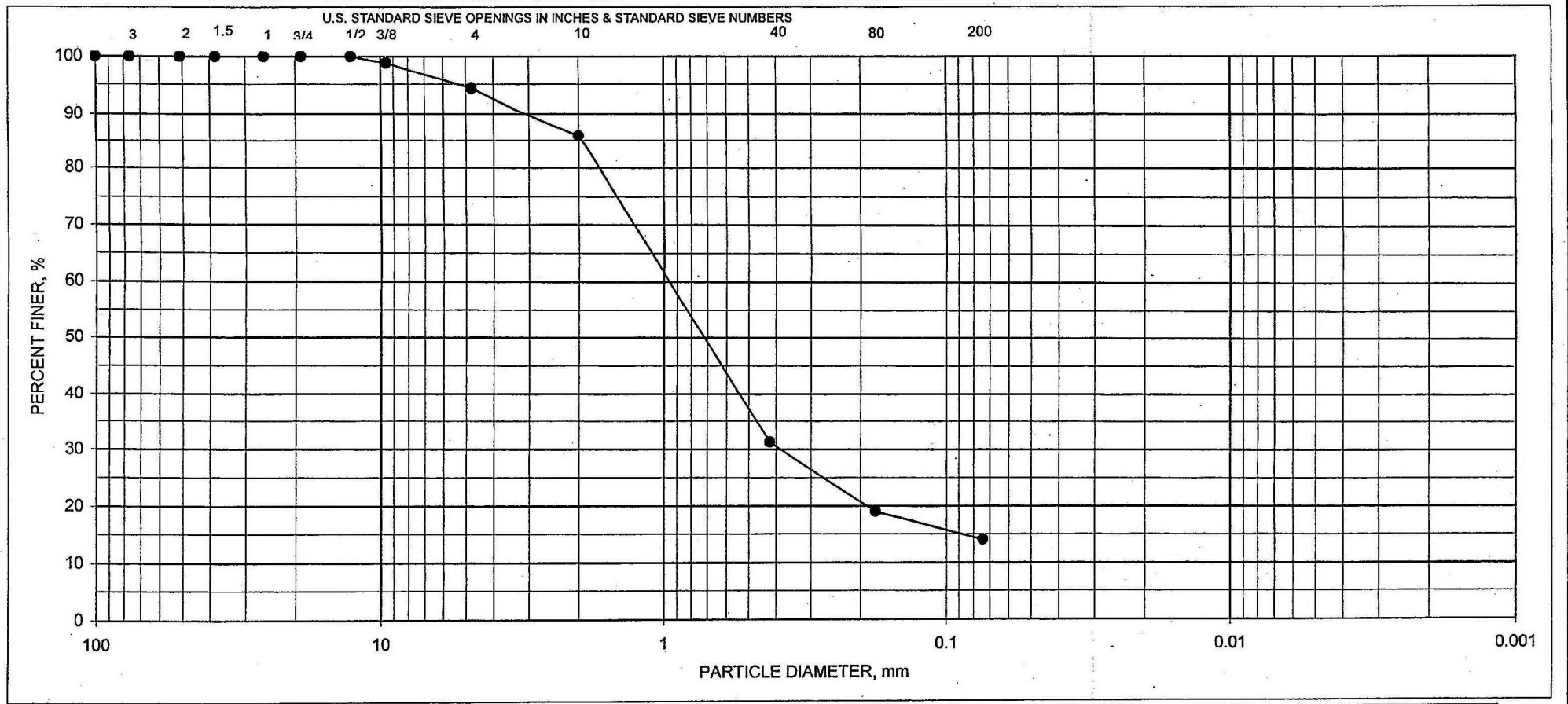
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 8/25/2005

Terracon

Sieve PS-GT-8

MWG13-15_24371



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
PS-GT-9	TOP 16"	15.0 TO 20.0	SILTY SAND, DARK GRAY	SM	8.9	22	19	3

PROJECT KPRG LABORATORY TESTING

JOB NO. 58055075 DATE 10/7/2005

Terracon

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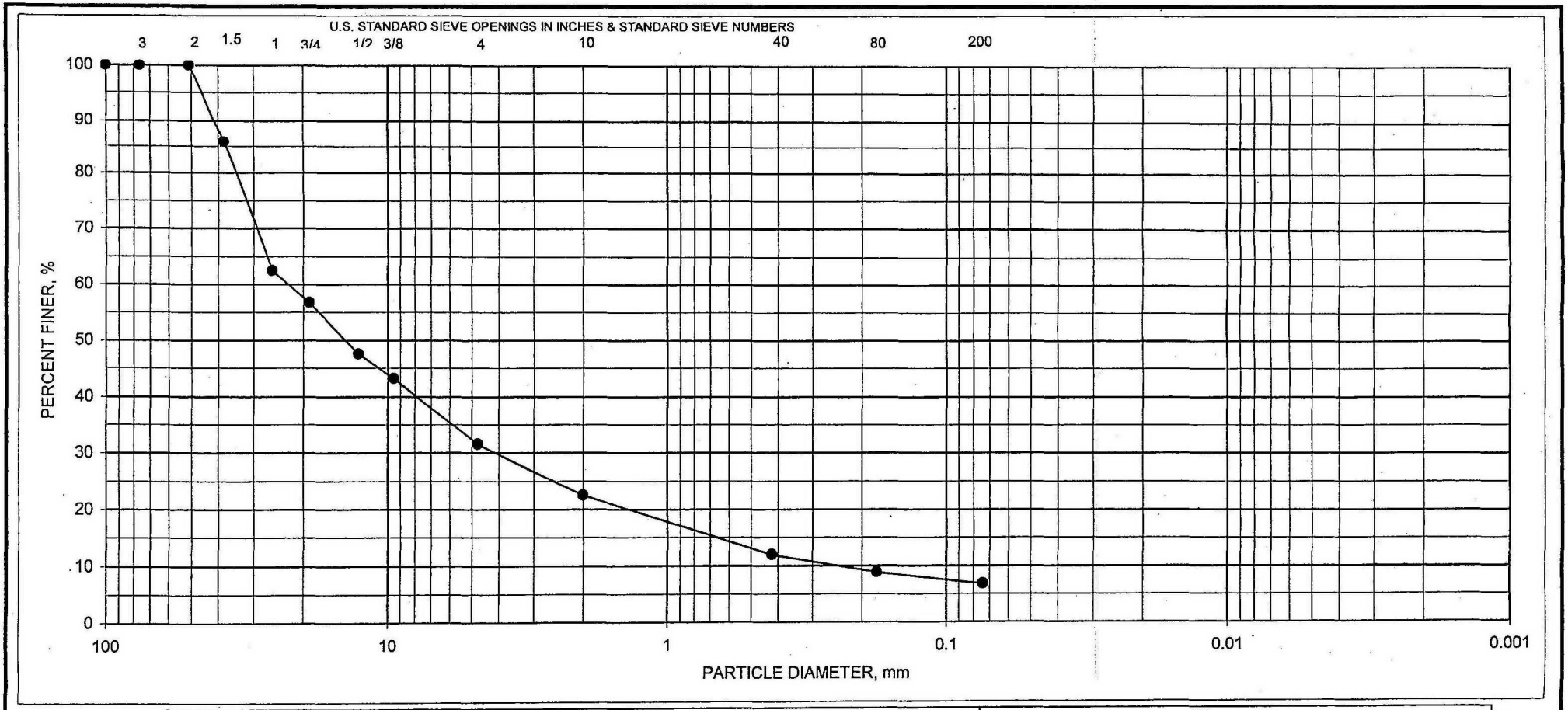
MWG13-15_24372



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
PS-GT-9	MIDDLE 8"	15.0 TO 20.0	POORLY GRADED GRAVEL WITH SILT & SAND, DARK YELLOWISH BROWN	GP-GM	3.3			

PROJECT KPRG LABORATORY TESTING

JOB NO. 58055075 DATE 10/7/2005

Terracon

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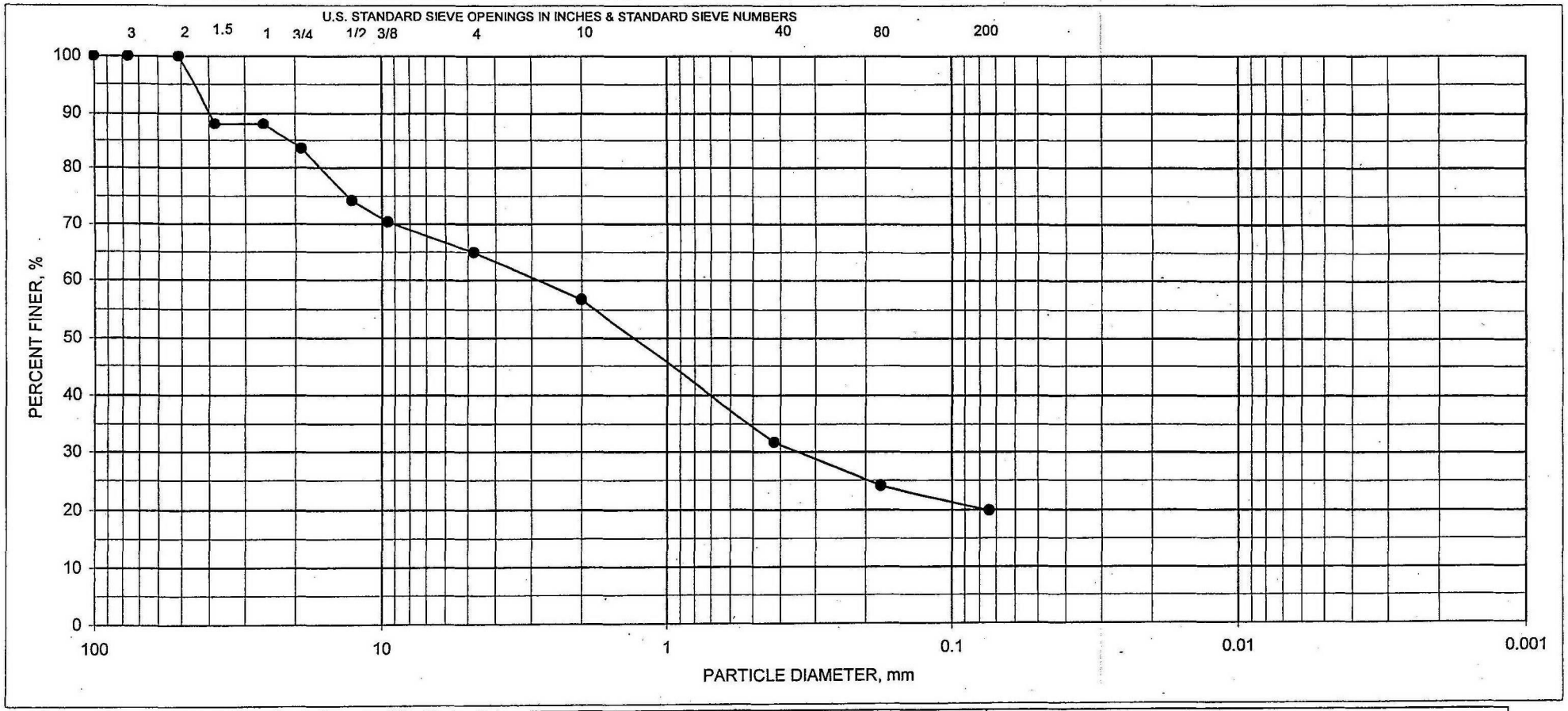
MWG13-15_24373



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
PS-GT-9	BOTTOM 8"	15.0 TO 20.0	SILTY SAND WITH GRAVEL, DARK GRAY TRACE LIGHT GRAY	SM	16.4	24	21	3

PROJECT KPRG LABORATORY TESTING

JOB NO. 58055075 DATE 10/7/2005

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Terracon

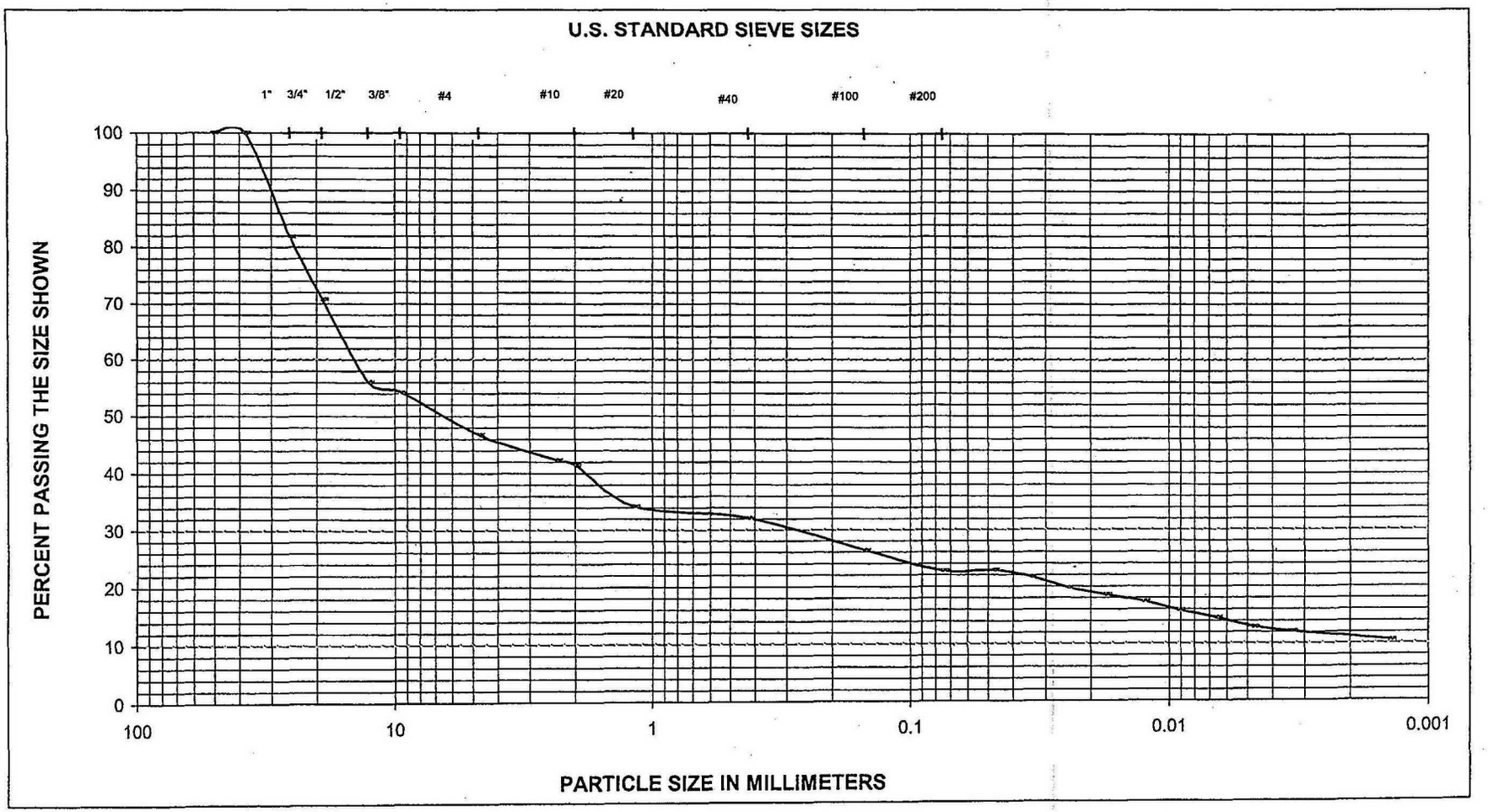
MWG13-15_24374

GRAIN SIZE DISTRIBUTION CURVE

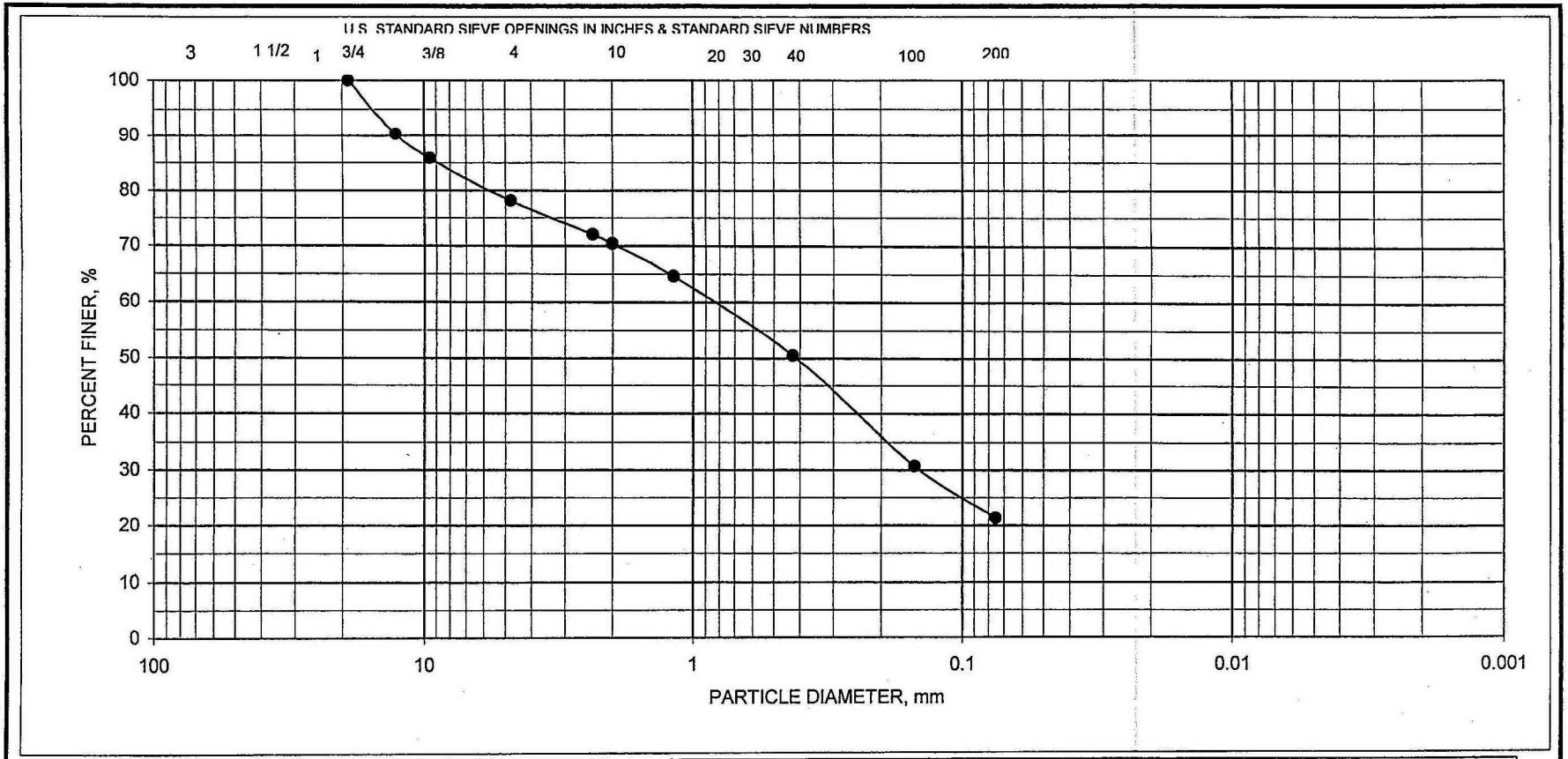
Project Name: KPRG Laboratory Testing | Boring Number JS-9-GT-1 | Date: 9/26/2005

Terracon Project #: 58055075 | Sample No.: 7-12' | Sample type.:

Sample Description: Sand, with gravel, gray



MWG13-15_24375



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS-9-GT-2		7 to 11.5'	Clayey Sand, with organics, with gravel, dark brown	SC				

PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 7/11/2005

Terracon

Sieve JS-9-GT-2.xls

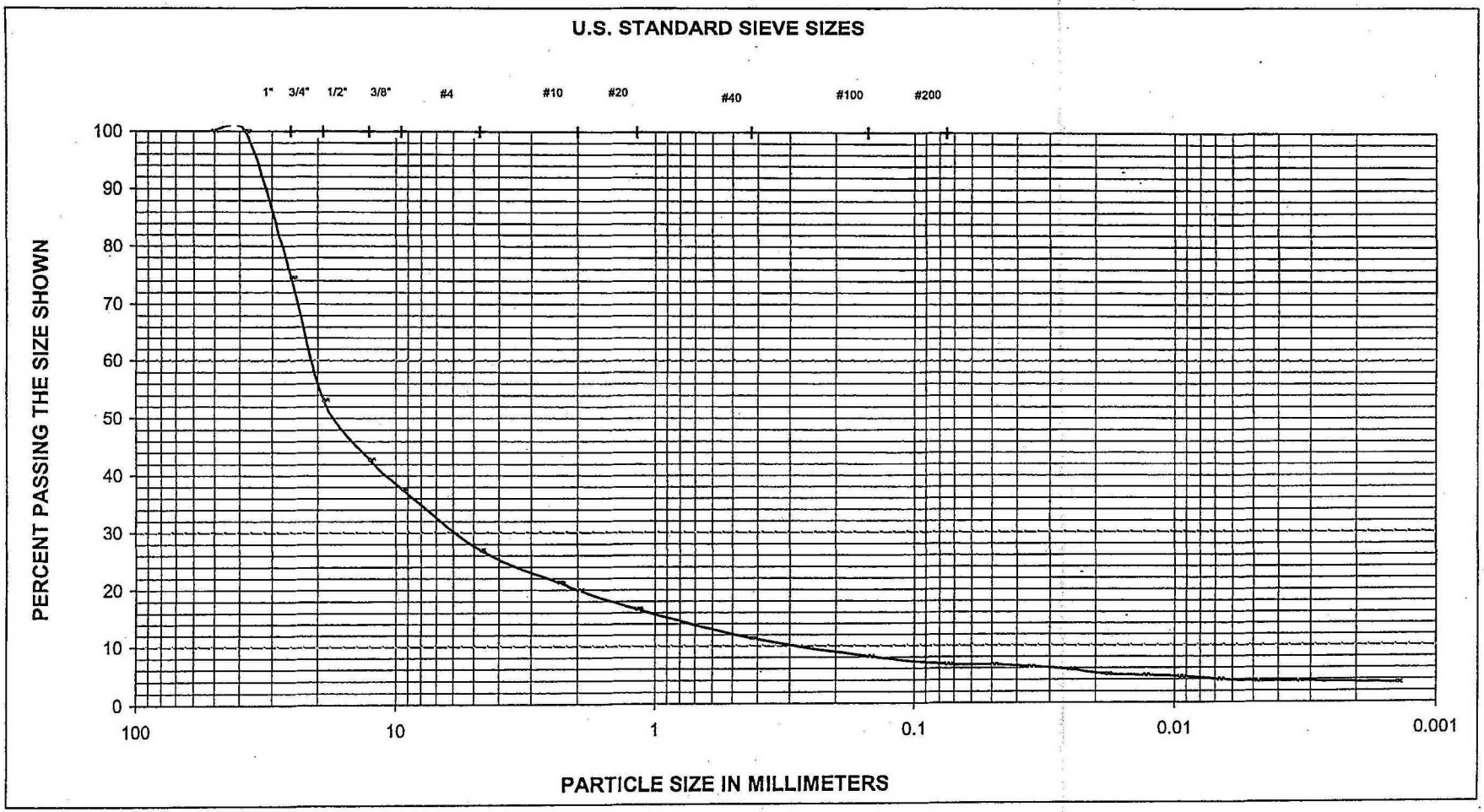
MWG13-15_24376

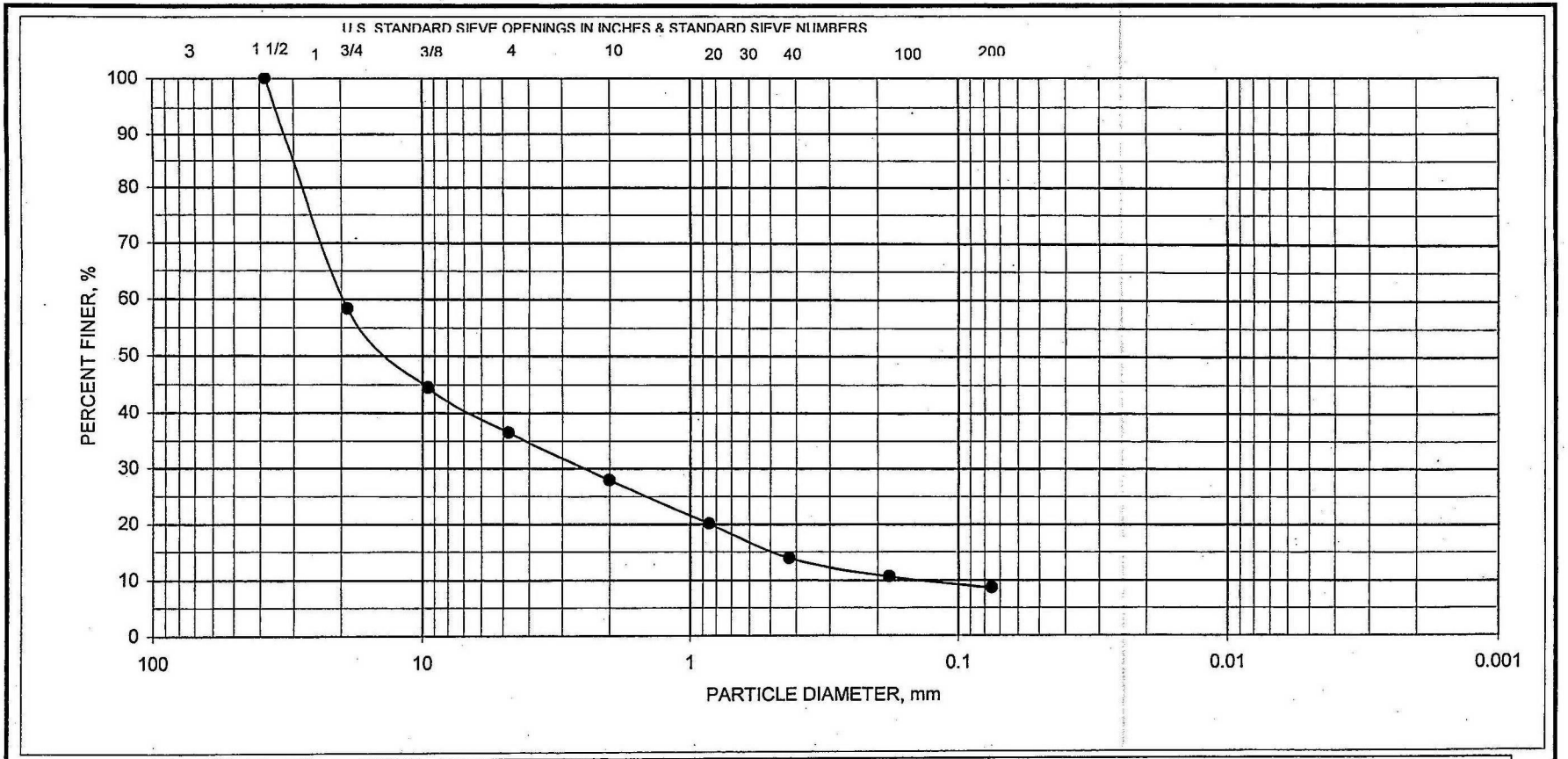
GRAIN SIZE DISTRIBUTION CURVE

Project Name: KPRG Laboratory Testing | Boring Number JS-9-GT-3 | Date: 9/26/2005

Terracon Project #: 58055075 | Sample No.: 8-13' | Sample type.:

Sample Description: Sand, with gravel, gray





GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS29GT-1		19 to 24'	Sandy Gravel, Trace Clay	GW		NP	NP	NP

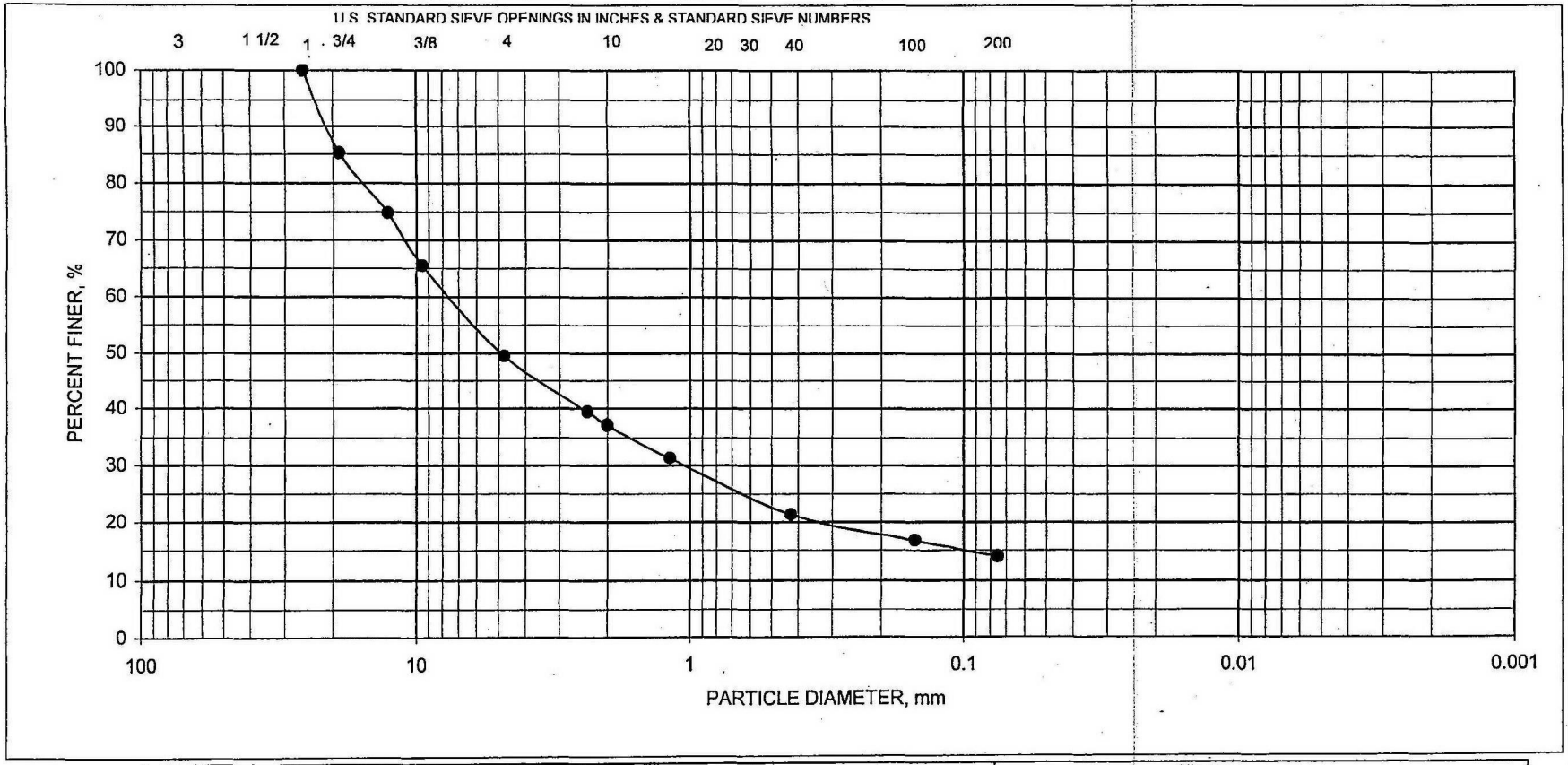
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 9/21/2005

Terracon

Sieve JS29GT-1.xls

MWG13-15_24378



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS-29-GT-2		19 to 24'	Clayey Gravel, brown	GC				

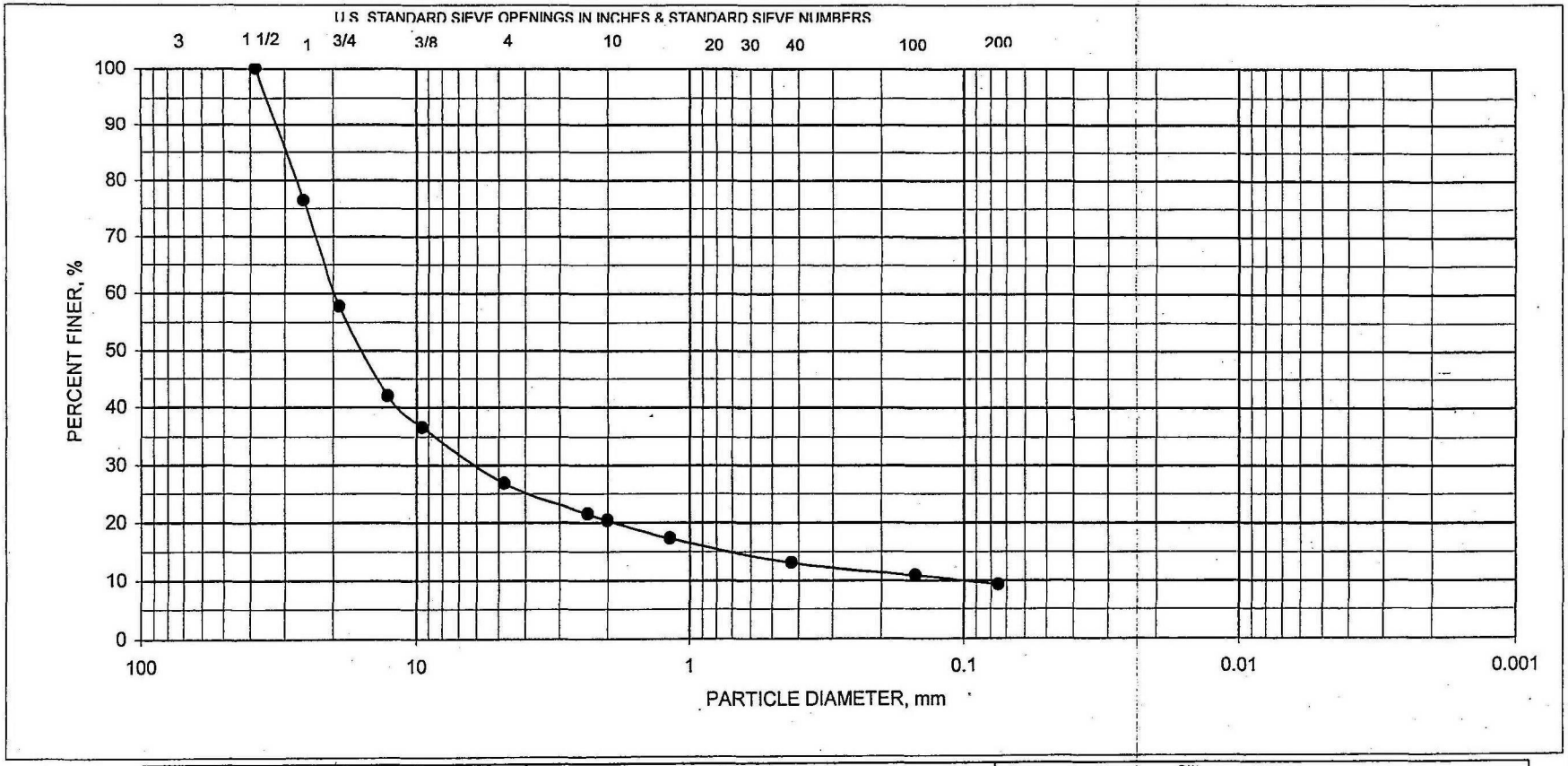
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 8/25/2005

Terracon

Sieve JS-29-GT-2.xls

MWG13-15_24379



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

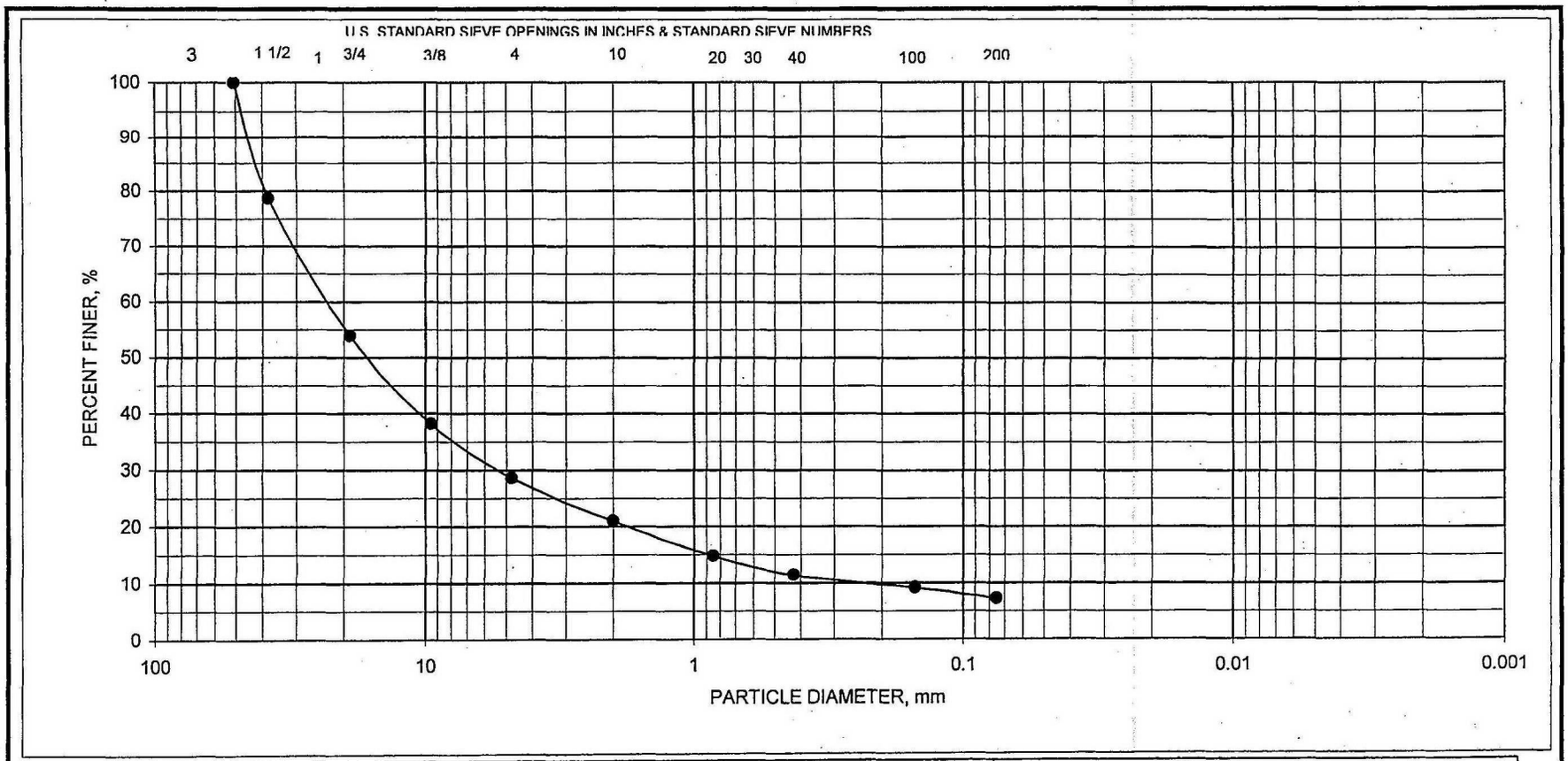
BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS-29-GT-3		19-24'	Poorly graded gravel with clay and sand, gray	GP-GC				

PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 8/25/2005

Terracon

Grad JS-29-GT-3.xls



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS29GT-4		17 to 22'	Dolomitic Limestone With Fine To Coarse Sand	GP				

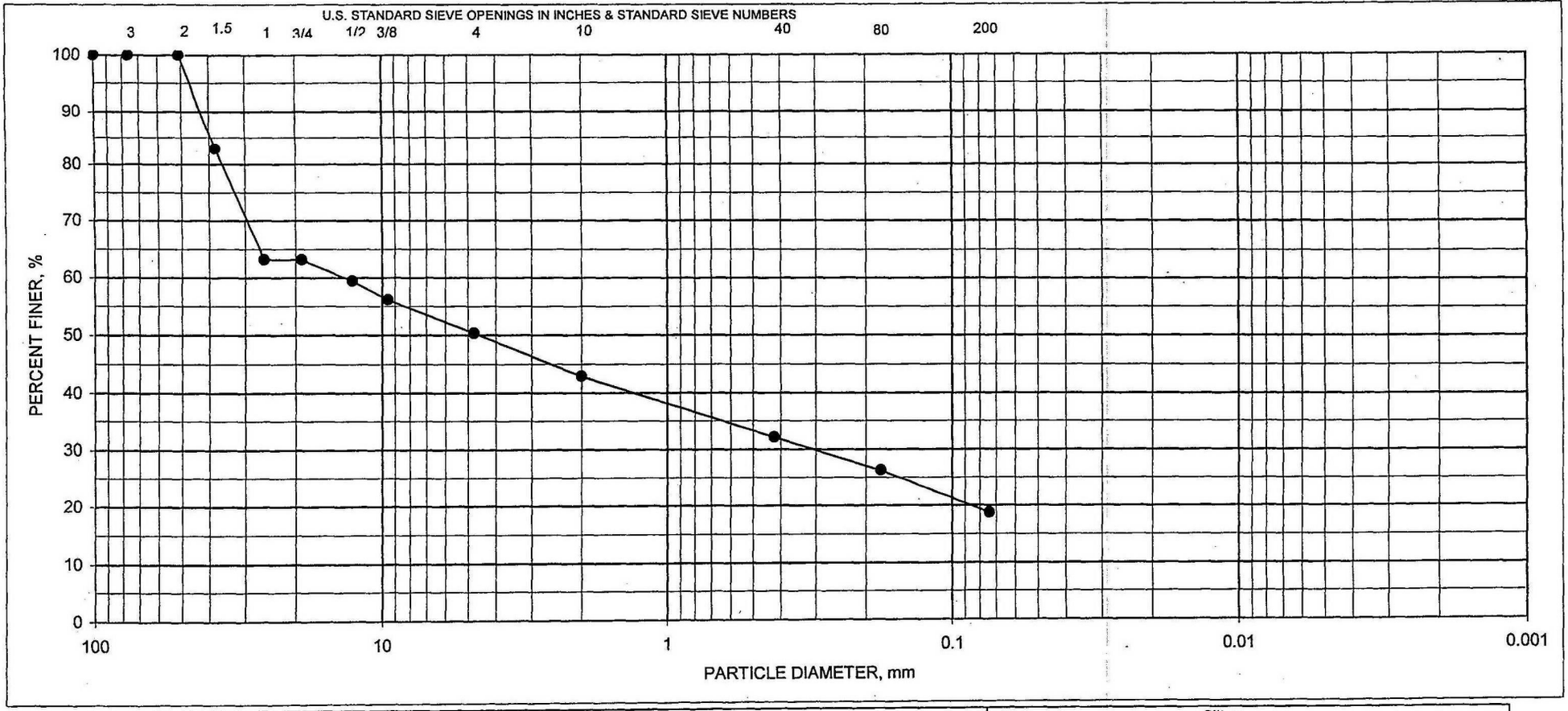
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 10/6/2005

Terracon

Sieve JS29GT-4.xls

MWG13-15_24381



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS 29-GT-5	TOP 8"	5.0 TO 9.0	CLAYEY GRAVEL WITH SAND, DARK GRAY WITH YELLOWISH BROWN	GC	26.0	34	23	11

PROJECT KPRG LABORATORY TESTING

JOB NO. 58055075 DATE 10/7/2005

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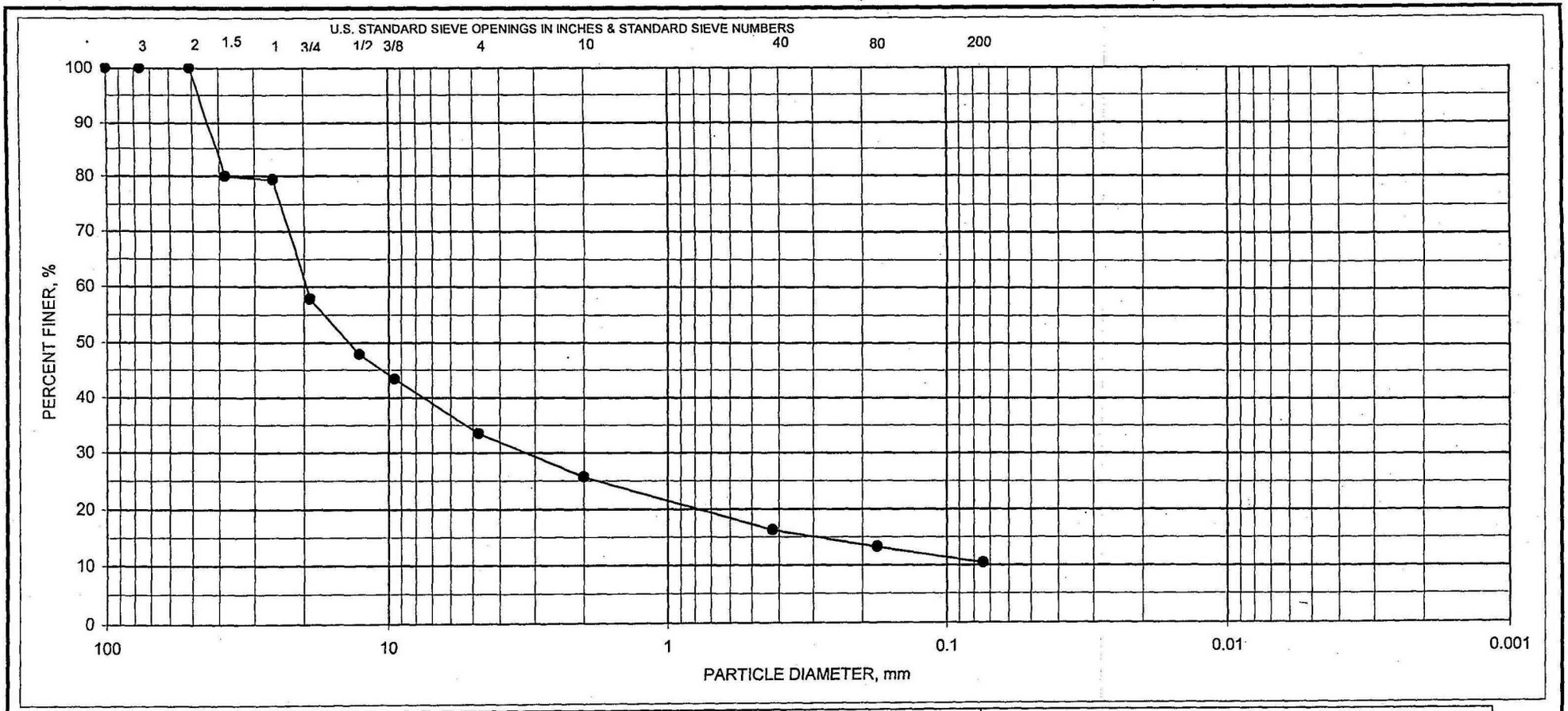
Terracon

MWG13-15_24382



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS 29-GT-5	TOP 7"	9.0 TO 14.0	POORLY GRADED GRAVEL WITH SILT & SAND, DARK GRAY	GP-GM	8.5			

PROJECT KPRG LABORATORY TESTING

JOB NO. 58055075 DATE 10/7/2005

Terracon

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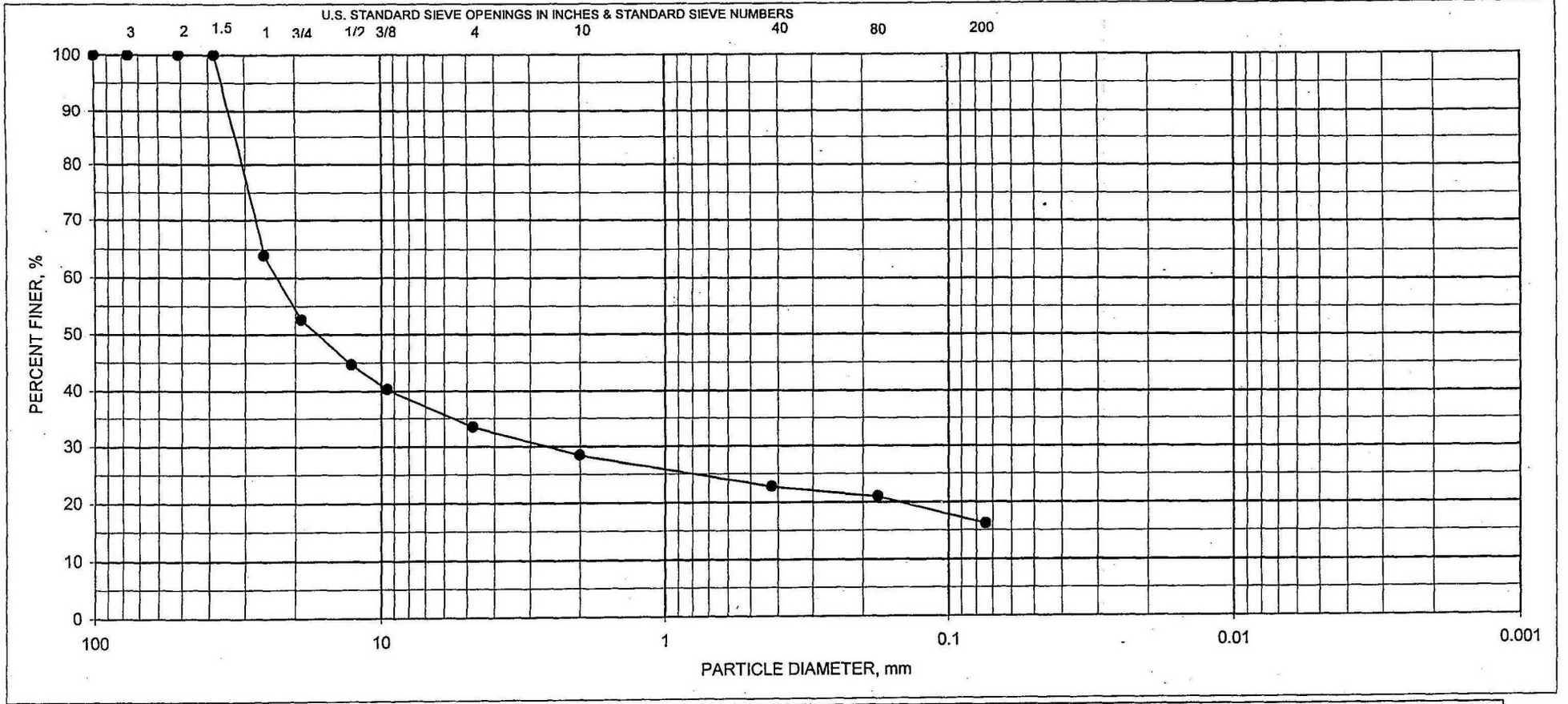
MWG13-15_24383



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS 29-GT-5	BOTTOM 10"	9.0 TO 14.0	SILTY GRAVEL WITH SAND, DARK GRAY	GM	8.9	21	21	NP

PROJECT KPRG LABORATORY TESTING

JOB NO. 58055075 DATE 10/7/2005

Terracon

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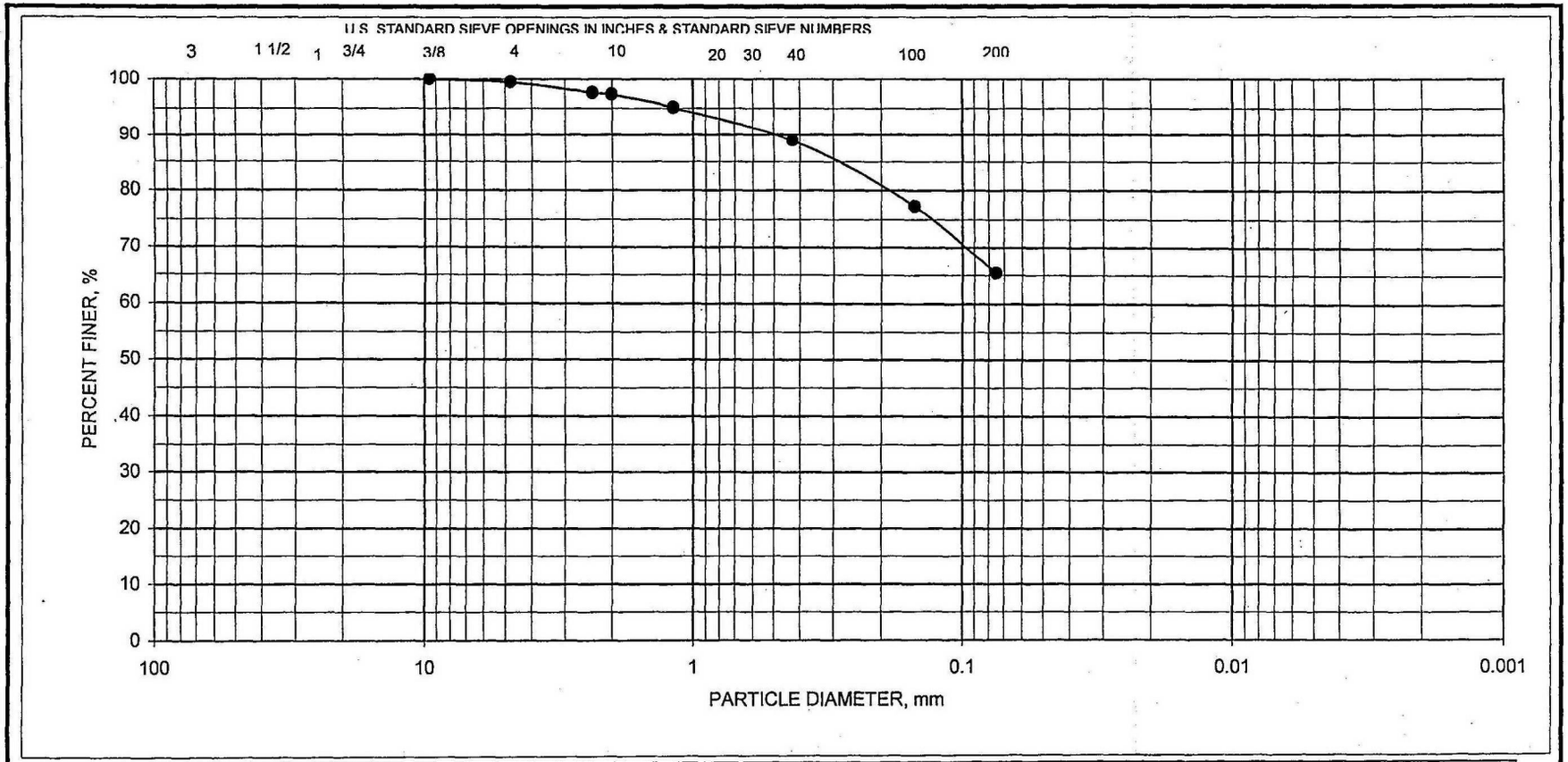
MWG13-15_24384



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
JS-29-GT-6		11 to 14'	Organic Silt, dark gray, black	OH				

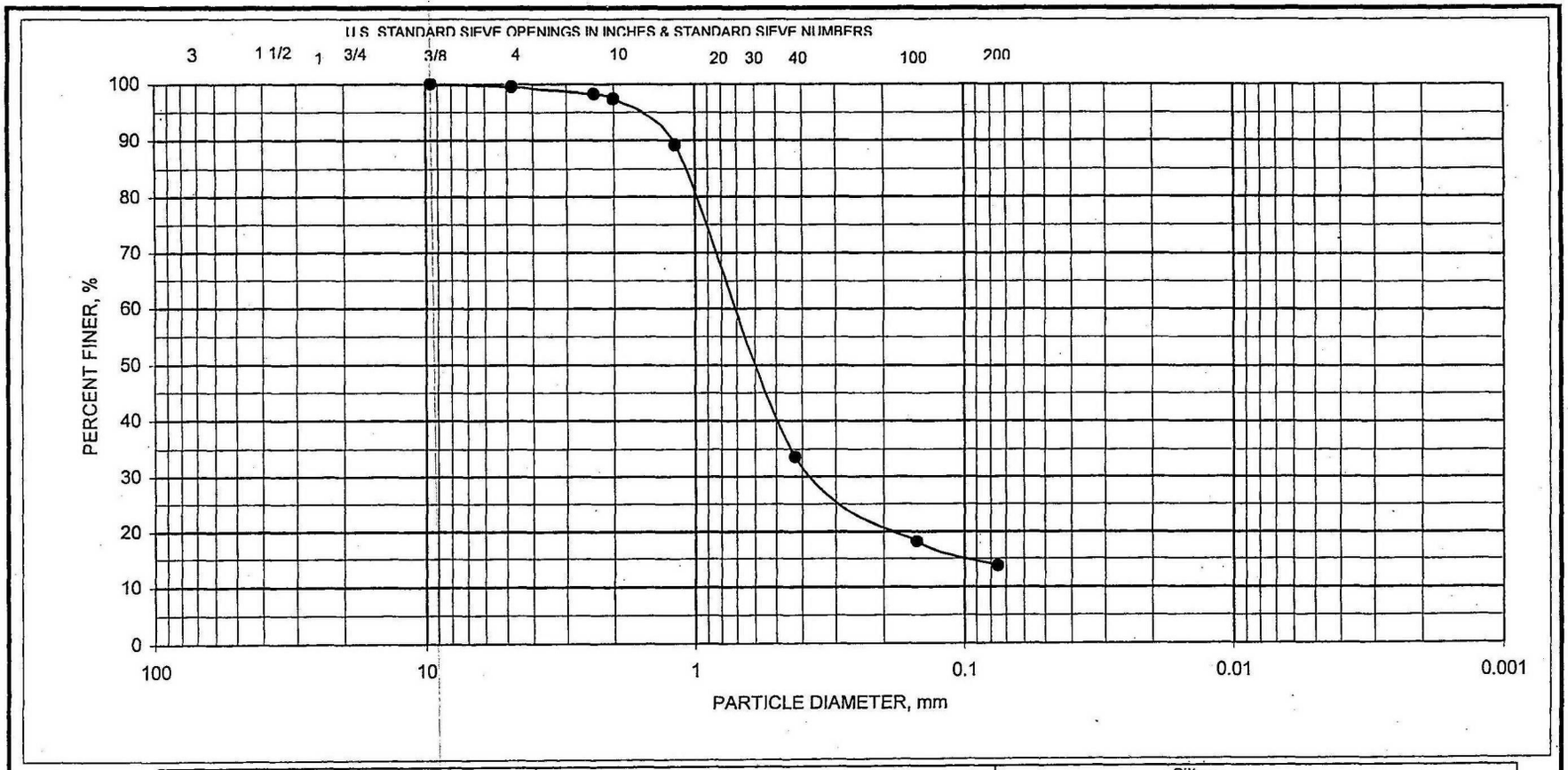
PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 8/25/2005

Terracon

Sieve JS-29-GT-6.xls

MWG13-15_24385



GRAVEL		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

GRAIN SIZE DISTRIBUTION CURVE

BORING NO.	SAMPLE NO.	DEPTH, feet	ASTM DESCRIPTION	UNIFIED SYMBOL	NAT. WC, %	ATTERBERG LIMITS LL	PL	PI
PS-GT-8 (bottom)		10 to 15'	Silty Sand, trace clay, dark gray	SM				

PROJECT KPRG Laboratory Testing

JOB NO. 58055075 DATE 8/25/2005

Terracon

Sieve PS-GT-8 (bottom).xls

MWG13-15_24386

Exhibit J

K P R G

ENVIRONMENTAL CONSULTATION & REMEDIATION

KPRG and Associates, Inc.

TRANSMITTAL LETTER

October 25, 2005

Ms. Maria L. Race
Midwest Generation EME, LLC
One Financial Place
440 South LaSalle Street, Suite 3500
Chicago, Illinois 60605

VIA U.S. MAIL

KPRG Project No. 15805

Re: Re-Issuance of Figure 4-1 for Geotechnical Summary Report

Dear Ms. Race:

As requested, enclosed are five copies of Figure 4-1 for the above referenced document with the boring location titles enlarged for clarity. KPRG and Associates, Inc. (KPRG) appreciates the continued opportunity for providing our technical services to Midwest Generation. If there are any questions, please contact me at 262-781-0475.

Sincerely,
KPRG and Associates, Inc.

Richard R. Gnat

Richard R. Gnat, P.G.
Principal



MWG13-15_24388



MWG13-15_24389



MWG13-15_24390



MWG13-15_24391



MWG13-15_24392

Exhibit K

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:	)	
	)	
SIERRA CLUB, ENVIRONMENTAL LAW AND POLICY CENTER, PRAIRIE RIVERS NETWORK, and CITIZENS AGAINST RUINING THE ENVIRONMENT	)	
	)	**PCB 2013-015**
Complainants,	)	**(Enforcement – Water)**
	)	
v.	)	
	)	
MIDWEST GENERATION, LLC,	)	
	)	
Respondents.	)	

CERTIFICATE OF SERVICE

TO: Jennifer L. Cassel
Environmental Law & Policy Center
35 East Wacker Drive, Suite 1600
Chicago, IL 60601

Keith Harley
Chicago Legal Clinic, Inc.
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PLEASE TAKE NOTICE, that on March 31, 2015, I served a true and correct copy of Midwest Generation, LLC's Response to Complainants' Fourth Set of Document Requests, Second Set of Interrogatories, and Second Set of Request for Admission to Respondents and Midwest Generation, LLC's Response to Complainants' Fifth Set of Document Requests and Requests for Admission to Respondents, via the U.S. Postal Service by First Class Mail, postage prepaid to the parties listed above.

MIDWEST GENERATION, LLC

By: /s/ Kristen L. Gale

Dated: March 31, 2015

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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of: SIERRA CLUB, ENVIRONMENTAL LAW AND POLICY CENTER, PRAIRIE RIVERS NETWORK, and CITIZENS AGAINST RUINING THE ENVIRONMENT Complainants, v. MIDWEST GENERATION, LLC, Respondent.	)	PCB No-2013-015 (Enforcement – Water)

MIDWEST GENERATION, LLC'S RESPONSE TO COMPLAINANTS' FOURTH SET OF DOCUMENT REQUESTS, SECOND SET OF INTERROGATORIES, AND SECOND SET OF REQUESTS FOR ADMISSION TO RESPONDENTS

Respondent, Midwest Generation, LLC, ("Midwest Generation"), through its undersigned attorneys, responds to Complainants' Fourth Set of Document Requests, Second Set of Interrogatories, and Second Set of Requests for Admission, ("Requests"), as follows:

GENERAL OBJECTIONS

Each of the Responses is made subject to and incorporates by reference the objections made in Midwest Generation's Responses to Complainants' First Set of Interrogatories, Requests for Documents and Request for Admission provided on September 2, 2014. Additionally, Midwest Generation makes the following objections:

1. Midwest Generation objects to the "Coal ash" definition to the extent that it includes other waste streams resulting from the operation of pollution controls.

2. Midwest Generation objects to the "Coal ash units" definition to the extent that it includes areas in which coal ash is not purposely directed to or placed on and to the extent it includes *de minimis* collections of coal ash due to the operations of the Station.

3. Midwest Generation objects to the "Joliet 29" definition to the extent it states that the Station is located in Kendall County.

4. Midwest Generation objects to the "Uppermost aquifer" definition as vague, ambiguous and capable of varying interpretations. Additionally, Midwest Generation objects to the definition to the extent it depends upon a coal ash unit to identify any aquifer's location.

5. Midwest Generation objects to Instruction No. 6 as overly broad and unduly burdensome.

6. Midwest Generation objects to the Number of Requests to Admit as in excess of the number of requests allowed under the Ill. Sup. Ct. Rule 216(f) and the additional requests for admission agreed to in the Agreed Motion to Extend the Discovery Schedule and Modify the Discovery Order filed with the Board on February 4, 2015. Illinois Supreme Court Rule 216(f) allows each party to issue a maximum of 30 requests for admission, and each subpart counts as a separate request. Ill. Sup. Ct. Rule 216(f). On June 16, 2014, Complainants submitted to Midwest Generation three Requests for Admission of Genuineness of Documents, attaching fifty-eight documents. Each of the fifty eight documents is a subpart of the request for admission. On February 4, 2015, the parties agreed that each may propound 20 additional requests for admission. On March 2, 2015, Complainants propounded a total of forty requests to admit to Complainants in their Second and Third Set of Requests for Admission. Because the requests to admit are in excess of the agreed extension and the limits under Ill. Sup. Ct. Rule 216(f), Midwest Generation has answered twenty of the forty propounded requests for admission.

7. Respondent reserves the right to object to the admissibility of any of the documents produced pursuant to the Responses, in whole or in part, at hearing in this action on any grounds including but not limited to materiality, relevance, confidential business information and privilege.

REQUEST FOR PRODUCTION OF DOCUMENTS

1. Provide any Documents related to each refusal to admit any requests for admission herein.

ANSWER:

Without waiving its objections, responsive documents include Bates #MWG13-15_18824-19428, and Bates #MWG13-15_4-9, 69, 73, 77, 81, 85, 89, 93, 97 and 101.

2. Provide all Documents that evidence or relate to your Interrogatory responses.

ANSWER:

Midwest Generation incorporates and includes the objections stated in response to each Interrogatory Request. Without waiving its objections, responsive documents are set forth in the interrogatory answers and have already been provided or are attached.

3. Provide all maps that accurately show which portions of the Joliet 29 site are owned or operated by MWG.

ANSWER:

Without waiving its objections, responsive documents are available for review; see Bates No. MWG13-15_48403 - 48414.

4. Provide all maps that accurately show which portions of the Powerton site are owned or operated by MWG.

ANSWER:

Without waiving its objections, responsive documents are available for review; see Bates No. MWG13-15_4815 - 48426.

5. Provide all maps that accurately show which portions of the Waukegan site are owned by MWG.

ANSWER:

Without waiving its objections, responsive documents are available for review; see Bates No. MWG13-15_48427 - 48432.

6. Provide all maps that accurately show which portions of the Will County site are owned by MWG.

ANSWER:

Without waiving its objections, responsive documents are available for review; see Bates No. MWG13-15_48433-48438.

7. Provide all Documents pertaining to boron or borax use at the Tannery site.

ANSWER:

Midwest Generation objects to Document Request No. 7 as overly broad and unduly burdensome and seeks documents or information not within Midwest Generation's possession, custody or control. Without waiving its objections, responsive and non-privileged documents currently in Midwest Generation's control include Bates MWG13-15_43754-43862.

8. Provide all Documents pertaining to boron or borax use at the General Boiler site.

ANSWER:

See Answer to Document Request No. 7, incorporated by reference. .

9. Provide all Documents related to groundwater elevations at Waukegan Groundwater Monitoring Wells MW-8 and MW-9.

ANSWER:

Without waiving its objections, responsive documents are available for review; see Bates MWG13-15_48439.

10. Provide all Documents related to groundwater elevation at all monitoring wells at the former General Boiler site, including but not limited to monitoring wells GB-1 through GB-7.

ANSWER:

Midwest Generation objects to Document Request No. 10 as overly broad and unduly burdensome and seeks documents and information not within Midwest Generation's possession, custody or control. Without waiving its objections, Midwest Generation states that no responsive documents within its custody or control are currently available.

11. Provide all Documents related to groundwater elevation at monitoring wells 1 through 9 at the Tannery site.

ANSWER:

Midwest Generation objects to Document Request No. 11 as overly broad and unduly burdensome and seeks documents and information not within Midwest Generation's possession, custody or control. Without waiving its objections, Midwest Generation states that responsive documents were previously provided and include Bates #MWG13-15_46211-MWG13-15_48402.

12. Provide all groundwater quality data from all monitoring wells at the former General Boiler site, including but not limited to monitoring wells GB-1 through GB-7.

ANSWER:

See Answer to Document Request No. 10, incorporated by reference.

13. Provide all groundwater quality data from monitoring wells 1 through 9 at the Tannery site.

ANSWER:

See Answer to Document Request No. 11, incorporated by reference.

14. Provide all Documents evidencing or related to the contents of soil borings taken when ELUC wells MW-10, MW-11, MW-12, and MW-14 were drilled, including but not limited to boring logs.

ANSWER:

Midwest Generation objects to Document Request No. 14 as vague as to the "contents of soil borings." Additionally, see Answer to Document Request No. 10, incorporated by reference.

15. Provide all Documents evidencing or related to the contents of soil borings taken when groundwater monitoring wells 1 through 14 at the Tannery site were drilled, including but not limited to boring logs.

ANSWER:

Midwest Generation objects to Document Request No. 15 as vague as to the "contents of soil borings." Additionally, see Answer to Document Request No. 11, incorporated by reference.

16. Provide all Documents evidencing or related to the contents of soil borings taken when all monitoring wells at the former General Boiler site, including but limited to monitoring wells GB-1 through GB-7, were drilled, including but not limited to boring logs.

ANSWER:

See Answer to Document Request No. 14, incorporated by reference.

17. Provide any and all groundwater quality data from the first quarter of 2015 from all groundwater monitoring wells at Joliet 29, Will County, Powerton, and Waukegan, including but not limited to all Waukegan Groundwater Monitoring Wells, all monitoring wells at the Tannery Site, all monitoring wells at the General Boiler site, and ELUC wells MW-10, MW-11, MW-12, MW-14 and MW-15.

ANSWER:

Midwest Generation objects to Document Request No. 17 as overly broad and unduly burdensome and seeks documents and information not within Midwest Generation's possession, custody or control. Without waiving its objections, Midwest Generation states that responsive documents are not currently available.

18. Provide a complete Phase II Environmental Site Assessment for Joliet 29, including all boring logs.

ANSWER:

Without waiving its objections, Midwest Generation states that responsive documents are included at Bates No. MWG13-15_48440-48492.

INTERROGATORIES

1. Identify any and all methods, other than visual inspection, that MWG uses to inspect ash pond liners for Damage, weakness or leaks at Joliet 29, Will County, Waukegan and Powerton, and state:

a. How each method of inspection identifies weakness or damage to liners;
b. When the use of each method of inspection began at each pond; and
c. The frequency with which each method of inspection is used at each pond.

ANSWER:

Midwest Generation objects to Interrogatory No. 1 because it is overly broad, unduly burdensome, and seeks material covered by the work product and attorney-client privilege. Without waiving its objections, Midwest Generation states that the other method to inspect the liners for damage or leaks is the electrical leak location method. The electrical leak location method detects paths through the geomembrane caused by water or moisture in the leaks. The electrical leak location method has been used on HDPE liners since mid-2000s and takes place when HDPE lining is installed at impoundments.

2. State whether MWG has ever monitored groundwater at Joliet 29, Waukegan, Will County and Powerton aside from the monitoring it currently performs at groundwater monitoring wells installed on or after 2010. If MWG has conducted such monitoring, state:

a. The specific locations at each site where groundwater was monitored; and
b. Over what time period that monitoring took place.

ANSWER:

Midwest Generation objects to Interrogatory No. 2 as overly broad and unduly burdensome and seeks documents or information not within Midwest Generation's possession, custody or control. Midwest Generation further objects to Interrogatory No. 2 to the extent it seeks materials that are

not relevant to the subject matter involved in the pending action or not reasonably calculated to lead to relevant, discoverable evidence. Finally, Midwest Generation further objects to this interrogatory as overly broad and limits its answer to monitoring for coal ash constituents. Without waiving its objections, Midwest Generation states that it provided all relevant groundwater monitoring results to Complainants in response to Document Request No. 8 of Complainants First Set of Document Requests, including Bates Nos. 2,459-6,822, 34716-36799, 43695-43862, 43871-44121, 44983-45769, and the documents provided at the offices of Nijman Franzetti. Additionally, see Midwest Generation response to Interrogatory No. 8 in Complainant's first Set of Interrogatories.

3. State whether MWG has ever removed Coal ash from any part of the Powerton site aside from the active ash ponds and, if MWG has done so, identify where the Coal ash were removed from and when that removal took place.

ANSWER:

Midwest Generation objects to Interrogatory No. 3 as overly broad and unduly burdensome and seeks documents or information not within Midwest Generation's possession, custody or control. Additionally, Midwest Generation objects to this interrogatory as requesting information already provided in the document requests and in the deposition of Mr. Mark Kelly. Without waiving its objections, Midwest Generation states that coal ash is removed from the silos and various ducts at the Station work during cleanouts. The coal ash is temporarily stored in the metal cleaning basin, until Midwest Generation removes the coal ash and hauls it offsite. The coal ash is removed from the metal cleaning basin approximately two to three times per year. Also, historically the limestone basin and areas around the coal piles were used for temporary placement of coal ash before off site removal. The coal ash was removed from these locations on a periodic basis before 2012.

REQUESTS FOR ADMISSION

1. Admit that Ash Landfill SW is within the current property boundaries of the portion of the Joliet 29 site that is operated by MWG.

ANSWER:

Midwest Generation objects to this request as calling for a legal conclusion. Without waiving its objections, Midwest Generation admits that it leases the Joliet 29 Station which includes the area defined here as the Ash Landfill SW.

2. Admit that Ash Landfill NE is within the current property boundaries of the portion of the Joliet 29 site that is operated by MWG.

ANSWER:

Midwest Generation objects to this request as calling for a legal conclusion. Without waiving its objections, Midwest Generation admits that it leases the Joliet 29 Station which includes the area defined here as the Ash Landfill NE.

3. Admit that, prior to approval of the Joliet 29 Groundwater Monitoring Zone ("GMZ"), all of the groundwater underlying Joliet 29 was classified as Class I: Potable Resource Groundwater pursuant to 35 Ill. Adm. Code Part 620.

ANSWER:

Midwest Generation objects to this request as calling for a legal conclusion. Midwest Generation further objects to this request pursuant to its sixth General Objection set forth above, that this request is in excess of the number of requests allowed under Ill. Sup. Ct. Rule 216(f) and the additional requests for admission agreed to in the Agreed Motion to Extend the Discovery Schedule and Modify the Discovery Order filed with the Board on February 4, 2015.

4. Admit that, prior to approval of the Will County Groundwater Monitoring Zone ("GMZ"), all of the groundwater underlying Will County was classified as Class I: Potable Resource Groundwater pursuant to 35 Ill. Adm. Code Part 620.

ANSWER:

See Answer to Request No. 3, incorporated by reference.

5. Admit that, prior to approval of the Powerton Groundwater Monitoring Zone ("GMZ"), all of the groundwater underlying Powerton was classified as Class I: Potable Resource Groundwater pursuant to 35 Ill. Adm. Code Part 620.

ANSWER:

See Answer to Request No. 3, incorporated by reference.

6. Admit that the groundwater underlying Waukegan is classified as Class I: Potable Resource Groundwater pursuant to 35 Ill. Adm. Code Part 620.

ANSWER:

See Answer to Request No. 3, incorporated by reference.

7. Admit that Ash Landfill NE at Joliet 29 is not lined.

ANSWER:

Midwest Generation objects to this request on the grounds that the term "lined" is vague, ambiguous, and capable of varying interpretations. Subject to its objection, Midwest Generation states that after reasonable inquiry, the information known or readily obtainable is insufficient to allow Midwest Generation to admit or deny the request.

8. Admit that Ash Landfill NE has not been lined or relined since MWG began operating Joliet 29.

ANSWER:

Midwest Generation objects to this request on the grounds that the terms "lined" and "relined" are vague, ambiguous, and capable of varying interpretations. Midwest Generation further objects to this request pursuant to its sixth General Objection set forth above, that this request is in excess of the number of requests allowed under Ill. Sup. Ct. Rule 216(f) and the

additional requests for admission agreed to in the Agreed Motion to Extend the Discovery Schedule and Modify the Discovery Order filed with the Board on February 4, 2015.

9. Admit that there is Coal ash in the ground within the boundary of the Ash Landfill NE at Joliet 29.

ANSWER:

Midwest Generation objects to this request on the grounds that the phrase "Coal ash in the ground" is vague, ambiguous, and capable of varying interpretations. Subject to its objection, Midwest Generation states that after reasonable inquiry, the information known or readily obtainable is insufficient to allow Midwest Generation to admit or deny the request.

10. Admit that MWG has not removed Coal ash from Ash Landfill NE at Joliet 29.

ANSWER:

See Answer to Request No. 8, incorporated by reference.

11. Admit that there is no impermeable cap over Ash Landfill NE at Joliet 29.

ANSWER:

Midwest Generation objects to this request on the grounds that the term "impermeable cap" is vague, ambiguous, and capable of varying interpretations. Subject to its objection, Midwest Generation admits the request.

12. Admit that Ash Landfill SW at Joliet 29 is not lined.

ANSWER:

Midwest Generation objects to this request on the grounds that the term "lined" is vague, ambiguous, and capable of varying interpretations. Subject to its objection, Midwest Generation

states that after reasonable inquiry, the information known or readily obtainable is insufficient to allow Midwest Generation to admit or deny the request. .

13. Admit that Ash Landfill SW has not been lined or relined since MWG began operating Joliet 29.

ANSWER:

See Answer to Request No. 8, incorporated by reference.

14. Admit that there is Coal ash in the ground within the boundary of the Ash Landfill SW at Joliet 29.

ANSWER:

Midwest Generation objects to this request on the grounds that the phrase "Coal ash in the ground" is vague, ambiguous, and capable of varying interpretations. Midwest Generation further objects to this request pursuant to its sixth General Objection set forth above, that this request is in excess of the number of requests allowed under Ill. Sup. Ct. Rule 216(f) and the additional requests for admission agreed to in the Agreed Motion to Extend the Discovery Schedule and Modify the Discovery Order filed with the Board on February 4, 2015.

15. Admit that MWG has not removed Coal ash from Ash Landfill SW at Joliet 29.

ANSWER:

Denied.

16. Admit that there is no impermeable cap over Ash Landfill SW at Joliet 29.

ANSWER:

Midwest Generation objects to this request on the grounds that the term "impermeable cap" is vague, ambiguous, and capable of varying interpretations. Midwest Generation further

objects to this request pursuant to its sixth General Objection set forth above, that this request is in excess of the number of requests allowed under Ill. Sup. Ct. Rule 216(f) and the additional requests for admission agreed to in the Agreed Motion to Extend the Discovery Schedule and Modify the Discovery Order filed with the Board on February 4, 2015.

17. Admit that the Former Slag/Fly Ash Storage Area at Waukegan is not lined.

ANSWER:

Midwest Generation objects to this request on the grounds that the term "lined" is vague, ambiguous, and capable of varying interpretations. Subject to its objection, Midwest Generation states that after reasonable inquiry, the information known or readily obtainable is insufficient to allow Midwest Generation to admit or deny the request.

18. Admit that the Former Slag/Fly Ash Storage Area at Waukegan has not been lined or relined since MWG began operating Waukegan.

ANSWER:

See Answer to Request No. 8, incorporated by reference.

19. Admit that there is Coal ash in the ground within the boundary of the Former Slag/Fly Ash Storage Area at Waukegan.

ANSWER:

See Answer to Request No. 14, incorporated by reference.

20. Admit that Coal ash has not been removed from the Former Slag/Fly Ash Storage Area at Waukegan since MWG began operating Waukegan.

ANSWER:

Midwest Generation objects to this request pursuant to its sixth General Objection set forth above, that this request is in excess of the number of requests allowed under Ill. Sup. Ct. Rule

216(f) and the additional requests for admission agreed to in the Agreed Motion to Extend the Discovery Schedule and Modify the Discovery Order filed with the Board on February 4, 2015.

21. Admit that there is no impermeable cap over the Former Slag/Fly Ash Storage Area at Waukegan.

ANSWER:

Midwest Generation objects to this request on the grounds that the term "impermeable cap" is vague, ambiguous, and capable of varying interpretations. Subject to its objection, Midwest Generation admits the request.

22. Admit that, other than any borings taken when drilling Waukegan Groundwater Monitoring Wells MW-1 through MW-5 at Waukegan, MWG has not removed any Coal ash from the ground in the vicinity of Waukegan Groundwater Monitoring Wells MW-1 through MW-4.

ANSWER:

Midwest Generation objects to this request on the grounds that the term "vicinity" and the phrase "Coal ash from the ground" are vague, ambiguous, and capable of varying interpretations. Midwest Generation further objects to this request on the grounds that it is vague because it presumes that there is Coal ash on or in the soil in the vicinity of the Waukegan Groundwater Monitoring Wells MW-1 through MW-4. Subject to its objection, Midwest Generation denies this request.

23. Admit that, other than any borings taken when drilling Waukegan Groundwater Monitoring Wells MW-7 through MW-9, MWG has not removed any Coal ash from the ground in the vicinity of Waukegan Groundwater Monitoring Wells MW-7 through MW- 9 at Waukegan.

ANSWER:

Midwest Generation objects to this request on the grounds that the term "vicinity" and the phrase "Coal ash from the ground" are vague, ambiguous, and capable of varying interpretations. Midwest Generation further objects to this request as vague because it presumes that there is Coal

ash on or in the ground in the vicinity of the Waukegan Groundwater Monitoring Wells MW-7 through MW-9. Subject to its objection, Midwest Generation denies this request.

24. Admit that the Retention Basin at Will County is not lined.

ANSWER:

Midwest Generation objects to this request on the grounds that the term "lined" is vague, ambiguous, and capable of varying interpretations. Without waiving its objection, Midwest Generation denies this request.

25. Admit that the Retention Basin at Will County has not been lined or relined since MWG began operating Waukegan.

ANSWER:

Midwest Generation objects to this request on the grounds that the terms "lined" and "relined" are vague, ambiguous, and capable of varying interpretations. Midwest Generation further objects that this request is vague because operations at Will County did not depend upon operations at Waukegan. Without waiving its objection, Midwest Generation denies this request.

26. Admit that the Retention Basin at Will County currently contains Coal ash.

ANSWER:

Midwest Generation objects to this request on the grounds that the term "contains" is vague, ambiguous, and capable of varying interpretations because it does not account for *de minimis* amounts that may inadvertently land in the Retention Basin due to the nature of the operations at the Will County Station. Without waiving its objections, Midwest Generation denies this request.

27. Admit that Coal ash has not been removed from the Retention Basin at Will County since MWG began operating Will County.

ANSWER:

Denied.

28. Admit that there is no impermeable cap over the Retention Basin at Will County.

ANSWER:

Midwest Generation objects to this request on the grounds that the term "impermeable cap" is vague, ambiguous, and capable of varying interpretations. Without waiving its objection, Midwest Generation admits this request.

29. Admit that the Standby Pond at Will County is not lined.

ANSWER:

Midwest Generation objects to this request on the grounds that the term "lined" is vague, ambiguous, and capable of varying interpretations. See Answer to request No. 8, incorporated by reference.

30. Admit that the Standby Pond at Will County has not been lined or relined since MWG began operating Waukegan.

ANSWER:

See Answer to request No. 8, incorporated by reference.

31. Admit that Coal ash has not been removed from the Standby Pond at Will County since MWG began operating Will County.

ANSWER:

See Answer to request No. 20, incorporated by reference.

32. Admit that there is no impermeable cap over the Standby Pond at Will County.

ANSWER:

Midwest Generation objects to this request on the grounds that the term "impermeable cap" is vague, ambiguous, and capable of varying interpretations. Without waiving its objection, Midwest Generation admits this request.

33. Please admit you have no information that boron was used at the General Boiler site.

ANSWER:

See Answer to request No. 20, incorporated by reference.

34. Please admit you have no information that anything containing boron was used at the General Boiler site.

ANSWER:

See Answer to request No. 20, incorporated by reference.

Respectfully submitted,

Midwest Generation, LLC

By: /s/ Jennifer T. Nijman
One of Its Attorneys

March 31, 2015

Jennifer T. Nijman
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BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of: SIERRA CLUB, ENVIRONMENTAL LAW AND POLICY CENTER, PRAIRIE RIVERS NETWORK, and CITIZENS AGAINST RUINING THE ENVIRONMENT Complainants, v. MIDWEST GENERATION, LLC, Respondent.	)	PCB No-2013-015 (Enforcement – Water)

MIDWEST GENERATION, LLC'S RESPONSE TO COMPLAINANTS' FIFTH SET OF DOCUMENT REQUESTS AND REQUESTS FOR ADMISSION TO RESPONDENTS

Respondent, Midwest Generation, LLC, ("Midwest Generation"), through its undersigned attorneys, responds to Complainants' Fifth Set of Document Requests, and Third Set of Requests for Admission ("Requests"), as follows:

GENERAL OBJECTIONS

Each of the Responses is made subject to and incorporates by reference the objections made in Midwest Generation's Responses to Complainants' First Set of Interrogatories, Requests for Documents and Request for Admission provided on September 2, 2014 and its Responses to Complainants' Fourth Set of Document Requests, Second Set of Interrogatories, and Second Set of Requests Request for Admission. Respondent reserves the right to object to the admissibility of any of the documents produced pursuant to the Responses, in whole or in part, at hearing in this action on any grounds including but not limited to materiality, relevance, confidential business information and privilege.

REQUEST FOR PRODUCTION OF DOCUMENTS

1. Provide any Documents related to each refusal to admit any requests for admission herein.

ANSWER:

See Answer to Request No. 1 of Complainant's Fourth Set of Document Requests.

2. In light of Rebecca Maddox's identification of the Retention Basin as containing Coal ash (*see* Rebecca Maddox Deposition Tr. 45-2 – 45-3), please remove redactions related to the Retention Basin at Will County in, and provide un-redacted copies of, the following documents:

   - Bates MW 13-15_4 – 12
   - Bates MW 13-15_69
   - Bates MW 13-15_73
   - Bates MW 13-15_77
   - Bates MW 13-15_81
   - Bates MW 13-15_85
   - Bates MW 13-15_89
   - Bates MW 13-15_93
   - Bates MW 13-15_97
   - Bates MW 13-15_101
   - Bates MW 13-15_102 – 176

ANSWER:

See attached updated documents.

3. In light of the identification of the South Area Runoff Basin as containing Coal ash (*see* Bates MWG13-15_2017 in "Questionnaire for the Steam Electric Power Generating Effluent Guidelines" by MWG), please remove redactions related to the South Area Runoff Basin at Will County in, and provide un-redacted copies of, the following documents:

   - Bates MW 13-15_4 – 12
   - Bates MW 13-15_69
   - Bates MW 13-15_73
   - Bates MW 13-15_77
   - Bates MW 13-15_81
   - Bates MW 13-15_85
   - Bates MW 13-15_89

•Bates MW 13-15_93
•Bates MW 13-15_97
•Bates MW 13-15_101
•Bates MW 13-15_102 – 176

ANSWER:

MWG objects to this request as overbroad and unduly burdensome and seeks materials that are not relevant to the subject matter involved in the pending action. Coal ash is not placed in nor transferred to the South Area Runoff Basin. (See Rebecca Maddox Deposition p. 34 ln. 23 – p. 35 ln. 18).

4. In light of the identification of the Coal Pile Runoff Basin at Waukegan as containing Coal ash (*see* Bates MWG13-15_1674 in "Questionnaire for the Steam Electric Power Generating Effluent Guidelines" by MWG), please remove redactions related to the Coal Pile Runoff Basin at Waukegan in, and provide un-redacted copies of, the following documents:

•Bates MW 13-15_13 – 18
•Bates MW 13-15_67
•Bates MW 13-15_71
•Bates MW 13-15_75
•Bates MW 13-15_79
•Bates MW 13-15_83
•Bates MW 13-15_87
•Bates MW 13-15_91
•Bates MW 13-15_95
•Bates MW 13-15_99
•Bates MW 13-15_102 – 176

ANSWER:

MWG objects to this request as overbroad and unduly burdensome and seeks materials that are not relevant to the subject matter involved in the pending action. Coal ash is not placed in nor transferred to the Coal Pile Runoff Basin. (See Maria Race Deposition p. 67 ln. 10 – p. 68 ln. 3 and Frederick Veenbaas Deposition, p. 68, ln 15-17 and p. 70, ln. 22- p. 71 ln. 3).

5. In light of the identification of the East Yard Runoff Basin at Powerton as containing Coal ash (*see* Bates MWG13-15_1276 in "Questionnaire for the Steam Electric Power Generating Effluent Guidelines" by MWG), please remove redactions related to the East Yard Runoff Basin at Powerton in, and provide un-redacted copies of, the following documents:

- Bates MW 13-15_19 – 28
- Bates MW 13-15_68
- Bates MW 13-15_72
- Bates MW 13-15_76
- Bates MW 13-15_80
- Bates MW 13-15_84
- Bates MW 13-15_88
- Bates MW 13-15_92
- Bates MW 13-15_96
- Bates MW 13-15_100
- Bates MW 13-15_102 – 176

ANSWER:

MWG objects to this request as overbroad and unduly burdensome and seeks materials that are not relevant to the subject matter involved in the pending action. Coal ash is not placed in nor transferred to the East Yard Runoff Basin. (See Mark Kelly Deposition, p. 69, ln 11- p. 71 ln 7 and p. 113 ln 18 – p. 114 ln 2).

6. Please remove all redactions related to all Coal ash units that have ever been used to store or dispose of Coal ash at each plant, including both active and inactive or abandoned Coal ash units, and provide un-redacted copies of, the following documents: Bates MW 13-15_1 and Bates MW 13-15_176.

ANSWER:

Midwest Generation objects to this request as overbroad and unduly burdensome and seeks materials that are not relevant to the subject matter involved in the pending action. Without waiving its objections, responsive documents are attached.

REQUESTS FOR ADMISSION

Respondent, Midwest Generation, LLC, ("Midwest Generation"), through its undersigned attorneys, responds to Complainants' Requests for Admission, ("Admission"), as follows:

1. Admit that the Boiler Slag Stockpile at Will County is not lined.

ANSWER:

Midwest Generation objects to this request on the grounds that the term "lined" is vague, ambiguous, and capable of varying interpretations. Midwest Generation further objects pursuant to its sixth General Objection set forth in its Response to Complainants Second Set of Requests for Admission, that this request is in excess of the number of requests allowed under Ill. Sup. Ct. Rule 216(f) and the additional requests for admission agreed to in the Agreed Motion to Extend the Discovery Schedule and Modify the Discovery Order filed with the Board on February 4, 2015.

2. Admit that the Boiler Slag Stockpile at Will County has not been lined or relined since MWG began operating Will County.

ANSWER:

Midwest Generation objects to this request on the grounds that the terms "lined" and "relined" are vague, ambiguous, and capable of varying interpretations. Additionally, see Answer to Request No. 1, incorporated by reference.

3. Admit that there is no impermeable cap over the Boiler Slag Stockpile at Will County.

ANSWER:

Midwest Generation objects to this request on the grounds that the term "impermeable cap" is vague, ambiguous, and capable of varying interpretations. Additionally, see Answer to Request No. 1, incorporated by reference.

4. Admit that there is Coal ash in the ground within the boundary of the Primary Slag Settling Basin at Will County.

ANSWER:

Midwest Generation objects to this request on the grounds that the terms "Primary Slag Settling Basin" and "Coal Ash in the ground" are vague. Subject to its objection, Midwest Generation states that after reasonable inquiry, the information known or readily obtainable is insufficient to allow Midwest Generation to admit or deny the request.

5. Admit that MWG has not removed Coal ash from the ground within the boundary of the Primary Slag Settling Basin at Will County.

ANSWER:

See Answer to Request No. 4, incorporated by reference.

6. Admit that there is no impermeable cap over the Primary Slag Settling Basin at Will County.

ANSWER:

Midwest Generation objects to this request on the grounds that the term "impermeable cap" is vague, ambiguous, and capable of varying interpretations. Additionally, see Answer to Request No. 4, incorporated by reference.

Respectfully submitted,

Midwest Generation, LLC

By: /s/ Jennifer T. Nijman
One of Its Attorneys

March 31, 2015

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Susan M. Franzetti
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10 South LaSalle Street, Suite 3600
Chicago, IL 60603
312-251-5255

Exhibit L

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

In the Matter of:	)	
	)	
SIERRA CLUB, ENVIRONMENTAL LAW AND POLICY CENTER, PRAIRIE RIVERS NETWORK, and CITIZENS AGAINST RUINING THE ENVIRONMENT	)	
	)	**PCB 2013-015**
Complainants,	)	**(Enforcement – Water)**
	)	
v.	)	
	)	
MIDWEST GENERATION, LLC,	)	
	)	
Respondent.	)	

ANSWER AND DEFENSES TO SECOND COMPLAINT

Respondent, Midwest Generation, LLC ("MWG"), by its undersigned counsel, submits its Answer, Defenses and Affirmative Defenses to the Complaint as follows:

FACTUAL BACKGROUND

1. Midwest Generation, LLC ("MWG") owns and operates the Joliet 29 Generating Station ("Joliet 29") in Joliet, Illinois in Will and Kendall Counties, on the north side of the Des Plaines River. MWG has historically stored and disposed of coal ash and other coal combustion waste in repositories that include, but are not limited to, two or more landfills and three ash ponds (two HDPE-lined, one geocomposite-lined) on the same side of the river, and continues to dispose of coal ash and other coal combustion waste in these ponds or repositories..

ANSWER: Respondent admits that it operates the Joliet 29 Electric Generating Station ("Joliet 29") in Joliet, Will County, Illinois. Respondent admits that Joliet 29 has three, high density polyethylene ("HDPE") lined, ash ponds as a part of the wastewater treatment system permitted under Joliet 29's NPDES permit. Respondent denies the remaining allegations contained in paragraph 1.

2. MWG installed eleven groundwater monitoring wells (MW-1 through MW-11) around the Joliet 29 ash ponds in 2010, as depicted in the well map included in MWG groundwater monitoring reports for Joliet 29, attached hereto as Exhibit A. Since monitoring

began in late 2010, groundwater monitoring results have shown levels of antimony, boron, chloride, iron, manganese, sulfate, and Total Dissolved Solids ("TDS") which exceed Illinois Groundwater Quality Standards ("GQSs"). *See* violations of Class I and Class II GQSs and MWG groundwater monitoring data for Joliet 29, attached hereto as Exhibits B, C, and D, respectively.

ANSWER: Respondent admits that it installed eleven groundwater monitoring wells (MW-1 through MW-11) at Joliet 29 in 2010. Respondent is without sufficient information to admit or deny the allegations in Exhibits B, C, and D and therefore denies same. Respondent denies the remaining allegations contained in paragraph 2.

3. MWG owns and operates the Powerton Generating Station ("Powerton") in Pekin, Illinois in Tazewell County. MWG has historically stored and disposed of coal ash and other coal combustion waste in repositories that include, but are not limited to three active ash ponds on the site, two of them lined; one less active ash pond on the site; up to two additional ponds or basins containing coal ash and other coal combustion waste; and a former slag dumping area. MWG continues to store or dispose of coal ash and other coal combustion waste in these ponds or repositories.

ANSWER: Respondent admits that it operates the Powerton Electric Generating Station ("Powerton") in Pekin, Tazewell County, Illinois. Respondent admits that Powerton has three ash ponds, lined with HDPE-liners, as a part of the wastewater treatment system permitted under Powerton's NPDES permit, and a metal cleaning basin lined with an HDPE liner. Respondent denies the remaining allegations contained in paragraph 3.

4. MWG monitors groundwater at Powerton with a network of 15 wells (MW-1 through MW-15, depicted in the well map included in MWG groundwater monitoring reports for Powerton, attached hereto as Exhibit E). Since monitoring began in late 2010, groundwater monitoring results have shown levels of antimony, arsenic, boron, chloride, iron, lead, manganese, nitrate, selenium, sulfate, thallium, and TDS which exceed Illinois GQS and/or open dumping standards. *See* violations of Class I and Class II GQSs and MWG groundwater monitoring data for Powerton, attached hereto as Exhibits B, C, and F, respectively.

ANSWER: Respondent admits that it installed fifteen groundwater monitoring wells (MW-1 through MW-15) at Powerton in 2010. Respondent is without sufficient information to admit or deny the allegations in Exhibits B, C, and F and therefore denies same. Respondent denies the remaining allegations contained in paragraph 4.

5. MWG owns and operates the Waukegan Generating Station ("Waukegan") in Waukegan, Illinois in Lake County. There are two active HDPE-lined ponds at this site. MWG has stored and disposed of coal ash and other coal combustion waste in repositories that include, but are not limited to, these two ponds and one former ash landfill or disposal area and continues to do so.

ANSWER: Respondent admits that it owns and operates the Waukegan Electric Generating Station ("Waukegan") in Waukegan, Lake County, Illinois. Respondent further admits that Waukegan has two ash ponds which are lined with HDPE-liners and states that the ash ponds are a part of the wastewater treatment system permitted by Waukegan's NDPES permit. Respondent denies the remaining allegations contained in paragraph 5.

6. MWG installed 5 wells (MW-1 through MW-5) around the Waukegan ash ponds in 2010, as depicted in the well map included in MWG groundwater monitoring reports for Waukegan, attached hereto as Exhibit G. Groundwater monitoring results from Waukegan show levels of antimony, arsenic, boron, chloride, iron, manganese, nitrate, selenium, pH, sulfate, and TDS which exceed Illinois GQS and/or open dumping standards. *See* violations of Class I and Class II GQSs and MWG groundwater monitoring data for Waukegan, attached hereto as Exhibits B, C, and H, respectively.

ANSWER: Respondent admits that it installed five groundwater monitoring wells (MW-1 through MW-5) at Waukegan. Respondent is without sufficient information to admit or deny the allegations in Exhibits B, C, and H and therefore denies same. Respondent denies the remaining allegations contained in paragraph 6.

7. MWG owns and operates the Will County Generating Station ("Will County") in Romeoville, Illinois in Will County. MWG has stored and disposed of coal ash and other coal combustion waste at the site in repositories that include four geocomposite-lined ponds and two or more additional ponds. MWG continues to store and dispose of coal ash and other coal combustion waste in one or more of these ponds.

ANSWER: Respondent admits that it owns and operates the Will County Electric Generating Station ("Will County") in Romeoville, Will County, Illinois. Respondent admits that Will County has two ash ponds, lined with HDPE-liners, which are a part of the wastewater treatment system and permitted by Will County's NDPES permit. Respondent further states that in 2013,

Respondent took two ash ponds at Will County out of service. Respondent denies the remaining allegations contained in paragraph 7.

8. MWG installed 10 wells around the Will County plant's ponds in 2010 (MW-1 through MW-10; *see* the well map included in MWG groundwater monitoring reports for Will County, attached hereto as Exhibit I.) Groundwater monitoring results from Will County show levels of antimony, arsenic, boron, chloride, manganese, pH, selenium, sulfate, and TDS which exceed Illinois GQS and/or open dumping standards. *See* violations of Class I and Class II GQSs and MWG groundwater monitoring data for Will County, attached hereto as Exhibits B, C, and J, respectively.

ANSWER: Respondent admits that it installed ten groundwater monitoring wells (MW-1 through MW-10) at Will County. Respondent is without sufficient information to admit or deny the allegations in Exhibits B, C, and J and therefore denies same. Respondent denies the remaining allegations contained in paragraph 8.

9. On June 11, 2012, the Illinois Environmental Protection Agency ("IEPA") sent MWG Violation Notices describing violations of Section 12 of the Illinois Environmental Protection Act, 415 ILCS 5/12, and Groundwater Quality regulations at Joliet 29, Powerton, Waukegan, and Will County. *See* Violation Notices for Powerton, Joliet 29, Waukegan, and Will County, attached hereto as Exhibits K–N. In the Violation Notices IEPA identified groundwater monitoring results that exceeded Illinois Class I GQS, which are found at 35 IAC 620.410.

ANSWER: Respondent admits that on June 11, 2012 the Illinois Environmental Protection Agency sent Violation Notices to Respondent and states that the Violation Notices speak for themselves. Respondent denies the remaining allegations contained in paragraph 9.

THE POLLUTANTS

10. As set forth in detail in Exhibit B, groundwater monitoring results at Joliet 29, Powerton, Waukegan, and/or Will County have exceeded Illinois Class I GQS, 35 Ill. Admin. Code § 620.410, for the following pollutants: Antimony, arsenic, boron, chloride, iron, lead, manganese, mercury, nitrate, selenium, sulfate, total dissolved solids, and thallium.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in Exhibit B, and therefore denies same. Respondent denies the remaining allegations contained in paragraph 10.

11. Many of the pollutants found at elevated concentrations in the groundwater monitoring results at Joliet 29, Powerton, Waukegan, and/or Will County are constituents of coal ash.[1]

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 11 and therefore denies same

12. As MWG recognizes, boron is a primary indicator of potential coal ash impacts to groundwater.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 12 and therefore denies same.

13. The pollutants listed in this complaint, when present at the concentrations found in MWG's groundwater wells, make the groundwater unusable. Many of these pollutants are toxic and have been found at concentrations that present a human health risk. Others are dangerous to aquatic ecosystems; this is a significant concern to the extent that contaminated groundwater is migrating into adjacent surface water bodies.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 13 and therefore denies same.

14. Antimony is associated with reduced lifespan, decreased blood glucose, and altered cholesterol in rodents, and with vomiting and cardiac and respiratory effects in humans.[2] To protect public health, the U.S. EPA has established a Maximum Contaminant Level (MCL) of 0.006 mg/L. The Illinois Class I GQS for antimony is also 0.006 mg/L. Even this level may be unsafe; the California EPA, for example, has proposed a much lower Public Health Goal of 0.0007 mg/L.[3]

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 14 and therefore denies same.

15. Arsenic is known to cause multiple forms of cancer in humans and is also associated with non-cancer health effects of the skin and the nervous system.[4] Groundwater that

[1] *See, e.g.*, U.S. EPA, Human and Ecological Risk Assessment of Coal Combustion Wastes at 2-4 (Draft, April 2000) (listing Coal Combustion Waste constituents), *available at* http://earthjustice.org/sites/default/files/library/reports/epa-coal-combustion-waste-risk-assessment.pdf (last visited October 2, 2012).
[2] *See, e.g.*, U.S. EPA, Integrated Risk Information System: Antimony, http://www.epa.gov/iris/subst/0006.htm; California EPA, Draft Public Health Goal for Antimony in Drinking Water (July 2009).
[3] *See* California EPA, *supra* note 2.
[4] *See, e.g.*, U.S. EPA, Integrated Risk Information System: Arsenic, inorganic, http://www.epa.gov/iris/subst/0278.htm; U.S. Agency for Toxic Substances and Disease Registry (ATSDR),Toxicological Profile for Arsenic (Aug. 2007).

exceeds Illinois GQSs for arsenic is highly toxic; based on current U.S. EPA risk estimates, the cancer risk associated with drinking water at 0.05 mg/L, the Illinois Class I GQS for arsenic, is greater than 2 in 1,000.[5] The risk at 0.2 mg/L, the Class II GQS, is 1 in 100.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 15 and therefore denies same.

16. Oral exposure to boron has led to developmental and reproductive toxicity in multiple species. Specific effects include testicular degeneration, reduced sperm count, reduced birth weight, and birth defects.[6] The EPA has established a child health advisory of 3 mg/L for boron, close to the Illinois Class I and Class II GQS of 2 mg/L.[7]

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 16 and therefore denies same.

17. Chloride renders water unusable by imparting a salty taste; to prevent this the EPA has set a secondary drinking water regulation of 250 mg/L, close to the Illinois Class I and Class II GQS of 200 mg/L.[8]

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 17 and therefore denies same.

18. Iron renders water unusable by imparting a rusty color and a metallic taste and causing sedimentation and staining; to prevent these effects the EPA has set a secondary drinking water regulation of 0.3 mg/L.[9] The Illinois Class I and II GQS for iron, at 5 mg/L, is much higher than the EPA secondary drinking water regulation, suggesting that violations of the GQS represent concentrations of iron far higher than what would be usable.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 18 and therefore denies same.

19. Lead is known to be toxic to the nervous system, and is particularly associated with effects on childhood neurobehavioral development at very low doses. Lead is also classified by the EPA as a "probable human carcinogen."[10] The EPA Action Level for lead in drinking water is 0.015 mg/L.[11] This is unlikely to represent a "safe" level of exposure—the

[5] Derived from the U.S. EPA drinking water unit risk of 5E-5 per ug/L. U.S. EPA, *supra* note 8.
[6] *See, e.g.*, U.S. EPA, Toxicological Profile of Boron and Compounds 60-61 (June 2004).
[7] U.S. EPA, 2012 Edition of the Drinking Water Standards and Health Advisories (April, 2012
[8] U.S. EPA, Secondary Drinking Water Regulations: Guidance for Nuisance Chemicals, http://water.epa.gov/drink/contaminants/secondarystandards.cfm.
[9] *Id*.
[10] U.S. EPA, Integrated Risk Information System: Lead and Compounds, http://www.epa.gov/iris/subst/0277.htm.

[11] U.S. EPA drinking water standards, *supra* note 7.

EPA has noted, for example, that there may be no threshold for lead toxicity.[12] Groundwater concentrations of lead above the Illinois Class I GQS, 0.0075 mg/L, are thus unsafe to drink.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 19 and therefore denies same.

20. Manganese is also known to be toxic to the nervous system.[13] The EPA has not updated its assessment of manganese toxicity in 16 years, so EPA standards and advisories may not reflect the latest scientific knowledge concerning effects on childhood neurological development,[14] and the EPA Lifetime Health Advisory for manganese – 0.3 mg/L – may not be adequately health-protective. In any event, manganese concentrations greater than 0.05 mg/L render water unusable by discoloring the water, giving it a metallic taste, and causing black staining.[15] Groundwater with manganese above the Illinois Class I GQS – 0.15 mg/L – is clearly not usable and is likely to be toxic.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 20 and therefore denies same.

21. Inorganic mercury is toxic to the kidneys, and has also been associated with developmental toxicity.[16] The California EPA Public Health Goal for inorganic mercury is 0.0012 mg/L; the U.S. EPA MCL, like the Illinois Class I GQS, is 0.002 mg/L.[17]

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 21 and therefore denies same.

22. Nitrate is known to cause methemoglobinemia in infants, a condition that impairs oxygen delivery to tissues and can cause bluish skin coloration. The U.S. EPA MCL, the California EPA Public Health Goal, and the Illinois Class I and II GQSs are all 10 mg/L, a level at which infant methemoglobinemia is not expected to occur.[18]

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 22 and therefore denies same.

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[12] U.S. EPA, IRIS web page for lead, *supra* note 10.
[13] *See, e.g.*, U.S. EPA, Integrated Risk Information System: Manganese, http://www.epa.gov/iris/subst/0373.htm.
[14] *See, e.g.*, G.A. Wasserman et al., Water manganese exposure and children's intellectual function in araihazar, Bangladesh. 114 ENVIRON. HEALTH PERSP. 124 (2006).
[15] *See* U.S. EPA secondary drinking water regulations, *supra* note 8.
[16] *See*, e.g., California EPA, Public Health Goal for Inorganic Mercury in Drinking Water (Feb. 1999).
[17] Id.; U.S. EPA drinking water standards, *supra* note 7.
[18] *See* U.S. EPA, Integrated Risk Information System: Nitrate, http://www.epa.gov/iris/subst/0076.htm.; California EPA, Public Health Goals for Nitrate and Nitrite (Dec. 1997).

23. Selenium is an essential element, but excess exposure can cause a chemical-specific condition known as selenosis, with symptoms that include hair and nail loss. Various agencies have derived health-protective values between 0.01 and 0.05 mg/L, but are in agreement that selenium concentrations above 0.05 mg/L, the Illinois Class I and II GQS, are unsafe to drink.[19]

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 23 and therefore denies same.

24. High concentrations of sulfates in drinking water impart a salty taste and can cause diarrhea; to protect against these effects, the U.S. EPA has established a secondary MCL of 250 mg/L and a health-based advisory of 500 mg/L.[20] Groundwater with sulfate concentrations above the Illinois Cass I and Class II GQS of 400 mg/L is therefore unusable and potentially unsafe.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 24 and therefore denies same.

25. Total Dissolved Solids (TDS) is a measure of multiple dissolved chemicals, but because high TDS is generally associated with hardness, staining, salty taste, and deposits, the U.S. EPA has established a secondary MCL of 500 mg/L.[21] Groundwater with TDS above the Illinois Class I and Class II GQS, 1,200 mg/L, is clearly unusable.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 25 and therefore denies same.

26. Thallium is known to cause neurotoxicity, and is also associated with developmental and reproductive toxicity and other adverse health effects. The Illinois Class I GQS and the U.S. EPA MCL are both 0.002 mg/L.[22]

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 26 and therefore denies same.

27. Finally, many of the pollutants associated with coal ash, including but not limited to selenium, are known to bioaccumulate in aquatic ecosystems causing tissue damage and other effects in fish and amphibians. One review, for example, noted that "the combined effects of

[19] *See, e.g.*, California EPA, Public Health Goal for Selenium (Dec. 2010) (Setting a Public Health Goal of 0.03 mg/L); World Health Organization, Guidelines for Drinking Water Quality, 4th Ed., 413 (2011) (Setting a provisional guideline of 0.04 mg/L); U.S. EPA drinking water standards, *supra* note 11 (setting forth a MCL of 0.05 mg/L).
[20] U.S. EPA, Drinking Water Advisory: Consumer Acceptability Advice and Health Effects Analysis on Sulfate (Feb. 2003).
[21] *See* U.S. EPA secondary drinking water regulations, *supra* note 8.
[22] *See* U.S. EPA drinking water standards, *supra* note 7.

multiple accumulated elements may lead to numerous changes in individuals that could compromise individual fitness or health," and provided several examples of coal ash-contaminated sites where the health of individuals and communities in aquatic ecosystems had been severely impaired.[23]

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 27 and therefore denies same.

PARTIES

28. Citizens Against Ruining the Environment ("CARE") is located at 230 E. 6th Street, Lockport, IL 60441. CARE is an incorporated, not-for-profit community organization with members in the Lockport area, including Will County. CARE was organized for the purpose of preserving and protecting Illinois's land, air, water, and other natural resources, and protecting the organization's members and other residents of the state from threats of pollution.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 28 and therefore denies same.

29. The Environmental Law and Policy Center ("ELPC") is an Illinois not-for-profit corporation with its principal office located at 35 East Wacker Drive, Suite 1600, Chicago, IL 60601. ELPC's mission includes advocating for the protection of water quality, and protection of public health related to water quality, throughout the Midwest.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 29 and therefore denies same.

30. Prairie Rivers Network, a nonprofit organization and a state affiliate of the National Wildlife Federation, is Illinois' statewide leader in river protection, conservation, and restoration. Prairie Rivers Network has a membership of over 700 in Illinois.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 30 and therefore denies same.

31. Sierra Club is the nation's oldest and largest grassroots environmental organization. Sierra Club is an incorporated, not-for-profit organization with headquarters located at 85 Second Street, 2nd Floor, San Francisco, CA, 94105. Sierra Club's Illinois Chapter office is located at 70 E. Lake St., Suite 1500, Chicago, IL, 60601. Sierra Club's mission is to

[23] C.L. Rowe et al., Ecotoxicological implications of aquatic disposal of coal combustion residues in the United States: A review, 80 ENVTL. MONITORING AND ASSESSMENT 207, 242 (2002); see also A.D. Lemly and J.P. Skorupa, Wildlife and the coal waste policy debate: Proposed rules or coal waste disposal ignore lessons from 45 years of wildlife poisoning, 46 ENVTL. SCI. TECH. 46 (2012).

preserve, protect, and enhance the natural environment. Sierra Club has 641,000 members, including approximately 23,000 members in Illinois.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in paragraph 31 and therefore denies same.

32. Midwest Generation, LLC (MWG), is a Delaware Corporation doing business in Illinois with principal executive offices at 235 Remington Boulevard, Suite A, Bolingbrook, Illinois 60440. MWG's registered agent is C T Corporation System, 208 S. LaSalle St., Suite 814, Chicago, Illinois 60604. MWG is a subsidiary of Edison Mission Energy ("EME"), of Santa Ana, California. EME is a subsidiary of Edison International, 2244 Walnut Grove Avenue, (P.O. Box 976), Rosemead, California, 91770.

ANSWER: Respondent admits that it is a Delaware Corporation duly authorized and doing business in Illinois and its principal offices are located at 211 Carnegie Center in Princeton, New Jersey. Respondent further admits that its registered agent is C T Corporation System, 208 S. LaSalle St., Suite 814, Chicago, Illinois 60604. Respondent states that on December 17, 2012, Edison Mission Energy and certain of its subsidiaries and affiliates, including Respondent, filed voluntary petitions for relief under chapter 11 of title 11 of the United States Code in the United States Bankruptcy Court for the Northern District of Illinois (the "Bankruptcy Court"). On March 11, 2014, the Bankruptcy Court approved the purchase of certain assets and operating companies of Edison Mission Energy, including Respondent, by NRG Energy, Inc.

LEGAL BACKGROUND: OPEN DUMPING

33. The Illinois Environmental Protection Act prohibits "the open dumping of any waste." 415 ILCS 5/21(a). "Open dumping" is defined as "the consolidation of refuse from one or more sources at a disposal site that does not fulfill the requirements of a sanitary landfill." 415 ILCS 5/3.305. "Refuse" is defined as "waste." 415 ILCS 5/3.385. "Waste" is defined to include "any garbage, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility or other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from industrial, commercial, mining and agricultural operations" at 415 ILCS 5/3.535. "Sanitary landfills" are defined as "facilit[ies] permitted by the Agency for the disposal waste on land meeting the requirements of the Resource Conservation and Recovery Act [42 USCA § 6901 et seq.]." 415 ILCS 5/3.445. The requirements of the Resource Conservation and Recovery Act include criteria for distinguishing between sanitary landfills and open dumps. 42 USCA § 6944(a). These criteria are found in federal regulations at 40 CFR

Part 257. According to 40 CFR § 257.1, facilities failing to meet, inter alia, the criterion at 40 CFR § 257.3-4 are considered prohibited open dumps.

ANSWER: Respondent admits that there are statutory provisions 415 ILCS §§ 5/21(a), 3.305, 3.385, 3.535, 3.445, 42 USCA § 6944(a), and 40 CFR Part 257 and states that the statutes and regulations speak for themselves. Respondent denies the allegations to the extent that they are inconsistent with the statutes and regulations as cited and to the extent a response is required.

34. 40 CFR § 257.3-4 establishes a criterion for identifying open dumps based on groundwater contamination. 40 CFR § 257.3-4 prohibits "contaminat[ion of] an underground drinking water source beyond the solid waste boundary or beyond an alternative compliance boundary." The contamination must exist beyond either the perimeter of the solid waste disposal area or beyond an alternative boundary established by the state or the courts after finding that establishing such a boundary will not result in the contamination of groundwater that may be used for drinking. 40 C.F.R. § 257.3-4.

ANSWER: Respondent admits that there is a regulatory provision 40 CFR § 257.3-4 and states that the regulation speaks for itself. Respondent denies the allegations to the extent that they are inconsistent with the regulation as cited and to the extent a response is required.

35. Groundwater contamination for purposes of RCRA open dumping is demonstrated by an exceedance of one of the Maximum Contaminant Levels (MCLs) set forth in 40 CFR pt. 257 Appendix I (hereinafter "Appendix I MCLs"),[24] in either an actual drinking water source, or in an aquifer with less than 10,000 mg/L total dissolved solids. 40 CFR § 257.3-4. The Appendix I MCLs for the pollutants identified in this complaint are as follows:

Chemical	Appendix I MCL (40 C.F.R. Pt. 257, App. I)
Arsenic	0.05 mg/L
Mercury	0.002 mg/L
Nitrate	10 mg/L
Selenium	0.01 mg/L

[24] The open dumping MCLs in 40 CFR pt. 257 Appendix I are in some cases different from the most recent Maximum Contaminant Levels promulgated by the U.S. Environmental Protection Agency. For example, the Appendix I MCL for arsenic is 50 ug/L while the current MCL for arsenic is 10 ug/L. *See* U.S. EPA drinking water standards, *supra* note 7.

ANSWER: Respondent admits that there is a regulatory provision 40 C.F.R. Pt. 257, App. I and states that the regulation speaks for itself. Respondent denies the allegations to the extent that they are inconsistent with the regulation as cited and to the extent a response is required.

LEGAL BACKGROUND: WATER POLLUTION

36. The Illinois Environmental Protection Act prohibits "the discharge of any contaminants into the environment . . . so as to cause or tend to cause water pollution in Illinois, either alone or in combination with matter from other sources," 415 ILCS 5/12(a), and prohibits the deposition of "any contaminants upon the land in such place and manner so as to create a water pollution hazard." 415 ILCS 5/12(d). "Water pollution" is defined as the "alteration" or "discharge of any contaminant into any waters of the State, as will or is likely to create a nuisance or render such waters harmful or detrimental or injurious to public health, safety or welfare, or to domestic, commercial, industrial, agricultural, recreational, or other legitimate uses, or to livestock, wild animals, birds, fish, or other aquatic life." 415 ILCS 5/3.545. "Waters" of the State is defined to include "all accumulations of water, surface and underground, natural, and artificial, public and private, or parts thereof, which are wholly or partially within, flow through, or border upon this State." 415 ILCS 5/3.550.

ANSWER: Respondent admits that there are statutory provisions 415 ILCS §§ 5/12(a), 12(d), 3.545, 3.550 and states that the statutes speak for themselves. Respondent denies the allegations to the extent that they are inconsistent with the statutes as cited and to the extent a response is required.

37. 35 Ill. Admin. Code § 620.405 prohibits "the release of any contaminant to groundwater so as to cause a groundwater quality standard set forth in this Subpart to be exceeded." 35 Ill. Admin. Code § 620.405. The Illinois Administrative Code establishes different groundwater quality standards for Class I and Class II groundwater.

ANSWER: Respondent admits that there is a regulatory provision 35 Ill. Adm. Code §620.405 and states that the regulation speaks for itself. Respondent denies the allegations to the extent that they are inconsistent with the regulation as cited and to the extent a response is required.

38. 35 Ill. Admin. Code § 620.410 establishes Class I GQSs that cannot be exceeded in potable resource groundwater. "Potable resource groundwater" is defined as:

> Groundwater located 10 feet or more below the land surface and within: (1) The minimum setback zone of a well which serves as a potable water supply and to the bottom of such well; (2) Unconsolidated sand, gravel or sand and gravel which is 5 feet or more in thickness and that contains 12 percent or less of fines . .

> . ; (3) Sandstone which is 10 feet or more in thickness, or fractured carbonate which is 15 feet or more in thickness; or (4) Any geologic material which is capable of a: (A) sustained groundwater yield , from up to a 12 inch borehole, of 150 gallons per day or more from a thickness of 15 feet or less; or (B) Hydraulic conductivity of 1 x 10(-4) cm/sec or greater using one of the following test methods or its equivalent: (i) Permeameter; (ii) Slug test; or (iii) Pump test. 35 Ill. Admin. Code § 620.210(a).

ANSWER: Respondent admits that there are regulatory provisions 35 Ill. Admin. Code §§620.410, 620.210 and states that the regulations speaks for themselves. Respondent denies the allegations to the extent that they are inconsistent with the regulations as cited and to the extent a response is required.

39. The definition of Class I groundwater specifically excludes: Class III "special resource groundwater," Class IV "other groundwater," which includes groundwater in a zone of attenuation; and groundwater in a "groundwater management zone." 35 Ill. Admin. Code § 620.210; *see also* 35 Ill. Admin. Code §§ 620.230, 620.240, 620.250.35 Ill. Admin. Code § 620.115 provides that "No person shall cause, threaten or allow a violation of the Act, the [Illinois Groundwater Protection Act] or regulations adopted by the Board thereunder, including but not limited to this part." 35 Ill. Admin. Code § 620.301(a) provides that "No person shall cause, threaten or allow the release of any contaminant to a resource groundwater such that: 1) Treatment or additional treatment is necessary to continue an existing use or to assure a potential use of such groundwater; or 2) An existing or potential use of such groundwater is precluded."

ANSWER: Respondent admits that there are regulatory provisions 35 Ill. Admin. Code §§620.115, 620.210, 620.230, 620.240, 620.250, 620.301(a) and states that the regulations speak for themselves. Respondent denies the allegations to the extent that they are inconsistent with the regulations as cited and to the extent a response is required.

40. 35 Ill. Admin. Code § 620.420 establishes Class II GQSs that cannot be exceeded in general resource groundwater. "General resource groundwater" is defined as "groundwater which does not meet the provisions of . . . Class I . . . Class III . . . or . . . Class IV" and "groundwater which is found by the Board, pursuant to the petition procedures set forth in Section 620.260, to be capable of agricultural, industrial, recreational or other beneficial uses." 35 Ill. Admin. Code § 620.220. Groundwater in a zone of attenuation must meet Class II GQSs. 35 Ill. Admin. Code § 620.440(b).

The Illinois Class I and Class II GQSs for pollutants identified in this report are as follows:

Chemical	Class I GQS (mg/L) (35 Ill. Admin. Code § 620.410)	Class II GQS (mg/L) (35 IAC § 620.420)
Antimony	0.006	0.024
Arsenic	0.01	0.2
Boron	2	2
Chloride	200	200
Iron	5	5
Lead	0.0075	0.10
Manganese	0.15	10
Mercury	0.002	0.01
Nitrate	10	100
pH	6.5 – 9.0	6.5 – 9.0
Selenium	0.05	0.05
Sulfate	400	400
Thallium	0.002	0.020
Total Dissolved Solids	1,200	1,200

ANSWER: Respondent admits that there are regulatory provisions 35 Ill. Admin. Code §§620.220, 620.410, 620.420, 620.440(b) and states that the regulations speak for themselves. Respondent denies the allegations to the extent that they are inconsistent with the regulations as cited and to the extent a response is required.

COUNT I

OPEN DUMPING VIOLATIONS AT POWERTON

41. Paragraphs 1-40 are realleged and incorporated herein by reference.

ANSWER: Respondent incorporates herein, as if restated, its answers to paragraphs 1 through 40 of the Complaint.

42. MWG, through the coal ash disposal ponds, landfills, unconsolidated coal ash fill, and/or other coal ash and coal combustion waste repositories at Powerton, has caused or contributed to contamination of the groundwater beneath Powerton in violation of 415 ILCS 5/21(a), as shown in Table 1.

Table 1: Open dumping violations at Powerton.

	Well	Pollutant	Sample value (mg/L)	Appendix I MCL (mg/L)	Collection date

1	MW-1	Nitrate	11	10	9/20/11
2	MW-4	Selenium	0.013	0.010	9/27/13
3	MW-6	Arsenic	0.200	0.050	5/29/14
4	MW-7	Arsenic	0.085	0.050	3/25/11
5	MW-7	Arsenic	0.120	0.050	6/16/11
6	MW-7	Arsenic	0.180	0.050	9/20/11
7	MW-7	Arsenic	0.230	0.050	12/12/11
8	MW-7	Arsenic	0.230	0.050	3/19/12
9	MW-7	Arsenic	150	0.050	6/25/12
10	MW-7	Arsenic	180	0.050	9/18/12
11	MW-7	Arsenic	260	0.050	12/12/12
12	MW-7	Arsenic	170	0.050	2/27/13
13	MW-7	Arsenic	120	0.050	5/31/13
14	MW-7	Arsenic	220	0.050	7/31/13
15	MW-7	Arsenic	200	0.050	10/23/13
16	MW-7	Arsenic	150	0.050	3/5/14
17	MW-7	Arsenic	190	0.050	8/27/14
18	MW-9	Selenium	0.072[25]	0.010	3/25/11
19	MW-9	Selenium	0.015	0.010	2/27/13
20	MW-9	Selenium	0.016	0.010	5/30/13
21	MW-9	Selenium	0.014	0.010	7/30/13
22	MW-9	Nitrate	12	10	2/27/13
23	MW-9	Nitrate	11	10	5/30/13
24	MW-9	Nitrate	11	10	5/29/14
25	MW-11	Arsenic	0.057	0.050	3/4/14
26	MW-11	Arsenic	0.068	0.050	8/26/14
27	MW-12	Mercury	0.0096[26]	0.002	12/15/10
28	MW-14	Selenium	0.065	0.010	4/25/11
29	MW-14	Selenium	0.022	0.010	4/10/12
30	MW-14	Selenium	0.150	0.010	2/27/13
31	MW-14	Selenium	0.020	0.010	3/4/14
32	MW-14	Selenium	0.014	0.010	5/28/14
33	MW-15	Selenium	0.017	0.010	4/25/11
34	MW-15	Selenium	0.025	0.010	4/10/12
35	MW-15	Selenium	0.013	0.010	10/23/13
36	MW-15	Selenium	0.033	0.010	5/28/14

ANSWER: Respondent denies the allegations in paragraph 42.

[25] This value was originally reported as 0.072 mg/L. *See* letter from Richard M. Frendt, Patrick Engineering, to IEPA, Attachment A (July 30, 2012) (transmitting amended groundwater monitoring report for Midwest generation's Powerton Generating Station). MidGen has since revised the value to 0.072 mg/L. *Id*. at Attachments B and C.
[26] This value was originally reported as 0.0096 ug/L. *Id*. at Attachment A. MidGen has since revised the value to nondetect. *Id*. at Attachments B and C.

43. Groundwater samples from nine different wells at Powerton have exceeded the Appendix I MCLs on the thirty-six occasions delineated in Table 1.

ANSWER: Respondent denies the allegations in paragraph 43.

COUNT 2

OPEN DUMPING VIOLATIONS AT WAUKEGAN

44. Paragraphs 1-43 are realleged and incorporated herein by reference.

ANSWER: Respondent incorporates herein, as if restated, its answers to paragraphs 1 through 43 of the Complaint.

45. MWG, through the coal ash disposal ponds, landfills, unconsolidated coal ash fill, and/or other coal ash and coal combustion waste repositories at Waukegan, has caused or contributed to contamination of the groundwater beneath Waukegan in violation of 415 ILCS 5/21(a), as shown in Table 2.

Table 2: Open dumping violations at Waukegan

	Well	Pollutant	Sample value (mg/L)	Appendix I MCL (mg/L)	Collection date
1	MW-1	Arsenic	0.054	0.050	10/25/10
2	MW-1	Arsenic	0.170	0.050	6/13/11
3	MW-1	Arsenic	0.077	0.050	9/13/11
4	MW-1	Arsenic	0.057	0.050	12/6/11
5	MW-1	Arsenic	0.078	0.050	3/14/12
6	MW-1	Arsenic	0.070	0.050	6/18/12
7	MW-1	Arsenic	0.070	0.050	9/28/12
8	MW-1	Arsenic	0.091	0.050	12/19/12
9	MW-1	Arsenic	0.098	0.050	3/7/13
10	MW-1	Arsenic	0.055	0.050	7/25/13
6	MW-1	Selenium	0.031	0.010	10/25/10
7	MW-1	Selenium	0.030	0.010	3/24/11
8	MW-1	Selenium	0.016	0.010	6/13/11
9	MW-1	Selenium	0.039	0.010	9/13/11
10	MW-1	Selenium	0.032	0.010	12/6/11
11	MW-1	Selenium	0.037	0.010	3/14/12
12	MW-1	Selenium	0.013	0.010	6/18/12
13	MW-1	Selenium	0.056	0.010	3/7/13
14	MW-1	Selenium	0.043	0.010	6/7/13
15	MW-1	Selenium	0.031	0.010	7/25/13
16	MW-1	Selenium	0.013	0.010	11/4/13
17	MW-2	Selenium	0.026	0.010	10/25/10

18	MW-2	Selenium	0.028	0.010	6/13/11
19	MW-2	Selenium	0.022	0.010	9/13/11
20	MW-2	Selenium	0.015	0.010	7/25/13
21	MW-3	Selenium	0.016	0.010	3/24/11
22	MW-3	Selenium	0.030	0.010	6/13/11
23	MW-3	Selenium	0.012	0.010	9/13/11
24	MW-3	Selenium	0.011	0.010	12/6/11
25	MW-3	Selenium	0.011	0.010	3/7/13
26	MW-3	Selenium	0.067	0.010	6/7/13
27	MW-3	Nitrate	13	10	6/7/13
28	MW-4	Selenium	0.022	0.010	6/13/11
29	MW-4	Selenium	0.025	0.010	9/13/11
30	MW-4	Selenium	0.015	0.010	12/6/11
31	MW-4	Selenium	0.028	0.010	6/6/13
32	MW-4	Selenium	0.050	0.010	7/25/13
33	MW-4	Selenium	0.011	0.010	11/4/13

ANSWER: Respondent denies the allegations in paragraph 45.

46. Groundwater samples at four of five wells monitored showed exceedances of the Appendix I MCLs on the thirty-three occasions delineated in Table 2.

ANSWER: Respondent denies the allegations in paragraph 46.

COUNT 3

OPEN DUMPING VIOLATIONS AT WILL COUNTY

47. Paragraphs 1-46 are realleged and incorporated herein by reference.

ANSWER: Respondent incorporates herein, as if restated, its answers to paragraphs 1 through 46 of the Complaint.

48. MWG, through coal ash disposal ponds, landfills, unconsolidated coal ash fill, and/or other coal ash and other coal combustion waste repositories at Will County, has caused or contributed to contamination of the groundwater beneath Will County in violation of 415 ILCS 5/21(a), as shown in Table 3.

Table 3: Open dumping violations at Will County

	Well	Pollutant	Sample value (mg/L)	Appendix I MCL (mg/L)	Collection date
1	MW-4	Selenium	0.015	0.010	3/5/13
2	MW-5	Selenium	0.017	0.010	12/13/10
3	MW-5	Selenium	0.014	0.010	3/28/11
4	MW-5	Selenium	0.016	0.010	6/15/11
5	MW-5	Selenium	0.017	0.010	9/24/12
6	MW-5	Selenium	0.026	0.010	6/5/13
7	MW-5	Selenium	0.170	0.010	10/28/13
8	MW-5	Selenium	0.024	0.010	2/13/14
9	MW-6	Selenium	0.011	0.010	9/15/11
10	MW-6	Selenium	0.014	0.010	9/24/12
11	MW-8	Selenium	0.015	0.010	10/28/13

ANSWER: Respondent denies the allegations in paragraph 48.

49. As Table 3 shows, there have been eleven exceedances of the open dumping MCL for selenium since monitoring began in late 2010.

ANSWER: Respondent denies the allegations in paragraph 49.

COUNT 4

WATER POLLUTION AT JOLIET 29

50. Paragraphs 1-49 are realleged and incorporated herein by reference.

ANSWER: Respondent incorporates herein, as if restated, its answers to paragraphs 1 through 49 of the Complaint.

51. MWG, through the coal ash disposal ponds, landfills, unconsolidated coal ash fill, and/or other coal ash and coal combustion waste repositories at Joliet 29, has discharged contaminants into the environment at Joliet 29 and thereby caused water pollution in violation of 415 ILCS 5/12(a) and (d), and 35 Ill. Admin. Code §§ 620.115, 620.301(a), and 620.405. As shown in Exhibits B, C, and D, there have been at least 156 violations of Illinois Class I Groundwater Quality Standards and at least 132 violations of Illinois Class II Groundwater Quality Standards since monitoring began in late 2010.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in Exhibits B, C, and D and therefore denies same. Respondent denies the remaining allegations contained in paragraph 51.

52. Since 2010, the groundwater at Joliet 29 has exceeded the Class I GQSs for antimony, boron, chloride, iron, manganese, sulfate, and TDS, and the Class II GQSs for boron, chloride, iron, sulfate, and TDS. *See* Exhibits B, C, and D.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in Exhibits B, C, and D and therefore denies same. Respondent denies the remaining allegations contained in paragraph 52.

COUNT 5

WATER POLLUTION AT POWERTON

53. Paragraphs 1-52 are realleged and incorporated herein by reference.

ANSWER: Respondent incorporates herein, as if restated, its answers to paragraphs 1 through 52 of the Complaint.

54. MWG, through the coal ash disposal ponds, landfills, unconsolidated coal ash fill, and/or other coal ash and coal combustion waste repositories at Powerton, has discharged contaminants into the environment at Powerton and thereby caused water pollution in violation of 415 ILCS 5/12(a) and (d), and 35 Ill. Admin. Code §§ 620.115, 620.301(a), and 620.405. As shown in Exhibits B, C, and F, there have been at least 445 violations of Illinois Class I Groundwater Quality Standards and at least 216 violations of Illinois Class II Groundwater Quality Standards since monitoring began in late 2010.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in Exhibits B, C, and F and therefore denies same. Respondent denies the remaining allegations contained in paragraph 54.

55. Since 2010, the groundwater at Powerton has exceeded the Class I GQSs for antimony, arsenic, boron, chloride, iron, manganese, nitrate, selenium, sulfate, thallium, and TDS, and the Class II GQSs for arsenic, boron, chloride, iron, manganese, selenium, sulfate, and TDS. *See* Exhibits B, C, and F.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in Exhibits B, C, and F and therefore denies same. Respondent denies the remaining allegations contained in paragraph 55.

COUNT 6

WATER POLLUTION AT WAUKEGAN

56. Paragraphs 1-55 are realleged and incorporated herein by reference.

ANSWER: Respondent incorporates herein, as if restated, its answers to paragraphs 1 through 55 of the Complaint.

57. MWG, through the coal ash disposal ponds, landfills, unconsolidated coal ash fill, and/or other coal ash and coal combustion waste repositories at Waukegan, has discharged contaminants into the environment at Waukegan and thereby caused water pollution in violation of 415 ILCS 5/12(a) and (d), and 35 Ill. Admin. Code §§ 620.115, 620.301(a), and 620.405. As shown in Exhibits B, C, and H, there have been at least 155 violations of Illinois Class I Groundwater Quality Standards and 105 violations of Illinois Class II Groundwater Quality Standards since monitoring began in late 2010.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in Exhibits B, C, and H and therefore denies same. Respondent denies the remaining allegations contained in paragraph 57.

58. Since 2010, the groundwater at Waukegan has exceeded the Class I GQSs for antimony, arsenic, boron, chloride, iron, manganese, nitrate, selenium, pH, sulfate, and TDS, and the Class II GQSs for boron, chloride, iron, pH, selenium, sulfate, and TDS. *See* Exhibits B, C, and H.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in Exhibits B, C, and H and therefore denies same. Respondent denies the remaining allegations contained in paragraph 58.

COUNT 7

WATER POLLUTION AT WILL COUNTY

59. Paragraphs 1-58 are realleged and incorporated herein by reference.

ANSWER: Respondent incorporates herein, as if restated, its answers to paragraphs 1 through 59 of the Complaint.

60. MWG, through the coal ash disposal ponds, landfills, unconsolidated coal ash fill, and/or other coal ash and coal combustion waste repositories at Will County, has discharged contaminants into the environment at Will County and thereby caused water pollution in

violation of 415 ILCS 5/12(a) and (d), and 35 Ill. Admin. Code §§ 620.115, 620.301(a), and 620.405. As shown in Exhibits B, C, and J, there have been at least 297 violations of Illinois Class I Groundwater Quality Standards and at least 214 violations of Illinois Class II Groundwater Quality Standards since monitoring began in late 2010.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in Exhibits B, C, and J and therefore denies same. Respondent denies the remaining allegations contained in paragraph 60.

61. Since 2010, the groundwater at Will County has exceeded the Class I GQSs for antimony, arsenic, boron, chloride, manganese, pH, sulfate, and TDS, and the Class II GQSs for boron, chloride, pH, selenium, sulfate, and TDS. *See* Exhibits B, C, and J.

ANSWER: Respondent is without sufficient information to admit or deny the allegations in Exhibits B, C, and J and therefore denies same. Respondent denies the remaining allegations contained in paragraph 61.

MIDWEST GENERATION, L.L.C.'S DEFENSES TO THE COMPLAINT

Respondent, Midwest Generation, L.L.C. ("MWG") asserts the following defenses without waiving Complainants' obligation to meets its burden of proof and without assuming any burden of proof not otherwise imposed by law.

I. MWG DID NOT CAUSE OR ALLOW OPEN DUMPING

62. The ash ponds at the Joliet 29 Station, the Powerton Station, the Waukegan Station, and the Will County Station (collectively "the Stations") are surface impoundments and operate as a part of each Stations' wastewater treatment plants pursuant to the Stations' respective NDPES permits.

63. The active ash ponds at the Stations are lined with HDPE liners, a synthetic liner designed to prevent releases to the soil and groundwater.

64. MWG routinely removes the ash from the ash ponds.

65. Because the ash ponds are classified as surface impoundments, which are permitted and regulated as water pollution treatment units, and because MWG routinely removes the ash from the ponds, the ash ponds are not disposal sites.

66. Complainants also allege other "landfills" and "coal ash and coal combustion waste repositories" may contain coal ash at the Stations.

67. Any other locations at the Stations that may contain historical coal ash combustion debris were not created by MWG, nor used or filled with any coal combustion material, or any other material, by MWG.

68. MWG did not cause or allow open dumping because the ash ponds are not disposal sites and the historical areas were not created, filled, or used by MWG for any storage or disposal or any coal combustion material, or any other material.

II. MWG DID NOT CAUSE OR ALLOW WATER POLLUTION

69. Paragraphs 62-68 are realleged and incorporated herein by reference.

70. In 2010, MWG voluntarily agreed to the Illinois Environmental Protection Agency's ("Illinois EPA's") request to perform a hydrogeological assessment around the ash ponds at the Stations.

71. On June 11, 2012, Illinois EPA issued Violation Notices ("VNs") to MWG alleging violations of groundwater quality standards purportedly caused by the ash ponds at the Stations. (Complaint ¶9).

72. In response to the hydrogeological assessments and the VNs, MWG evaluated the distribution of the sample results as it relates to the ash ponds at each Station.

73. The alleged exceedances in the groundwater underlying the Stations, including the ash ponds, are random, inconsistent, historic and do not show a connection to the MWG Stations or ash ponds.

74. Because there is no connection between the alleged groundwater exceedances and MWG Stations or the ash ponds, MWG has not caused or allowed the discharge of contaminants into the groundwater.

III. COMPLAINANTS MAY NOT BE GRANTED INJUNCTIVE RELIEF

75. Paragraphs 62-74 are realleged and incorporated herein by reference.

76. Complainants request that the Board order MWG to "… modify its coal ash disposal practices so as to avoid future groundwater contamination and remediate the contaminated groundwater so that it meets applicable Illinois groundwater standards." (Complainant, Relief Requested, ¶3).

77. As a creature of statute, the Illinois Pollution Control Board may only operate within the bounds of its powers set out by the statute by which it was created. *County of Knox ex rel. Masterson v. Highlands, L.L.C.,* 188 Ill.2d 546, 554, 723 N.E.2d 256, 262 (1999).

78. Under Section 33(b) of the Illinois Environmental Protection Act ("Act"), 415 ILCS 5/33(b), the Board is limited to:

> …a direction to cease and desist from violations of this Act, any rule or regulation adopted under this Act, any permit or term or condition of a permit, or any Board order, and/or the imposition by the Board of civil penalties in accord with Section 42 of this Act." 415 ILCS 5/33(b)

79. The Board has no enforcement power, *People of the State of Illinois v. NL Industries, et al,* 152 Ill.2d 82, 99, 604 N.E.2d 349, 356 (1992), and does not have the authority to grant injunctive relief. *Janson v. Illinois Pollution Control Bd.,* 69 Ill.App.3d 324, 328, 387

N.E.2d 404, 408 (3rd Dist., 1979), *Clean the Uniform Company-Highland v. Aramark Uniform & Career Apparel, Inc.,* PCB 03-21, Nov. 7, 2002 slip op. at 1 & 3.

80. Complainants' requests that the Board order MWG to "modify its coal ash disposal practice" and to "remediate the contaminated groundwater so that it meets applicable Illinois groundwater standards" are demands for mandatory injunctive relief.

81. As the Board does not have the authority to order mandatory injunctive relief, Complainant's request for such relief cannot be granted.

MWG'S AFFIRMATIVE DEFENSES TO THE COMPLAINT

Respondent, MWG asserts the following affirmative defenses without waiving Complainants' obligation to meets its burden of proof and without assuming any burden of proof not otherwise imposed by law.

I. RESPONDENT IS NOT IN VIOLATION OF THE GROUNDWATER STANDARDS BECAUSE THE GROUNDWATER UNDERLYING THE STATIONS IS WITHIN A GROUNDWATER MANAGEMENT ZONE

82. Paragraphs 62-81 are realleged and incorporated herein by reference.

83. On October 24, 2012, MWG resolved the violations alleged in the VNs by entering into a Compliance Commitment Agreement ("CCA") for the ash ponds at the Stations. (Illinois EPA CCAs for the Stations, attached as Exs. 1-4)

84. From the date the CCAs were issued, MWG executed and completed all the terms of the CCAs. In October 2013, MWG submitted Completion Statements for the Stations certifying that the corrective actions in the CCAs were completed. (Illinois EPA Compliance Statements for the Stations, attached as Exs. 5-8).

85. Pursuant to the CCAs, MWG established a Groundwater Management Zone ("GMZ") for the areas underneath the Joliet 29 Station, Powerton Station, and the Will County Station.

86. Upon establishment of a GMZ, the standards specified in 35 Ill. Adm. Code §§620.410, 620.420, 620.430, and 620.440 are not applicable. 35 Ill. Adm. Code 620.450(a)(3).

87. Upon the establishment of the GMZs, the Joliet 29 Station, Powerton Station, and the Will County Station are not in violation of the groundwater standards alleged in the Complaint.

88. As Respondent is not in violation of the groundwater standards, Respondent is not in violation of 35 Ill. Adm. Code 620.301(a) and 620.405.

II. RESPONDENT DID NOT CAUSE WATER POLLUTION BECAUSE THERE IS NO RISK TO PUBLIC HEALTH AND NO RISK OF ENVIRONMENTAL HARM

89. Paragraphs 62-88 are realleged and incorporated herein by reference.

90. Pursuant to the CCAs, MWG entered into Environmental Land Use Controls ("ELUCs") for the areas of the Powerton Station, Waukegan Station, and the Will County Station.

91. MWG did not enter into an ELUC at the Joliet 29 Station because Illinois EPA determined that there were no potential groundwater receptors in the area.

92. An ELUC is an institutional control that is used to impose land use limitations, and prevent the use or consumption of the groundwater. 35 Ill. Adm. Code 742.1010.

93. By establishing an ELUC at the Stations and the absence of groundwater receptors, there is no risk or harm to public health.

94. Pursuant to the CCAs, MWG has instituted corrective actions that address any alleged environmental harms.

95. In addition to the previously stated corrective actions taken, including lining the ash ponds with HDPE liners (Complaint ¶5, Answer ¶¶1, 3, and 7), establishing GMZs (¶82), and establishing ELUCs (¶¶87, 88), MWG is conducting ongoing groundwater monitoring at the ash ponds on a quarterly basis.

96. MWG did not fill or place coal ash in historic landfilled areas at or near the Stations.

97. Based on the low levels of constituents in the groundwater and the absence of human and environmental receptors, there is no nuisance, harm or injury to public health, safety or welfare at or around the Stations.

WHEREFORE, Respondent, Midwest Generation, LLC, respectfully requests that the Board dismiss Complainants' Complaint with prejudice and issue such further relief as the Board deems just and proper.

Respectfully submitted,

Midwest Generation, LLC

By: /s/ Jennifer T. Nijman
One of Its Attorneys

Jennifer T. Nijman
Susan M. Franzetti
Kristen L. Gale
NIJMAN FRANZETTI LLP
10 South LaSalle Street, Suite 3600
Chicago, IL 60603
312-251-5255

Exhibit M

Ash Pond Data Summaries
Frendt, Richard to: Race, Maria 02/10/2012 11:21 AM
Cc: Xinying Wang
History: This message has been forwarded.

Maria:

Nearly forgot to send these to you – Here are some brief summaries of the data for each of the five ash pond sites. I haven't attached data tables to these, since those have already been sent out to everyone with the quarterly reports. The purpose of these documents is just to explain, on a high-level, the overall situation at each site. We can discuss our next steps at some point in the future, when it's convenient for you.

Regards,
Rick

Richard M. Frendt, P.E.
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4970 Varsity Drive
Lisle, Illinois 60532-4101
Tel: 630.795.7464
Cell: 708.359.0806

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Crawford Ash Pond Data Evaluation and Summary.pdf
Joliet Ash Pond Data Evaluation and Summary.pdf
Powerton Ash Pond Data Evaluation and Summary.pdf
Waukegan Ash Pond Data Evaluation and Summary.pdf
Will County Ash Pond Data Evaluation and Summary.pdf

ASH POND DATA EVAULATION & SUMMARY

JOLIET #29 STATION
Midwest Generation, LLC
Joliet, Illinois
January 2012

SITE DESCRIPTION

The Joliet 29 Generating Station (the Site) is located in the City of Joliet, Will County, Illinois. The Site is located along the Des Plaines River just to the south of the city of Joliet. The Site includes three active ash ponds (Ash Pond 1, Ash Pond 2, and Ash Pond 3). Two of the ponds are lined with a high-density polyethylene (HDPE), while the third is lined with 12" of geo-composite material on the bottom; the total area of the three ash ponds is approximately 10 acres.

MONITORING WELLS

Eleven monitoring wells have been installed (MW-1 through MW-11) surrounding the ash impoundments at the Joliet 29 facility. The well locations were selected so that both upgradient and downgradient wells were represented, based upon available data regarding the expected groundwater flow direction. Monitoring wells MW-8, MW-10, and MW-11 are installed upgradient of the ash ponds. MW-9 is installed in a location that could be considered either up- or downgradient depending upon which ash pond is considered. Monitoring wells MW-1 through MW-7 are considered to be downgradient wells. The wells are monitored quarterly in accordance with the long-term monitoring plan. Groundwater data has been collected on a quarterly basis starting in December of 2010 and continues to be generated into 2012. A Monitoring Well Location Map is included in this summary

GROUNDWATER ELEVATIONS

Water levels in the monitoring wells are taken quarterly prior to sampling. The groundwater levels were compared to levels collected by the USGS stream flow data at Station Number 05539780 located where Route 53 crosses the Des Plaines River in Joliet, Illinois. The fluctuations in the groundwater elevations were compared to the fluctuations in the river levels for each monitoring event; there does not appear to be a correlation between the River levels and groundwater elevations at the site. The monitoring well elevations have seasonal variations which were not apparent in the river elevation data.

The overall groundwater elevation at the Site increased by 2 to 3 feet during the June 2011 sampling event as compared to the other three quarterly sampling events. This is not unexpected, as periods of high precipitation will recharge the shallow aquifer. During the September and December 2011 sampling events, groundwater elevations were slightly lower than the recorded River level (as compared to the other events, where groundwater was higher than the River). This appears to indicate that when the groundwater elevations are higher, groundwater at the Site is discharging to the River; when groundwater elevations are lower, the River is recharging the shallow aquifer.

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Based upon the groundwater elevation data collected to date, the direction of groundwater flow is from the northwest to the southeast, generally toward the Des Plaines River. The direction of groundwater flow remains unchanged regardless of the elevation of the River and the groundwater table.

ANALYTICAL RESULTS

Groundwater samples were collected from the 11 monitoring wells on site on a quarterly basis in 2011. Both upgradient and downgradient wells indicated Class I Groundwater Quality Standard exceedances. The following compounds exceeded their respective Class I standards: antimony, manganese, boron, sulfate, chloride, and total dissolved solids.

Monitoring well MW-9 contains the largest number of exceedances; given that this well is located between two of the ash ponds, it is difficult to draw strong conclusions regarding the concentrations in this well (i.e., analytes due to the ash ponds versus other industrial sources). Other than chloride (often associated with runoff), very few exceedances were found in the on-site wells, indicating that the ash ponds are not likely contributing to the groundwater concentrations. Chlorides were found throughout the site (MW-1 is the only well that has no detection of this chloride), indicating that another (possibly road-related) source is more likely for this compound.

Boron exceeded the Class I standard only in MW-11, an upgradient well. Again, the distribution of boron does not allow a strong conclusion to be drawn with respect to the integrity of the ash ponds.

Patrick performed trend analyses on the following parameters (each of these parameters was detected during at least once during each sampling event): antimony, arsenic, barium, cobalt, copper, iron, manganese, nickel, selenium, boron, sulfate, chloride, nitrogen-nitrate, total dissolved solids, fluoride, and nitrogen-nitrate-nitrite. Analytical parameters without any detections were not included in the analysis. There were no statistically significant (at the 95% confidence level) increasing or decreasing trends for any of the analyzed compounds.

CONCLUSIONS

- Generally, the groundwater was found to be relatively un-impacted at the Joliet 29 site, with the exception of chloride, that is more likely caused by road runoff. No clear pattern of contaminants was found; MW-9, located between two of the ash ponds, next to the clarifiers, contained the highest number of exceedances. It is not clear whether the source of the contaminants found in this well is due to the ash ponds, or some other industrial source or process.

- Patrick could not find any statistically significant trends in the data which indicate that the exceedances are either historical in nature, or more likely naturally occurring.

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NEXT STEPS

The monitoring wells on site will continue to be monitored on a quarterly basis through 2012. After six quarters of data have been collected, a statistical analysis will be performed to compare upgradient well results with downgradient well results.

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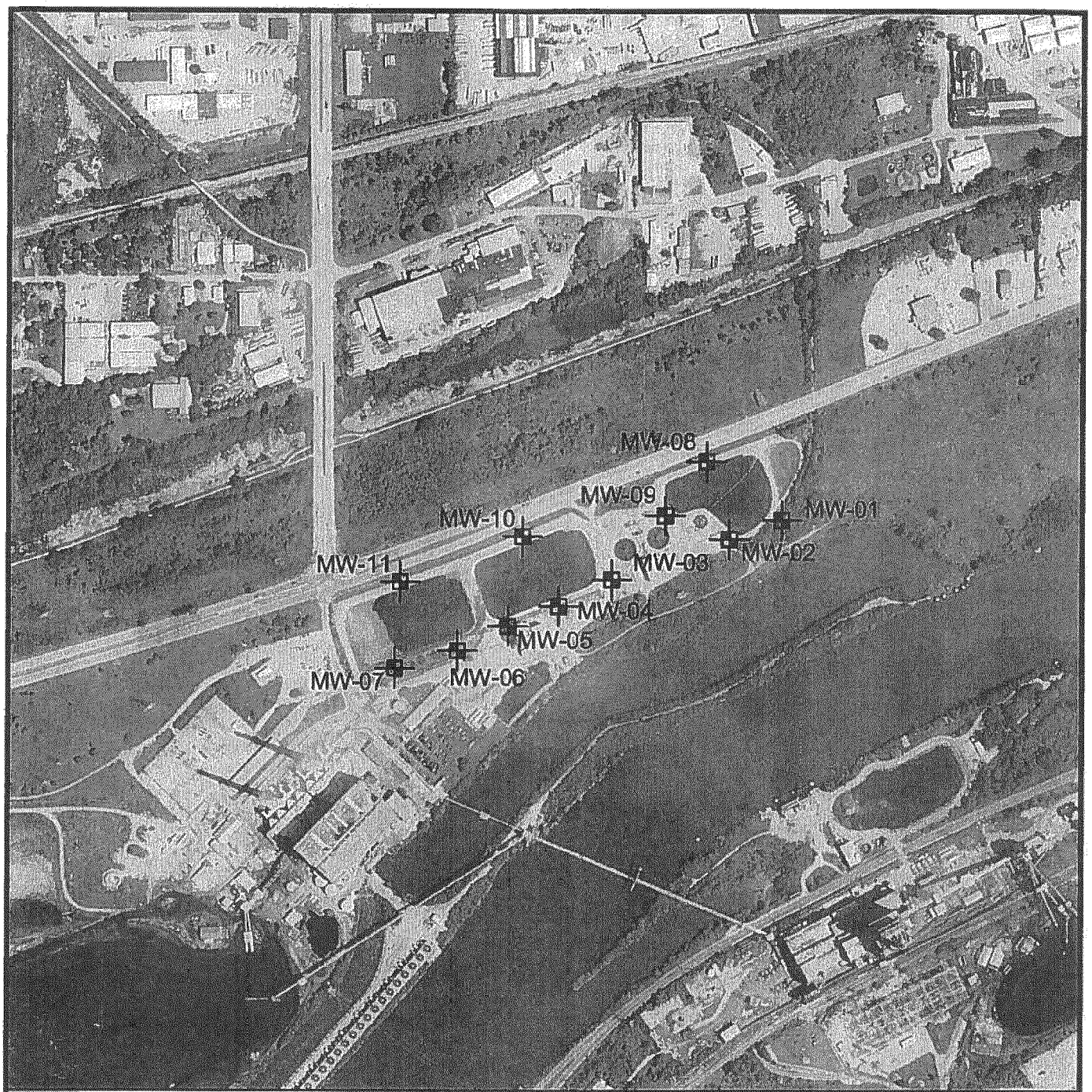

LEGEND

MW-01 Monitoring Well Location

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

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1" = 600'

Date: JAN. 2011	FIGURE 1 MONITORING WELL LOCATION MAP	PATRICK ENGINEERING INC. 4970 Varsity Drive, Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
Proj No.: 21153.034	JOLIET STATION NO. 29 JOLIET, ILLINOIS	
App. By: RMF		

MWG13-15_14161

ASH POND DATA EVAULATION & SUMMARY

POWERTON STATION
Midwest Generation, LLC
Pekin, Illinois
January 2012

SITE DESCRIPTION

The Powerton facility (the Site) is located in Pekin, Tazewell County, Illinois. The Site is located along the Illinois River, south and west of the city of Pekin. The surrounding land use consists of the Illinois River to the north, industrial and residential properties to the east, agricultural land to the south, and Lake Powerton to the west.

The site contains three active ash ponds. Each ash pond is lined with 12" of geo-composite material on the bottom, and a geo-membrane liner on the side slopes; the total area of the three ash ponds is approximately 11 acres. One former ash pond that is no longer used is located east of the current ash ponds; it has been partially filled, and has been bisected by a rail loop, but still contains some ash.

MONITORING WELLS

Ten monitoring wells have been installed (MW-1 through MW-10) surrounding the ash impoundments (both former and current) at the Powerton facility. The well locations were selected so that both upgradient and downgradient wells were represented, based upon available data regarding the expected groundwater flow direction (north, toward the Illinois River). Monitoring wells MW-1, MW-9 and MW-10 are installed upgradient of the ash ponds. The wells are monitored quarterly in accordance with the long-term monitoring plan. Groundwater data has been collected on a quarterly basis starting in December of 2010 and is continuing into 2012. A monitoring well location map is included in this summary.

GROUNDWATER ELEVATIONS

Groundwater elevations in each monitoring well are collected quarterly prior to sampling. The groundwater levels were compared to levels collected by the USGS stream flow data at Station Number 05568500 located on the Illinois River at Kingston Mines, Illinois. Fluctuations in the groundwater elevations correlated to fluctuations in the River, indicating the groundwater at the site has a direct hydraulic connection to the surface water. The water elevations in all of the ash ponds, excluding the large, former ash pond to the east, are significantly higher than the surrounding groundwater elevations.

If wells MW-6 and MW-8 are excluded from the analysis, the direction of groundwater flow is clearly found to be from south to north, towards the River, as expected. The groundwater elevations in MW-6 and MW-8 are approximately 12 feet higher than in surrounding wells; the ground surface elevation in this area is also significantly higher than in the surrounding area. Boring logs from these wells also indicate the geology of this area consists of almost entirely fill

MWG13-15_14162

material. It is Patrick's opinion that both the topography and geology of this area create a localized groundwater high that is not necessarily attributable to leakage from the nearby wells. This conclusion is also supported by analytical data presented later in this report.

The correlation between groundwater elevations and the Illinois River elevations was weaker in the vicinity of wells MW-1, MW-9 and MW-10, which are the three wells furthest from the River and therefore the three wells that would be expected to be the least affected by changes in River elevation.

ANALYTICAL RESULTS

Groundwater samples were collected from the 10 monitoring wells on site on a quarterly basis in 2011. Both upgradient and downgradient wells on site have Class I Groundwater Quality Standard exceedances. These exceedances include: arsenic, iron, manganese, boron, chloride, nitrogen-nitrate, and total dissolved solids.

Concentrations of constituents exceeding Class I Groundwater Standards in downgradient wells (MW-2 through MW-8) were compared with upgradient well (MW-1, MW-9 and MW-10) concentrations. Average downgradient concentrations of manganese, chloride, total dissolved solids, arsenic and iron were higher than in the upgradient wells. Upgradient concentrations of boron and nitrogen-nitrate were higher than in the downgradient wells. Note that, excluding manganese, chloride, and nitrate, all of the exceedances of Class I standards were detected in only one well (MW-7).

Manganese and chloride (both naturally occurring compounds) were the only compounds that exceeded Class I standards in MW-6 and MW-8, providing further evidence that the ash ponds near these wells are not leaking (no other more traditional coal constituent indicator compounds exceeded standards in these two wells).

Patrick performed trend analyses on the following parameters (arsenic, barium, chromium, cobalt, iron, manganese, nickel, selenium, boron, sulfate, chloride, nitrogen-nitrate, total dissolved solids, and fluoride). Analytical parameters without any detections were not included in the analysis.

The increasing trend in arsenic concentrations in MW-7 was the only statistically significant increase of any constituent in any well. There were no statistically significant (at the 95% confidence level) increasing or decreasing trends for any of the remaining analyzed compounds.

CONCLUSIONS

- The groundwater underlying the Site appears to be in direct hydraulic connection to the Illinois River, except for the groundwater underlying the area near MW-6 and MW-8. There appears to a localized groundwater high in the vicinity of these wells that appears to be caused by local changes in topography and lithology.

- There does not appear to be any notable downgradient groundwater impact except potentially at well MW-7. Further evaluation of the nature and extent of any downgradient groundwater impact will be possible upon completion of the sixth sampling event and a statistical analysis of upgradient groundwater quality.

NEXT STEPS

The monitoring wells on site continue to be monitored on a quarterly basis. Possible modifications to the current sampling program that may provide useful data with respect to demonstrating the competency of the ash ponds could include:

- Surveying the ash ponds is an additional task for 2012 as listed in an Illinois EPA comment letter response to the initial Hydrogeologic Assessment. The purpose is to compare groundwater levels in the monitoring wells with the ash pond elevations. The additional surveying may provide data that will be useful in clarifying the nature of the groundwater high in the vicinity of MW-6 and MW-8.

- While not necessary at this time, additional investigations into the nature of the groundwater elevations at MW-6 and MW-8 could include the installation of groundwater level transducers or the performance of a tracer test in the ponds closest to MW-7.

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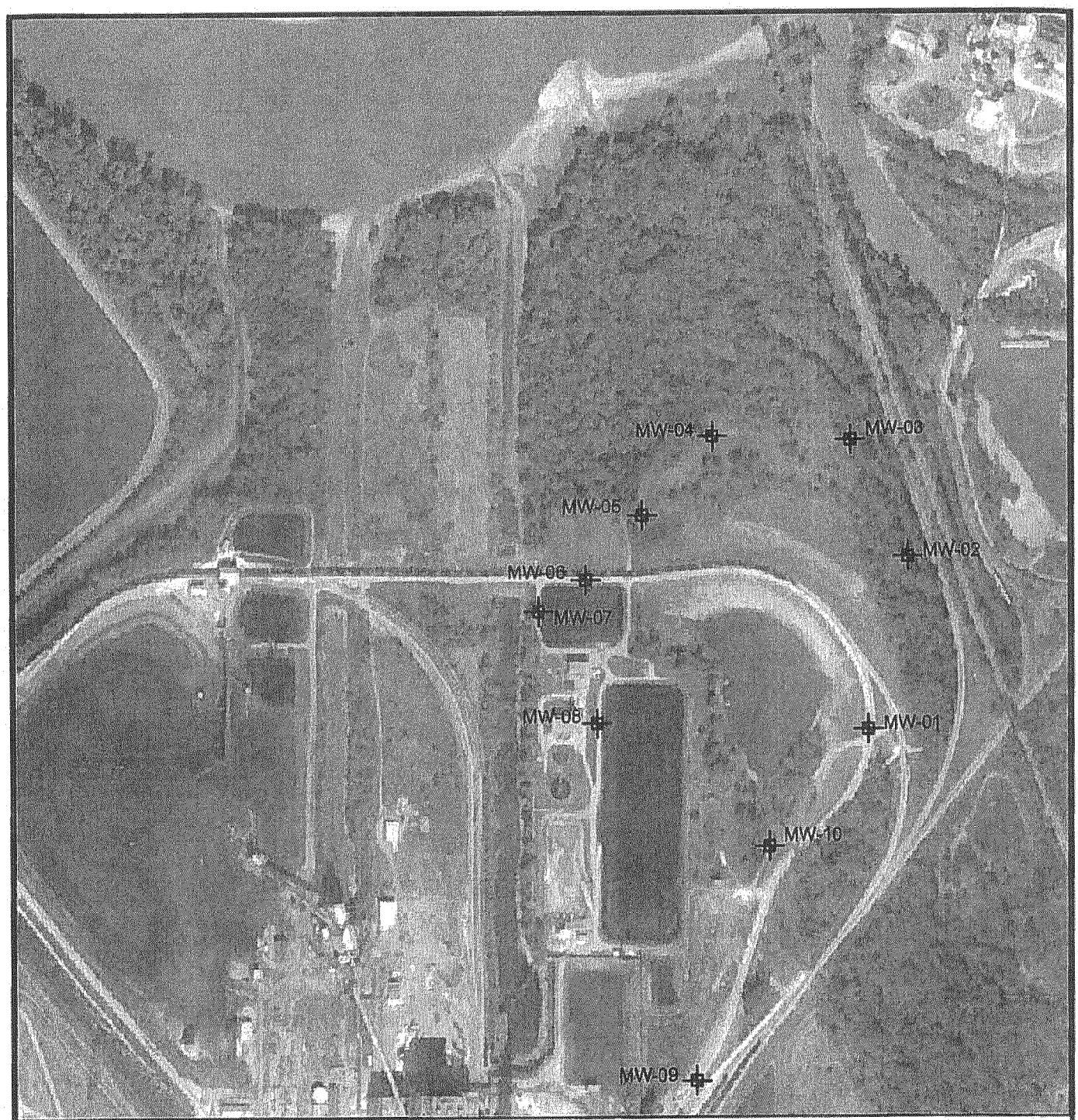

LEGEND

MW-01 Monitoring Well Location

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AERIAL IMAGE SOURCE:
2005 ORTHOPHOTO TAKEN FROM THE ILLINOIS NATURAL RESOURCES CLEARINGHOUSE

1" = 600'

Date: JAN. 2011	FIGURE 1 MONITORING WELL LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21153.018	POWERTON STATION PEKIN, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681
App. By: RMF		PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409

MWG13-15_14165

ASH POND DATA EVAULATION & SUMMARY

WAUKEGAN STATION
Midwest Generation, LLC
Waukegan, Illinois
January 2012

SITE DESCRIPTION

The Waukegan facility (the Site) is located in the City of Waukegan, Lake County, Illinois. The Site is located along the shore of Lake Michigan on the northeast side of Waukegan. The surrounding land use consists of undeveloped land to the north, apparently vacant industrial land to the south, residential properties to the west, and Lake Michigan to the east. The Site contains two active ash ponds. The ponds are lined with a high-density polyethylene (HDPE) liner; the total area of the two ash ponds is approximately 25 acres.

MONITORING WELLS

Five monitoring wells have been installed (MW-1 through MW-5) surrounding the ash impoundments at the Waukegan facility. The well locations were selected so that both upgradient and downgradient wells were represented, based upon available data regarding the expected groundwater flow direction. Monitoring well MW-5 is installed upgradient of the ash ponds. The wells are monitored quarterly in accordance with the long-term monitoring plan. Groundwater data has been collected on a quarterly basis starting in December of 2010 and is continuing into 2012. A Monitoring Well Location Map is included in this summary.

GROUNDWATER ELEVATIONS

Groundwater levels in the monitoring wells are collected quarterly prior to sampling. The groundwater levels were compared to the Lake Michigan water levels collected by the NOAA Lake Michigan Water Elevation data at stations collected near Milwaukee, Wisconsin and Calumet, Indiana. The data from these two stations were interpolated to calculate an expected elevation near the Waukegan Station. The fluctuations in the groundwater elevations were compared to the fluctuations in the lake water levels for each monitoring event. There appears to be a correlation between Lake levels and the groundwater levels at the Site.

The direction of groundwater flow at the site is west to east, directly towards Lake Michigan.

Waukegan Station operates two ash ponds at the Site. Only one of the ponds is active at any given time. When a given pond is active, its water elevation can be significantly higher (>10') than the natural groundwater elevation at the Site. Yet these levels tend to be maintained for an extended period, indicating that there is no significant leakage through the liner of the pond. Similarly, the non-active pond is maintained at an elevation well below the natural groundwater elevation (<8'), with no observable leakage into the pond. Both of these observations are consistent with the fact that these ponds are lined with an HPDE liner, and do not appear to be hydraulically connected with groundwater at the site.

MWG13-15_14166

ANALYTICAL RESULTS

Groundwater samples were collected from the 5 monitoring wells on site on a quarterly basis in 2011. Both the upgradient well and downgradient monitoring wells on site have Class I Groundwater Quality Standard exceedances. The following compounds exceeded their respective Class I standards: arsenic, boron, manganese, sulfate, chloride and total dissolved solids.

Patrick compared upgradient well concentrations with downgradient well concentrations. The concentrations of boron, iron, manganese, chloride and total dissolved solids are higher, sometimes significantly higher, in the upgradient well (MW-5) than in the downgradient wells. The downgradient wells, MW-1 through MW-4, have higher concentrations of arsenic, with the highest concentrations found in MW-1 (the northernmost downgradient well).

Patrick performed a trend analysis on the following analytical parameters, (arsenic, barium, cyanide, iron, manganese, selenium, boron, sulfate, chloride, nitrogen-nitrate, total dissolved solids, fluoride, and nitrogen-nitrate-nitrite). Analytical parameters without any detections were not included in the analysis. There were no statistically significant (at the 95% confidence level) increasing or decreasing trends for any of the analyzed compounds.

CONCLUSIONS

- There is a strong correlation between Lake Michigan elevations and the groundwater levels in the monitoring wells on site. The groundwater levels collected on site consistently fluctuated on a similar scale with water levels in Lake Michigan which indicate that the groundwater on site is hydraulically connected to the Lake, as expected.
- The pond elevation data when compared with the natural groundwater elevation at the Site provide strong evidence that there is no hydraulic connection between these units; the ponds do not appear to be leaking.
- The groundwater elevation data show that MW-5 is an upgradient well. The elevated concentrations of compounds of interest in MW-5 appear to be the result of the well being installed in a former ash disposal area and not a result of leakage from the current ash ponds.
- The relatively low concentrations of compounds of interest in the downgradient wells, as compared to those found in the upgradient well, appear to indicate that the current ash ponds are not leaking. The source of the elevated concentration of arsenic in MW-1 is unknown, but could be related to the nearby coal pile. The Waukegan Site data appear to support the conclusion that the ash ponds do not appear to be the source of groundwater contamination at the Site.

NEXT STEPS

- The monitoring wells on site will continue to be monitored on a quarterly basis through 2012. Monitoring wells that contain detections will continue to be monitored in order to observe any trend that may be occurring whether the compounds may be increasing or decreasing.

- An additional well was requested by the Illinois EPA in a comment letter in response to the Waukegan Hydrogeologic Assessment. The well was proposed to be installed at the southern edge of the property to assess the potential for off-site migration. No definitive decision regarding the installation of this requested well has yet been made.

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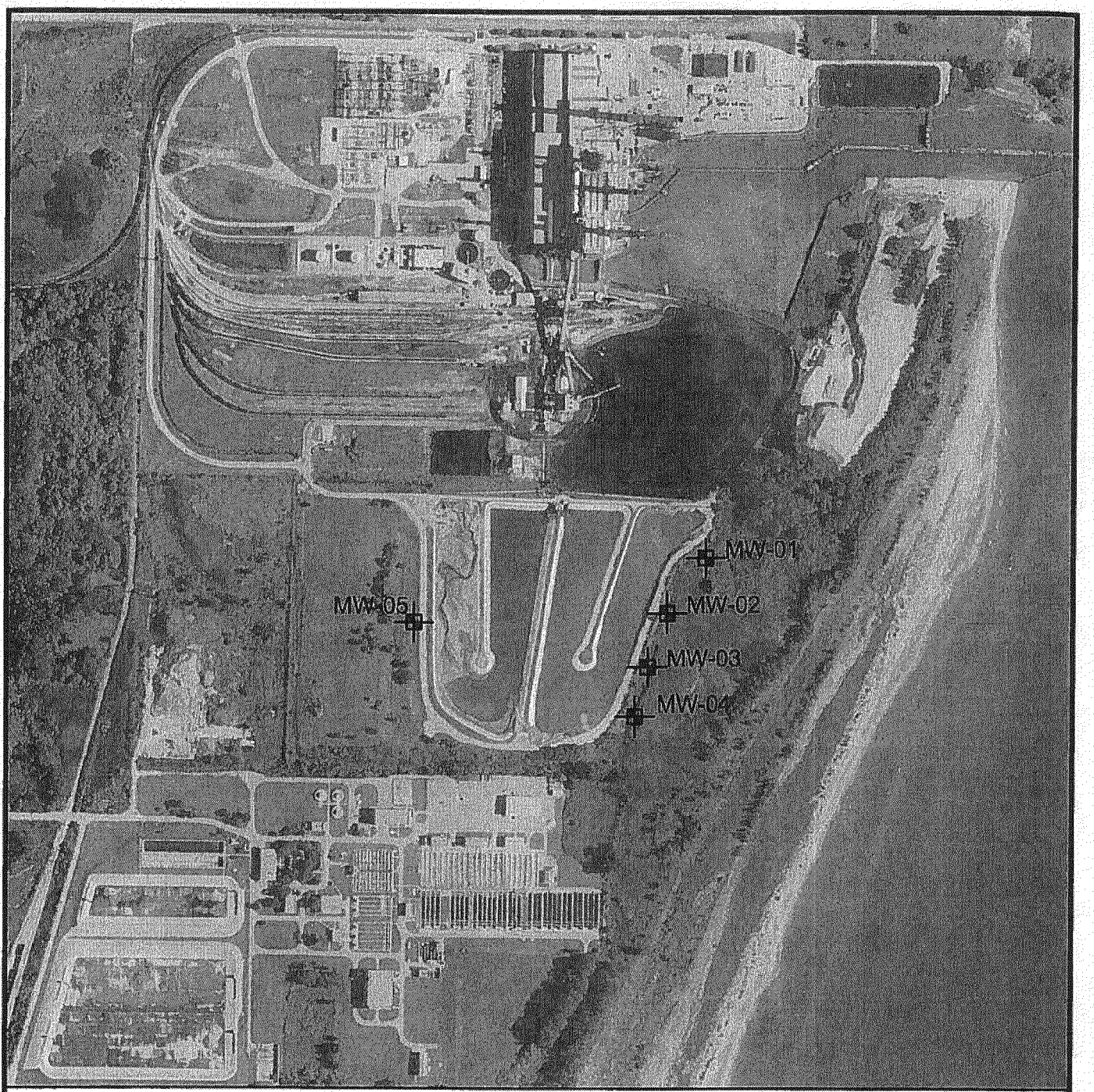

LEGEND

MW-01 Monitoring Well Location

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1" = 600'

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

Date: JAN. 2011	FIGURE 1 MONITORING WELL LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21153.033	WAUKEGAN STATION WAUKEGAN, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL (630) 795-7200 FAX (630) 724-1681
App. By: RMF		PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409

MWG13-15_14169

ASH POND DATA EVAULATION & SUMMARY

WILL COUNTY STATION
Midwest Generation, LLC
Romeoville, Illinois
January 2012

SITE DESCRIPTION

The Will County Generating Station (the Site) is located in Romeoville, Will County, Illinois. The Site is located between the Chicago Sanitary and Ship Canal (CSSC) and the Des Plaines River east of the city of Romeoville. The surrounding land use consists of undeveloped land to the north, the Chicago Sanitary and Ship Canal to the east, a quarry to the south, and the Des Plaines River to the west. The Site includes four active ash ponds. The ponds are lined with 36" of geo-composite material; the total area of the four ash ponds is approximately 8 acres.

MONITORING WELLS

Ten monitoring wells have been installed (MW-1 through MW-10) surrounding the ash impoundments at the Will County facility. The well locations were selected so that both upgradient and downgradient wells were represented, based upon available data regarding the expected groundwater flow direction. Monitoring wells MW-1 through MW-6 were intended to be installed downgradient of the ash ponds. The wells are monitored quarterly in accordance with the long-term monitoring plan. Groundwater data has been collected on a quarterly basis starting in December of 2010 is continuing into 2012. A monitoring well location map is attached to this summary.

GROUNDWATER ELEVATIONS

The groundwater elevation in each of the ten wells was measured prior to sampling. The groundwater levels were compared to levels collected by the USGS stream flow data at Station Number 05536998 located in the CSSC at the Lockport Controlling Works in Lockport, Illinois and at Station Number 05534000 located in the Des Plaines River at Romeoville Road. Fluctuations in the groundwater elevations correlated to fluctuations in the CSSC and the River, indicating the groundwater at the site has a direct hydraulic connection to the surface waters. The elevation of the Des Plaines River is normally higher than the elevation of the CSSC (Wells MW-7 through MW-10 were installed to be the upgradient wells based on this observation). The surface water elevations in the ash ponds were also measured during the initial investigation; the water elevations in the ash ponds were 3 to 6 feet higher than the groundwater elevations in the nearby wells.

Patrick's initial conceptual model of groundwater flow at the Site was that the groundwater was hydraulically connected to both the River and the CSSC with groundwater flowing from west to east. The data collected to date indicates that the groundwater is in direct hydraulic connection to the River and the CSSC; however, the groundwater elevations are all higher than either of the surface waters and the direction of groundwater is generally found to be from the northeast to southwest. It is unknown whether the presence of this groundwater 'mound' between the River

and the CSSC is due simply to natural mounding due to recharge, or is partially related to leakage from the ash ponds themselves. The groundwater elevation in MW-5 has periodically been higher than either MW-4 to the north and MW-6 to the south, which could conceivably be due to a leakage contribution from the South Pond (directly west of MW-5), but it is difficult to make such a conclusion on the basis of the existing data. The collection of additional ash pond elevation data (this was only collected during the first sampling event) may help in further defining the relationships between groundwater and surface water at the Site. Definitive demonstration that the ponds are not leaking could really only be supplied by something like a bromide tracer test, but these are expensive, and even these tests are not guaranteed to settle the matter one way or another.

ANALYTICAL RESULTS

Groundwater samples were collected from the 10 monitoring wells on site on a quarterly basis in 2011. Both upgradient and downgradient wells indicated Class I Groundwater Quality Standard exceedances. The following compounds exceeded their respective Class I standards: manganese, boron, sulfate, chloride, and total dissolved solids (TDS).

Patrick compared the concentrations of those compounds that exceeded the Class I standards in the upgradient and downgradient wells. Based upon the current model of groundwater flow at the Site, only MW-1 appears to be a true upgradient well (MW-2 through MW-6 are considered side-gradient and MW-7 through MW-10 are downgradient). Compared to MW-1, concentrations of boron were higher in all of the other wells; concentrations of sulfate were higher in 7 of the other wells; TDS was higher in 5 out of 9 wells; manganese was higher in 4 out the other wells; and chloride was higher in only 2 of the other wells. The results of these comparisons could be used to argue that the ash ponds are potentially impacting downgradient groundwater at the Site. However, there is still uncertainty regarding the groundwater flow paths and Patrick has not yet performed a rigorous statistical analysis of upgradient groundwater quality.

Patrick performed trend analyses on the following parameters (each of these parameters was detected during at least once during each sampling event): arsenic, barium, cobalt, iron, manganese, nickel, selenium, boron, sulfate, chloride, total dissolved solids, fluoride, nitrogen-nitrite, and nitrogen-nitrate-nitrite. There were no statistically significant (at the 95% confidence level) increasing or decreasing trends for any of the analyzed compounds.

CONCLUSIONS

- The groundwater and surface water elevation data indicate that the groundwater at the site is in direct hydraulic connection with both the CSSC and the Des Plaines River. This conclusion is also supported by the increase in chloride concentrations in the spring of 2011 (chloride concentrations in surface water generally peak in the spring as snow melt and precipitation runoff transport dissolved road salt).

- The groundwater elevations are generally higher than either the CSSC or the River, indicating that there is a groundwater 'mound' underlying the Site. Since the ash pond water elevations are significantly higher than the groundwater elevations and the potentiometric surface maps do not indicate a clear radial flow pattern away from the ash ponds, it is possible that the groundwater mounding is a natural occurrence due to recharge.

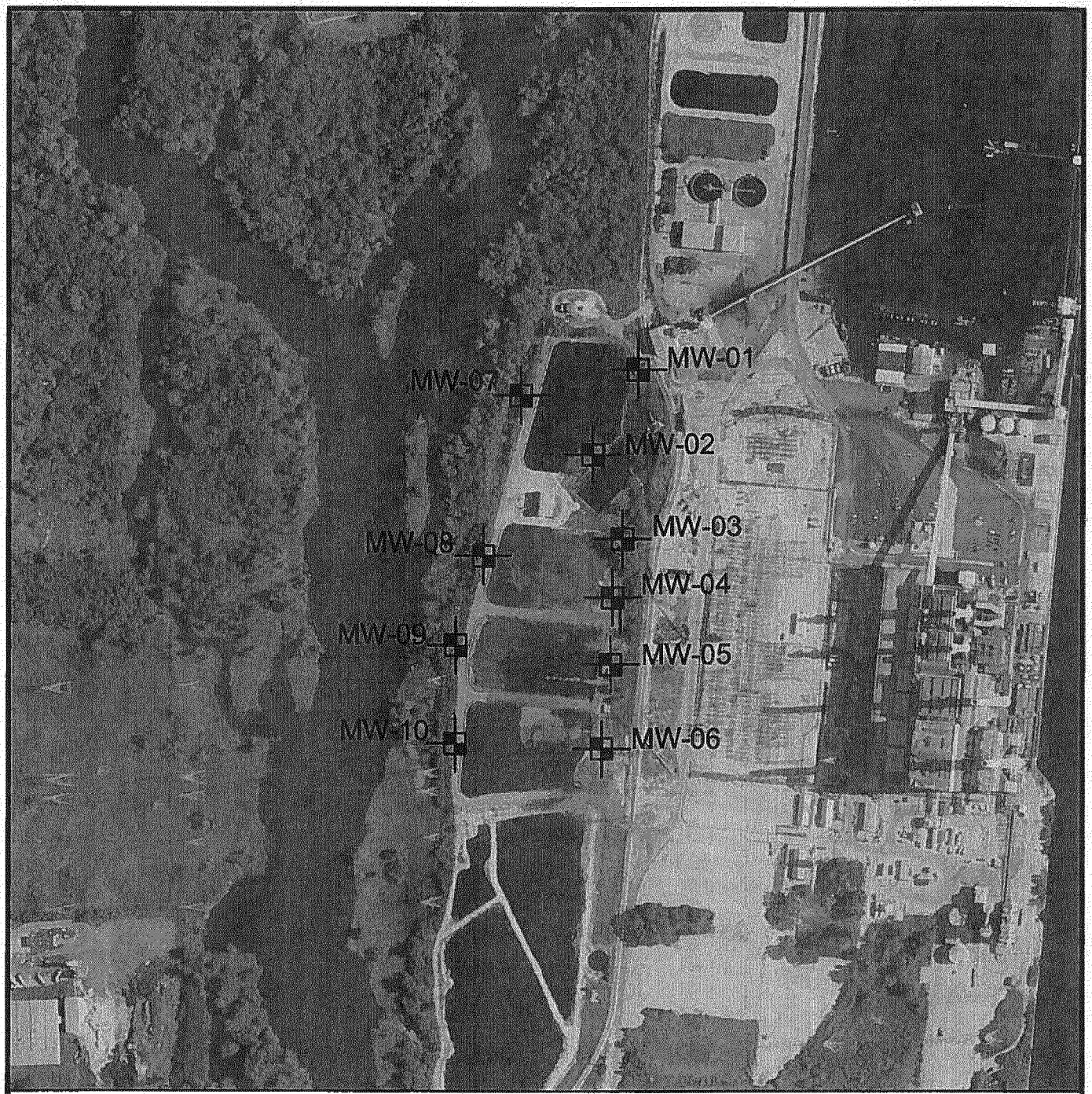
- The results of the groundwater sampling indicate that there are exceedances of the Class I groundwater quality standards for compounds that can be associated with coal ash, most notably boron. Boron and sulfate concentrations are higher in nearly all of the downgradient wells, when compared to MW-1, indicating that the ash ponds are potentially impacting downgradient groundwater. However, given the limited number of upgradient wells at the Site (one, if the mounding is considered), no firm conclusion can be drawn with respect to groundwater analytes at the Site.

NEXT STEPS

The monitoring wells on site continue to be monitored on a quarterly basis. Possible modifications to the current sampling program that may provide useful data with respect to demonstrating the competency of the ash ponds could include:

- Patrick could collect the water elevations of the ash ponds during each quarterly sampling event. While this could provide additional useful data, the ponds elevations experience such frequent fluctuation based solely on the station operations elevation fluctuations in the ash ponds that quarterly pond elevation data may not yield any useful data.

- Given the complicated nature of hydraulic flow and contaminant distribution at the Site, it is difficult to draw any strong conclusions regarding the nature of the ash ponds at the Will County Site. It may be that definitive data on whether or not these ponds are contributing to groundwater contamination would only be provided by a tracer test, using bromide, or some other conservative tracer.



LEGEND

MW-01 Monitoring Well Location

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N

1" = 600'

AERIAL IMAGE SOURCE:
LANDISCOR AERIAL INFORMATION INC., JULY 2008

Date: JAN. 2011	FIGURE 1 MONITORING WELL LOCATION MAP	PATRICK ENGINEERING INC.
Proj No.: 21153.017	WILL COUNTY STATION ROMEOVILLE, ILLINOIS	4970 Varsity Drive Lisle, Illinois 60532-4101 TEL. (630) 795-7200 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409
App. By: RMF		

MWG13-15_14173