

**HYDROGEOLOGIC ASSESSMENT REPORT
POWERTON GENERATING STATION
PEKIN, ILLINOIS**

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PATRICK PROJECT No. 21053.070

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1.0 INTRODUCTION

1.1 Background

Pursuant to the request of the Illinois Environmental Protection Agency (Illinois EPA), this document presents the Hydrogeologic Assessment Report for the on-site ash pond areas at the Midwest Generation, LLC (MWG) Powerton Generating Station in Pekin, Illinois. This hydrogeologic assessment was performed in accordance with the Hydrogeologic Assessment Plan, approved by the Illinois EPA, dated September 3, 2010.

As defined by the Hydrogeologic Assessment Plan, the purpose of this investigation was to: (i) evaluate the potential, if any, for migration of ash-related constituents from the on-site ash ponds and to conduct monitoring for groundwater constituents regulated by the Illinois Part 620 groundwater standards, as requested by the Illinois EPA; (ii) characterize the subsurface hydrogeology; and (iii) identify potable well use within 2,500 feet of the ash ponds. The results of this investigation are described in this Hydrogeologic Assessment Report.

1.2 Site Location and Description

The Powerton facility (the Site) is located in Section 9, Township 24 North, Range 5 West, in the City of Pekin, Tazewell County, Illinois. Figure 1 provides a Site Location Map.

The site contains three active ash ponds. Each ash pond is lined with 12" of geo-composite material on the bottom, and a geo-membrane liner on the side slopes; the total area of the three ash ponds is approximately 11 acres. One former ash pond that is no longer used is located east of the current ash ponds; it has been partially filled but still contains some ash. Figure 2 shows the locations of the three active and one former ash ponds.

1.3 Regional Setting

The Site is located along the Illinois River south and west of the city of Pekin. The surrounding land use consists of the Illinois River to the north, industrial and residential properties to the east, agricultural land to the south, and Lake Powerton to the west.

Patrick Engineering Inc. (Patrick) conducted a review of publically available geological information from the Illinois State Geological Survey website. Based upon water well logs from the area, the geology beneath the Site consists of approximately 100 to 125 feet of unconsolidated deposits (mainly alluvial sands and gravels with some minor clay), underlain by the Carbondale Formation, which consists of alternating layers of limestone, shale, coal, and underclay.

Groundwater flow in the shallow, unconsolidated aquifer should be largely controlled by the Illinois River with groundwater flowing towards the river during most periods of the year.

2.0 HYDROGEOLOGIC ASSESSMENT METHODOLOGY

The following sections present the methodologies used to evaluate the potential for migration of ash-related constituents from the ash ponds and to monitor for all Part 620-regulated constituents, to characterize the subsurface hydrogeology, and to identify potable well use within 2,500 feet of the Site.

2.1 Evaluation of Ash-Related Constituents Migration Potential

The Illinois EPA requested that an evaluation of the potential for migration of ash-related constituents from the ash ponds and that monitoring for all Part 620-regulated constituents be performed in accordance with the groundwater standards included in 35 Illinois Administrative Code (IAC) Part 620, Subparts C and D. Accordingly, groundwater monitoring wells were installed at the Site in locations both upgradient and downgradient of the ash ponds.

2.1.1 Installation of Groundwater Monitoring Wells

Patrick installed ten (10) groundwater monitoring wells spaced approximately 400 feet apart around the perimeter of the ash ponds. The well locations were selected so that both upgradient and downgradient wells were represented, based upon available data regarding the expected groundwater flow direction. The spacing of the well locations at the Site along the downgradient edge of the ash ponds was calculated so as to detect a groundwater plume emanating from a point source beneath the ash ponds. Figure 3 shows the location of the ten monitoring wells.

Two of the installed monitoring wells are located upgradient of the ash ponds; the additional eight wells are located down/side-gradient of the ash ponds. The well borings were advanced using hollow-stem augers to depths ranging from 30 to 45 feet below ground surface (bgs). Borings were terminated after the field geologist determined that the boring was installed approximately 10 feet past the first intersection of the groundwater table in order to ensure that a representative groundwater sample could be obtained. Upon termination of each boring, a 2-inch

diameter, PVC well was installed in order to collect samples of the groundwater in the uppermost aquifer. The monitoring wells were completed to approximately 3 feet above grade, with PVC casing, and were covered with a stick-up, steel well protector with a locking cap. Soil lithology was inspected and logged by an experienced geologist during the boring process. Boring logs with well construction information are included as Appendix A.

2.1.2 Initial Groundwater Sampling and Analytical Testing

The groundwater sampling event for the Site took place on December 6, 2010. The groundwater elevation in each of the ten wells was measured prior to sampling. Groundwater samples were collected from each well with a peristaltic pump, using established low-flow sampling techniques. Temperature, pH, and conductivity measurements were taken using a portable meter in all wells; refer to Table 1 for these field parameter results. All groundwater samples were filtered in the field using a disposable, 0.45 μ m, in-line filter to allow for the analytical testing of dissolved compounds. The samples were immediately placed on ice in a cooler and kept at a temperature of no higher than 4° F. The samples were transported to PDC Laboratories, Inc. (PDC), an Illinois-EPA accredited analytical laboratory, in accordance with chain-of-custody procedures to maintain the integrity of the samples.

The analytical laboratory tested groundwater samples from each of the wells for the compounds listed in Table 2. Analytes tested include the inorganic compounds listed in 35 IAC 620.410(a), excluding both radium and the poly-aromatic hydrocarbons (PAHs) listed in 35 IAC 620.410(b).

2.2 Characterization of Subsurface Hydrogeology

The subsurface hydrogeology beneath the ash ponds was characterized by determining Site lithology and the groundwater flow patterns in the vicinity of the ash ponds as described below.

2.2.1 Site Lithology

The Site lithology was determined by logging soil samples collected from the soil borings created during the installation of the groundwater monitoring wells. The soil borings were installed under the direction of an experienced geologist. Each boring was sampled at 2-foot intervals using a 2-inch O.D. split- spoon sampler (ASTM D 1586). Each soil sample was inspected and logged by the geologist during the boring process. Boring logs with well construction information are provided as Appendix A.

2.2.2 Topographic and Water Elevation Surveys

A survey crew measured both the top-of-casing and ground surface elevations of all installed monitoring wells and the groundwater elevations within each of the monitoring wells on November 4, 2010. The survey crew concurrently measured the water elevation in all four of the ash ponds, the intake and outfall channels, and the Illinois River.

2.2.3 Hydraulic Testing of Selected Wells

Patrick conducted five *in situ* hydraulic conductivity tests on wells MW-2, MW-5, MW-8, MW-9, and MW-10 on December 16, 2010. The testing consisted of one rising-head and one falling-head slug test performed at each well. Using a data-logging pressure transducer, Patrick measured the rate of groundwater level recovery in the wells after either inserting a slug into, or removing a slug from, each monitoring well.

2.3 Identification of Potable Well Use

Natural Resource Technology, Inc. (NRT) has previously completed an investigation of potable water well use within 2,500 feet of the Powerton ash ponds. MWG submitted the results of this investigation to the Illinois EPA by letter dated July 15, 2009. These results are summarized in Appendix B.

The following databases and sources of information were used in order to identify local community water sources and water well locations in the vicinity of the Site:

- Illinois State Geological Survey (ISGS) - Water Well Database Query;
- Illinois State Water Survey (ISWS) Private Well Database and water well construction report request; and
- Illinois Division of Public Water Supply web-based Geographic System (GIS) files.

3.0 HYDROGEOLOGIC ASSESSMENT RESULTS

3.1 Evaluation of Ash-Related Constituent Migration Potential

The analytical laboratory results for the hydrogeologic assessment are presented in Table 2. Full laboratory data packages from PDC are provided as Appendix C. Manganese and boron were detected in one or more monitoring wells at concentrations exceeding the Part 620 Class I Groundwater Quality Standards. In some cases, the highest concentrations of a given compound were found in the upgradient wells. Antimony, beryllium, cadmium, copper, cyanide, lead, mercury, silver, thallium, zinc, nitrogen/nitrite, and nitrogen/nitrate/nitrite were not detected in any of the groundwater samples.

A determination of the potential for the individual ash ponds to be contributing to the distribution of analytes in the underlying groundwater and the extent, if any, of such contribution cannot be made from the results of this single sampling event alone. To develop a true, statistically-significant upgradient background concentration for the various compounds will require a number of sequential sampling events over time. Based on a statistically developed background value, downgradient concentrations can be compared to the background value over time to determine the likelihood and extent of any constituent migration from the on-site ash ponds. A plan to develop such an analytical database through additional sampling is presented in the last section of this report.

3.2 Characterization of Subsurface Hydrogeology

The lithology of the Site is predominantly fine sand fill underlain with sand and gravel; a silt seam runs through a portion of the Site. Refer to Figure 4 for a geologic cross-section of the Site.

The results of the topographic and water elevation surveys are presented in Table 3.

The uppermost groundwater unit at the Site is found at depths ranging from 18 to 28 feet bgs. The direction of groundwater flow is to the north/northwest towards the Illinois River, which

runs along the northern boundary of the Site. The hydraulic gradient is approximately 0.0056 based upon the groundwater elevation data collected on November 4, 2010. A potentiometric surface map is provided as Figure 5. Note that several of the wells indicated groundwater elevations either higher or lower than what is indicated by the potentiometric surface (MW-2, MW-6, and MW-8). These apparent anomalies could be due to localized differences in lithology or localized areas of higher recharge. Patrick will continue to refine the potentiometric surface map with the additional groundwater elevation data that will be collected during the proposed quarterly sampling events.

Patrick used the hydraulic testing data to calculate the hydraulic conductivity of the uppermost aquifer using the Bouwer and Rice method. Hydraulic conductivity calculations are provided in Appendix D. The hydraulic conductivity of Site soils ranged from 7.41×10^{-4} to 9.24×10^{-3} ft/second. The average hydraulic conductivity was 4.7×10^{-3} ft/second. Using the highest calculated hydraulic conductivity and the measured hydraulic gradient, Patrick calculated the maximum groundwater velocity to be approximately 2.27 ft/day (4.7×10^{-3} ft/sec x 0.0056 x 60 sec/min x 60 min/hour x 24 hours/day).

3.3 Identification of Potable Well Use

As stated above, NRT has previously completed an investigation of potable water well use within 2,500 feet of the Powerton ash ponds. MWG submitted the results of this investigation to the Illinois EPA by letter dated July 15, 2009. According to this letter, six wells are located within a 2,500-foot radius of the ash ponds (see Appendix B), each of which is screened below 50 feet. None of these wells are located downgradient from the ash ponds. Two of these wells supply Powerton Station with water.

4.0 LONG-TERM MONITORING PLAN

In order to properly assess the groundwater monitoring data collected in this single sampling event, MWG will conduct a quarterly groundwater sampling program in which the same monitoring wells described in this report will be sampled for the identical analyte list employed during this investigation. MWG proposes to begin this quarterly monitoring program in March 2011, and will submit the results of the sampling program to the Illinois EPA on an ongoing, quarterly basis. MWG proposes to continue this program until sufficient statistically-significant data is available to properly assess the groundwater data. If the quarterly sampling results continue to show non-detect results for certain of the analytes, as was the case in this single sampling event, MWG may propose to Illinois EPA that these analytes be eliminated from future sampling events.

Table 1
GROUNDWATER FIELD PARAMETER DATA
Powerton Station, Pekin, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

|  Field Parameter Data - Powerton Station | | | | | |
|--|------------|-------|---------------------|----------------|------|
| Monitoring Well | Date | Time | Conductance (S/cm)* | Temperature °C | pH |
| MW-01 | 12/15/2010 | 14:01 | 0.933 | 10.43 | 7.72 |
| MW-01 | 12/15/2010 | 14:03 | 0.957 | 10.45 | 7.58 |
| MW-01 | 12/15/2010 | 14:05 | 0.920 | 10.44 | 7.53 |
| MW-01 | 12/15/2010 | 14:07 | 0.922 | 10.52 | 7.48 |
| MW-01 | 12/15/2010 | 14:09 | 0.926 | 10.23 | 7.46 |
| MW-01 | 12/15/2010 | 14:11 | 0.919 | 10.45 | 7.46 |
| MW-01 | 12/15/2010 | 14:13 | 0.919 | 10.47 | 7.46 |
| MW-02 | 12/15/2010 | 10:30 | 0.97 | 13.87 | 7.89 |
| MW-02 | 12/15/2010 | 10:32 | 0.98 | 13.92 | 7.90 |
| MW-02 | 12/15/2010 | 10:34 | 0.97 | 13.86 | 7.91 |
| MW-02 | 12/15/2010 | 10:36 | 0.97 | 13.97 | 7.91 |
| MW-02 | 12/15/2010 | 10:38 | 0.97 | 14.02 | 7.91 |
| MW-02 | 12/15/2010 | 10:40 | 0.96 | 14.01 | 7.91 |
| MW-03 | 12/15/2010 | 12:30 | 0.910 | 17.08 | 7.43 |
| MW-03 | 12/15/2010 | 12:32 | 0.905 | 17.02 | 7.44 |
| MW-03 | 12/15/2010 | 12:34 | 0.893 | 16.99 | 7.43 |
| MW-03 | 12/15/2010 | 12:36 | 0.892 | 17.12 | 7.43 |
| MW-03 | 12/15/2010 | 12:38 | 0.905 | 16.67 | 7.43 |
| MW-03 | 12/15/2010 | 12:40 | 0.898 | 17.07 | 7.43 |
| MW-04 | 12/15/2010 | 11:49 | 1.31 | 16.07 | 7.24 |
| MW-04 | 12/15/2010 | 11:51 | 1.30 | 16.28 | 7.27 |
| MW-04 | 12/15/2010 | 11:53 | 1.29 | 16.24 | 7.27 |
| MW-04 | 12/15/2010 | 11:55 | 1.09 | 16.19 | 7.28 |
| MW-04 | 12/15/2010 | 11:57 | 1.29 | 16.21 | 7.28 |
| MW-04 | 12/15/2010 | 11:59 | 1.29 | 16.06 | 7.27 |
| MW-04 | 12/15/2010 | 12:01 | 1.29 | 16.30 | 7.27 |
| MW-05 | 12/15/2010 | 11:11 | 1.35 | 14.88 | 7.24 |
| MW-05 | 12/15/2010 | 11:13 | 1.35 | 14.79 | 7.25 |
| MW-05 | 12/15/2010 | 11:15 | 1.36 | 14.85 | 7.24 |
| MW-05 | 12/15/2010 | 11:17 | 1.35 | 14.90 | 7.24 |
| MW-05 | 12/15/2010 | 11:19 | 1.34 | 14.80 | 7.24 |
| MW-05 | 12/15/2010 | 11:21 | 1.33 | 14.86 | 7.25 |
| MW-05 | 12/15/2010 | 11:23 | 1.33 | 14.80 | 7.24 |
| MW-06 | 12/15/2010 | 14:52 | 1.67 | 24.47 | 7.68 |
| MW-06 | 12/15/2010 | 14:54 | 1.69 | 24.46 | 7.68 |

Table 1
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Powerton Station, Pekin, Illinois
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Feb. 28, 2011

|  Field Parameter Data - Powerton Station | | | | | |
|--|------------|-------|---------------------|----------------|------|
| Monitoring Well | Date | Time | Conductance (S/cm)* | Temperature °C | pH |
| MW-06 | 12/15/2010 | 14:56 | 1.68 | 24.44 | 7.68 |
| MW-06 | 12/15/2010 | 14:58 | 1.66 | 24.43 | 7.67 |
| MW-06 | 12/15/2010 | 15:00 | 1.67 | 24.46 | 7.68 |
| MW-06 | 12/15/2010 | 15:02 | 1.65 | 24.53 | 7.67 |
| MW-08 | 12/15/2010 | 15:28 | 1.65 | 20.07 | 8.22 |
| MW-08 | 12/15/2010 | 15:30 | 1.64 | 20.00 | 8.22 |
| MW-08 | 12/15/2010 | 15:32 | 1.64 | 20.10 | 8.23 |
| MW-08 | 12/15/2010 | 15:34 | 1.62 | 20.05 | 8.24 |
| MW-08 | 12/15/2010 | 15:36 | 1.62 | 19.99 | 8.24 |
| MW-08 | 12/15/2010 | 15:38 | 1.61 | 20.01 | 8.24 |
| MW-08 | 12/15/2010 | 15:40 | 1.62 | 19.95 | 8.24 |
| MW-09 | 12/16/2010 | 8:51 | 0.905 | 14.45 | 7.28 |
| MW-09 | 12/16/2010 | 8:53 | 0.901 | 14.54 | 7.24 |
| MW-09 | 12/16/2010 | 8:55 | 0.903 | 14.61 | 7.23 |
| MW-09 | 12/16/2010 | 8:57 | 0.894 | 14.61 | 7.22 |
| MW-09 | 12/16/2010 | 8:59 | 0.910 | 14.60 | 7.22 |
| MW-09 | 12/16/2010 | 9:01 | 0.905 | 14.61 | 7.22 |
| MW-10 | 12/15/2010 | 9:43 | 0.999 | 11.80 | 7.04 |
| MW-10 | 12/15/2010 | 9:45 | 1.020 | 11.67 | 7.05 |
| MW-10 | 12/15/2010 | 9:47 | 1.020 | 11.79 | 7.05 |
| MW-10 | 12/15/2010 | 9:49 | 1.000 | 11.82 | 7.05 |
| MW-10 | 12/15/2010 | 9:51 | 1.000 | 11.84 | 7.04 |
| MW-10 | 12/15/2010 | 9:53 | 0.990 | 11.64 | 7.04 |
| MW-10 | 12/15/2010 | 9:55 | 0.990 | 11.72 | 7.04 |
| MW-11 | 12/16/2010 | 10:18 | 1.27 | 12.61 | 7.88 |
| MW-12 | 12/16/2010 | 9:38 | 1.71 | 16.84 | 7.70 |
| MW-12 | 12/16/2010 | 9:40 | 1.71 | 16.95 | 7.64 |
| MW-12 | 12/16/2010 | 9:42 | 1.70 | 16.92 | 7.64 |
| MW-12 | 12/16/2010 | 9:44 | 1.70 | 16.67 | 7.65 |
| MW-12 | 12/16/2010 | 9:46 | 1.69 | 16.85 | 7.65 |
| MW-12 | 12/16/2010 | 9:48 | 1.69 | 16.90 | 7.65 |
| MW-13 | 12/16/2010 | 12:26 | 3.33 | 12.59 | 7.68 |
| MW-14 | 12/16/2010 | 11:43 | 2.64 | 17.12 | 7.48 |
| MW-14 | 12/16/2010 | 11:45 | 2.65 | 17.28 | 7.51 |
| MW-14 | 12/16/2010 | 11:47 | 2.64 | 17.22 | 7.53 |
| MW-14 | 12/16/2010 | 11:49 | 2.63 | 17.19 | 7.54 |

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|  Field Parameter Data - Powerton Station | | | | | |
|--|------------|-------|---------------------|----------------|------|
| Monitoring Well | Date | Time | Conductance (S/cm)* | Temperature °C | pH |
| MW-14 | 12/16/2010 | 11:51 | 2.62 | 17.25 | 7.54 |
| MW-14 | 12/16/2010 | 11:53 | 2.61 | 17.28 | 7.55 |
| MW-15 | 12/16/2010 | 10:52 | 1.79 | 15.97 | 7.48 |
| MW-15 | 12/16/2010 | 10:54 | 1.77 | 16.16 | 7.44 |
| MW-15 | 12/16/2010 | 10:56 | 1.75 | 15.96 | 7.44 |
| MW-15 | 12/16/2010 | 10:58 | 1.79 | 16.16 | 7.44 |
| MW-15 | 12/16/2010 | 11:00 | 1.78 | 15.90 | 7.44 |
| MW-15 | 12/16/2010 | 11:02 | 1.79 | 16.00 | 7.43 |
| MW-15 | 12/16/2010 | 11:04 | 1.78 | 15.96 | 7.43 |

Notes:

* (S/cm) Specific Conductivity measured in Seconds/Centimeters

Table 2
GROUNDWATER ANALYTICAL RESULTS
Powerton Station, Pekin, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

|  PATRICK ENGINEERING | Sample Analysis Method | Groundwater Quality Standard* (mg/L) | MW-1 | MW-9 | MW-10 | MW-2 | MW-3 | MW-4 | MW-5 | MW-6 |
|---|------------------------|---|----------|-------------|------------|----------|----------|-------------|-------------|-------------|
| | | | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
| Chemical Name | | Class I | 12/15/10 | 12/16/10 | 12/15/10 | 12/15/10 | 12/15/10 | 12/15/10 | 12/15/10 | 12/15/10 |
| Antimony | Metals 6020 | 0.006 | ND | ND | ND | ND | ND | ND | ND | ND |
| Arsenic | Metals 6020 | 0.05 | ND | ND | ND | 0.0018 | 0.0017 | ND | 0.0011 | 0.0042 |
| Barium | Metals 6020 | 2.0 | 0.044 | 0.038 | 0.24 | 0.042 | 0.038 | 0.055 | 0.053 | 0.11 |
| Beryllium | Metals 6020 | 0.004 | ND | ND | ND | ND | ND | ND | ND | ND |
| Cadmium | Metals 6020 | 0.005 | ND | ND | ND | ND | ND | ND | ND | ND |
| Chromium | Metals 6020 | 0.1 | ND | ND | ND | ND | ND | 0.0045 | 0.0044 | 0.006 |
| Cobalt | Metals 6020 | 1.0 | ND | ND | 0.0026 | ND | ND | ND | 0.0025 | ND |
| Copper | Metals 6020 | 0.65 | ND | ND | ND | ND | ND | ND | ND | ND |
| Cyanide | Dissolved 9014 | 0.2 | ND | ND | ND | ND | ND | ND | ND | ND |
| Iron | Metals 6020 | 5.0 | ND | ND | ND | ND | ND | ND | 0.013 | 1.6 |
| Lead | Metals 6020 | 0.0075 | ND | ND | ND | ND | ND | ND | ND | ND |
| Manganese | Metals 6020 | 0.15 | ND | 0.23 | 2.1 | ND | 0.0047 | 0.77 | 0.51 | 0.68 |
| Mercury | Mercury 7470A | 0.002 | ND | ND | ND | ND | ND | ND | ND | ND |
| Nickel | Metals 6020 | 0.1 | 0.01 | 0.01 | 0.015 | 0.0086 | 0.011 | 0.012 | 0.014 | 0.0091 |
| Selenium | Metals 6020 | 0.05 | 0.0016 | 0.0024 | 0.0042 | 0.0017 | ND | 0.0022 | 0.0019 | 0.0034 |
| Silver | Metals 6020 | 0.05 | ND | ND | ND | ND | ND | ND | ND | ND |
| Thallium | Metals 6020 | 0.002 | ND | ND | ND | ND | ND | ND | ND | ND |
| Zinc | Metals 6020 | 5.0 | ND | ND | ND | ND | ND | ND | ND | 0.0064 |
| Boron | Metals 6020 | 2 | 0.45 | 2.1 | 0.48 | 0.38 | 0.75 | 0.77 | 0.95 | 0.5 |
| Sulfate | Dissolved 9038 | 400 | 50 | 110 | 62 | 52 | 64 | 110 | 160 | 210 |
| Chloride | Dissolved 9251 | 200 | 46 | 25 | 40 | 45 | 39 | 150 | 150 | 180 |
| Nitrogen/Nitrate | Nitrogen By calc | 10 | 7.2 | 2.9 | 3 | 7.5 | 9.4 | 0.34 | ND | 0.037 |
| Total Dissolved Solids | Dissolved 2540C | 1,200 | 490 | 500 | 530 | 480 | 480 | 680 | 740 | 950 |
| Fluoride | Dissolved 4500 FC | 4 | 0.28 | ND | ND | ND | 0.3 | 0.3 | 0.27 | 0.65 |
| Nitrogen/Nitrite | Dissolved 4500 NO2 | NA | ND | ND | ND | ND | ND | ND | ND | ND |
| Nitrogen/Nitrate/Nitrite | Dissolved 4500 NO3 | NA | ND | ND | ND | ND | ND | ND | ND | ND |

Notes:

*Class I Groundwater Standards from 35 IAC Part 620

Bold values show exceedences of 35 IAC Part 620

ND-non detect

Determinations of upgradient and downgradient wells are preliminary

mg/L = milligrams per liter

-Determination of the potential for the individual ash ponds to be contributing to the distribution of analytes in the underlying groundwater cannot be made from the results of this single sampling event alone. To develop a true, statistically-significant upgradient background concentration for the various compounds will require a number of sequential sampling events over time. After a statistically developed background value is available, the downgradient concentrations can be compared to this background value over time to determine the likelihood of contaminant migration from the on-site ash ponds. A plan to develop such an analytical database through additional sampling is discussed in the last section of this report.

Table 2
GROUNDWATER ANALYTICAL RESULTS
Powerton Station, Pekin, Illinois
Midwest Generation
21053.070
Feb. 28, 2011

|  PATRICK ENGINEERING | Sample Analysis Method | Groundwater Quality Standard* | MW-7 | MW-8 |
|---|------------------------|-------------------------------|----------|----------|
| | | (mg/L) | mg/L | mg/L |
| Chemical Name | | Class I | 12/06/10 | 12/15/10 |
| Antimony | Metals 6020 | 0.006 | ND | ND |
| Arsenic | Metals 6020 | 0.05 | 0.026 | 0.0052 |
| Barium | Metals 6020 | 2.0 | 0.55 | 0.11 |
| Beryllium | Metals 6020 | 0.004 | ND | ND |
| Cadmium | Metals 6020 | 0.005 | 0.0026 | ND |
| Chromium | Metals 6020 | 0.1 | 0.0088 | ND |
| Cobalt | Metals 6020 | 1.0 | 0.017 | ND |
| Copper | Metals 6020 | 0.65 | 0.14 | ND |
| Cyanide | Dissolved 9014 | 0.2 | ND | ND |
| Iron | Metals 6020 | 5.0 | 0.008 | 0.56 |
| Lead | Metals 6020 | 0.0075 | 0.039 | ND |
| Manganese | Metals 6020 | 0.15 | 3.5 | 0.15 |
| Mercury | Mercury 7470A | 0.002 | ND | ND |
| Nickel | Metals 6020 | 0.1 | 0.0045 | 0.011 |
| Selenium | Metals 6020 | 0.05 | 0.0043 | 0.0036 |
| Silver | Metals 6020 | 0.05 | ND | ND |
| Thallium | Metals 6020 | 0.002 | ND | ND |
| Zinc | Metals 6020 | 5.0 | 0.076 | ND |
| Boron | Metals 6020 | 2 | 0.6 | 0.93 |
| Sulfate | Dissolved 9038 | 400 | 120 | 160 |
| Chloride | Dissolved 9251 | 200 | 170 | 180 |
| Nitrogen/Nitrate | Nitrogen By calc | 10 | 0.043 | ND |
| Total Dissolved Solids | Dissolved 2540C | 1,200 | 860 | 890 |
| Fluoride | Dissolved 4500 FC | 4 | 0.47 | 0.77 |
| Nitrogen/Nitrite | Dissolved 4500 NO2 | NA | ND | ND |
| Nitrogen/Nitrate/Nitrite | Dissolved 4500 NO3 | NA | ND | ND |

Notes:

*Class I Groundwater Standards from 35 IAC Part 620

Bold values show exceedences of 35 IAC Part 620

ND-non detect

Determinations of upgradient and downgradient wells are preliminary

mg/L = milligrams per liter

-Determination of the potential for the individual ash ponds to be contributing to the distribution of analytes in the underlying groundwater cannot be made from the results of this single sampling event alone. To develop a true, statistically-significant upgradient background concentration for the various compounds will require a number of sequential sampling events over time. After a statistically developed background value is available, the downgradient concentrations can be compared to this background value over time to determine the likelihood of contaminant migration from the on-site ash ponds. A plan to develop such an analytical database through additional sampling is discussed in the last section of this report.

Table 3
WATER ELEVATION SURVEY DATA
 Powerton Station, Pekin, Illinois
 Midwest Generation
 21053.070
 Feb. 28, 2011

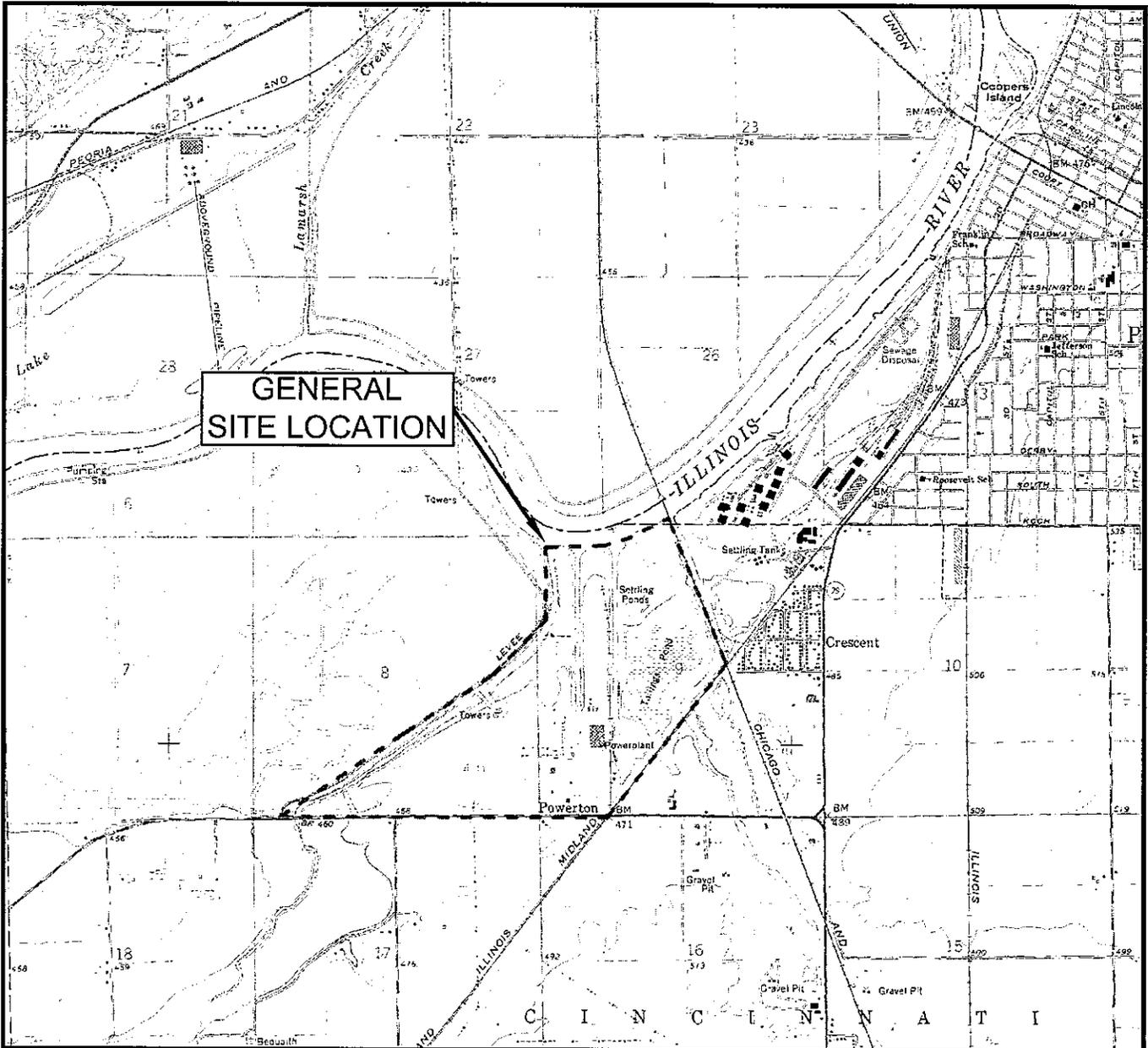
|  PATRICK ENGINEERING | Water Elevation (feet) | Depth to Water (feet bgs) | Lid Elevation (feet) | Ground Elevation (feet) | Top of Riser Elevation (feet) |
|---|------------------------------|---------------------------------|----------------------------|-------------------------------|--|
| MONITORING WELLS | | | | | |
| MW-1 | 440.509 | 24.55 | 465.482 | 461.667 | 465.059 |
| MW-2 | 435.692 | 26.73 | 462.863 | 459.246 | 462.422 |
| MW-3 | 436.374 | 25.97 | 462.782 | 459.098 | 462.344 |
| MW-4 | 433.649 | 26.83 | 460.891 | 457.290 | 460.479 |
| MW-5 | 434.321 | 24.26 | 459.046 | 455.799 | 458.581 |
| MW-6 | 445.906 | 18.56 | 464.842 | 461.224 | 464.466 |
| MW-7 | 434.581 | 28.27 | 463.307 | 459.572 | 462.851 |
| MW-8 | 447.093 | 24.64 | 472.115 | 468.698 | 471.733 |
| MW-9 | 443.846 | 25.34 | 469.616 | 466.214 | 469.186 |
| MW-10 | 440.466 | 16.92 | 457.827 | 454.093 | 457.386 |
| MW-11 | 440.859 | 30.73 | 471.973 | 468.074 | 471.589 |
| MW-12 | 449.960 | 23.42 | 473.778 | 469.999 | 473.380 |
| MW-13 | 437.312 | 33.63 | 471.329 | 467.652 | 470.942 |
| MW-14 | 445.949 | 24.84 | 471.198 | 467.666 | 470.789 |
| MW-15 | 447.162 | 24.22 | 471.813 | 468.256 | 471.382 |
| ASH PONDS | | | | | |
| AP-1 | 458.475 | NS | NS | NS | NS |
| AP-2 | 451.949 | NS | NS | NS | NS |
| AP-3 | 464.316 | NS | NS | NS | NS |
| AP-4 | 454.348 | NS | NS | NS | NS |
| AP-5 | 447.348 | NS | NS | NS | NS |
| AP-6 | 447.340 | NS | NS | NS | NS |
| CHANNELS | | | | | |
| Lake Channel | 433.507 | NS | NS | NS | NS |
| East Channel | 434.694 | NS | NS | NS | NS |
| West Channel | 431.472 | NS | NS | NS | NS |
| PONDS | | | | | |
| North Pond | 439.015 | NS | NS | NS | NS |
| South Pond | 439.570 | NS | NS | NS | NS |

*Survey data taken on 11/3/10 and 11/4/10

NS= not surveyed

bgs = below ground surface

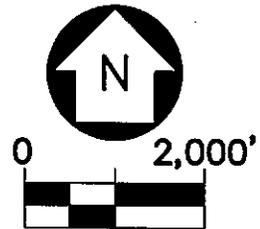
Elevations are leveled from site control points per Drawing "Control Network, IL State Plane (West Zone) Powerton Station" revised 10/22/2010



LEGEND

----- SITE BOUNDARY

NOTE:
THIS DRAWING WAS PREPARED USING ILLINOIS' PEKIN (1979)
7.5 MINUTE-SERIES TOPOGRAPHIC QUADRANGLE MAP.



GRAPHIC SCALE

Date: FEB. 2011

Proj No.: 21053.070

App. By: RMF

**FIGURE 1
SITE LOCATION MAP**

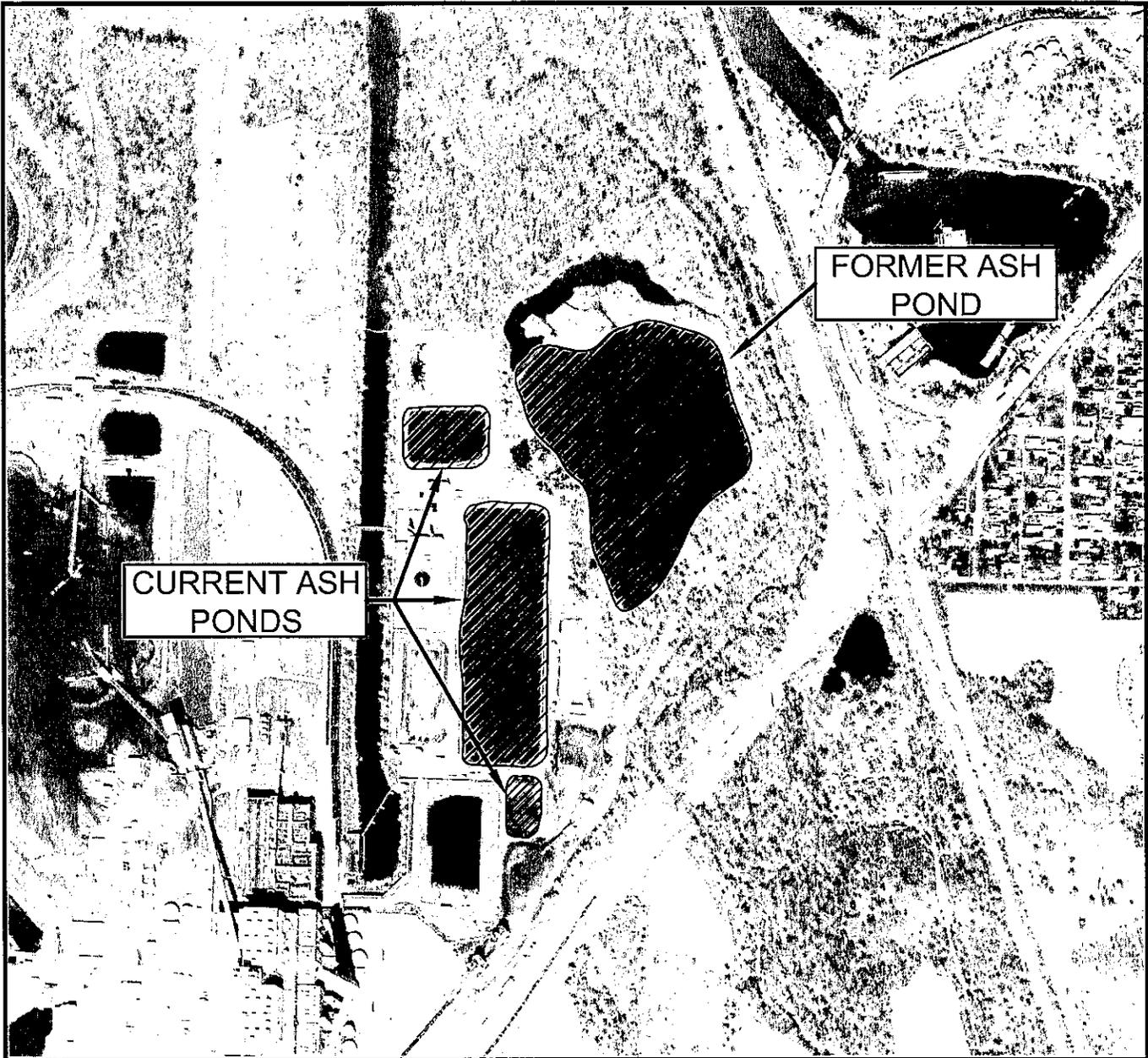
**POWERTON STATION
PEKIN, ILLINOIS**

**PATRICK
ENGINEERING INC.**

4970 Varsity Drive
Liste, Illinois 60532-4101

TEL. (630) 795-7200
FAX (630) 724-1681

PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409



LEGEND



ASH POND



GRAPHIC SCALE

AERIAL IMAGE SOURCE:
2005 ORTHOPHOTO TAKEN FROM THE ILLINOIS NATURAL
RESOURCES CLEARINGHOUSE

Date: FEB. 2011

Proj No.: 21053.070

App. By: RMF

**FIGURE 2
ASH POND LOCATION MAP**

**POWERTON STATION
PEKIN, ILLINOIS**

**PATRICK
ENGINEERING INC.**

4970 Varsity Drive
Lisle, Illinois 60532-4101

TEL. (630) 795-7200
FAX (630) 724-1681

PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409



LEGEND

 MW-01 MONITORING WELL LOCATION

NOTE:
 ACCURATE GROUNDWATER FLOW DIRECTION IS UNKNOWN AND LIKELY SHIFTS BOTH SEASONALLY AND AS A RESULT OF VARYING RIVER ELEVATIONS. GROUNDWATER LIKELY FLOWS WITHIN THE RANGE OF DEPICTED GROUNDWATER FLOW DIRECTIONS.



GRAPHIC SCALE

AERIAL IMAGE SOURCE:
 2005 ORTHOPHOTO TAKEN FROM THE ILLINOIS NATURAL RESOURCES CLEARINGHOUSE

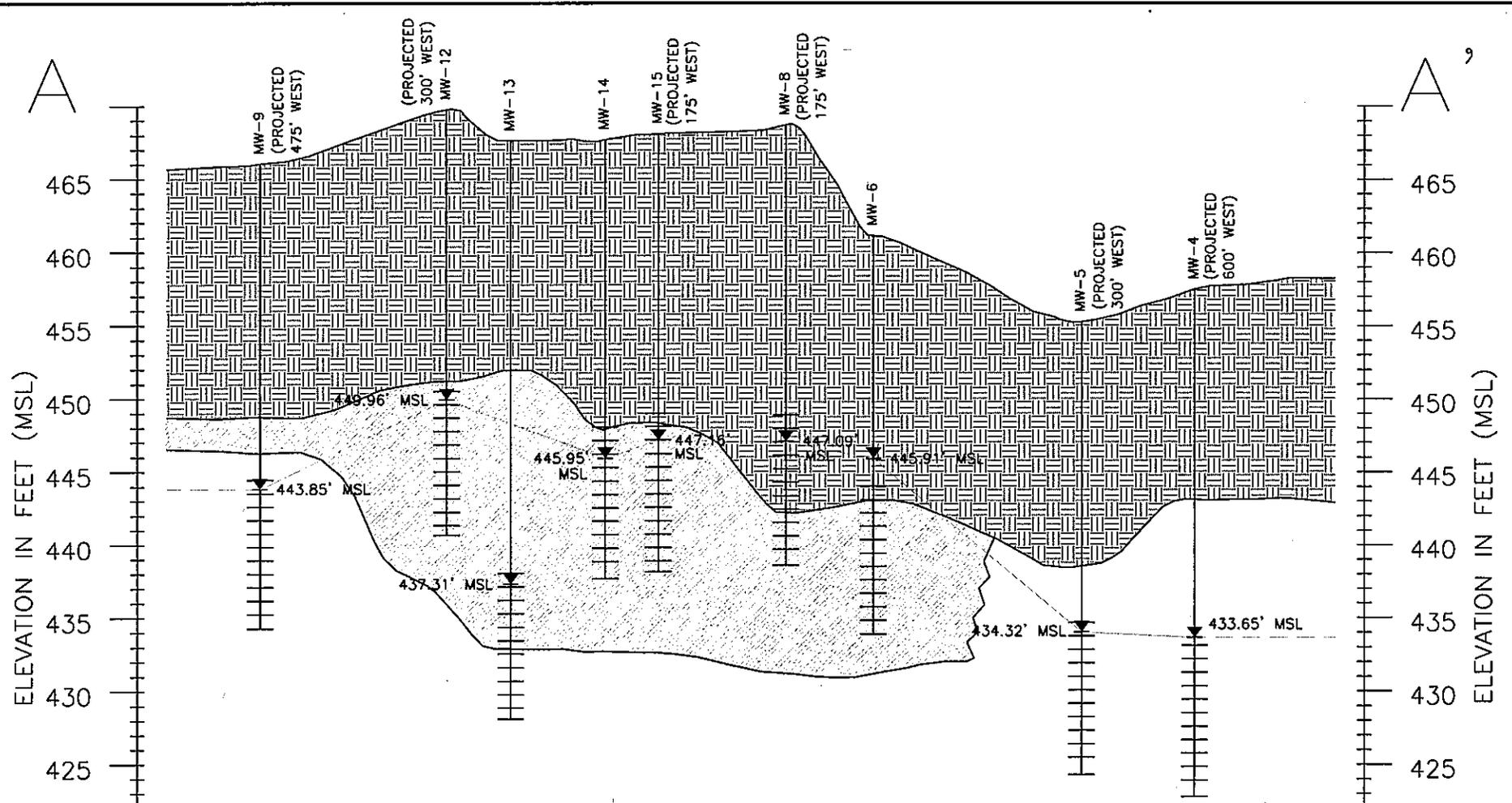
| | |
|------------------|------------------|
| Date: | FEB. 2011 |
| Proj No.: | 21053.070 |
| App. By: | RMF |

| |
|--|
| FIGURE 3 MONITORING WELL LOCATION MAP |
| POWERTON STATION PEKIN, ILLINOIS |

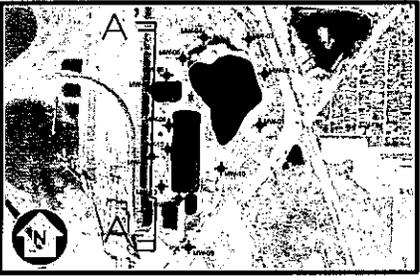
PATRICK
ENGINEERING INC.

4970 Varsity Drive
 Listle, Illinois 60532-4101
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TEL. (630) 795-7200
 FAX (630) 724-1681



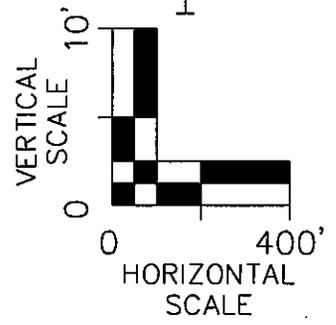
CROSS SECTION A-A'
NOT TO SCALE



LEGEND

-  FILL
-  SILTY CLAY
-  SANDY GRAVEL
-  GROUNDWATER ELEVATION (FT. / MSL)

NOTE:
SOIL BORINGS MW-12, MW-13, MW-14, AND MW-15 WERE PART OF A DIFFERENT AND UNRELATED SUBSURFACE INVESTIGATION PERFORMED BY PATRICK ENGINEERING INC.



PATRICK ENGINEERING INC.
4870 Varsity Drive TEL. (630) 795-7200
Lisle, Illinois 60532-4101 FAX (630) 724-1881
http://www.patrickengineering.com
PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409

FIGURE 4
CROSS SECTION A-A' - SITE LITHOLOGY
POWERTON STATION
PEKIN, ILLINOIS

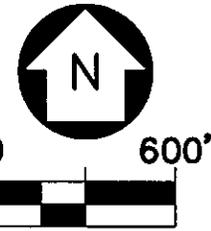
Date: FEB. 2011
Proj No.: 21053.070
App. By: RMF
MWG-10-15 710



LEGEND

-  MW-01
505.46'
 MONITORING WELL LOCATION (NOVEMBER 2010)
WITH GROUNDWATER ELEVATION (FT. / MSL)
- 
GROUNDWATER FLOW DIRECTION
- 
POTENTIOMETRIC SURFACE CONTOUR (FT. / MSL)

NOTE:
 ACCURATE GROUNDWATER FLOW DIRECTION IS UNKNOWN AND LIKELY SHIFTS BOTH SEASONALLY
 AND AS A RESULT OF VARYING RIVER ELEVATIONS. GROUNDWATER LIKELY FLOWS WITHIN THE
 RANGE OF DEPICTED GROUNDWATER FLOW DIRECTIONS.



GRAPHIC SCALE

AERIAL IMAGE SOURCE:
 2005 ORTHOPHOTO TAKEN FROM THE ILLINOIS NATURAL RESOURCES CLEARINGHOUSE

| | | |
|----------------------------|--|---|
| Date: FEB. 2011 | FIGURE 5 POTENTIOMETRIC SURFACE MAP |  PATRICK ENGINEERING INC. <small>4970 Varsity Drive TEL. (630) 795-7200 Liste, Illinois 60532-4101 FAX (630) 724-1681 PROFESSIONAL DESIGN FIRM LICENSE NO. 184-000409</small> |
| Proj No.: 21053.070 | POWERTON STATION PEKIN, ILLINOIS | |
| App. By: RMF | | |

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-1-Po** SHEET **1 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **461.7**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS | | |
|-----------|------------|-------------------------|--------------------------------|---|---------------------------|---------------|---|----|----|----|----------------------|-------|--|
| | | | | | | PL | Unconfined Compressive Strength (TSF) * | | | | | LL | |
| | | | | | | 10 | 20 | 30 | 40 | 50 | | | |
| 461.7 | 0.0 | [Cross-hatched pattern] | Brown coarse to fine sand, dry | FILL | | | | | | | | qu=NT | |
| | | | SS-1 1.0-2.5 14"R | | 3 4 4 | | | | | | | | |
| | | | SS-2 3.5-5.0 12"R | | 3 3 5 | | | | | | | | Bentonite seal 3.0'-18.0'. Stickup protective cover installed. qu=NT |
| | | | SS-3 6.0-7.5 12"R | | 2 6 8 | | | | | | | | qu=NT |
| | | | SS-4 8.5-10.0 10"R | | 2 5 8 | | | | | | | | qu=NT |
| | | | SS-5 11.0-12.5 8"R | Trace coarse gravel | 5 9 10 | | | | | | | | qu=NT |
| | | | SS-6 13.5-15.0 12"R | | 3 6 6 | | | | | | | | qu=NT |
| | | | SS-7 16.0-17.5 16"R | | 4 6 7 | | | | | | | | qu=NT |
| 443.2 | 18.5 | | [Dotted pattern] | Brown coarse to medium sand, trace fine gravel, medium dense, saturated | SW | | | | | | | | Sand pack 18.0'-30.0' qu=NT |
| | | | | | SS-8 18.5-20.0 14"R | 4 5 6 | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/4/10** ENDED **10/4/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ▽ **22.0**
 ▽
 ▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-1-Po** SHEET **2 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **461.7**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS | |
|-----------|------------|--------|--|---|-------------|---------------|---|---|---|----|--|--|
| | | | | | | PL | Unconfined Compressive Strength (TSF) * | | | LL | | |
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| 441.7 | 20.0 | | | | | | | | | | Set screen (slot 0.010") 20.5'-30.5' qu=NT qu=NT qu=NT qu=NT qu=NT qu=NT | |
| | | | SS-9 21.0-22.5 15"R | 4 5 5 | | | | | | | | |
| 439.7 | 22.0 | | | | | | | | | | | |
| | | | SS-10 23.5-25.0 18"R | 4 4 4 | | | | | | | | |
| | | | | | | | | | | | | |
| | | | SS-11 26.0-27.5 18"R | 4 4 6 | | | | | | | | |
| 433.7 | 28.0 | | | | | | | | | | | |
| | | | Coarse to fine gravel, some coarse sand, medium dense, saturated GP | | | | | | | | | |
| | | | SS-12 28.5-30.0 18"R | 4 5 6 | | | | | | | | |
| | | | | | | | | | | | | |
| | | | SS-13 31.0-32.5 18"R | 4 6 7 | | | | | | | | |
| 429.2 | 32.5 | | | | | | | | | | | |
| | | | End of Boring at 32.5' | | | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/4/10** ENDED **10/4/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ▽ **22.0**
 ▽
 ▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-2-Po** SHEET **1 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **459.2**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS |
|-----------|------------|--------|---|---|-------------|---------------|---|----|----|----|--|
| | | | | | | PL | Unconfined Compressive Strength (TSF) * | | | | |
| | | | | | | 10 | 20 | 30 | 40 | 50 | |
| | | | | | | 1 | 2 | 3 | 4 | 5 | |
| 459.2 | 0.0 | | Dark brown topsoil, silty clay, dry | FILL | | | | | | | |
| 457.7 | 1.5 | | Light brown coarse to fine sand, loose, dry | FILL | | | | | | | qu=NT |
| | | | | SS-1 1.0-2.5 10"R | 4 4 4 | | | | | | |
| | | | | SS-2 3.5-5.0 10"R | 2 3 2 | | | | | | Bentonite seal 3.0'-20.0'. Stickup protective cover installed. qu=NT |
| | | | | SS-3 6.0-7.5 12"R | 3 3 4 | | | | | | qu=NT |
| | | | Dry | SS-4 8.5-10.0 14"R | 4 5 4 | | | | | | qu=NT |
| | | | | SS-5 11.0-12.5 15"R | 2 2 3 | | | | | | qu=NT |
| | | | Some fine gravel | SS-6 13.5-15.0 15"R | 3 6 5 | | | | | | qu=NT |
| | | | | SS-7 16.0-17.5 18"R | 2 5 6 | | | | | | qu=NT |
| | | | Dry | SS-8 18.5-20.0 18"R | 3 3 4 | | | | | | qu=NT |
| 439.2 | 20.0 | | | | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/5/10** ENDED **10/5/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ▽ **24.0**
 ▽
 ▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-2-Po** SHEET **2 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **459.2**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS | | |
|-----------|------------|--------|--|---|------------------------|---------------|---|----|----|----|---|--|--|
| | | | | | | PL | Unconfined Compressive Strength (TSF) * | | | LL | | | |
| | | | | | | 10 | 20 | 30 | 40 | 50 | | | |
| 439.2 | 20.0 | | Light brown fine to medium sand, well graded, medium dense, dry FILL | | | | | | | | Sand pack 20.0'-33.5' qu=NT | | |
| | | | | SS-9 21.0-22.5 18"R | 4 10 11 | | | | | | | | |
| 435.7 | 23.5 | | | | | | | | | | | | |
| 435.2 | 24.0 | | Gray coarse to fine gravel, coarse sand, trace fine sand and silt, poorly graded, medium dense GP | SS-10 23.5-25.0 18"R | 5 13 13 | | | | | | qu=NT Set screen (slot 0.010") 23.5'-33.5' qu=NT qu=NT qu=NT qu=NT | | |
| | | | | SS-11 26.0-27.5 18"R | 4 6 8 | | | | | | | | |
| | | | | SS-12 28.5-30.0 18"R | 7 10 10 | | | | | | | | |
| | | | | SS-13 31.0-32.5 18"R | 7 8 7 | | | | | | | | |
| | | | | SS-14 33.5-35.0 18"R | 6 9 10 | | | | | | | | |
| 424.2 | 35.0 | | | | End of Boring at 35.0' | | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/5/10** ENDED **10/5/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ∇ **24.0**
 ∇
 ∇

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-3-Po** SHEET **1 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **459.1**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS |
|-----------|------------|--------|---|---|-------------|---------------|---|----|----|----|--|
| | | | | | | PL | Unconfined Compressive Strength (TSF) * | | | LL | |
| | | | | | | 10 | 20 | 30 | 40 | 50 | |
| 459.1 | 0.0 | | Dark brown silty clay topsoil | | | | | | | | |
| | | | Light brown coarse to medium sand, trace fine gravel, trace fine sand, very loose to loose, dry | FILL | | | | | | | qu=NT |
| | | | | SS-1 1.0-2.5 16"R | 2 1 2 | | | | | | |
| | | | | SS-2 3.5-5.0 14"R | 1 1 2 | | | | | | Bentonite seal 3.0'-20.0'. Stickup protective cover installed. qu=NT |
| | | | | SS-3 6.0-7.5 16"R | 2 2 3 | | | | | | qu=NT |
| | | | Some fine sand | SS-4 8.5-10.0 18"R | 2 3 2 | | | | | | qu=NT |
| | | | Light brown medium to fine sand, loose, dry | SS-5 11.0-12.5 17"R | 1 2 2 | | | | | | qu=NT |
| | | | | SS-6 13.5-15.0 18"R | 4 5 6 | | | | | | qu=NT |
| | | | | SS-7 16.0-17.5 16"R | 2 2 3 | | | | | | qu=NT |
| 440.1 | 19.0 | | Brown coarse sand, trace fine gravel, well graded, very loose, wet | SS-8 18.5-20.0 16"R | 3 4 3 | | | | | | qu=NT |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/5/10** ENDED **10/5/10**

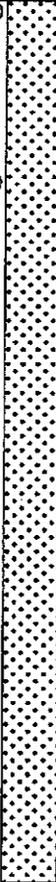
REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ▽ **23.0**
 ▽
 ▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-3-Po** SHEET **2 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **459.1**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS | | | |
|-----------|------------|--|-----------------------|---|----------------------------|---------------|---|----|----|----|----------------------|-----------------------------------|--|---|
| | | | | | | PL | Unconfined Compressive Strength (TSF) * | | | LL | | | | |
| | | | | | | 10 | 20 | 30 | 40 | 50 | | | | |
| | | | | | | 1 | 2 | 3 | 4 | 5 | | | | |
| 439.1 | 20.0 |  | SW | | | | | | | | | Sand pack 20.0'-34.0' qu=NT | | |
| | | | | | SS-9 21.0-22.5 18"R | 1 1 1 | | | | | | | | |
| 436.1 | 23.0 | | ▽ Saturated | | | | | | | | | | | qu=NT Set screen (slot 0.010") 24.0'-34.0' qu=NT qu=NT qu=NT |
| | | | | | SS-10 23.5-25.0 0"R | 1 2 2 | | | | | | | | |
| | | | | | SS-11 26.0-27.5 18"R | 1 2 2 | | | | | | | | |
| | | | | | SS-12 28.5-30.0 18"R | 2 1 2 | | | | | | | | |
| | | | | | SS-13 31.0-32.5 18"R | 1 2 2 | | | | | | | | |
| 425.1 | 34.0 | | | End of Boring at 34.0' | | | | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/5/10** ENDED **10/5/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ▽ 23.0
 ▽
 ▼

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-4-Po** SHEET **1 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **457.3**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS |
|-----------|------------|--------|---|---|---------------------------|---------------|---------------------------|------------------------------|----|---|---|
| | | | | | | PL | Unconfined Strength (TSF) | Compressive Strength (TSF) * | LL | | |
| | | | | | | 1 | 2 | 3 | 4 | 5 | |
| 457.3 | 0.0 | | Brown silty clay, roots, topsoil | | | | | | | | |
| 456.5 | 0.8 | | FILL | | | | | | | | |
| | | | Light brown sand, medium to fine brown silty clay, fine gravel, dry | FILL | SS-1 1.0-2.5 10"R | 6 3 4 | | | | | |
| | | | | | | | | | | | |
| | | | | | SS-2 3.5-5.0 8"R | 3 4 4 | | | | | Bentonite seal 3.0'-20.0'. Stickup protective cover installed. |
| | | | | | | | | | | | |
| | | | | | SS-3 6.0-7.5 18"R | 4 6 9 | | | | | qu=4.0**tsf |
| | | | Brown clayey silt | | | | | | | | |
| | | | | | SS-4 8.5-10.0 18"R | 4 5 5 | | | | | qu=4.0**tsf |
| | | | | | | | | | | | |
| | | | | | SS-5 11.0-12.5 17"R | 3 3 4 | | | | | qu=3.5**tsf |
| | | | | | | | | | | | |
| | | | | | SS-6 13.5-15.0 17"R | 2 2 3 | | | | | qu=3.5**tsf |
| | | | Black clayey silt to silty clay | | | | | | | | |
| 441.3 | 16.0 | | Light brown coarse to fine sand, fine gravel, loose, dry | SP | SS-7 16.0-17.5 18"R | 2 2 3 | | | | | |
| | | | | | | | | | | | |
| | | | | | SS-8 18.5-20.0 18"R | 2 3 5 | | | | | |
| 437.3 | 20.0 | | | | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/16/10** ENDED **10/16/10**

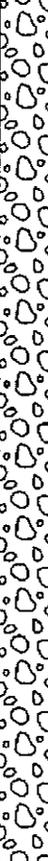
REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ▽ 24.0
 ▽
 ▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-4-Po** SHEET **2 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **457.3**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS | |
|-----------|------------|--|--|---|---------------------------|----------------------------|---|----|----|-------|-----------------------------------|--|
| | | | | | | PL | Unconfined Compressive Strength (TSF) * | | | LL | | |
| | | | | | | 10 | 20 | 30 | 40 | 50 | | |
| 437.3 | 20.0 |  | Brown coarse to fine gravel, trace coarse to medium sand, loose to medium dense, poorly graded | GP | | | | | | | Sand pack 20.0'-34.0' qu=NT | |
| | | | | | SS-9 21.0-22.5 12"R | 4 6 6 | | | | | | |
| 433.3 | 24.0 | | | | Saturated | SS-10 23.5-25.0 18"R | 6 5 7 | | | | | |
| | | | SS-11 26.0-27.5 14"R | 2 3 3 | | | | | | qu=NT | | |
| | | | SS-12 28.5-30.0 18"R | 5 6 10 | | | | | | qu=NT | | |
| | | | Coarse to fine gravel, trace silt | SS-13 31.0-32.5 10"R | | 4 4 8 | | | | | qu=NT | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 423.3 | 34.0 | | | End of Boring at 34.0' | | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/16/10** ENDED **10/16/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ∇ 24.0
 ∇
 ∇

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-5-Po** SHEET **1 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **455.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS | | |
|-----------|------------|--------|---|---|--------------|---------------|---|----|----|----|----------------------|--|--|
| | | | | | | PL | Unconfined Compressive Strength (TSF) * | | | LL | | | |
| | | | | | | 10 | 20 | 30 | 40 | 50 | | | |
| 455.8 | 0.0 | | Dark brown silty clay, black coal cinders, topsoil | | | | | | | | | | |
| | | | FILL | | | | | | | | | | |
| | | | | SS-1 1.0-2.5 12"R | 2 2 3 | | | | | | | | qu=NT |
| | | | | Dry | | | | | | | | | Bentonite seal 2.0'-19.0'. Stickup protective cover installed. qu=NT |
| | | | | SS-2 3.5-5.0 14"R | 6 8 10 | | | | | | | | |
| | | | | Coarse gravel, red coal cinders | | | | | | | | | |
| | | | | Gray silty clay with coarse sand and fine gravel, medium stiff, dry | | | | | | | | | qu=1.25**tsf |
| | | | | SS-3 6.0-7.5 16"R | 2 3 3 | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | SS-4 8.5-10.0 18"R | 1 2 2 | | | | | | | | qu=1.0**tsf |
| | | | | | | | | | | | | | |
| | | | | SS-5 11.0-12.5 18"R | 2 2 3 | | | | | | | | qu=0.5**tsf |
| | | | | Trace black coal cinders Trace coarse sand, moist | | | | | | | | | |
| | | | | Gray clayey silt | | | | | | | | | |
| | | | SS-6 13.5-15.0 18"R | WOH 2 2 | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | SS-7 16.0-17.5 18"R | WOH 6 6 | | | | | | | | | |
| 438.8 | 17.0 | | Gray coarse to fine gravel, coarse to fine sand, poorly graded, medium dense, dry | | | | | | | | | | |
| | | | GP | | | | | | | | | | |
| | | | | SS-8 18.5-20.0 18"R | 4 8 7 | | | | | | | | Sand pack 19.0'-31.0' |
| 435.8 | 20.0 | | | | | | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/5/10** ENDED **10/6/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ▽ **20.5**
 ▽
 ▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-5-Po** SHEET **2 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **455.8**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS | | |
|----------------|--------------|--|---|---|-------------|---------------|---|----|----|----|---|--|-------|
| | | | | | | PL | Unconfined Compressive Strength (TSF) * | | | LL | | | |
| | | | | | | 10 | 20 | 30 | 40 | 50 | | | |
| 435.8 435.8 | 20.0 20.5 |  | Coarse to fine gravel, trace coarse to fine sand, poorly graded, medium dense, saturated Loose | GP | | | | | | | qu=NT Set screen (slot 0.010") 21.0'-31.0' | | |
| | | | | SS-9 21.0-22.5 0"R | 4 6 6 | | | | | | | | |
| | | | | SS-10 23.5-25.0 10"R | 4 6 6 | | | | | | | | qu=NT |
| | | | | SS-11 26.0-27.5 10"R | 3 4 4 | | | | | | | | qu=NT |
| | | | | SS-12 28.5-30.0 10"R | 4 5 6 | | | | | | | | qu=NT |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| 424.8 | 31.0 | | End of Boring at 31.0' | | | | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/5/10** ENDED **10/6/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ▽ 20.5
 ▽
 ▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-6-Po** SHEET **1 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **461.2**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS |
|-----------|------------|---------------------------|---|---|---------------|---|----|----|----|----|--|
| | | | | | | PL | 10 | 20 | 30 | 40 | |
| | | | | | | Unconfined Compressive Strength (TSF) * | | | | | |
| | | | | | | 1 | 2 | 3 | 4 | 5 | |
| 461.2 | 0.0 | [Cross-hatched pattern] | Gravel, clay, coal cinders | FILL | | | | | | | Bentonite seal 3.0'-18.0'. Stickup protective cover installed. |
| | | | SS-1 1.0-2.5 | | | | | | | | |
| | | | SS-2 3.5-5.0 | | | | | | | | |
| | | | SS-3 6.0-7.5 | | | | | | | | |
| 451.2 | 10.0 | [Cross-hatched pattern] | Dark gray clayey silt, organics, very soft, moist | FILL | | | | | | | qu=0.25**tsf |
| | | | SS-5 11.0-12.5 17"R | | WOH 1 1 | | | | | | |
| 447.2 | 14.0 | [Cross-hatched pattern] | Black coal cinders, loose, wet | FILL | | | | | | | qu=0.25**tsf |
| | | | SS-6 13.5-15.0 16"R | | WOH 3 3 | | | | | | |
| 444.2 | 17.0 | [Cross-hatched pattern] | | | | | | | | | |
| | | | SS-7 16.0-17.5 14"R | | 2 3 3 | | | | | | |
| 443.2 | 18.0 | [Horizontal line pattern] | Olive gray and gray organic silt, trace clay, trace peat, low plasticity, wet | OL | | | | | | | Sand pack 18.0'-28.0' qu=NT Set screen (slot 0.010") 19.0'-29.0' |
| | | SS-8 18.5-20.0 | | 2 2 1 | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/6/10** ENDED **10/6/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ∇ 17.0
 ∇
 ∇

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-6-Po** SHEET **2 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **461.2**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS | | |
|-----------|------------|--------|---|--|---------------|----------------------------|---|----|----|----|----------------------|--------------|--------------|
| | | | | | | PL | Unconfined Compressive Strength (TSF) * | | | LL | | | |
| | | | | | | 10 | 20 | 30 | 40 | 50 | | | |
| 441.2 | 20.0 | | Trace fine sand, dark gray mottled black organic silt, trace fine sand, wet | SS-9 21.0-22.5 16"R | WOH 1 2 | | | | | | qu=0.25**tsf | | |
| | | | | SS-10 23.5-25.0 18"R | 1 2 3 | | | | | | | qu=0.50**tsf | |
| | | | | SS-11 26.0-27.5 18"R | 3 3 3 | | | | | | | qu=0.75**tsf | |
| 433.7 | 27.5 | | | Dark gray organic clay, trace fine sand, medium stiff, moist | OL | SS-12 28.5-30.0 18"R | 2 2 3 | | | | | | qu=1.25**tsf |
| 431.2 | 30.0 | | | | | End of Boring at 30.0' | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/6/10** ENDED **10/6/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ∇ 17.0
 ∇
 ∇

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-7-Po** SHEET **1 OF 3**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **459.6**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS | | |
|-----------|------------|----------------------------|---|---|--|---------------------------|---|----|----|----|---|-------------|-------------|
| | | | | | | PL | Unconfined Compressive Strength (TSF) * | | | LL | | | |
| | | | | | | 10 | 20 | 30 | 40 | 50 | | | |
| | | | | | | 1 | 2 | 3 | 4 | 5 | | | |
| 459.6 | 0.0 | [Cross-hatched pattern] | Sand, gravel, black cinders, dry FILL | SS-1 1.0-2.5 | | | | | | | Bentonite seal 3.0'-32.0'. Stickup protective cover installed. | | |
| | | | | SS-2 3.5-5.0 | | | | | | | | | |
| | | | | SS-3 6.0-7.5 | | | | | | | | | |
| | | | | SS-4 8.5-10.0 | | | | | | | | | |
| 449.6 | 10.0 | | | [Cross-hatched pattern] | Sand, gravel, clay, black coal cinders FILL | SS-5 11.0-12.5 6"R | 5 | | | | | | |
| | | | | | | 3 | | | | | | | |
| | | | | | | | 3 | | | | | | |
| 446.1 | 13.5 | [Diagonal hatched pattern] | Dark gray organic clay, soft, moist OH | SS-6 13.5-15.0 10"R | 2 | | | | | | | qu=0.5**tsf | |
| | | | | | | 2 | | | | | | | |
| | | | | | | | 2 | | | | | | |
| | | | | | | SS-7 16.0-17.5 18"R | 2 | | | | | | qu=0.5**tsf |
| | | | Moist | | 1 | | | | | | | | |
| | | | Trace fine sand, organic silt, moist | | 2 | | | | | | | | |
| | | | | SS-8 18.5-20.0 18"R | WOH | | | | | | qu=0.75**tsf | | |
| 439.6 | 20.0 | | | | 2 | | | | | | | | |
| | | | | | 2 | | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/4/10** ENDED **10/5/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ▽ 36.0
 ▽
 ▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-7-Po** SHEET **2 OF 3**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **459.6**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS | | | | |
|-----------|------------|--------|---|---|----------------------------|---------------|---|----|----|----|----------------------|--------------|--|--|--------------------------------------|
| | | | | | | PL | Unconfined Compressive Strength (TSF) * | | | LL | | | | | |
| | | | | | | 10 | 20 | 30 | 40 | 50 | | | | | |
| 439.6 | 20.0 | | Dark gray organic clay, mottled black, medium stiff, dry | OH | SS-9 21.0-22.5 18"R | 3 | | | | | | qu=1.0**tsf | | | |
| | | | | | | 2 | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | |
| | | | | | | | SS-10 23.5-25.0 18"R | 2 | | | | | | | qu=1.25**tsf |
| | | | | | | 3 | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | |
| 433.6 | 26.0 | | Gray organic silt, trace shells, fibers, very soft, moist | OL | SS-11 26.0-27.5 18"R | 2 | | | | | | qu=0.25**tsf | | | |
| | | | | | | 2 | | | | | | | | | |
| | | | | | | 2 | | | | | | | | | |
| | | | | | | | SS-12 28.5-30.0 18"R | 2 | | | | | | | qu=1.75**tsf |
| | | | | | | 3 | | | | | | | | | |
| | | | | | | 3 | | | | | | | | | |
| 428.6 | 31.0 | | Dark gray organic clay, trace fine gravel, moist | OH | SS-13 31.0-32.5 18"R | 2 | | | | | | qu=1.25**tsf | | | |
| | | | | | | 4 | | | | | | | | | |
| | | | | | | 3 | | | | | | | | | |
| 426.1 | 33.5 | | Gray clayey gravel, coarse sand, clay, silt, moist | GC | SS-14 33.5-35.0 18"R | WOH | | | | | | qu=NT | | | |
| | | | | | | 2 | | | | | | | | | |
| | | | | | | 2 | | | | | | | | | |
| | | | | | | | SS-15 36.0-37.5 18"R | 2 | | | | | | | Set screen (slot 0.010") 35.0'-45.0' |
| 423.6 | 36.0 | | Medium dense, saturated | 7 | | | | | | | qu=NT | | | | |
| | | | | 6 | | | | | | | | | | | |
| 419.6 | 40.0 | | | | SS-16 38.5-40.0 10"R | 2 | | | | | | | | | |
| | | | | | | 4 | | | | | | | | | |
| | | | | | | 7 | | | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/4/10** ENDED **10/5/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ▽ **36.0**
 ▽
 ▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-7-Po** SHEET **3 OF 3**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **459.6**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS | | |
|-----------|------------|---|--|---|------------------------|---|---------------|----|----|----|----------------------|----|-------|
| | | | | | | PL | 10 | 20 | 30 | 40 | | LL | 50 |
| | | | | | | Unconfined Compressive Strength (TSF) * | | | | | | | |
| | | | | | | 1 | 2 | 3 | 4 | 5 | | | |
| 419.6 | 40.0 |  | Coarse to fine gravel, coarse sand, poorly graded, medium dense, saturated GP | SS-17 41.0-42.5 18"R | 6 10 10 | | | | | | qu=NT | | |
| | | | | | | | | | | | | | |
| | | | | | | SS-18 43.5-45.0 18"R | 8 10 12 | | | | | | qu=NT |
| 414.6 | 45.0 | | | | End of Boring at 45.0' | | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/4/10** ENDED **10/5/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ▽ **36.0**
 ▽
 ▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-8-Po** SHEET **1 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **468.7**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content PL <input type="checkbox"/> --- ○ --- △ LL Unconfined Compressive Strength (TSF) * | | | | | NOTES & TEST RESULTS | |
|-----------|------------|--------|--|---|---------------------------|--|---|---|---|---|--|--|
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| 468.7 | 0.0 | | Fine gravel, sand, silt, clay, black cinders, dry FILL | SS-1 1.0-2.5 | | | | | | | Bentonite seal 3.0'-18.0'. Stickup protective cover installed. | |
| | | | SS-2 3.5-5.0 | | | | | | | | | |
| | | | SS-3 6.0-7.5 | | | | | | | | | |
| | | | SS-4 8.5-10.0 | | | | | | | | | |
| 458.7 | 10.0 | | | Black cinders FILL | SS-5 11.0-12.5 14"R | 15 28 15/3" | | | | | | |
| | | | | SS-6 13.5-15.0 18"R | 11 15 12 | | | | | | | |
| | | | | Silty clay seam 15.5'-16.5' | SS-7 16.0-17.5 17"R | 15 15 14 | | | | | | |
| | | | | | SS-8 18.5-20.0 18"R | 7 11 11 | | | | | | |
| 449.2 | 19.5 | | | | | | | | | | Sand pack 18.0'-30.0' | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **9/30/10** ENDED **9/30/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
21.0
19.5

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-8-Po** SHEET **2 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **468.7**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS | |
|-----------|------------|---|----------------------------|---|----------------------------|---|-------------|----|----|----|--------------------------------------|--------------|
| | | | | | | PL | 10 | 20 | 30 | 40 | | 50 |
| | | | | | | Unconfined Compressive Strength (TSF) * | | | | | | |
| | | | | | | 1 | 2 | 3 | 4 | 5 | | |
| 448.7 | 20.0 | [Cross-hatched pattern] | Black cinders | | | | | | | | Set screen (slot 0.010") 20.0'-30.0' | |
| 447.7 | 21.0 | | ∇ Saturated | FILL | SS-9 21.0-22.5 18"R | 5 5 3 | | | | | | |
| 444.2 | 24.5 | | [Diagonal hatched pattern] | Dark gray organic clay, soft, moist | OH | SS-10 23.5-25.0 18"R | 1 1 2 | | | | | |
| 441.2 | 27.5 | Dark gray organic silt, medium stiff to soft, low plasticity, moist | | OL | SS-11 26.0-27.5 18"R | 1 2 2 | | | | | | qu=1.0**tsf |
| 438.7 | 30.0 | End of Boring at 30.0' | | | | 2 4 4 | | | | | | qu=1.25**tsf |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **9/30/10** ENDED **9/30/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ∇ 21.0
 ∇ 19.5
 ∇

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-9-Po** SHEET **1 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **466.2**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS | | |
|-----------|------------|----------------------------|---|---|--|---------------------------|---------------------------------------|----|---|---|----------------------|--|-------|
| | | | | | | PL | Unconfined Compressive Strength (TSF) | LL | 1 | 2 | | 3 | 4 |
| 466.2 | 0.0 | [Cross-hatched pattern] | Black cinders, fine gravel, crushed rock, dry FILL | SS-1 1.0-2.5 | | | | | | | | Bentonite seal 3.0'-20.0'. Stickup protective cover installed. | |
| | | | | SS-2 3.5-5.0 | | | | | | | | | |
| | | | | SS-3 6.0-7.5 | | | | | | | | | |
| | | | | SS-4 8.5-10.0 | | | | | | | | | |
| 456.2 | 10.0 | | | [Cross-hatched pattern] | Black cinders, coarse to fine sand, brick, fine gravel, dry FILL | SS-5 11.0-12.5 14"R | 6 12 15 | | | | | | |
| | | SS-6 13.5-15.0 18"R | 5 6 7 | | | | | | | | | | qu=NT |
| 449.2 | 17.0 | [Diagonal hatched pattern] | Moist Brown clayey silt, trace fine sand, moist CL | | | SS-7 16.0-17.5 18"R | 6 9 10 | | | | | | |
| 447.2 | 19.0 | | | [Dotted pattern] | Light brown fine to medium sand, loose, well graded | SS-8 18.5-20.0 18"R | 3 6 11 | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **9/28/10** ENDED **9/28/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ∇ **23.5**
 ∇ **21.6**
 ∇

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-9-Po** SHEET **2 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **466.2**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS | |
|-----------|------------|--------|------------------------|---|--------------|---------------|---|----|----|----|----------------------|---|
| | | | | | | PL | Unconfined Compressive Strength (TSF) * | | | LL | | |
| | | | | | | 10 | 20 | 30 | 40 | 50 | | |
| 446.2 | 20.0 | | SW | | | | | | | | | Sand pack 20.0'-32.0' |
| 444.6 | 21.6 | ▽ | | SS-9 21.0-22.5 18"R | 3 3 4 | | | | | | | Set screen (slot 0.010") 22.0'-32.0' |
| 442.7 | 23.5 | ▽ | Saturated | SS-10 23.5-25.0 18"R | 1 3 8 | | | | | | | |
| | | | Medium dense | SS-11 26.0-27.5 18"R | 0 2 2 | | | | | | | |
| | | | Trace fine gravel | SS-12 28.5-30.0 18"R | 2 6 13 | | | | | | | |
| 433.7 | 32.5 | | End of Boring at 32.5' | SS-13 31.0-32.5 18"R | 2 5 10 | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **9/28/10** ENDED **9/28/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ▽ 23.5
 ▽ 21.6
 ▽

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-10-Po** SHEET **1 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

LOGGED BY **MPG**
 GROUND ELEVATION **454.1**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS |
|-----------|------------|-------------------|---|---|-------------|---------------|---|----|----|----|--|
| | | | | | | PL | Unconfined Compressive Strength (TSF) * | | | LL | |
| | | | | | | 10 | 20 | 30 | 40 | 50 | |
| 454.1 | 0.0 | [Hatched pattern] | Black and brown silty clay topsoil | CL | | | | | | | Bentonite seal 3.0'-17.0'. Stickup protective cover installed. |
| | | | SS-1 1.0-2.5 | | | | | | | | |
| | | | SS-2 3.5-5.0 | | | | | | | | |
| | | | SS-3 6.0-7.5 | | | | | | | | |
| 444.1 | 10.0 | [Wavy pattern] | Brown organic silt, some clay, trace peat, soft, moist | OL | | | | | | | qu=0.5**tsf |
| | | | SS-5 11.0-12.5 16"R | | 1 2 | | | | | | |
| 440.6 | 13.5 | [Wavy pattern] | Black organic clay, medium plasticity, medium stiff, dry | OL | | | | | | | qu=1.5**tsf |
| | | | SS-6 13.5-15.0 18"R | | 2 3 4 | | | | | | |
| 438.1 | 16.0 | [Hatched pattern] | Brown and gray silty clay, trace to little coarse to fine sand, medium stiff, dry | CL | | | | | | | qu=2.0**tsf Sand pack 17.0'-29.0' Set screen (slot 0.010") 19.0'-29.0' |
| | | | SS-7 16.0-17.5 18"R | | 4 4 4 | | | | | | |
| | | | SS-8 18.5-20.0 | | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/4/10** ENDED **10/4/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ∇ 21.0'
 ∇
 ∇

PATRICK ENGINEERING INC.

BORING NUMBER **B-MW-10-Po** SHEET **2 OF 2**
 CLIENT **Midwest Generation**
 PROJECT & NO. **21053.070**
 LOCATION **Powerton**

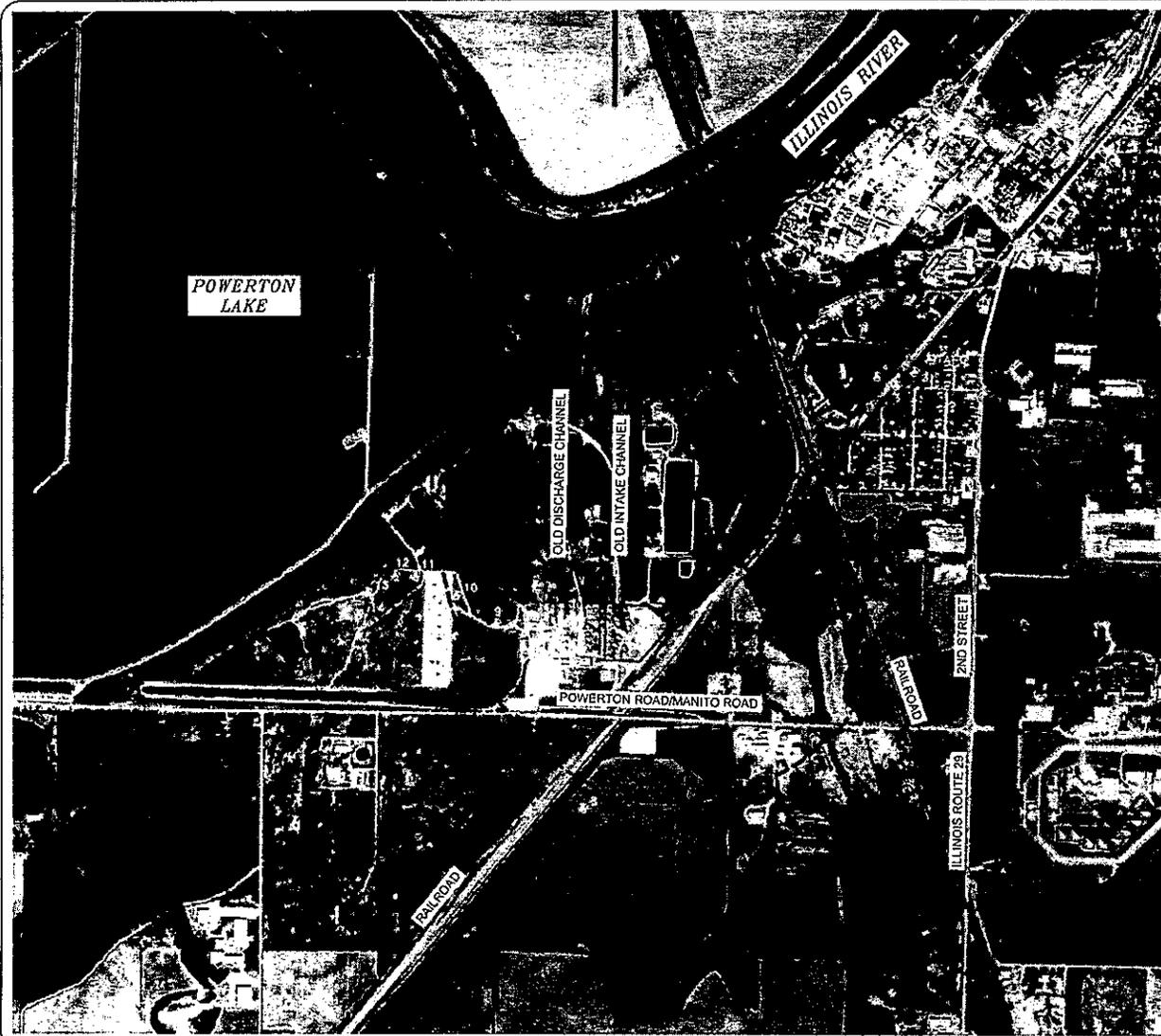
LOGGED BY **MPG**
 GROUND ELEVATION **454.1**

| ELEVATION | DEPTH (FT) | STRATA | SOIL/ROCK DESCRIPTION | SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN) | BLOW COUNTS | Water Content | | | | | NOTES & TEST RESULTS | | |
|-----------|------------|--------|--|---|-------------|---------------|---|----|----|----|----------------------|-------|--|
| | | | | | | PL | Unconfined Compressive Strength (TSF) * | | | | | LL | |
| | | | | | | 10 | 20 | 30 | 40 | 50 | | | |
| | | | | | | 1 | 2 | 3 | 4 | 5 | | | |
| 434.1 | 20.0 | | Gray coarse to fine sand, trace fine gravel, silt, poorly graded, loose, saturated SP | SS-9 21.0-22.5 18"R | 2 2 1 | | | | | | qu=NT | | |
| 429.6 | 24.5 | | | SS-10 23.5-25.0 10"R | 2 4 3 | | | | | | | qu=NT | |
| | | | Brown and gray coarse to fine gravel, poorly graded, loose, saturated GP | SS-11 26.0-27.5 10"R | 2 4 7 | | | | | | qu=NT | | |
| | | | | SS-12 28.5-30.0 14"R | 5 7 8 | | | | | | | qu=NT | |
| 424.1 | 30.0 | | | End of Boring at 30.0' | | | | | | | | | |

DRILLING CONTRACTOR **Groff Testing**
 DRILLING METHOD **4.25" I.D. HSA**
 DRILLING EQUIPMENT **CME 550 ATV**
 DRILLING STARTED **10/4/10** ENDED **10/4/10**

REMARKS
Installed 2" diameter PVC monitoring well.

WATER LEVEL (ft.)
 ▽ **21.0'**
 ▽
 ▽

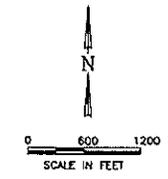


LEGEND

- POTABLE WELL LOCATION (APPROXIMATE)
- ASH POND
- 2,500 FOOT RADIUS OF ASH POND SYSTEMS

NOTE:
REFER TO SUMMARY TABLE FOR SPECIFIC WELL INFORMATION.

SOURCE:
2005 DIGITAL ORTHOPHOTO FROM ILLINOIS NATURAL RESOURCES GEOSPATIAL DATA CLEARINGHOUSE
WELL LOCATIONS FROM ILLINOIS STATE GEOLOGICAL SURVEY, ILLINOIS ENVIRONMENTAL PROTECTION AGENCY, AND ILLINOIS STATE WATER SURVEY.



| | | |
|---|---------------------------------|---|
| <p>POTABLE WATER WELLS</p> <p>POWERTON POWER STATION MIDWEST GENERATION PEKIN, TAZEWELL COUNTY, ILLINOIS</p> | | <p>NATURAL RESOURCE TECHNOLOGY</p> |
| | <p>PROJECT NO. 1792/3.0</p> | <p>DRAWN BY: KSW DATE: 05/11/09</p> |
| | <p>FIGURE NO. 1</p> | <p>CHECKED BY: HMS DATE: 05/22/09</p> |
| | | <p>APPROVED BY: HMS DATE: 07/07/09</p> <p>DRAWING NO: 1792-3-802 REFERENCE:</p> |



PDC Laboratories, Inc.

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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

| | |
|-----------------------|-----------------------------|
| Sample No: 10122781-1 | Collect Date 12/15/10 14:15 |
| Client ID : POWERTON | Site : MW-1 |
| | Locator : GRAB |

| Parameter | Qualifier | Result | Analysis Date | Analyst | Lab |
|-----------------------------------|-----------|------------|----------------|---------|-----|
| EPA 300.0 R2.1 | | | | | PIA |
| Chloride, Dissolved | | 46 mg/l | 12/16/10 15:03 | lgjfa | |
| Fluoride, Dissolved | | 0.28 mg/l | 12/16/10 14:45 | lgjfa | |
| Nitrate as N, Diss. | | 7.2 mg/l | 12/16/10 15:03 | lgjfa | |
| Sulfate, Dissolved | | 50 mg/l | 12/16/10 15:03 | lgjfa | |
| SM (18) 2540C | | | | | PIA |
| Solids, Total Dissolved, Filtered | | 490 mg/l | 12/16/10 08:37 | GDM | |
| SM 4500 CN C/SW9012A | | | | | PIA |
| Cyanide, Dissolved | P< | 0.005 mg/l | 12/20/10 15:58 | lgthh | |
| SW-846 6010B R2.0 | | | | | PIA |
| Iron, Dissolved | < | 10 ug/l | 01/03/11 12:09 | BAB | |
| SW-846 6020 | | | | | PIA |
| Antimony, Dissolved | < | 3 ug/l | 12/21/10 14:56 | JMW | |
| Arsenic, Dissolved | < | 1 ug/l | 12/21/10 14:56 | JMW | |
| Barium, Dissolved | | 44 ug/l | 12/21/10 14:56 | JMW | |
| Beryllium, Dissolved | < | 1 ug/l | 12/21/10 14:56 | JMW | |
| Boron, Dissolved | | 450 ug/l | 12/21/10 14:56 | JMW | |
| Cadmium, Dissolved | < | 1 ug/l | 12/21/10 14:56 | JMW | |
| Chromium, Dissolved | < | 4 ug/l | 12/21/10 14:56 | JMW | |
| Cobalt, Dissolved | < | 2 ug/l | 12/21/10 14:56 | JMW | |
| Copper, Dissolved | < | 3 ug/l | 12/21/10 14:56 | JMW | |
| Lead, Dissolved | < | 1 ug/l | 12/21/10 14:56 | JMW | |
| Manganese, Dissolved | < | 1 ug/l | 12/21/10 14:56 | JMW | |
| Mercury, Dissolved | < | 0.2 ug/l | 12/21/10 14:56 | JMW | |
| Nickel, Dissolved | | 10 ug/l | 12/21/10 14:56 | JMW | |
| Selenium, Dissolved | | 1.6 ug/l | 12/21/10 14:56 | JMW | |
| Silver, Dissolved | < | 5 ug/l | 12/21/10 14:56 | JMW | |
| Thallium, Dissolved | < | 1 ug/l | 12/21/10 14:56 | JMW | |
| Zinc, Dissolved | < | 6 ug/l | 12/29/10 09:12 | JMW | |



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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

| | |
|-----------------------|-----------------------------|
| Sample No: 10122781-2 | Collect Date 12/15/10 10:45 |
| Client ID : POWERTON | Site : MW-2 |
| | Locator : GRAB |

| Parameter | Qualifier | Result | Analysis Date | Analyst | Lab |
|-----------------------------------|-----------|------------|----------------|---------|-----|
| EPA 300.0 R2.1 | | | | | PIA |
| Chloride, Dissolved | | 45 mg/l | 12/16/10 15:56 | Igifa | |
| Fluoride, Dissolved | < | 0.25 mg/l | 12/16/10 15:38 | Igifa | |
| Nitrate as N, Diss. | | 7.5 mg/l | 12/16/10 15:56 | Igifa | |
| Sulfate, Dissolved | | 52 mg/l | 12/16/10 15:56 | Igifa | |
| SM (18) 2540C | | | | | PIA |
| Solids, Total Dissolved, Filtered | | 480 mg/l | 12/16/10 08:37 | GDM | |
| SM 4500 CN C/SW9012A | | | | | PIA |
| Cyanide, Dissolved | P< | 0.005 mg/l | 12/20/10 16:00 | Igth | |
| SW-846 6010B R2.0 | | | | | PIA |
| Iron, Dissolved | < | 10 ug/l | 01/03/11 12:11 | BAB | |
| SW-846 6020 | | | | | PIA |
| Antimony, Dissolved | < | 3 ug/l | 12/21/10 15:18 | JMW | |
| Arsenic, Dissolved | | 1.8 ug/l | 12/21/10 15:18 | JMW | |
| Barium, Dissolved | | 42 ug/l | 12/21/10 15:18 | JMW | |
| Beryllium, Dissolved | < | 1 ug/l | 12/21/10 15:18 | JMW | |
| Boron, Dissolved | | 380 ug/l | 12/21/10 15:18 | JMW | |
| Cadmium, Dissolved | < | 1 ug/l | 12/21/10 15:18 | JMW | |
| Chromium, Dissolved | < | 4 ug/l | 12/21/10 15:18 | JMW | |
| Cobalt, Dissolved | < | 2 ug/l | 12/21/10 15:18 | JMW | |
| Copper, Dissolved | < | 3 ug/l | 12/21/10 15:18 | JMW | |
| Lead, Dissolved | < | 1 ug/l | 12/21/10 15:18 | JMW | |
| Manganese, Dissolved | < | 1 ug/l | 12/21/10 15:18 | JMW | |
| Mercury, Dissolved | < | 0.2 ug/l | 12/21/10 15:18 | JMW | |
| Nickel, Dissolved | | 8.6 ug/l | 12/21/10 15:18 | JMW | |
| Selenium, Dissolved | | 1.7 ug/l | 12/21/10 15:18 | JMW | |
| Silver, Dissolved | < | 5 ug/l | 12/21/10 15:18 | JMW | |
| Thallium, Dissolved | < | 1 ug/l | 12/21/10 15:18 | JMW | |
| Zinc, Dissolved | < | 6 ug/l | 12/29/10 09:15 | JMW | |



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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

| | |
|------------------------------|------------------------------------|
| Sample No: 10122781-3 | Collect Date 12/15/10 12:45 |
| Client ID : POWERTON | Site : MW-3 |
| | Locator : GRAB |

| Parameter | Qualifier | Result | Analysis Date | Analyst | Lab |
|-----------------------------------|-----------|------------|----------------|---------|-----|
| EPA 300.0 R2.1 | | | | | PIA |
| Chloride, Dissolved | | 39 mg/l | 12/16/10 17:24 | Igjfa | |
| Fluoride, Dissolved | | 0.3 mg/l | 12/16/10 17:06 | Igjfa | |
| Nitrate as N, Diss. | | 9.4 mg/l | 12/16/10 17:24 | Igjfa | |
| Sulfate, Dissolved | | 64 mg/l | 12/16/10 17:24 | Igjfa | |
| SM (18) 2540C | | | | | PIA |
| Solids, Total Dissolved, Filtered | | 480 mg/l | 12/16/10 08:37 | GDM | |
| SM 4500 CN C/SW9012A | | | | | PIA |
| Cyanide, Dissolved | P< | 0.005 mg/l | 12/20/10 16:01 | Igth | |
| SW-846 6010B R2.0 | | | | | PIA |
| Iron, Dissolved | < | 10 ug/l | 01/03/11 12:14 | BAB | |
| SW-846 6020 | | | | | PIA |
| Antimony, Dissolved | < | 3 ug/l | 12/21/10 15:24 | JMW | |
| Arsenic, Dissolved | | 1.7 ug/l | 12/21/10 15:24 | JMW | |
| Barium, Dissolved | | 38 ug/l | 12/21/10 15:24 | JMW | |
| Beryllium, Dissolved | < | 1 ug/l | 12/21/10 15:24 | JMW | |
| Boron, Dissolved | | 750 ug/l | 12/21/10 15:24 | JMW | |
| Cadmium, Dissolved | < | 1 ug/l | 12/21/10 15:24 | JMW | |
| Chromium, Dissolved | < | 4 ug/l | 12/21/10 15:24 | JMW | |
| Cobalt, Dissolved | < | 2 ug/l | 12/21/10 15:24 | JMW | |
| Copper, Dissolved | < | 3 ug/l | 12/21/10 15:24 | JMW | |
| Lead, Dissolved | < | 1 ug/l | 12/21/10 15:24 | JMW | |
| Manganese, Dissolved | | 4.7 ug/l | 12/21/10 15:24 | JMW | |
| Mercury, Dissolved | < | 0.2 ug/l | 12/21/10 15:24 | JMW | |
| Nickel, Dissolved | | 11 ug/l | 12/21/10 15:24 | JMW | |
| Selenium, Dissolved | < | 1 ug/l | 12/21/10 15:24 | JMW | |
| Silver, Dissolved | < | 5 ug/l | 12/21/10 15:24 | JMW | |
| Thallium, Dissolved | < | 1 ug/l | 12/21/10 15:24 | JMW | |
| Zinc, Dissolved | < | 6 ug/l | 12/29/10 09:17 | JMW | |



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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

| | |
|------------------------------|------------------------------------|
| Sample No: 10122781-4 | Collect Date 12/15/10 12:05 |
| Client ID : POWERTON | Site : MW-4 |
| | Locator : GRAB |

| Parameter | Qualifier | Result | Analysis Date | Analyst | Lab |
|-----------------------------------|-----------|------------|----------------|---------|-----|
| EPA 300.0 R2.1 | | | | | PIA |
| Chloride, Dissolved | | 150 mg/l | 12/16/10 18:34 | Igjfa | |
| Fluoride, Dissolved | | 0.3 mg/l | 12/16/10 17:59 | Igjfa | |
| Nitrate as N, Diss. | | 0.34 mg/l | 12/16/10 17:59 | Igjfa | |
| Sulfate, Dissolved | | 110 mg/l | 12/16/10 18:34 | Igjfa | |
| SM (18) 2540C | | | | | PIA |
| Solids, Total Dissolved, Filtered | | 680 mg/l | 12/16/10 08:38 | GDM | |
| SM 4500 CN C/SW9012A | | | | | PIA |
| Cyanide, Dissolved | P< | 0.005 mg/l | 12/20/10 16:02 | Igthh | |
| SW-846 6010B R2.0 | | | | | PIA |
| Iron, Dissolved | < | 10 ug/l | 01/03/11 12:17 | BAB | |
| SW-846 6020 | | | | | PIA |
| Antimony, Dissolved | < | 3 ug/l | 12/21/10 15:29 | JMW | |
| Arsenic, Dissolved | < | 1 ug/l | 12/21/10 15:29 | JMW | |
| Barium, Dissolved | | 55 ug/l | 12/21/10 15:29 | JMW | |
| Beryllium, Dissolved | < | 1 ug/l | 12/21/10 15:29 | JMW | |
| Boron, Dissolved | | 770 ug/l | 12/21/10 15:29 | JMW | |
| Cadmium, Dissolved | < | 1 ug/l | 12/21/10 15:29 | JMW | |
| Chromium, Dissolved | | 4.5 ug/l | 12/21/10 15:29 | JMW | |
| Cobalt, Dissolved | < | 2 ug/l | 12/21/10 15:29 | JMW | |
| Copper, Dissolved | < | 3 ug/l | 12/21/10 15:29 | JMW | |
| Lead, Dissolved | < | 1 ug/l | 12/21/10 15:29 | JMW | |
| Manganese, Dissolved | | 770 ug/l | 12/21/10 15:29 | JMW | |
| Mercury, Dissolved | < | 0.2 ug/l | 12/21/10 15:29 | JMW | |
| Nickel, Dissolved | | 12 ug/l | 12/21/10 15:29 | JMW | |
| Selenium, Dissolved | | 2.2 ug/l | 12/21/10 15:29 | JMW | |
| Silver, Dissolved | < | 5 ug/l | 12/21/10 15:29 | JMW | |
| Thallium, Dissolved | < | 1 ug/l | 12/21/10 15:29 | JMW | |
| Zinc, Dissolved | < | 6 ug/l | 12/29/10 09:33 | JMW | |



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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

| | |
|------------------------------|------------------------------------|
| Sample No: 10122781-5 | Collect Date 12/15/10 11:25 |
| Client ID : POWERTON | Site : MW-5 |
| | Locator : GRAB |

| Parameter | Qualifier | Result | Analysis Date | Analyst | Lab |
|-----------------------------------|-----------|------------|----------------|---------|-----|
| EPA 300.0 R2.1 | | | | | PIA |
| Chloride, Dissolved | | 150 mg/l | 12/16/10 19:27 | lgjfa | |
| Fluoride, Dissolved | | 0.27 mg/l | 12/16/10 18:52 | lgjfa | |
| Nitrate as N, Diss. | < | 0.02 mg/l | 12/16/10 18:52 | lgjfa | |
| Sulfate, Dissolved | | 160 mg/l | 12/16/10 19:27 | lgjfa | |
| SM (18) 2540C | | | | | PIA |
| Solids, Total Dissolved, Filtered | | 740 mg/l | 12/16/10 08:38 | GDM | |
| SM 4500 CN C/SW9012A | | | | | PIA |
| Cyanide, Dissolved | P< | 0.005 mg/l | 12/20/10 16:03 | lgthh | |
| SW-846 6010B R2.0 | | | | | PIA |
| Iron, Dissolved | | 130 ug/l | 01/03/11 12:19 | BAB | |
| SW-846 6020 | | | | | PIA |
| Antimony, Dissolved | < | 3 ug/l | 12/21/10 15:35 | JMW | |
| Arsenic, Dissolved | | 1.1 ug/l | 12/21/10 15:35 | JMW | |
| Barium, Dissolved | | 53 ug/l | 12/21/10 15:35 | JMW | |
| Beryllium, Dissolved | < | 1 ug/l | 12/21/10 15:35 | JMW | |
| Boron, Dissolved | | 950 ug/l | 12/21/10 15:35 | JMW | |
| Cadmium, Dissolved | < | 1 ug/l | 12/21/10 15:35 | JMW | |
| Chromium, Dissolved | | 4.4 ug/l | 12/21/10 15:35 | JMW | |
| Cobalt, Dissolved | | 2.5 ug/l | 12/21/10 15:35 | JMW | |
| Copper, Dissolved | < | 3 ug/l | 12/21/10 15:35 | JMW | |
| Lead, Dissolved | < | 1 ug/l | 12/21/10 15:35 | JMW | |
| Manganese, Dissolved | | 510 ug/l | 12/21/10 15:35 | JMW | |
| Mercury, Dissolved | < | 0.2 ug/l | 12/21/10 15:35 | JMW | |
| Nickel, Dissolved | | 14 ug/l | 12/21/10 15:35 | JMW | |
| Selenium, Dissolved | | 1.9 ug/l | 12/21/10 15:35 | JMW | |
| Silver, Dissolved | < | 5 ug/l | 12/21/10 15:35 | JMW | |
| Thallium, Dissolved | < | 1 ug/l | 12/21/10 15:35 | JMW | |
| Zinc, Dissolved | < | 6 ug/l | 12/29/10 09:36 | JMW | |



PDC Laboratories, Inc.

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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

| | |
|-----------------------|-----------------------------|
| Sample No: 10122781-6 | Collect Date 12/15/10 10:00 |
| Client ID : POWERTON | Site : MW-10 |
| | Locator : GRAB |

| Parameter | Qualifier | Result | Analysis Date | Analyst | Lab |
|-----------------------------------|-----------|------------|----------------|---------|-----|
| EPA 300.0 R2.1 | | | | | PIA |
| Chloride, Dissolved | | 40 mg/l | 12/16/10 20:38 | lgjfa | |
| Fluoride, Dissolved | < | 0.25 mg/l | 12/16/10 19:45 | lgjfa | |
| Nitrate as N, Diss. | | 3 mg/l | 12/16/10 20:38 | lgjfa | |
| Sulfate, Dissolved | | 62 mg/l | 12/16/10 20:38 | lgjfa | |
| SM (18) 2540C | | | | | PIA |
| Solids, Total Dissolved, Filtered | | 530 mg/l | 12/16/10 08:38 | GDM | |
| SM 4500 CN C/SW9012A | | | | | PIA |
| Cyanide, Dissolved | P< | 0.005 mg/l | 12/20/10 16:04 | lgthh | |
| SW-846 6010B R2.0 | | | | | PIA |
| Iron, Dissolved | < | 10 ug/l | 01/03/11 12:22 | BAB | |
| SW-846 6020 | | | | | PIA |
| Antimony, Dissolved | < | 3 ug/l | 12/21/10 15:40 | JMW | |
| Arsenic, Dissolved | < | 1 ug/l | 12/21/10 15:40 | JMW | |
| Barium, Dissolved | | 240 ug/l | 12/21/10 15:40 | JMW | |
| Beryllium, Dissolved | < | 1 ug/l | 12/21/10 15:40 | JMW | |
| Boron, Dissolved | | 480 ug/l | 12/21/10 15:40 | JMW | |
| Cadmium, Dissolved | < | 1 ug/l | 12/21/10 15:40 | JMW | |
| Chromium, Dissolved | < | 4 ug/l | 12/21/10 15:40 | JMW | |
| Cobalt, Dissolved | | 2.6 ug/l | 12/21/10 15:40 | JMW | |
| Copper, Dissolved | < | 3 ug/l | 12/21/10 15:40 | JMW | |
| Lead, Dissolved | < | 1 ug/l | 12/21/10 15:40 | JMW | |
| Manganese, Dissolved | | 2100 ug/l | 12/21/10 15:40 | JMW | |
| Mercury, Dissolved | < | 0.2 ug/l | 12/21/10 15:40 | JMW | |
| Nickel, Dissolved | | 15 ug/l | 12/21/10 15:40 | JMW | |
| Selenium, Dissolved | | 4.2 ug/l | 12/21/10 15:40 | JMW | |
| Silver, Dissolved | < | 5 ug/l | 12/21/10 15:40 | JMW | |
| Thallium, Dissolved | < | 1 ug/l | 12/21/10 15:40 | JMW | |
| Zinc, Dissolved | < | 6 ug/l | 12/29/10 09:38 | JMW | |



PDC Laboratories, Inc.

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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

| | |
|-----------------------|-----------------------------|
| Sample No: 10122781-7 | Collect Date 12/15/10 15:05 |
| Client ID : POWERTON | Site : MW-6 |
| | Locator : GRAB |

| Parameter | Qualifier | Result | Analysis Date | Analyst | Lab |
|-----------------------------------|-----------|------------|----------------|---------|-----|
| EPA 300.0 R2.1 | | | | | PIA |
| Chloride, Dissolved | | 180 mg/l | 12/16/10 21:13 | lgjfa | |
| Fluoride, Dissolved | | 0.65 mg/l | 12/16/10 21:13 | lgjfa | |
| Nitrate as N, Diss. | | 0.037 mg/l | 12/16/10 21:13 | lgjfa | |
| Sulfate, Dissolved | | 210 mg/l | 12/16/10 21:48 | lgjfa | |
| SM (18) 2540C | | | | | PIA |
| Solids, Total Dissolved, Filtered | | 950 mg/l | 12/16/10 08:39 | GDM | |
| SM 4500 CN C/SW9012A | | | | | PIA |
| Cyanide, Dissolved | P< | 0.005 mg/l | 12/20/10 16:09 | lgthh | |
| SW-846 6010B R2.0 | | | | | PIA |
| Iron, Dissolved | | 1600 ug/l | 01/03/11 12:29 | BAB | |
| SW-846 6020 | | | | | PIA |
| Antimony, Dissolved | < | 3 ug/l | 12/21/10 15:45 | JMW | |
| Arsenic, Dissolved | | 4.2 ug/l | 12/21/10 15:45 | JMW | |
| Barium, Dissolved | | 110 ug/l | 12/21/10 15:45 | JMW | |
| Beryllium, Dissolved | < | 1 ug/l | 12/21/10 15:45 | JMW | |
| Boron, Dissolved | | 500 ug/l | 12/21/10 15:45 | JMW | |
| Cadmium, Dissolved | < | 1 ug/l | 12/21/10 15:45 | JMW | |
| Chromium, Dissolved | | 6 ug/l | 12/21/10 15:45 | JMW | |
| Cobalt, Dissolved | < | 2 ug/l | 12/21/10 15:45 | JMW | |
| Copper, Dissolved | < | 3 ug/l | 12/21/10 15:45 | JMW | |
| Lead, Dissolved | < | 1 ug/l | 12/21/10 15:45 | JMW | |
| Manganese, Dissolved | | 680 ug/l | 12/21/10 15:45 | JMW | |
| Mercury, Dissolved | < | 0.2 ug/l | 12/21/10 15:45 | JMW | |
| Nickel, Dissolved | | 9.1 ug/l | 12/21/10 15:45 | JMW | |
| Selenium, Dissolved | | 3.4 ug/l | 12/21/10 15:45 | JMW | |
| Silver, Dissolved | < | 5 ug/l | 12/21/10 15:45 | JMW | |
| Thallium, Dissolved | < | 1 ug/l | 12/21/10 15:45 | JMW | |
| Zinc, Dissolved | | 6.4 ug/l | 12/29/10 09:40 | JMW | |



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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

| | |
|-----------------------|-----------------------------|
| Sample No: 10122781-8 | Collect Date 12/15/10 15:45 |
| Client ID : POWERTON | Site : MW-8 |
| | Locator : GRAB |

| Parameter | Qualifier | Result | Analysis Date | Analyst | Lab |
|-----------------------------------|-----------|------------|----------------|---------|-----|
| EPA 300.0 R2.1 | | | | | PIA |
| Chloride, Dissolved | | 180 mg/l | 12/16/10 22:06 | lgjfa | |
| Fluoride, Dissolved | | 0.77 mg/l | 12/16/10 22:06 | lgjfa | |
| Nitrate as N, Diss. | < | 0.02 mg/l | 12/16/10 22:06 | lgjfa | |
| Sulfate, Dissolved | | 160 mg/l | 12/16/10 22:41 | lgjfa | |
| SM (18) 2540C | | | | | PIA |
| Solids, Total Dissolved, Filtered | | 890 mg/l | 12/16/10 08:39 | GDM | |
| SM 4500 CN C/SW9012A | | | | | PIA |
| Cyanide, Dissolved | P< | 0.005 mg/l | 12/20/10 16:09 | lgthh | |
| SW-846 6010B R2.0 | | | | | PIA |
| Iron, Dissolved | | 560 ug/l | 01/03/11 12:31 | BAB | |
| SW-846 6020 | | | | | PIA |
| Antimony, Dissolved | < | 3 ug/l | 12/21/10 15:51 | JMW | |
| Arsenic, Dissolved | | 5.2 ug/l | 12/21/10 15:51 | JMW | |
| Barium, Dissolved | | 110 ug/l | 12/21/10 15:51 | JMW | |
| Beryllium, Dissolved | < | 1 ug/l | 12/21/10 15:51 | JMW | |
| Boron, Dissolved | | 930 ug/l | 12/21/10 15:51 | JMW | |
| Cadmium, Dissolved | < | 1 ug/l | 12/21/10 15:51 | JMW | |
| Chromium, Dissolved | | 5.9 ug/l | 12/21/10 15:51 | JMW | |
| Cobalt, Dissolved | < | 2 ug/l | 12/21/10 15:51 | JMW | |
| Copper, Dissolved | < | 3 ug/l | 12/21/10 15:51 | JMW | |
| Lead, Dissolved | < | 1 ug/l | 12/21/10 15:51 | JMW | |
| Manganese, Dissolved | | 150 ug/l | 12/21/10 15:51 | JMW | |
| Mercury, Dissolved | < | 0.2 ug/l | 12/21/10 15:51 | JMW | |
| Nickel, Dissolved | | 11 ug/l | 12/21/10 15:51 | JMW | |
| Selenium, Dissolved | | 3.6 ug/l | 12/21/10 15:51 | JMW | |
| Silver, Dissolved | < | 5 ug/l | 12/21/10 15:51 | JMW | |
| Thallium, Dissolved | < | 1 ug/l | 12/21/10 15:51 | JMW | |
| Zinc, Dissolved | < | 6 ug/l | 12/29/10 09:43 | JMW | |



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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/15/10 16:45
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

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| SPMO | PDC Laboratories - Springfield, MO EPA DMR-QA Program |
| STL | PDC Laboratories - St. Louis, MO NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100253. |

Certified by : Elaine Kaufmann
Elaine Kaufmann, Project Manager

PDC Laboratories

DATA QUALIFIERS APPLICABLE TO THE "STANDARD QC" PROGRAM

- A** The presence of this analyte was confirmed using a second column but there was a disparity (> 40% RPD) between the two sets of results with no apparent chromatographic anomalies. The lower of the two results was reported.
- B** _____ present in the method blank at _____.
- C** The batch control sample failed to meet the required acceptance criteria.
- D** Result obtained through analysis of a sample dilution.
- E** Concentration exceeds the instrument calibration range.
- F** Internal standard area failed to meet the required acceptance criteria in repeat instrumental analyses. Results should be interpreted as estimated concentrations.
- G** The Method of Standard Additions (MSA) was used to quantify the concentration.
- H** Test performed after the expiration of the appropriate regulatory/advisory maximum allowable hold time.
- J** Estimated value; value between the MDL and the RDL.
- M** Analyte failed to meet the required acceptance criteria for duplicate analysis.
- P** Chemical preservation discrepancy noted at the time of analysis.
- Q** Analyte failed to meet the required acceptance criteria for spike recovery in the Matrix Spike (MS) and Matrix Spike Duplicate (MSD) due to apparent matrix effects.
- R** Analyte failed to meet the required acceptance criteria for relative percent difference (RPD) between the Matrix Spike and Matrix Spike Duplicate (MS/MSD).
- S** Surrogate compound diluted below a reliable quantitation level.
- T** Surrogate recovery failed to meet the required acceptance criteria in initial analysis. Sample was re-extracted (if applicable) and re-analyzed, and the surrogate recovery was outside of the required acceptance criteria on the second analysis, also. Results should be interpreted as estimated concentrations.
- U** Parameter was analyzed for, but not detected above the reporting limit.
- V** Verification standard recovery failed to meet the required acceptance criteria on repeat instrumental analyses.
- W** Surrogate recovery failed to meet the required acceptance criteria in initial analysis. Sample was re-extracted (if applicable) beyond the maximum allowable hold time, and re-analyzed. The surrogate recovery was within the required acceptance criteria on this second analysis.
- NA** Not analyzed.
- NR** Not requested.
- X** Miscellaneous; see comments.

Revised: 10/05/05



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Laboratory Results

Midwest Generation - Powerton Facility
Powerton Station
13082 E Manito Rd
Pekin, IL 61554-8587
Attn : Mark Kelly

Date Received : 12/06/10 08:41
Report Date 12/20/10
Customer # : 233203
P.O. Number : 4500050814
Facility :

| | |
|--------------------------|-------------------------------|
| Sample No: 10121488-1 | Collect Date : 12/06/10 07:49 |
| Client ID : GROUND WATER | Site : WELL #7 |
| | Locator : GRAB |

| Parameter | Qualifier | Result | Analysis Date | Analyst | Lab |
|-----------------------------------|-----------|------------|----------------|---------|-----|
| EPA 200.7 R4.4 | | | | | PIA |
| Iron, Dissolved | | 8 mg/l | 12/17/10 14:00 | JMW | PIA |
| EPA 300.0 R2.1 | | | | | PIA |
| Chloride, Dissolved | | 170 mg/l | 12/06/10 15:21 | lgjfa | |
| Fluoride, Dissolved | | 0.47 mg/l | 12/06/10 15:21 | lgjfa | |
| Nitrate as N, Diss. | | 0.043 mg/l | 12/06/10 15:21 | lgjfa | |
| Sulfate, Dissolved | | 120 mg/l | 12/06/10 16:32 | lgjfa | |
| SM (18) 2540C | | | | | PIA |
| Solids, Total Dissolved, Filtered | | 860 mg/l | 12/07/10 09:10 | GDM | PIA |
| SM 4500 CN C/SW9012A | | | | | PIA |
| Cyanide, Dissolved | P < | 0.005 mg/l | 12/09/10 16:54 | lgthh | PIA |
| SW-846 6020 | | | | | |
| Antimony, Dissolved | < | 3 ug/l | 12/16/10 17:48 | JMW | |
| Arsenic, Dissolved | | 26 ug/l | 12/15/10 17:34 | JMW | |
| Barium, Dissolved | | 550 ug/l | 12/15/10 17:34 | JMW | |
| Beryllium, Dissolved | < | 1 ug/l | 12/16/10 17:48 | JMW | |
| Boron, Dissolved | | 610 ug/l | 12/16/10 17:48 | JMW | |
| Cadmium, Dissolved | | 2.6 ug/l | 12/15/10 17:34 | JMW | |
| Chromium, Dissolved | | 8.8 ug/l | 12/15/10 17:34 | JMW | |
| Cobalt, Dissolved | | 17 ug/l | 12/17/10 08:55 | JMW | |
| Copper, Dissolved | | 140 ug/l | 12/16/10 17:48 | JMW | |
| Lead, Dissolved | | 39 ug/l | 12/15/10 17:34 | JMW | |
| Manganese, Dissolved | | 3500 ug/l | 12/15/10 17:34 | JMW | |
| Mercury, Dissolved | < | 0.2 ug/l | 12/15/10 17:34 | JMW | |
| Nickel, Dissolved | | 45 ug/l | 12/15/10 17:34 | JMW | |
| Selenium, Dissolved | | 4.3 ug/l | 12/16/10 17:48 | JMW | |
| Silver, Dissolved | < | 5 ug/l | 12/16/10 17:48 | JMW | |
| Thallium, Dissolved | < | 1 ug/l | 12/16/10 17:48 | JMW | |
| Zinc, Dissolved | | 76 ug/l | 12/15/10 17:34 | JMW | |



PDC Laboratories, Inc.

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Laboratory Results

Midwest Generation - Powerton Facility
Powerton Station
13082 E Manito Rd
Pekin, IL 61554-8587
Attn : Mark Kelly

Date Received : 12/06/10 08:41
Report Date 12/20/10
Customer # : 233203
P.O. Number : 4500050814
Facility :

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| SPMO | PDC Laboratories - Springfield, MO EPA DMR-QA Program |
| STL | PDC Laboratories - St. Louis, MO NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100253. |

Certified by : Elaine Kaufmann
Elaine Kaufmann, Project Manager

PDC Laboratories

DATA QUALIFIERS APPLICABLE TO THE "STANDARD QC" PROGRAM

- A** The presence of this analyte was confirmed using a second column but there was a disparity (> 40% RPD) between the two sets of results with no apparent chromatographic anomalies. The lower of the two results was reported.
- B** _____ present in the method blank at _____.
- C** The batch control sample failed to meet the required acceptance criteria.
- D** Result obtained through analysis of a sample dilution.
- E** Concentration exceeds the instrument calibration range.
- F** Internal standard area failed to meet the required acceptance criteria in repeat instrumental analyses. Results should be interpreted as estimated concentrations.
- G** The Method of Standard Additions (MSA) was used to quantify the concentration.
- H** Test performed after the expiration of the appropriate regulatory/advisory maximum allowable hold time.
- J** Estimated value; value between the MDL and the RDL.
- M** Analyte failed to meet the required acceptance criteria for duplicate analysis.
- P** Chemical preservation discrepancy noted at the time of analysis.
- Q** Analyte failed to meet the required acceptance criteria for spike recovery in the Matrix Spike (MS) and Matrix Spike Duplicate (MSD) due to apparent matrix effects.
- R** Analyte failed to meet the required acceptance criteria for relative percent difference (RPD) between the Matrix Spike and Matrix Spike Duplicate (MS/MSD).
- S** Surrogate compound diluted below a reliable quantitation level.
- T** Surrogate recovery failed to meet the required acceptance criteria in initial analysis. Sample was re-extracted (if applicable) and re-analyzed, and the surrogate recovery was outside of the required acceptance criteria on the second analysis, also. Results should be interpreted as estimated concentrations.
- U** Parameter was analyzed for, but not detected above the reporting limit.
- V** Verification standard recovery failed to meet the required acceptance criteria on repeat instrumental analyses.
- W** Surrogate recovery failed to meet the required acceptance criteria in initial analysis. Sample was re-extracted (if applicable) beyond the maximum allowable hold time, and re-analyzed. The surrogate recovery was within the required acceptance criteria on this second analysis.
- NA** Not analyzed.
- NR** Not requested.
- X** Miscellaneous; see comments.

Revised: 10/05/05



PDC Laboratories, Inc.

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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/16/10 17:10
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

| | |
|-----------------------|-----------------------------|
| Sample No: 10122963-1 | Collect Date 12/16/10 09:05 |
| Client ID : POWERTON | Site : MW-09 |
| | Locator : GRAB |

| Parameter | Qualifier | Result | Analysis Date | Analyst | Lab |
|-----------------------------------|-----------|------------|----------------|---------|-----|
| EPA 300.0 R2.1 | | | | | PIA |
| Chloride, Dissolved | | 25 mg/l | 12/17/10 19:42 | Igfa | |
| Fluoride, Dissolved | < | 0.25 mg/l | 12/17/10 19:24 | Igfa | |
| Nitrate as N, Diss. | | 2.9 mg/l | 12/17/10 19:42 | Igfa | |
| Nitrite as N, Diss. | < | 0.15 mg/l | 12/17/10 19:24 | Igfa | |
| Sulfate, Dissolved | | 110 mg/l | 12/17/10 20:00 | Igfa | |
| SM (18) 2540C | | | | | PIA |
| Solids, Total Dissolved, Filtered | | 500 mg/l | 12/17/10 14:34 | GDM | |
| SM 4500 CN C/SW9012A | | | | | PIA |
| Cyanide, Dissolved | P< | 0.005 mg/l | 12/22/10 12:16 | Igth | |
| SW-846 6010B R2.0 | | | | | PIA |
| Iron, Dissolved | < | 10 ug/l | 01/03/11 12:33 | BAB | |
| SW-846 6020 | | | | | PIA |
| Antimony, Dissolved | < | 3 ug/l | 12/21/10 16:33 | JMW | |
| Arsenic, Dissolved | < | 1 ug/l | 12/21/10 16:33 | JMW | |
| Barium, Dissolved | | 38 ug/l | 12/21/10 16:33 | JMW | |
| Beryllium, Dissolved | < | 1 ug/l | 12/21/10 16:33 | JMW | |
| Boron, Dissolved | | 2100 ug/l | 12/21/10 16:33 | JMW | |
| Cadmium, Dissolved | < | 1 ug/l | 12/21/10 16:33 | JMW | |
| Chromium, Dissolved | < | 4 ug/l | 12/21/10 16:33 | JMW | |
| Cobalt, Dissolved | < | 2 ug/l | 12/21/10 16:33 | JMW | |
| Copper, Dissolved | < | 3 ug/l | 12/21/10 16:33 | JMW | |
| Lead, Dissolved | < | 1 ug/l | 12/21/10 16:33 | JMW | |
| Manganese, Dissolved | | 230 ug/l | 12/21/10 16:33 | JMW | |
| Nickel, Dissolved | | 10 ug/l | 12/21/10 16:33 | JMW | |
| Selenium, Dissolved | | 2.4 ug/l | 12/21/10 16:33 | JMW | |
| Silver, Dissolved | < | 5 ug/l | 12/21/10 16:33 | JMW | |
| Thallium, Dissolved | < | 1 ug/l | 12/21/10 16:33 | JMW | |
| Zinc, Dissolved | < | 6 ug/l | 12/29/10 09:56 | JMW | |



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Laboratory Results

Midwest Generation - Powerton Facility
13082 E Manito Rd

Pekin, IL 61554-8587
Attn : Joe Heredia

Date Received : 12/16/10 17:10
Report Date 01/04/11
Customer # : 233203
P.O. Number : 21053.070
Facility :

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| STL | PDC Laboratories - St. Louis, MO NELAC Accreditation for Wastewater, Hazardous and Solid Wastes Fields of Testing through IL EPA Lab No. 100253. |

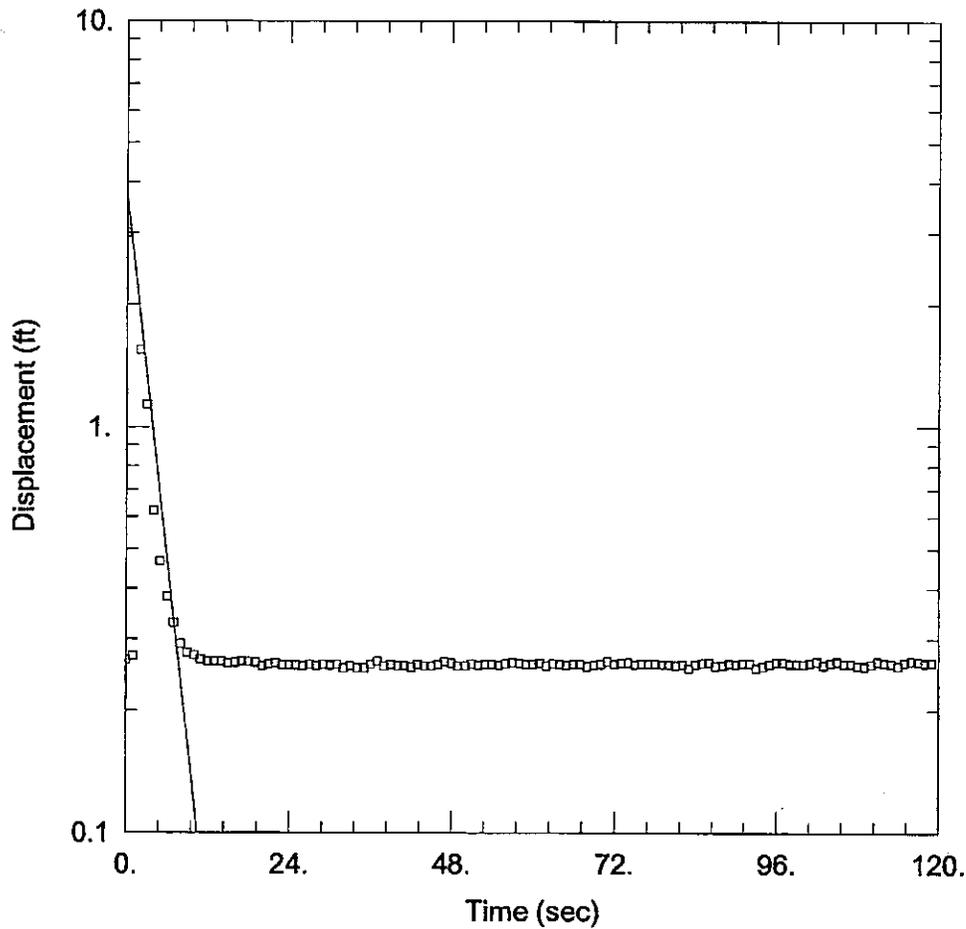
Certified by : Elaine Kaufmann
Elaine Kaufmann, Project Manager

PDC Laboratories

DATA QUALIFIERS APPLICABLE TO THE "STANDARD QC" PROGRAM

- A** The presence of this analyte was confirmed using a second column but there was a disparity (> 40% RPD) between the two sets of results with no apparent chromatographic anomalies. The lower of the two results was reported.
- B** _____ present in the method blank at _____.
- C** The batch control sample failed to meet the required acceptance criteria.
- D** Result obtained through analysis of a sample dilution.
- E** Concentration exceeds the instrument calibration range.
- F** Internal standard area failed to meet the required acceptance criteria in repeat instrumental analyses. Results should be interpreted as estimated concentrations.
- G** The Method of Standard Additions (MSA) was used to quantify the concentration.
- H** Test performed after the expiration of the appropriate regulatory/advisory maximum allowable hold time.
- J** Estimated value; value between the MDL and the RDL.
- M** Analyte failed to meet the required acceptance criteria for duplicate analysis.
- P** Chemical preservation discrepancy noted at the time of analysis.
- Q** Analyte failed to meet the required acceptance criteria for spike recovery in the Matrix Spike (MS) and Matrix Spike Duplicate (MSD) due to apparent matrix effects.
- R** Analyte failed to meet the required acceptance criteria for relative percent difference (RPD) between the Matrix Spike and Matrix Spike Duplicate (MS/MSD).
- S** Surrogate compound diluted below a reliable quantitation level.
- T** Surrogate recovery failed to meet the required acceptance criteria in initial analysis. Sample was re-extracted (if applicable) and re-analyzed, and the surrogate recovery was outside of the required acceptance criteria on the second analysis, also. Results should be interpreted as estimated concentrations.
- U** Parameter was analyzed for, but not detected above the reporting limit.
- V** Verification standard recovery failed to meet the required acceptance criteria on repeat instrumental analyses.
- W** Surrogate recovery failed to meet the required acceptance criteria in initial analysis. Sample was re-extracted (if applicable) beyond the maximum allowable hold time, and re-analyzed. The surrogate recovery was within the required acceptance criteria on this second analysis.
- NA** Not analyzed.
- NR** Not requested.
- X** Miscellaneous; see comments.

Revised: 10/05/05



WELL TEST ANALYSIS

Data Set: P:\...\Powerton mw-10 u2.aqt

Date: 02/18/11

Time: 09:11:28

PROJECT INFORMATION

Company: Patrick Engineering

Client: Midwest Generation

Project: 21053.070

Location: Powerton

Test Well: MW-10 (u2)

Test Date: 12/22/10

AQUIFER DATA

Saturated Thickness: 15.21 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-10 (u2))

Initial Displacement: 3. ft

Static Water Column Height: 15.21 ft

Total Well Penetration Depth: 32.5 ft

Screen Length: 10. ft

Casing Radius: 0.2 ft

Well Radius: 0.085 ft

Gravel Pack Porosity: 0.

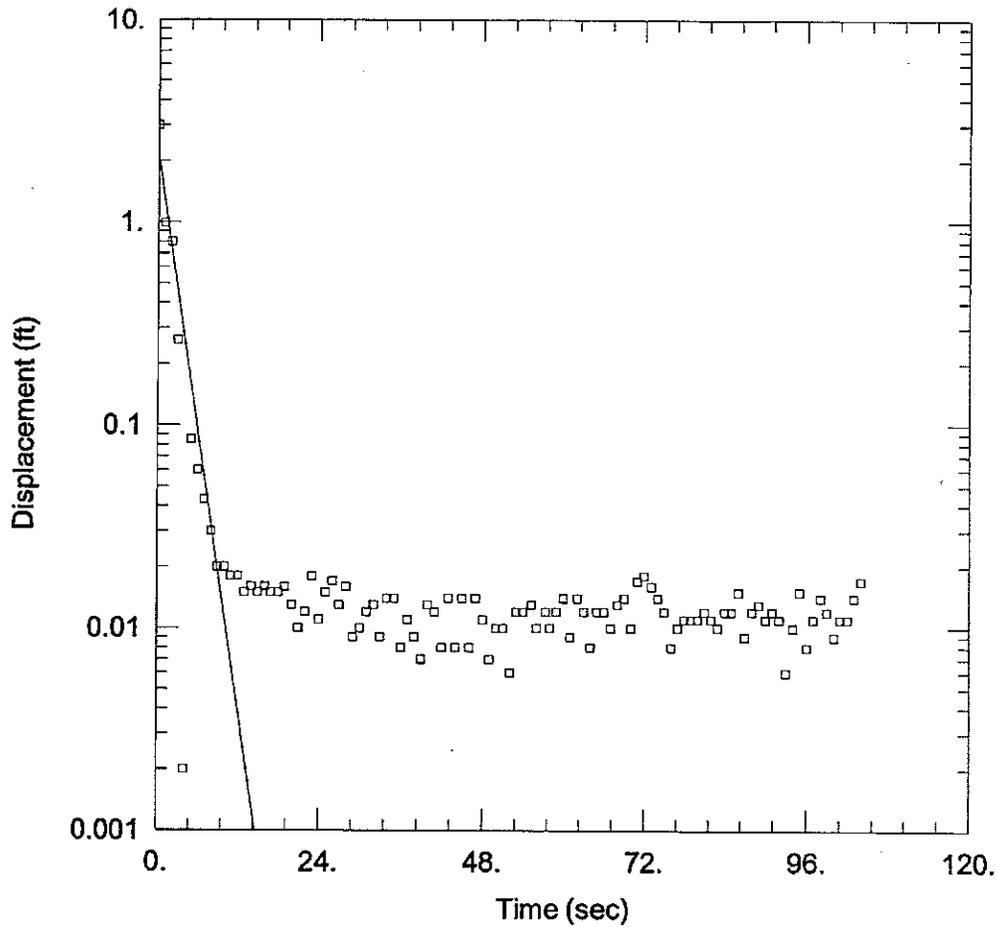
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.002264 ft/sec

y0 = 3.707 ft



WELL TEST ANALYSIS

Data Set: P:\...\Powerton mw-10 d1.aqt

Date: 02/18/11

Time: 09:11:49

PROJECT INFORMATION

Company: Patrick Engineering

Client: Midwest Generation

Project: 21053.070

Location: Powerton

Test Well: MW-10 (d1)

Test Date: 12/22/10

AQUIFER DATA

Saturated Thickness: 15.21 ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-10 (d1))

Initial Displacement: 3. ft

Static Water Column Height: 15.21 ft

Total Well Penetration Depth: 32.5 ft

Screen Length: 10. ft

Casing Radius: 0.2 ft

Well Radius: 0.085 ft

Gravel Pack Porosity: 0.

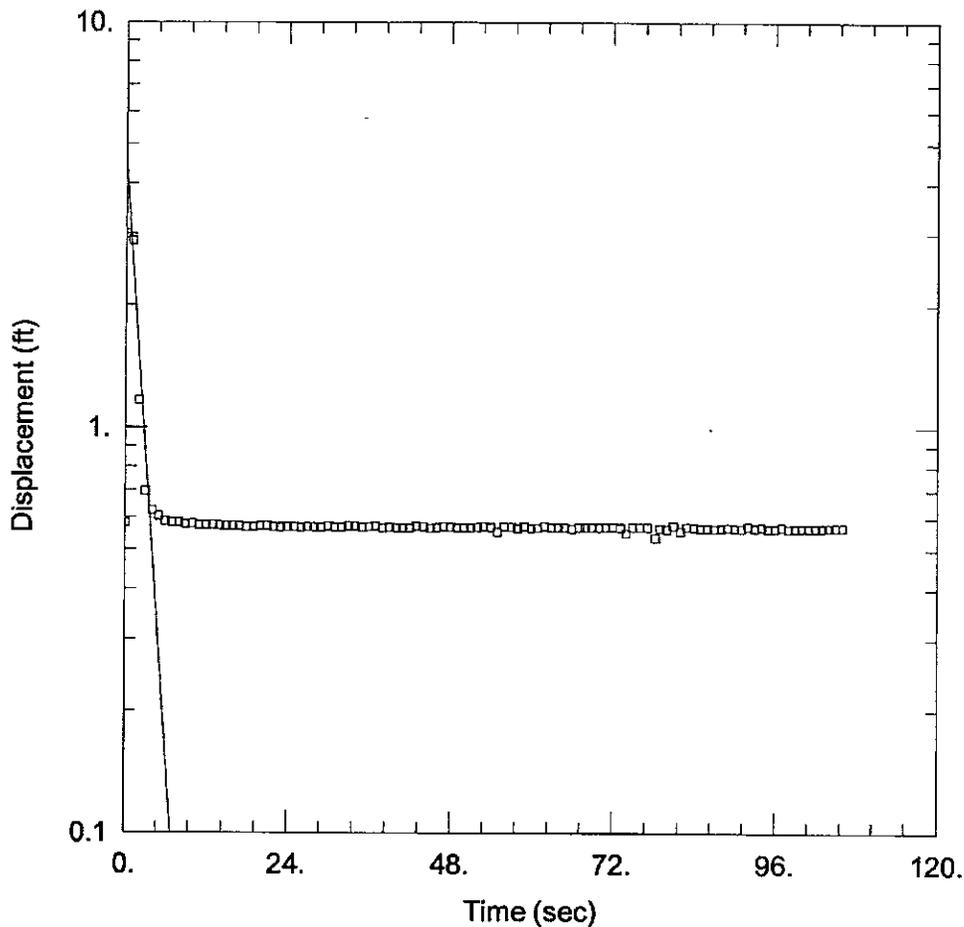
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bower-Rice

$K = 0.003455$ ft/sec

$y_0 = 2.113$ ft



WELL TEST ANALYSIS

Data Set: P:\...\Powerton mw-8 u1.aqt

Date: 02/18/11

Time: 09:12:44

PROJECT INFORMATION

Company: Patrick Engineering

Client: Midwest Generation

Project: 21053.070

Location: Powerton

Test Well: MW-8 (u1)

Test Date: 12/22/10

AQUIFER DATA

Saturated Thickness: 8.96 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-8 (U1))

Initial Displacement: 3. ft

Total Well Penetration Depth: 33.55 ft

Casing Radius: 0.2 ft

Static Water Column Height: 8.96 ft

Screen Length: 10. ft

Well Radius: 0.085 ft

Gravel Pack Porosity: 0.

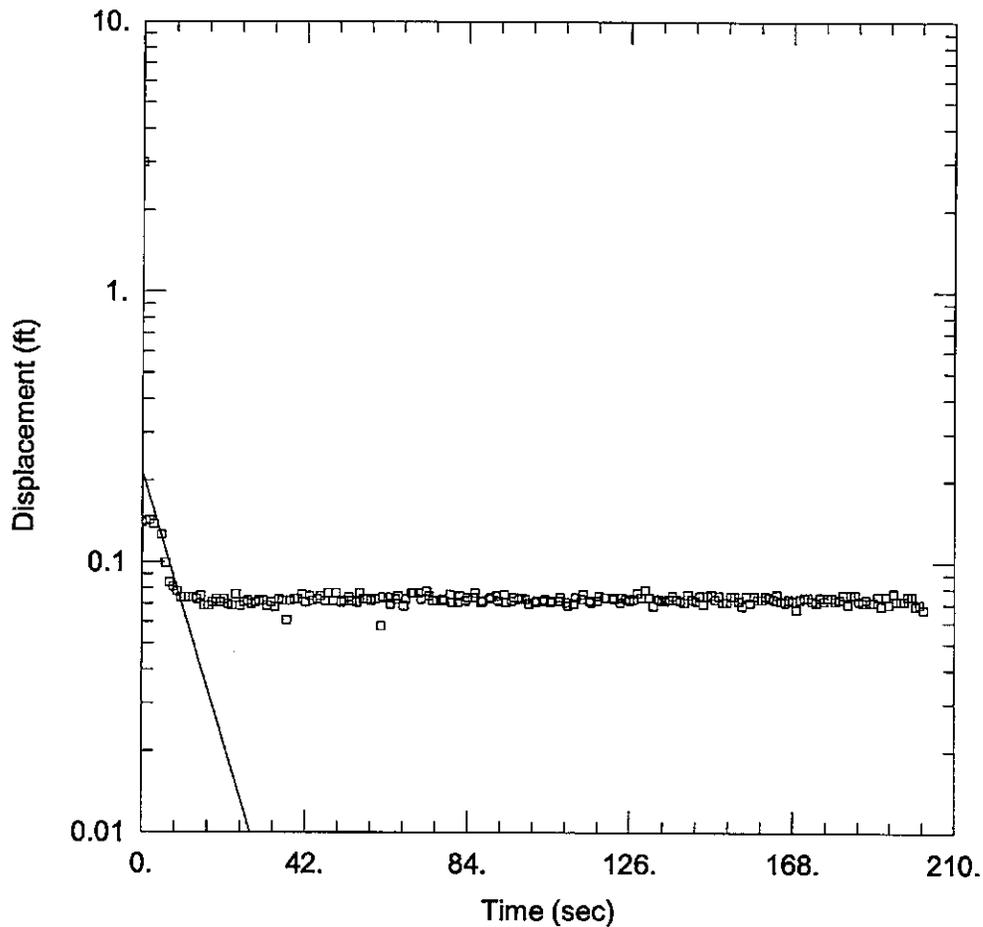
SOLUTION

Aquifer Model: Unconfined

K = 0.004003 ft/sec

Solution Method: Bouwer-Rice

y0 = 4.457 ft



WELL TEST ANALYSIS

Data Set: P:\...\Powerton mw-5 d1.aqt

Date: 02/18/11

Time: 09:13:29

PROJECT INFORMATION

Company: Patrick Engineering

Client: Midwest Generation

Project: 21053.070

Location: Powerton

Test Well: MW-5 (d1)

Test Date: 12/22/10

AQUIFER DATA

Saturated Thickness: 10.41 ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-5 (d1))

Initial Displacement: 3. ft

Static Water Column Height: 10.41 ft

Total Well Penetration Depth: 34.79 ft

Screen Length: 10. ft

Casing Radius: 0.2 ft

Well Radius: 0.085 ft

Gravel Pack Porosity: 0.

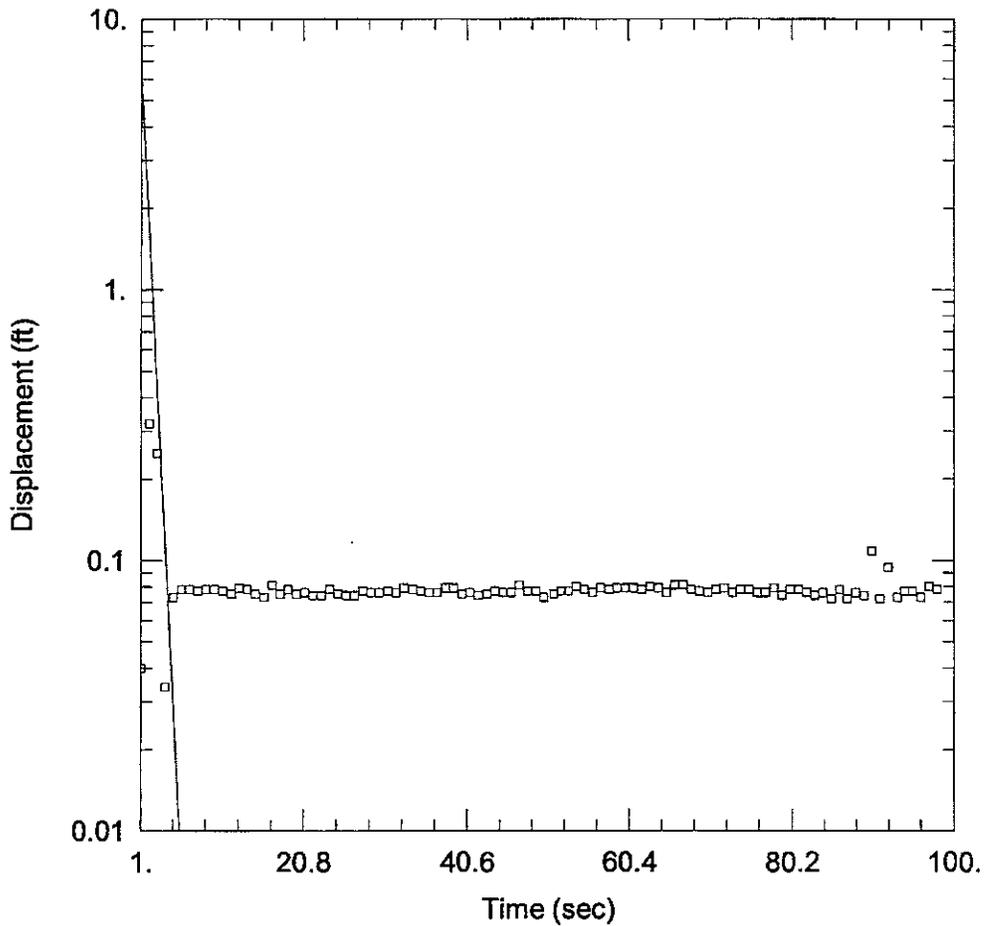
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bower-Rice

$K = 0.0007405$ ft/sec

$y_0 = 0.2171$ ft



WELL TEST ANALYSIS

Data Set: P:\...\Powerton mw-2 d3.aqt

Date: 02/18/11

Time: 09:13:59

PROJECT INFORMATION

Company: Patrick Engineering

Client: Midwest Generation

Project: 21053.070

Location: Powerton

Test Well: MW-2 (d3)

Test Date: 12/22/10

AQUIFER DATA

Saturated Thickness: 9.86 ft

Anisotropy Ratio (K_z/K_r): 1.

WELL DATA (MW-2 (d3))

Initial Displacement: 3. ft

Static Water Column Height: 9.86 ft

Total Well Penetration Depth: 37.11 ft

Screen Length: 10. ft

Casing Radius: 0.2 ft

Well Radius: 0.085 ft

Gravel Pack Porosity: 0.

SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

$K = 0.009237$ ft/sec

$y_0 = 24.25$ ft

